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BEFORE THE
CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

HEARING ON THE MATTER OF
CALIFORNIA DEPARTMENT OF WATER
RESOURCES AND UNITED STATES
BUREAU OF RECLAMATION REQUEST
FOR A CHANGE IN POINT OF DIVERSION
FOR CALIFORNIA WATER FIX.

**TESTIMONY OF
MICHAEL L. PETERSON**

I, Michael L. Peterson, declare:

I. INTRODUCTION

My name is Michael L. Peterson and I am a registered civil engineer licensed in the State of California. I have worked for the County of Sacramento for 29 years, having spent the last five years in the position as the Director of Department of Water Resources. I also serve as the Agency Engineer for Sacramento County Water Agency (SCWA). Additionally, I serve on the Executive Committee for the Freeport Regional Water Authority (FRWA) joint powers authority and act as the Floodplain Administrator for Sacramento County.

In my role as Agency Engineer for SCWA, I am responsible for the operation of the SCWA water supply utility, involving both groundwater and surface water supplies. Over the course of my career, and particularly in a water purveyor role as Agency Engineer, I have gained a great deal of understanding and experience with the complex

1 relationship between water supply reliability, surface water rights, Central Valley Project
2 (CVP) supplies, and groundwater supplies. Along with the entire state, the SCWA has
3 spent the last five years recovering from the Great Recession only to experience the
4 impacts of five years of historic drought. During this unprecedented period, the SCWA
5 was challenged like never before to balance its sources of supply to ensure water supply
6 reliability, environmental protection and financial stability while responding to the
7 hydrologic challenges and regulatory mandates of the drought.

8 My responsibility as SCWA Agency Engineer includes the operation and
9 maintenance of 102 domestic water wells, 12 groundwater treatment plants, a 50 MGD
10 surface water treatment plant, over 800 miles of pipes and other appurtenances while
11 serving 52,000 customer connections and both wholesale and retail service areas. This
12 responsibility also includes operation of the FRWA intake on the Sacramento River and
13 17 miles of pipeline that brings water into the SCWA service area.

14 As SCWA Agency Engineer I am responsible for identifying and securing water
15 supplies to serve future residents and businesses that are anticipated in the developing
16 areas of Sacramento County and the cities of Elk Grove and Rancho Cordova. I
17 oversee SCWA's long-range planning efforts in which water supplies and infrastructure
18 are identified to ensure that our existing and future customers have adequate supplies. I
19 also oversee construction projects that will help achieve the vision presented in our
20 planning documents. (Exhibit SCWA-30 is a true and correct copy of my resume.)

21 II. PURPOSE AND SUMMARY OF TESTIMONY

22 This testimony builds upon the technical analyses prepared by MBK Engineers
23 regarding the potential impacts of the California Water Fix (WaterFix) project on water
24 storage and water supplies throughout the Sacramento Valley. This testimony describes
25 how the impacts identified in these technical analyses, in combination with the analyses
26 of reverse flow events at the Freeport Regional Water Project (FRWP) prepared by the
27 East Bay Municipal Utility District (EBMUD) (Exh. EBMUD-152), and SCWA Engineer,
28 Forrest Williams, (Exhibit SCWA-3), as well as the groundwater analysis performed by

1 Dr. Steffen Mehl (Exhibit SCWA-4), demonstrates the potential water supply injury that
2 SCWA may experience if the State Water Resources Control Board (State Water Board)
3 approves the California Department of Water Resources (DWR) and United States
4 Bureau of Reclamation's petition for change for the WaterFix project. To provide context
5 for the discussion of WaterFix project's impacts on SCWA, the next few sections
6 describe SCWA's water supply planning efforts, conjunctive use program and its current
7 and future water sources.

8 III. SCWA WATER SUPPLY PLANNING

9 SCWA was formed in 1952 by the Sacramento County Water Agency Act
10 (Agency Act) which is a special legislative act of the State of California. (See Water
11 Code App. Chapter 66, commencing at section 66-1 et seq.) SCWA, under the Agency
12 Act, is charged, in part, with making water available for the beneficial use of lands and
13 inhabitants, and producing, storing, transmitting and distributing water.

