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DWR-53

3 **DEPARTMENT OF WATER RESOURCES**

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11 **BEFORE THE**

12 **CALIFORNIA STATE WATER RESOURCES CONTROL BOARD**

13 HEARING IN THE MATTER OF CALIFORNIA  
14 DEPARTMENT OF WATER RESOURCES  
15 AND UNITED STATES BUREAU OF  
16 RECLAMATION REQUEST FOR A CHANGE  
17 IN POINT OF DIVERSION FOR CALIFORNIA  
18 WATER FIX

TESTIMONY OF MAUREEN SERGENT

19 I, Maureen Sergent, do hereby declare:

20 **I. INTRODUCTION**

21 I am a Senior Engineer with the Department of Water Resources (DWR) in the State  
22 Water Project Analysis Office (SWPAO). I am a registered Engineer in the State of  
23 California. I received a Bachelor of Science degree in Civil Engineering from Oregon State  
24 University in 1981 and a Master of Science degree in Civil Engineering from the University  
25 of California at Davis in 1990. I have worked for DWR since 1991, first in the Drought  
26 Water Bank Office and since 1993 in SWPAO. I am testifying as an expert based on my  
27 special knowledge, skill, experience, training, and education. My testimony explains my  
28 understanding of the framework relevant to the issues in this CWF Petition for Change  
proceeding, lays the foundation as to the factors taken into account when forming my  
opinion.

I have nearly 25 years of experience working with State Water Project (SWP) water  
rights related activities and water transfers. My work in SWPAO includes investigating

1 water rights related issues, extensive work evaluating water transfer proposals and  
2 requests to convey transfer water through SWP facilities. I also prepare the annual reports  
3 to the State Water Resources Control Board (State Water Board) for DWR's water rights  
4 permits related to operation of the SWP, evaluate proposals for compliance with or  
5 potential changes to DWR's water rights, coordinate water rights related activities with  
6 other offices within DWR, and participate in water rights related proceedings at the State  
7 Water Board. In October 2005, I was an expert witness on SWP water rights before the  
8 State Water Board during the hearing on the cease and desist order related to south Delta  
9 salinity objectives. I have also been directly involved in the negotiation of various  
10 settlement agreements executed by DWR with water rights holders and agencies within the  
11 Delta. My responsibilities also involve evaluation of proposals for consistency with DWR's  
12 water rights, water supply contracts, and settlement contracts. I evaluate petitions for  
13 change submitted to the State Water Board by other water users for potential impacts to  
14 SWP water rights and file protests and participate in State Water Board proceedings as  
15 necessary related to changes that may affect DWR's water rights.

16 Additionally, I prepare petitions to the State Water Board related to requested  
17 changes to DWR's water rights, including preparing the information on DWR's water right  
18 permits for the DWR and U.S Bureau of Reclamation Joint Petition for Change submitted in  
19 2015 for this proceeding. Attached as Exhibit DWR-19<sup>1</sup> is a copy of my Statement of  
20 Qualifications.

## 21 II. OVERVIEW OF TESTIMONY

22 My testimony presents information relevant to water rights issues covered in Part 1  
23 of this hearing. In the California WaterFix (CWF) Petition for Change, DWR proposes to  
24 add three new points of diversion to four SWP water right permits that would allow for the  
25 CWF. (Exhibits SWRCB-1; SWRCB-2.) The purpose of my testimony is to explain DWR's  
26 water right permits for the SWP and how the CWF will be operated consistent with these  
27 permits, that the proposed project does not change the diversion rate or season of use

28 <sup>1</sup> Exhibit DWR-19 is a true and correct copy of the document.

1 permitted under the permits, and how the information provided by DWR supports a  
2 conclusion by the State Water Board that the new points of diversion will not injure other  
3 legal users of water or in effect initiate a new water right<sup>2</sup> and to provide a general overview  
4 of DWR water supply and settlement agreements.

5 First, I describe the DWR's SWP water rights permits covered in the CWF Petition  
6 for Change, including a brief description of the permit terms and existing points of diversion.  
7 I then describe the change requested and provide information to demonstrate that the  
8 requested change does not represent a new water right because the proposed project does  
9 not change the diversion rate or season of use provided by the permits. Next, I briefly  
10 discuss how information provided in other DWR testimony on SWP operations, including  
11 Water Rights Decision 1641 objectives (D-1641) required by the State Water Board for the  
12 combined SWP and Central Valley Project (CVP) (collectively SWP/CVP), modeling  
13 information of operational criteria analyzed for this hearing, and historical salinity  
14 information support a decision by the Board that operating the CWF will not injure other  
15 legal users of water. Finally, I describe the SWP long-term water supply contracts and  
16 several settlement agreements between DWR and diverters on the Feather River and in  
17 the Delta.

18 In the State Water Board February 11, 2016, ruling on the CWF Project pre-hearing  
19 conference, the Board requested that DWR provide information required by its regulations  
20 for Change Petitions, Section 794(a), in a succinct and easily identifiable format. This  
21 information is attached to my testimony as Exhibit DWR-324.<sup>3</sup>

22 My testimony builds on the information of other testimony in Part 1 to provide  
23 additional information to the State Water Board to support a decision that, within the  
24 framework of DWR's water rights, regulations, and contracts, the CWF can be constructed  
25 and operated without injuring other legal users of water. This other testimony includes Mr.

26  
27 <sup>2</sup> In my testimony I use terms-of-art that are commonly used in water rights related activities, such as 'injury to  
28 other legal users of water' or 'beneficial use.' This terminology is used in relation to my analysis of the facts  
and not intended to express legal conclusions.

<sup>3</sup> Exhibit DWR-324, is a true and correct copy of the document.

1 Leahigh's testimony describing decisions on the timing and quantities of water deliveries  
2 based on projected and real time hydrologic and hydrodynamic information, and modeling  
3 testimony by Dr. Nader-Tehrani, and Mr. Munévar. Dr. Nader-Tehrani and Mr. Munévar  
4 provide information from CalSim II and DSM2 modeling under a range of modeled  
5 operations to evaluate the CWF's outer operational boundaries, demonstrating that even at  
6 an expanded range of operations the CWF can be operated to meet the regulatory  
7 requirements of D-1641 and the SWP water rights permits.

### 8 III. DWR WATER RIGHTS FOR THE SWP

9 In managing the SWP to provide water to its contractors, DWR operates its facilities  
10 to meet all statutory and regulatory requirements imposed on the SWP prior to satisfying  
11 delivery obligations. These requirements include those imposed by D-1641 as well as  
12 those contained in the 2008 U.S. Fish and Wildlife Service (FWS) Biological Opinion for the  
13 protection of Delta Smelt (Exhibit SWRCB-87), the 2009 National Marine Fisheries Service  
14 (NMFS) Biological Opinion for the protection of anadromous fish species (Exhibit SWRCB-  
15 84) (2008 and 2009 BiOps) and the 2009 California Department of Fish and Wildlife (DFW)  
16 Incidental Take Permit for long-fin smelt. (Exhibit SWRCB-65.)

17 DWR holds four water rights permits to divert from the Feather River and  
18 Sacramento-San Joaquin Delta channels (Feather River and Delta permits) that operate  
19 together to provide the primary water supply for the SWP. These Permits are 16478,  
20 16479, 16481, and 16482 and are State Water Board staff exhibits for this hearing Exhibits  
21 SWRCB-6, SWRCB-7, SWRCB-8, and SWRCB-9, respectively.<sup>4</sup> The authorized purposes  
22 of use in these permits include irrigation, domestic, municipal and industrial, recreation,  
23 salinity control and fish and wildlife enhancement purposes. A brief description of the  
24 currently authorized diversion amounts, season of use, purposes of use, place of use and

25 <sup>4</sup> DWR also holds water right Permit 16483 for direct diversion of water from Lindsay Slough in the Delta,  
26 however, DWR has not requested that the new points of diversion be included in that Permit. DWR holds  
27 other permits and licenses to divert from watercourses upstream of the Delta, including a total of six permits  
28 for the diversion of water to Lake Davis, Antelope Lake and Frenchman Lake above Lake Oroville, several  
southern California watercourses including Houston Creek, Piru Creek and Castaic Creek, as well as many  
small permits and licenses associated with land owned by DWR throughout California. No DWR permits other  
than those specifically listed in the CWF Petition for Change are affected by the proposed change.

1 point of diversion for each water rights permit is summarized in Table 1 marked as Exhibit  
2 DWR-330.<sup>5</sup>

3 The SWP water supply is primarily derived from unstored flow available in the  
4 Feather River at Oroville and the unregulated flow in the Delta channels as well as releases  
5 from Lake Oroville storage when unregulated flow is not sufficient to meet demands<sup>6</sup>. The  
6 water available to the SWP varies from year to year depending on hydrologic conditions.  
7 The unregulated flow that can be diverted, even during high flow periods, can be severely  
8 limited at certain critical times of the year due to the location of the south Delta export  
9 facilities and the restrictions on reverse flows in Old and Middle River (OMR) contained in  
10 the 2008 and 2009 BiOps.<sup>7</sup>

#### 11 A. SWP PERMITS

12 Permit 16478 (Application 5630) authorizes the diversion of up to 1,400 cubic feet  
13 per second (cfs) by direct diversion January 1 through December 31 of each year from the  
14 Feather River and up to 380,000 acre-feet (af) to storage at Lake Oroville from September  
15 1 through July 31 of each year. Permit 16479 (Application 14443) authorizes the diversion  
16 of up to 1,360 cfs by direct diversion January 1 through December 31 of each year and up  
17 to 3,500,000 af to storage at Lake Oroville from September 1 through July 31 of each year  
18 from the Feather River, as well as up to 6,185 cfs by direct diversion and 42,100 af to  
19 storage in the southern SWP reservoirs from the Sacramento-San Joaquin Delta channels.  
20 The authorized points of diversion for both permits include the Oroville/Thermalito facilities,  
21 Delta Water Facilities (Hood), the North Bay Aqueduct Intake, the Tracy Pumping Plant  
22 (Jones), and Clifton Court Forebay/ Banks<sup>8</sup> Pumping Plant (Banks). Water available from  
23 the Feather River under the permits may be directly diverted or diverted to storage from the  
24 diversion points in the Delta to the extent the water is available for diversion at Oroville  
25 Dam.

26 <sup>5</sup> Exhibit DWR-330, is a true and correct copy of the document.

27 <sup>6</sup> See Mr. Leahigh's testimony, section III, for discussion of unstored and unregulated flow.

28 <sup>7</sup> See Mr. Leahigh's testimony, section VIII.

<sup>8</sup> Clifton Court Forebay is the listed point of diversion, but CCF is also the intake location for the Banks pumping plant.

1 Permit 16481 (Application 14445A) authorizes the diversion of up to 2,115 cfs by  
2 direct diversion and up to 44,000 af to storage from the Delta channels from January 1  
3 through December 31 of each year. Permit 16482 (Application 17512) authorizes the  
4 diversion of up to 1,100,000 af to storage from Italian Slough, the Sacramento-San Joaquin  
5 River channels and San Luis Creek from January 1 through December 31 of each year.  
6 Authorized points of diversion include Hood, Jones, and Banks.

7 The Permits for the Feather River and Delta operate together to provide the primary  
8 water supply for the SWP. While each permit contains individual amounts, Condition 5 of  
9 each amended permit places a combined export limit on the Feather River and Delta  
10 Permits collectively limiting the maximum direct diversion rate, diversion to storage, and  
11 rediversion of stored water for export through the Hood, Jones, and Banks to 10,350 cfs.  
12 (Exhibits SWRCB-6 through SWRCB-9.) DWR has at times diverted water at the maximum  
13 rate allowed under the Feather River and Delta Permits. The maximum annual quantity of  
14 SWP water pumped at Banks to date is 4,042,851 af in 2005<sup>9</sup> which includes water directly  
15 diverted as well as water rediverted from Lake Oroville storage. DWR reports its annual  
16 diversion and use in Bulletin 132 each year which is available at  
17 [http://www.water.ca.gov/swpao/bulletin\\_home.cfm](http://www.water.ca.gov/swpao/bulletin_home.cfm) and in the annual reports of diversion  
18 filed each year with the State Water Board.

19 DWR filed a Petition for Time Extension on December 31, 2009, with the State  
20 Water Board to extend the time for completion of construction and full beneficial use in the  
21 permits.

22 DWR also coordinates operations with Reclamation. The two agencies are currently  
23 jointly assigned responsibility for meeting certain Delta water quality and flow objectives  
24 contained in D-1641. (Exhibit SWRCB-21, p. 146.)

#### 25 B. AUTHORIZED NORTH DELTA POINT OF DIVERSION

26 In addition to the diversion points in the south Delta and the North Bay Aqueduct,  
27 DWR's water rights permits include the Hood authorized point of diversion in the northern

28 <sup>9</sup> [http://www.water.ca.gov/swpao/bulletin\\_home.cfm](http://www.water.ca.gov/swpao/bulletin_home.cfm), (see also Footnote 6).