14 SCWA, as the primary water supplier for the growth areas of Sacramento County,
15 plays an important role in the economic health of the County. Water supply is closely
16 tied to development, and SCWA continues to place a high priority on identifying and
17 developing water supplies to support the region's economic growth. It is SCWA's
18 responsibility to supply clean and reliable water to the citizens of Sacramento County
19 now and into the future and SCWA continues to diligently pursue this important goal.

20 The Agency Act authorizes SCWA to create "benefit zones" for the purpose of
21 funding capital projects, the purchase of water supplies, maintenance activities, studies
22 and other activities that benefit those included in the zone. Zone 40 was created by
23 SCWA Resolution No. 663 in May 1985, which describes the exact boundaries of the
24 zone (at the time) and identifies the projects to be undertaken. The Zone 40 boundary
25 was last modified by resolution of the SCWA Board on March 26, 2013. (Exhibit SCWA-
26 5 is a true and correct copy of the current Zone 40 property description.)

27 SCWA Ordinance No. 18 was adopted in 1986 and empowered SCWA to
28 establish fees, charges, credits and regulations for the supply of water to zones within

1 SCWA. The Zone 40 Water Supply Master Plan (Master Plan) was created in response
2 to the Ordinance No. 18 requirement for a master plan. (Exhibit SCWA-6 is a true and
3 correct copy of the Master Plan.) Zone 40 represents the main projected growth area
4 within SCWA's service area.

5 In connection with the Master Plan, SCWA developed a Water System
6 Infrastructure Plan (Infrastructure Plan). The Infrastructure Plan was first created in
7 2006 as an implementation tool for the Master Plan and its subsequent amendments.
8 The Infrastructure Plan uses land use information from Sacramento County and the
9 cities of Elk Grove and Rancho Cordova to project water demands, necessary supplies
10 to meet those demands and define needed infrastructure. It also refines SCWA's
11 conjunctive use program that was described in the Master Plan, which balances the use
12 of groundwater and surface water. The 2006 Infrastructure Plan was recently updated,
13 and the 2016 update serves as the most current staff-level water system planning tool.
14 (Exhibit SCWA-7 is a true and correct copy of the 2016 Infrastructure Plan.)

15 A detailed analysis of the Zone 40 population served and water demand
16 estimates can be found in the 2016 Infrastructure Plan. Exhibit SCWA-8, which is a true
17 and correct copy of Figure 3-11 from the 2016 Infrastructure Plan, shows the number of
18 connections that SCWA plans to serve in Zone 40 through buildout, which is estimated
19 to happen in 2052 based on SCWA's moderate growth scenario. As of 2010, Zone 40
20 included approximately 149,000 people, and SCWA served approximately 34,500 acre-
21 feet of potable water to this area. At buildout of the areas currently contemplated for
22 development within Zone 40, SCWA will serve more than 480,000 customers more than
23 102,000 acre-feet/year (AF/YR) of potable water. (Exhibit SCWA-9, is a true and correct
24 copy of Figure 3-20 of the 2016 Infrastructure Plan.)

25 SCWA has carefully planned and prepared for the contemplated growth described
26 in the 2016 Infrastructure Plan by sustainably managing local groundwater supplies,
27 pursuing, acquiring, and perfecting surface water rights and contracts, exploring and
28

1 attaining alternative water supplies, such as recycled water, and investing in
2 infrastructure to deliver water to its customers.

3 IV. SCWA CONJUNCTIVE USE PROGRAM

4 SCWA began by serving only groundwater to its customers, but recognized that
5 surface water supplies would be necessary to provide customers a more reliable supply
6 and accommodate the growth planned in Sacramento County and the cities of Elk Grove
7 and Rancho Cordova. The SCWA conjunctive use program includes the delivery of
8 surface water within the Zone 40 boundaries as part of a comprehensive program to
9 maintain the long-term, regional balance of the groundwater basin.

10 SCWA was an active participant in the development of the historic Water Forum
11 Agreement (WFA), which was ultimately signed in 2001. (Exhibit SCWA-10 is a true and
12 correct copy of the Water Forum Agreement.) The Water Forum process brought
13 together a diverse group of stakeholders including water managers, business and
14 agricultural leaders, environmentalists, citizen groups and local governments to evaluate
15 available water resources and future water needs of the Sacramento Region. The
16 coequal objectives of the Water Forum are to: 1) provide a reliable and safe water
17 supply for the region's economic health and planned development through the year
18 2030; and 2) preserve the fishery, wildlife, recreational and aesthetic values of the lower
19 American River. The first objective will be met by additional diversions of surface water,
20 increased conjunctive use of surface water and groundwater, expanded water demand
21 management programs and development of recycled water supplies. The second
22 objective will be met by improved flow patterns in the lower American River through
23 implementation of the Lower American River Flow Management Standard.