Delta. This diversion location was included in the original applications approved in Water Right Decision 1275 (D1275) (available at [http://www.waterboards.ca.gov/waterrights/board\\_decisions/adopted\\_orders/decisions/d1250\\_d1299/wrd1275.pdf](http://www.waterboards.ca.gov/waterrights/board_decisions/adopted_orders/decisions/d1250_d1299/wrd1275.pdf)) and in the permits issued by the State Water Board on September 26, 1972, (Exhibits SWRCB-6 through SWRCB-9). The existing and proposed points of diversion for the SWP permits are shown in Exhibit DWR-331<sup>10</sup>. The currently authorized Hood point of diversion is described as:

Delta Water Facilities: California Coordinate System of 1983 in Zone 2, North 252,650 feet and East 2,137,200 feet; SW ¼ of NE ¼ of Section 22, T6N, R4E, MDB&M. (Exhibit SWRCB-7, Condition 2)

The Hood point of diversion represents the intake location for the originally planned northern Delta diversion to a through Delta facility. A northern Delta point of diversion and through-Delta conveyance facility were components of the original plan for the SWP conceived in the 1950's and 1960's (Exhibit DWR-312, pp. 185-187) and authorized in the Burns Porter Act.<sup>11</sup> DWR and Reclamation have continued to evaluate diverting water from the northern Delta to the southern Delta export facilities since the SWP's inception (see Bulletin 132 beginning with Bulletin 132-64 pp. 60-63 (June 1964), available on DWR's website at link [http://www.water.ca.gov/swpao/bulletin\\_home.cfm](http://www.water.ca.gov/swpao/bulletin_home.cfm)

While the Hood point of diversion specifies a location near Hood in the northern Delta, the specific facility location was not finalized. As stated in State Water Board Decision 1275 (p. 8 and Table II):

Plans for the Delta Water Facilities to transport water from the Sacramento River in the vicinity of Hood to the intake of the California Aqueduct ... have not been finally determined.... The applications state that when these systems have been selected, information will be filed with the Board describing the features associated with these systems.

#### IV. REQUESTED CHANGE TO ADD POINTS OF DIVERSION

The current CWF recommendation for the Hood diversion contains three diversion

<sup>10</sup> Exhibit DWR-331, is a true and correct copy of the document.

<sup>11</sup> See Water Code section 12930 et seq.

1 intakes with a maximum capacity of 3,000 cfs each located in the vicinity of Hood rather  
2 than the single diversion facility as envisioned in the original permits. Consistent with  
3 Water Code Section 1701 and State Water Board regulations, DWR and Reclamation filed  
4 a joint petition with the State Water Board on August 26, 2015, supplemented by an  
5 Addendum and Errata on September 11, 2015, for a change in point of diversion to add the  
6 CWF intake locations in the listed water rights. (Exhibits SWRCB-1 and SWRCB-2.)

7       The CWF Petition for Change filed by DWR and Reclamation is limited to a change  
8 in point of diversion and redirection only. As noted above, and in the CWF Petition for  
9 Change, all other existing permit provisions including sources of water, amounts of direct  
10 diversion and diversion to storage, maximum allowable combined diversion from the Delta,  
11 places of use, purposes of use and season of diversion, will remain unchanged. The  
12 diversion rates in the existing permits remain unchanged, however maximum annual  
13 diversions may increase consistent with what is authorized under the existing permits. As  
14 noted in Mr. Munévar's testimony, modeling conducted for the CWF with the Initial  
15 Operational Criteria indicates that the combined SWP/CVP average annual diversions may  
16 be the same as the NAA (scenario H4) or may increase up to approximately 500 thousand  
17 acre feet (TAF) (scenario H3). (Exhibit DWR-71.) Under the boundary analysis, Mr.  
18 Munévar's shows that average annual diversion would be increased by 1.2 maf (Boundary  
19 1) or decreased by 1.2 maf (Boundary 2) as compared to the NAA. Mr. Munévar discusses  
20 the potential changes in streamflow associated with the operations of CWF. There will be  
21 no change in return flow associated with the change in point of diversion. Water diverted at  
22 the new intake facilities will be delivered to a modified Clifton Court Forebay and exported  
23 through Banks or Jones pumping plants. The SWP export location and place of use will not  
24 change.

25       As testified to by other witnesses, the CWF Petition for Change does not propose  
26 any changes to upstream operational criteria. (Exhibit DWR-51.) The proposed facilities  
27 and the rest of the SWP/CVP will be operated to meet authorized purposes, including flood  
28 control, water supply, and fish and wildlife purposes, in a manner that comports with

1 applicable water rights and contractual obligations. The CWF with Initial Operational  
2 Criteria would add additional constraints to current south Delta operations beyond those  
3 required in the 2008 and 2009 BiOps. (Exhibit DWR-116.) With the exception of Boundary  
4 1, which does not include Fall X2, all scenarios include compliance with existing 2008 and  
5 2009 BiOps and D-1641. The CWF with Initial Operational Criteria more restrictive OMR  
6 requirements and adds additional criteria for spring outflow and new minimum flow  
7 requirements at Rio Vista from January through August. (Exhibit DWR-116.)

8 V. THE PROPOSED CHANGE WILL NOT CHANGE THE PERMITTED RATE  
9 OF DIVERSION OR SEASON OF USE

10 DWR testimony and supporting documentation provide evidence for the State Water  
11 Board to determine that the changes requested by DWR and Reclamation in their CWF  
12 Petition for Change do not constitute a new water right because the CWF Petition for  
13 Change does not include a request to change the source of water, allowable rate of  
14 diversion, maximum diversion to storage or season of use. It is my understanding that  
15 Water Code Section 1701 allows a permittee or licensee to change the point of diversion,  
16 place of use, or purpose of use specified in the water permit or license. The State Water  
17 Board analyzed the question of what distinguishes a water right change and a new water  
18 right application in order WR 2009-0061 (available at  
19 [http://www.waterboards.ca.gov/waterrights/board\\_decisions/adopted\\_orders/orders/2009/wro2009\\_0061.pdf](http://www.waterboards.ca.gov/waterrights/board_decisions/adopted_orders/orders/2009/wro2009_0061.pdf)). It is my understanding that in Order 2009-0061, the State Water Board  
21 stated that it is well established that an appropriator may change elements of a water right,  
22 including the point of diversion, as long as the change will not injure other legal users of  
23 water. The State Water Board clarified that:

24 A fundamental principle of water right law, however, is that a right  
25 cannot be so changed that it in essence constitutes a new right. (Cal.  
26 Code Regs., tit. 23, § 791, subd. (a).) For example, an appropriator  
27 cannot expand an existing right to appropriate a greater amount of  
28 water, to increase the season of diversion, or to use a different source  
of water. (Cal. Code Regs., tit. 23, § 699; Johnson Rancho County  
Water District v. State Water Rights Board (1965) 235 Cal.App.2d 863,  
879.) (WR 2009-0061, p. 5-6)

1 It is my understanding that the State Water Board further stated the fundamental  
2 difference between an application for a new right or a change to an existing right is that the  
3 new right seeks to increase the diversion at a given time. (Id.) It is also my understanding  
4 that the State Water Board found that it could condition a water rights permit to make sure  
5 that it qualifies as a change petition.

6 The situation presented is no different than when a water right holder  
7 requests a change to a new point of diversion that has a larger  
8 capacity either due to the physical limitations of the diversion facilities  
9 or due to the amount of water physically available at the diversion  
10 point: while the capacity of the old point of diversion is no longer a limit  
on the diversion amount, it is possible to change to a new point of  
diversion and still maintain the prior limit on diversions as a result of  
conditions imposed on the approval of the change. (WR 2009-0061, p.  
7)

11 As discussed earlier in my testimony, the Petition for Change does not request a  
12 change in or expansion of the quantity, timing or source of water beyond that currently  
13 authorized in the existing permits. As testified by Mr. Leahigh, DWR will continue to  
14 operate the SWP to meet its regulatory obligations including the limitations on source of  
15 water, the rate, quantity and season of diversion under its water rights permits.

16 It is my understanding that Water Code Section 1701 does not limit an allowable  
17 change to a single new point of diversion, nor does it place a cap on the quantity of water  
18 that may be diverted at a new proposed point of diversion if it is within the quantities  
19 currently authorized in the existing water rights permits. The State Water Board can  
20 condition approval of the Petition for Change to maintain the prior water rights permits limits  
21 on diversion. Thus, the above State Water Board decisions and orders, and the limited  
22 change requested in the CWF Petition for Change support a determination by the State  
23 Water Board that the CWF Petition will not, in effect, initiate a new water right.

24 VI. THE PROPOSED CHANGE WILL NOT INJURE OTHER LEGAL USERS OF  
25 WATER

26 DWR testimony and supporting documentation provide evidence for the State Water  
27 Board to determine that the changes proposed in the petition can be approved without  
28 injuring other legal users of water. The State Water Board has assigned responsibility to

1 the SWP/CVP for meeting certain D-1641 water quality and flow objectives when  
2 unregulated flow is insufficient to meet the requirements. When unregulated flow is  
3 insufficient to meet In-Basin demands, SWP/CVP operators adjust exports or increase  
4 storage releases as necessary to meet the requirements of D-1641. The SWP/CVP must  
5 continue making supplemental storage releases to meet the D-1641 requirements even  
6 after they have ceased appropriating unregulated flow, operating the SWP/CVP to meet D-  
7 1641 first before appropriations are made for SWP/CVP purposes. For this reason,  
8 operations both now and as proposed for the CWF will not affect the quantity of water  
9 available for other legal users within the watershed.

10 Although there may be changes in SWP/CVP storage levels or releases (see Exhibit  
11 DWR-71, section V.C.), this would not injure other legal users because it is my  
12 understanding that such water users do not have a right to stored water releases from the  
13 SWP/CVP. Therefore, the quantity of water available for diversion by In-Basin water users  
14 will not be affected by any changes in stored water releases that may occur as a result of  
15 the CWF. Additionally, DWR must maintain specific minimum releases from Lake Oroville  
16 to the Feather River under the terms of a 1983 agreement between DWR and the California  
17 Department of Fish and Game (now known as DFW) and as part of DWR's Federal Energy  
18 Regulatory Commission (FERC) license. (Exhibit DWR-307.) DWR will continue to meet  
19 the Feather River minimum flow requirements.

20 Further, as stated in the testimony of Mr. Munévar, "Boundary 1 and Boundary 2  
21 scenarios result in the highest carryover storage levels due to greater flexibility in  
22 operations (Boundary 1) and substantially reduced export capability (Boundary 2), while  
23 scenarios H3 and H4 are more similar to the [No Action Alternative] NAA." (Exhibit DWR-  
24 71, section III.C.) The modeling demonstrates that changes in carryover storage levels from  
25 the four CWF scenarios would be higher or similar to storage levels in the NAA. This  
26 information demonstrates a continued ability to meet contractual obligations.

27 Also as stated in Mr. Munévar's testimony, "Water deliveries to CVP and SWP  
28 contractors, including Settlement Contractors, Exchange Contractors, Refuge Level 2, and

1 Feather River Service Area Contractors, are provided at the same level as the NAA under  
2 all CWF scenarios." (Exhibit DWR-71, section IV.) This modeling demonstrates that CWF  
3 operations would result in insignificant changes to water deliveries to these contractors and  
4 refuges and thus, would not cause injury to legal users of water.

5 The modeling conducted for this proceeding demonstrates that, at times, operating  
6 the proposed North Delta Diversion (NDD) facilities will result in some minor changes to  
7 water quality at some locations within the Delta. (see Exhibit DWR-66, sections IV-VI.) As  
8 stated by Dr. Nader-Tehrani, "Delta Water quality (based on EC and chloride) results are  
9 mixed. During the period which Agricultural D-1641 water quality objectives for Western  
10 and Interior Delta applies (April through August) water quality at most locations in the Delta  
11 are somewhat similar amongst all operational scenarios." (Exhibit DWR-66, section VIII.)

12 Results for all operational scenarios including the NAA show modeled  
13 exceedances in D-1641 water quality objectives (agricultural,  
14 municipal, and industrial). . . . However, . . . the exceedances are  
15 mostly a result of differences in model assumptions. . . . In reality, . . .  
16 SWP/CVP project operators have been able to meet their regulatory  
obligations to prevent most exceedances. (Exhibit DWR-66, section  
VIII.)

17 Dr. Nader-Tehrani also modeled changes in water levels in the Delta near the  
18 proposed NND to determine the extent of change and zone of influence. "The largest  
19 reduction in water levels is expected to occur in the vicinity of the three proposed NDD and  
20 mostly during high flow periods. However, during low flow periods, the expected reduction  
21 in daily minimum water levels is about 0.5 ft near the three intakes and is much smaller at  
22 other areas farther from the three intakes." (see Exhibit DWR-66, section VIII.)

23 Dr. Nader-Tehrani stated, "The modeling shows the expected changes to water  
24 quality and water levels within the Delta for the operational scenarios as compared to the  
25 NAA. Any changes that occur, either structurally or operationally, within the Delta affects  
26 areas throughout the Delta. Through careful planning and analysis, many areas of the  
27 Delta benefit and any negative water quality and water level changes have been minimized.  
28 The modeling cannot completely mimic operational decisions but it does show that D-1641

1 water quality objectives can be met." (see Exhibit DWR-66, section VIII.) Historical  
2 compliance was described by Mr. Leahigh when he stated, "Even though rare instances of  
3 water quality exceedances have occurred, these instances have been due to factors  
4 beyond the SWP/CVP's reasonable control." (Exhibit DWR-61, section V.)

5 Finally, as described in Mr. Bednarski's testimony, potential impacts to other legal  
6 users due to the construction of the CWF facilities will be mitigated. (Exhibit DWR-57.)

7 Under its authority to develop water quality control plans establishing standards for  
8 the protection of beneficial uses of the waters of the state, the State Water Board adopted a  
9 Water Quality Control Plan (WQCP) for the San Francisco Bay/Sacramento-San Joaquin  
10 Delta Estuary. The State Water Board imposed obligations on DWR and Reclamation for  
11 meeting most of the objectives through D-1641.

12 It is my understanding that the State Water Board established the water quality  
13 objectives which, when implemented, will reasonably protect municipal, industrial, and  
14 agricultural beneficial uses. (Exhibits SWRCB-30, p. 14; SWRCB-27, p. 10.) The CWF  
15 Petition for Change does not request any modification of D-1641 obligations. While some  
16 minor changes may occur in Delta water quality, SWP/CVP will still be operated to meet the  
17 D-1641. The SWP/CVP will continue to operate to meet D-1641 consistent with its water  
18 rights permits protecting agricultural and municipal beneficial uses. A reduction in water  
19 quality that is within the objectives contained in D-1641 would not interfere with the ability of  
20 other legal users to put water to beneficial use.

21 When unregulated flows are insufficient to meet D-1641 requirements in the Delta,  
22 the SWP/CVP are often required to make storage releases to meet the objectives, resulting  
23 in water quality in large portions of the Delta better than what would exist without the  
24 SWP/CVP releases, providing an incidental benefit to in-Delta diverters. In-Basin users do  
25 not have a right to require supplemental storage releases to further enhance the water  
26 quality at their points of diversion above that required in the WQCP and above that which  
27 would otherwise exist without SWP/CVP operations. The SWP and CVP are not required  
28

1 to maintain incidental benefits to water quality or flows that may have previously resulted  
2 from a different SWP/CVP operation.

3 Prior to the SWP/CVP, salinity often intruded well into the interior Delta during the  
4 irrigation season. Two figures excerpted from the 1995 Sacramento San Joaquin Delta  
5 Atlas (Exhibit DWR-301) illustrate the extent of maximum salinity intrusion into the interior  
6 Delta for two distinct periods. Exhibit DWR-301 (Figure 2), excerpted from Exhibit DWR-  
7 301, shows the extent of maximum salinity intrusion of 1000 ppm (parts per million) or mg/l  
8 of chloride from 1921-1943, the years prior to SWP/CVP upstream reservoir construction.  
9 (Exhibit DWR-301, p 22.)<sup>12</sup>

10 Exhibit DWR-301 (Figure 3) shows the maximum salinity intrusion of 1000 ppm of  
11 chloride in the years 1944 through 1990, when Shasta (after 1944), Folsom (after 1952)  
12 and Oroville Dam (after 1967) began operating to help control salinity intrusion by providing  
13 stored water releases during the drier parts of the year. (Exhibit DWR-301, p. 23.)

14 A comparison of the two figures illustrates an incidental benefit to significant portions  
15 of the Delta provided by SWP/CVP reservoir storage releases. To compare the salinity  
16 measured as chloride with the value of Electrical Conductivity (EC)<sup>13</sup> used in D-1641, I  
17 used conversion equations prepared by Mr. Bob Suits and Mr. Kamyar Guivetchi. (Exhibits  
18 DWR-311 and DWR-316.)<sup>14</sup> Using the conversion equations for Clifton Court Forebay from  
19 the May 29, 2001 memorandum from Bob Suits (Exhibit DWR-311) and the 1986  
20 memorandum from Kamyar Guivetchi (Exhibit DWR-316), the equivalent EC of 1000 mg/l  
21 chloride would be 3.8 to 4.0 mmhos/cm, many times higher than the salinity objective in D-  
22 1641 in the southern Delta, which is 0.7 EC<sup>15</sup> and in the interior Delta, which is 0.45 to 0.87  
23 EC.<sup>16</sup>

24  
25 <sup>12</sup> Exhibit DWR-301, is a true and correct copy of the document.

26 <sup>13</sup> Electrical Conductivity (EC) is expressed in units of mmhos/cm (milli-mhos per centimeter).

27 <sup>14</sup> Exhibit DWR-311 and DWR-316, are true and correct copies of the documents.

28 <sup>15</sup> D-1641 compliance locations for WQ Objectives for Agricultural Beneficial Uses in the Southern Delta are SJR at Vernalis, Brandt Bridge, Old River near Middle River and Old River at Tracy Road Bridge, see D-1641 Table 2.

<sup>16</sup> D-1641 compliance locations for WQ Objectives for Agricultural Beneficial Uses in the Interior Delta are South Fork Mokelumne River at Terminous and SJR at San Andreas Landing, see D-1641 Table 2.

1 In addition, as further evidence that historical salinity was at times greater than  
2 current conditions, particularly during drier periods, information available from the  
3 Sacramento-San Joaquin Water Supervisor's Report for 1931 (DWR -322)<sup>17</sup> documents  
4 water quality in the Delta in 1931, a critically dry year. Based on the information listed in  
5 Table 85 of that report, the maximum salinity at Emmaton was 10,000 ppm. (Exhibit DWR-  
6 322, p 159). Using the conversion equation found in Exhibit DWR-316, the equivalent EC  
7 would be approximately 30 mmhos/cm. The current EC objective in the WQCP for  
8 Emmaton is 2.78 mmhos/cm in a critical year. The Water Supervisor's Report for 1931  
9 estimated crop losses to total over one million dollars due to: 1) curtailment of diversions  
10 due to unsuitable water quality; and 2) actual losses due to applying high salinity water.  
11 (Exhibit DWR-322, p 201.)

## 12 VII. SWP CONTRACTS

13 The following sections provide an overview of the contracts executed by DWR for  
14 water developed through operation of the SWP as well as various settlement agreements  
15 executed with prior water rights holders on the Feather River and agencies within the Delta.  
16 The discussion is limited to agreements that are relevant to the current proceeding. The  
17 contracts are grouped into two general types of contracts or agreements: 1) long-term SWP  
18 water supply contracts; and 2) settlement agreements. As noted above, part of my job  
19 description includes evaluation of proposals for consistency with DWR's water rights, water  
20 supply contracts, and settlement contracts, and are included to help the hearing officers  
21 understand my testimony.

### 22 A. LONG-TERM WATER SUPPLY CONTRACTS

23 DWR provides water to 29 SWP contractors consistent with the long-term water  
24 supply contracts. Deliveries to one SWP contractor, Plumas County Flood Control and  
25 Water Conservation District, are made from Lake Davis upstream of Lake Oroville. The  
26 remaining 28 contractors receive water developed primarily through the Feather River and  
27 Delta Permits. The SWP contractors are located within the Feather River watershed, San

28 <sup>17</sup> Exhibit DWR-322, is a true and correct copy of the document.

1 Francisco Bay area, San Joaquin Valley, Central Coast and Southern California. The long-  
2 term water supply contracts outline how the water supply available each year is allocated  
3 among the SWP contractors and how the contractors will repay all SWP capital and  
4 operating costs in return for the state financing, constructing, operating, and maintaining  
5 the SWP. Table A of each contract lists the amounts that are used as the basis for  
6 allocating the total SWP water supply determined to be available for delivery each year  
7 (referred to as Table A amounts). The current combined maximum Table A amount for the  
8 28 SWP contractors that receive water developed under the Feather River/Oroville permits  
9 is 4,172,786 af. Of that amount 4,056,205 af represents the contract supply for the SWP  
10 contractors downstream of the Delta that could receive some water through the proposed  
11 CWF facilities. (See DWR Bulletin 132-14 available at DWR website.)

12 It is my understanding that the long-term contracts contain provisions allowing SWP  
13 contractors to receive delivery of SWP water in addition to the annual allocated Table A  
14 amount in a particular year depending on SWP water availability and annual SWP  
15 operations. Consistent with Article 21 of the long-term contracts, water may be provided to  
16 a contractor in addition to the allocated Table A amount during specific periods when  
17 additional SWP water is available, sometimes referred to as surplus water. In addition,  
18 under certain circumstances the contracts allow an SWP contractor to store a portion of its  
19 allocated Table A amount for future use within its service area in non-Project facilities such  
20 as groundwater banking programs, or in SWP conservation facilities if capacity is available  
21 and SWP operations will not be adversely affected. Some provisions of the contracts allow  
22 SWP contractors to carryover a portion of their allocated Table A amount if the carryover  
23 will not adversely affect SWP operations. The maximum annual SWP water delivered to  
24 south of Delta SWP contractors to date is approximately 3.55 MAF (million af). (Bulletin  
25 132-07, Table 9-4; available at DWR website below.)

26 The quantity that can be allocated to the SWP contractors varies substantially from  
27 year to year and is based on many different factors including the amount of water in  
28 storage in Oroville and San Luis Reservoirs, operational restrictions, end of year reservoir

1 storage targets, snowpack, forecasted runoff, regulatory requirements, water right  
 2 settlement delivery obligations, expected Sacramento basin and Delta depletions,  
 3 contractor delivery requests, available capacity of SWP facilities, and other demands for  
 4 SWP water such as water quality and fish and wildlife purposes. DWR will continue to  
 5 provide water to the SWP contractors consistent with the existing water supply contracts as  
 6 those agreements may be amended in the future. (To view SWP water supply contracts  
 7 that have been consolidated to include amendments, see DWR website  
 8 <http://www.water.ca.gov/swpao/wsc.cfm>; see also DWR website  
 9 [http://www.water.ca.gov/swpao/bulletin\\_home.cfm](http://www.water.ca.gov/swpao/bulletin_home.cfm) to view DWR's Bulletins 132 for  
 10 summaries of SWP operations and water deliveries under the contracts.)

## 11 B. EXISTING SETTLEMENT AGREEMENTS

### 12 i. Feather River Service Area

13 In addition to the SWP water supply contracts, DWR executed water right settlement  
 14 agreements with six agencies on the Feather River downstream of Lake Oroville to resolve  
 15 protests related to DWR's original applications to appropriate water from the Feather River.  
 16 The six agencies diverted water prior to Lake Oroville's construction under claim of pre-  
 17 1914, post-1914 and riparian water rights. These agencies include the Joint Water Districts  
 18 Board (consisting of Biggs-West Gridley Water District, Butte Water District, Richvale-  
 19 Irrigation District, and Sutter Extension Water District), Western Canal Water District,  
 20 Garden Highway Mutual Water Company, Plumas Mutual Water Company, Tudor Mutual  
 21 Water Company, and Oswald Water District. (The agreements are attached as Exhibits  
 22 DWR-314; DWR-315; DWR-318; DWR-321; DWR-323; DWR-325; DWR-326; DWR-329<sup>18</sup>.)

23 It is my understanding that the Feather River settlement agreements contain similar  
 24 terms and provide a defined water supply for each agency with specific deficiency  
 25 provisions tied to hydrologic conditions at Lake Oroville. The settlement agreements  
 26 contain no entitlement to SWP water stored in Oroville, storage of local water, or end of

27  
 28 <sup>18</sup> Exhibits DWR-314, DWR-315, DWR-318, DWR-321, DWR-323, DWR-325, DWR-326 and DWR-329 are true and correct copies of the documents.

1 season storage in Lake Oroville. Water stored in Lake Oroville is stored exclusively under  
2 DWR's water rights. The contractual entitlements contained in the settlement agreements  
3 are independent of Lake Oroville storage and DWR has sole discretion over operational  
4 decisions related to reservoir operations including water levels and storage releases. As  
5 discussed in Mr. Leahigh's testimony, DWR operations staff make decisions on how much  
6 water to release from Lake Oroville based on a number of factors including hydrology,  
7 storage levels, end of season target storage, in-stream requirements, contract  
8 requirements, SWP contractor demands and downstream regulatory requirements, among  
9 others. (Exhibit DWR-61.) Nothing in the Petition for Change proposes to alter the  
10 regulatory criteria governing releases from Lake Oroville or the terms of the DWR  
11 settlement agreements. (Exhibits SWRCB-1; SWRCB-2.) DWR will continue to operate  
12 the Oroville/Thermalito complex to provide water to the Feather River Settlement  
13 Contractors consistent with the terms and conditions of the existing settlement agreements,  
14 as it has done historically.

15 ii. Delta

16 As part of the original SWP water rights applications, DWR also engaged in  
17 settlement negotiations with a number of entities in the Delta. DWR currently has  
18 agreements with five entities in the Delta. The agreement terms vary significantly among  
19 the different Delta agencies based on the unique circumstances of each entity and were  
20 executed to address the specific concerns of each agency related to potential impacts  
21 associated with operation of the SWP in the Delta as proposed at the time the permits were  
22 issued which included the NDD and through Delta facility. These agreements are  
23 substantially different from those executed with diverters upstream on the Feather River.  
24 Certain agreements have a water supply component, others contain only water quality  
25 provisions, and some have a combination of both. The agreements described below were  
26 executed to address potential effects the SWP operation might have on each agency,  
27 including existing and planned facilities. Each agreement described below contains  
28 provisions consenting to the diversion of water by DWR based on the protections or

1 considerations provided in the agreements, as long as the agreements remain in effect.  
2 Nothing in the Petition is intended to alter the terms and conditions of the existing Delta  
3 settlement agreements. DWR will continue to comply with the terms and conditions of each  
4 of the agreements.

5 1. Contra Costa Water District

6 In 1967 DWR entered into a settlement agreement with the Contra Costa Water  
7 District (CCWD) wherein DWR agreed to reimburse CCWD for any decrease in the  
8 availability of usable river water at Mallard Slough caused by SWP operations. (Exhibit  
9 DWR-303<sup>19</sup>.) It is my understanding that the contract identifies the number of days water of  
10 usable quality was available prior to the SWP's construction and the reimbursement for the  
11 purchase of an alternate supply by CCWD when sufficient usable water is not available.  
12 Article 7 of the agreement provides that in consideration of the payments made by the  
13 state, CCWD releases the State from liability for any decrease in the availability of usable  
14 river water at Mallard Slough.

15 2. City of Antioch

16 In 1968, DWR and the City of Antioch (Antioch) entered into a Settlement  
17 Agreement (1968 Antioch Agreement). It is my understanding the 1968 Antioch Agreement  
18 mitigates water quality effects to Antioch from SWP operations by reimbursing Antioch for  
19 substitute water purchases when water is unusable due to its quality at its San Joaquin  
20 River diversion. (Exhibit DWR-304<sup>20</sup>.) Article 7 of the 1968 Antioch Agreement provides  
21 that in consideration of the payments provided under the agreement, Antioch releases  
22 DWR from any liability due to any change in regimen of flows in the Delta or the San  
23 Joaquin River and the effects of any such changes caused by SWP operations.<sup>21</sup>

24 It is my understanding that the 1968 Antioch Agreement applies to DWR's operation  
25 of the NDD just as it applied to diversions at the North Bay Aqueduct and the South Delta

26 <sup>19</sup> Exhibit DWR-303, is a true and correct copy of the document.

27 <sup>20</sup> Exhibit DWR-304, is a true and correct copy of the document.

28 <sup>21</sup> The release of liability did not include, however, "liability resulting from the utilization by the State of any facilities for removal of drainage water from the San Joaquin Valley," which is not an issue in this proceeding.

1 facilities that were in various stages of construction, but not complete, in 1968. (Exhibit  
 2 DWR-303, pp.5-6; DWR website <http://www.water.ca.gov/swp/history.cfm>.) In October  
 3 2013, DWR and Antioch amended the 1968 Antioch Agreement (2013 Antioch  
 4 Amendment) to adjust certain terms related to computing the volume of water used in the  
 5 formula defining Antioch's deficiency of suitable water, the timing for measuring water  
 6 quality, and adjusting Antioch's service area. (Exhibit DWR-310<sup>22</sup>.) As in the 1968 Antioch  
 7 Agreement, the 2013 Antioch Amendment continues until either party gives written notice to  
 8 the other party of termination at least 12 months prior to the effective date of termination.  
 9 Under the 1968 Antioch Agreement, such notice could not be effective prior to September  
 10 30, 2008. The 2013 Antioch Amendment updated this date to be September 30, 2028. All  
 11 other terms of the 1968 Antioch Agreement remain in full force and effect. (Exhibit DWR-  
 12 310, ¶ 4.)

### 13 3. North Delta Water Agency

14 In 1981 DWR and the North Delta Water Agency (NDWA) entered into an  
 15 agreement, titled "Contract Between the State of California Department of Water  
 16 Resources and North Delta Water Agency for the Assurance of a Dependable Water  
 17 Supply and Quality." (1981 NDWA Agreement) (Exhibit DWR-306<sup>23</sup>.) In 1998, DWR and  
 18 NDWA executed a Memorandum of Understanding in which they stipulated that the 1981  
 19 NDWA Agreement relates to the D-1641 water rights hearing and it is my understanding  
 20 that DWR will be responsible for meeting the NDWA obligations implemented through D-  
 21 1641, if any, to contribute to the WQCP objectives. (Exhibit DWR-308<sup>24</sup>.) The 1981 NDWA  
 22 Agreement is in effect and is implemented to address changes in water quality and supply  
 23 based on formulas in the Agreement. Under the 1981 Agreement, DWR is obligated to  
 24 assure specified water quality and supply for use within the NDWA. (Exhibit DWR-306,  
 25 Articles 2-8.) It is my understanding that in consideration for these assurances, NDWA

26 \_\_\_\_\_  
 27 <sup>22</sup> Exhibit DWR-310, is a true and correct copy of the document.

<sup>23</sup> Exhibit DWR-306, is a true and correct copy of the document.

<sup>24</sup> Exhibit DWR-308, is a true and correct copy of the document.

1 annually pays DWR a specified sum, subject to adjustment. (Exhibit DWR-306, Articles 8-  
2 10.) Under the 1981 Agreement, NDWA and DWR agree to defend the provisions of the  
3 agreement related to water quality, diversion, and use. (Exhibit DWR-306, p. 3.) In  
4 addition, NDWA consented to DWR's export of water from the Delta so long as the  
5 agreement is in effect and DWR is in compliance with it. (Exhibit DWR-306, p.3.)

#### 6 4. Byron-Bethany Irrigation District

7 Byron-Bethany Irrigation District (BBID) diverts water from the intake channel to  
8 Banks. DWR executed a right-of-way agreement with BBID in 1964 providing for the  
9 construction of new pumping facilities at the Banks intake channel. (Exhibit DWR-302<sup>25</sup>.)  
10 In 2003 DWR executed a settlement agreement with BBID (2003 BBID Agreement)  
11 regarding the diversion of water from the Delta. (Exhibit DWR-309<sup>26</sup>.) It is my  
12 understanding that the 2003 BBID Agreement acknowledges, but does not define, BBID's  
13 pre-1914 right to divert water from the Delta and describes the nature and extent of BBID's  
14 right to divert as between DWR and BBID up to a specified amount. The 2003 BBID  
15 Agreement also provides that DWR shall not be liable for the quality of water diverted by  
16 BBID.

#### 17 5. East Contra Costa Irrigation District

18 On January 7, 1981, DWR executed an agreement with East Contra Costa Irrigation  
19 District (ECCID) for the assurance of a dependable water supply of suitable quality (1981  
20 ECCID Agreement). (Exhibit DWR-305<sup>27</sup>.) It is my understanding that the 1981 ECCID  
21 Agreement, as amended, also includes a water supply component. The 1981 ECCID  
22 Agreement specifies that DWR will operate the SWP to provide water quality in Old River at  
23 Indian Slough from April 1 through October 31 each year at least equal to the water quality  
24 standards adopted by the State Water Board or those provided in the 1981 ECCID  
25 Agreement (with special provisions during periods of drought emergency).

26 \_\_\_\_\_  
27 <sup>25</sup> Exhibit DWR-302, is a true and correct copy of the document.

28 <sup>26</sup> Exhibit DWR-309, is a true and correct copy of the document.

<sup>27</sup> Exhibit DWR-305, is a true and correct copy of the document.

1 Article 6(a) of the 1981 ECCID Agreement (as amended on February 7, 2000) (DWR  
2 328) provides:

3 This contract, as amended, shall constitute the full and sole agreement  
4 between DWR and ECCID as to (1) the rights of ECCID to divert water  
5 from Indian Slough, the Contra Costa Canal intake at Rock Slough, or  
6 the Los Vaqueros Project intake at Old River; and (2) the quality of  
7 water which shall be in Old River at Indian Slough; and (3) the  
8 payment for the assurance given that water of such quantity at the  
9 three intake locations and quality at Indian Slough shall be available for  
10 reasonable and beneficial uses on District lands as defined in Article  
11 1(c) of this contract, as amended. Said uses shall not be disturbed or  
12 challenged by DWR and ECCID shall not claim a right against DWR in  
13 conflict with the provisions hereof so long as this contract, as  
14 amended, remains in full force and effect.

15 Article 6(e) further provides:

16 The District consents to the State's export of water from the Delta so  
17 long as this contract remains in full force and effect and the State is in  
18 compliance herewith.

19 DWR executed an agreement on April 11, 1991 (DWR 327<sup>28</sup>), subsequently  
20 amended on February 7, 2000 (Exhibit DWR 328<sup>29</sup>), with ECCID and CCWD, which I  
21 believe allows CCWD to divert a portion of the water available under the 1981 ECCID  
22 Agreement at CCWD's diversion facilities in order to provide water for municipal and  
23 industrial uses within the ECCID service area (1991 DWR-ECCID-CCWD Agreement). It is  
24 my understanding that the City of Brentwood receives water from CCWD under the  
25 provisions of the 1981 ECCID Agreement, as amended, and the water quality standards  
26 and protections governing the delivery of water to the City of Brentwood are provided for in  
27 those agreements. Article 2 of the 1991 DWR-ECCID-CCWD Agreement, as amended,  
28 provides that the water quality criteria at Indian Slough alone shall govern under this  
contract, as amended. Nothing in this contract, as amended, or the 1991 DWR-ECCID-  
CCWD contract, as amended, obligates DWR to maintain any water quality standards at  
either the Contra Costa Canal intake at Rock Slough, or the Los Vaqueros Project intake at  
Old River which may differ from those at Indian Slough.

<sup>28</sup> Exhibit DWR-327, is a true and correct copy of the document.

<sup>29</sup> Exhibit DWR-328, is a true and correct copy of the document.

1 The 1981 ECCID Agreement and the 1991 DWR-ECCID-CCWD Agreement, as  
2 amended, remain in effect.

3 C. CWF SETTLEMENT AGREEMENT

4 i. Contra Costa Water District

5 DWR and CCWD signed a settlement agreement on March 24, 2016 (2016 CCWD  
6 Agreement) to address potential CEQA effects of CWF on CCWD. (Exhibit DWR-334.<sup>30</sup>) It  
7 is my understanding that the 2016 CCWD Agreement provides that CCWD will receive  
8 specific quantities of water diverted through the NDD depending on the portion of the  
9 Sacramento River inflow to the Delta diverted by the SWP/CVP and the proportion diverted  
10 through the NDD. The quantity of water diverted for CCWD under the agreement will vary  
11 from 2,000 af to 50,000 af depending on the total quantities of water diverted by DWR and  
12 Reclamation. The water provided to CCWD will be water diverted under CCWD's water  
13 rights, CVP contract supply, or water acquired by CCWD from other sources. It is my  
14 understanding that the deliveries to CCWD under the 2016 CCWD Agreement will not  
15 result in an increase in total CCWD diversions from the Delta or the maximum quantities  
16 diverted through the CWF facilities. No water will be delivered under the agreement until all  
17 necessary approvals are in place. As discussed in the testimony of Dr. Nader-Tehrani and  
18 DWR Exhibit-512, a modeling analysis of two possible worst case scenarios representing  
19 two extreme implementations of the CCWD Agreement were done to demonstrate possible  
20 changes in water quality. (Exhibit DWR-66, section V.) The analysis shows the changes in  
21 monthly average EC, and for scenario A show the largest increase in EC of about 2 percent  
22 and for scenario B the largest increase of about 4-5 percent, mostly in the Western Delta.  
23 However, on average there is a reduction in EC of up to 3 percent. The actual changes in  
24 water quality are expected to be lower and would not affect the ability to meet D-1641  
25 objectives. (Exhibit DWR-512.) The 2016 CCWD also requires that CCWD withdraw its  
26 protest of the CWF Petition for Change. (Exhibit DWR-334.)

27 ///

28 <sup>30</sup> Exhibit DWR-334 is a true and correct copy of the document.

## 1 VIII. CONCLUSION

2 DWR and Reclamation have requested a change in their respective water rights  
3 permits to add the CWF facilities to each of the listed permits. Information provided in my  
4 testimony supports a decision by the State Water Board that the requested change does  
5 not in effect initiate a new water right. In addition, the information provided by DWR and  
6 Reclamation with the CWF Petition for Change, additional information developed since the  
7 time the petition was filed and the information provided by DWR and Reclamation in their  
8 testimony for the State Water Board hearing on the CWF Petition for Change supports a  
9 decision by the State Water Board that the Petition can be approved without injuring other  
10 legal users.

11 The information provided by DWR and Reclamation demonstrates that there will be  
12 minimal impacts to water levels in the immediate area of the proposed CWF facilities, and  
13 those changes will not adversely affect the operation of existing diversion facilities in the  
14 sphere of influence of the CWF facilities. Construction-related potential adverse effects to  
15 existing legal users of water, including impacts to existing any diverters with existing  
16 facilities within the footprint of the CWF facilities, will be mitigated. The CWF does not  
17 include changes to upstream operational criteria and the SWP will continue to meet its  
18 upstream contractual obligations, and instream flow requirements.

19 In managing the SWP to provide water to its contractors, DWR operates its facilities  
20 to meet all statutory and regulatory requirements imposed on the SWP prior to satisfying  
21 delivery obligations. These requirements include those imposed by the State Water Board  
22 on the SWP water rights in D-1641, including water quality objectives and diversion limits,  
23 as well as those contained in the 2008 and 2009 BiOps, and the DFW Incidental Take  
24 Permit. These existing protections will remain in effect. In addition, no water will be  
25 diverted at the CWF facilities prior to receiving a Biological Opinion and an Incidental Take  
26 Permit for CWF and an order from the State Water Board approving the Petition.  
27 Testimony submitted for Part 1 of this hearing supports a conclusion by the Board that  
28 approval of the CWF will not injure other legal users of water.

1 Executed on this 31<sup>st</sup> day of May, 2016 in Sacramento, California.

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4 Maureen Sergent  
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