24 In the WFA, Sacramento County and SCWA committed to pursuing the
25 development of surface water supplies and infrastructure to supplement their
26 groundwater supplies in order to implement conjunctive use in Zone 40. (Exhibit SCWA-
27 11, is a true and correct copy of SCWA's Water Forum purveyor specific agreement.)
28

1 Additionally, SCWA has partnered with East Bay Municipal Utilities District
2 (EBMUD) to create the Freeport Regional Water Authority (FRWA), which constructed
3 the Freeport Regional Water Project (FRWP). (Exhibit SCWA-12 is a true and correct
4 copy of the joint powers agreement that formed FRWA.) The FRWP includes a 185
5 MGD intake on the Sacramento River and 17 miles of pipe carrying water from the intake
6 into SCWA's service area and beyond to the Folsom South Canal for delivery to
7 EBMUD. SCWA has also constructed Phase 1 of the Vineyard Surface Water
8 Treatment Plant (VSWTP), which is currently capable of treating 50 MGD of surface
9 water for delivery to SCWA's customers south of the American River (Phase 2 capacity
10 will be 100 MGD). (Exhibit SCWA-13 contains a true and current copy of the map
11 showing the location of the FRWP facilities.)

12 The FRWP facilities divert Sacramento River water and convey it to the SCWA
13 and EBMUD service areas using the following facilities: (1) an intake and pump station
14 near Freeport, (2) a pipeline extending from the intake to SCWA's treatment plant and to
15 the Folsom South Canal, (3) a pipeline extending from the Folsom South Canal terminus
16 to EBMUD's Mokelumne River Aqueducts, and (4) related pumping plants, terminal
17 facilities and water treatment facilities.

18 The FRWA pipeline delivers surface water to the VSWTP, which is located near
19 the intersection of Florin Road and Excelsior Road in Sacramento County. The VSWTP
20 is a conventional treatment plant and includes flash mixing/coagulation, sedimentation,
21 filtration, waste wash water recovery, and sludge dewatering facilities. The facility also
22 includes a CT (concentration time) tank, clear well and chemical feed systems necessary
23 to treat and distribute potable water. SCWA relies on operation of FRWA and VSWTP
24 facilities to divert water from the Sacramento River to provide surface water supplies for
25 SCWA's conjunctive use program.

26 SCWA has invested roughly half a billion dollars in surface water infrastructure to
27 bring surface supplies into the SCWA service area, in addition to the millions of dollars of
28 investment in groundwater infrastructure. This infrastructure serves as the backbone to

1 the SCWA conjunctive use program which balances the use of surface and groundwater.
2 SCWA's Zone 40 Master Plan describes SCWA's conjunctive use program. (See Exhibit
3 SCWA-6.) In its conjunctive use planning, SCWA diverts surface water under its
4 appropriative water right and CVP contracts in lieu of groundwater pumping. When
5 SCWA is constrained from utilizing its surface water portfolio, SCWA relies more heavily
6 on its groundwater supplies. This allows the groundwater basin to recover in the next
7 year when SCWA uses surface water, and the improved groundwater conditions create
8 a more reliable supply during dry years.

9 V. SURFACE WATER

10 SCWA holds the following surface water supplies.

11 A. CVP Supplies

12 SCWA holds two CVP water supply contracts. In total, these contracts provide for
13 delivery of 45,000 AF/YR. SCWA diverts most of the CVP water at the FRWP intake on
14 the Sacramento River and treats it at the VSWTP. Some of SCWA's CVP supplies are
15 diverted from the Sacramento River and treated at the City of Sacramento's Sacramento
16 River Surface Water Treatment Plant, and then delivered to SCWA at the Franklin
17 Intertie.

- 18 • Fazio Contract. SCWA entered into its first CVP contract in April 1999 with
19 the United States Bureau of Reclamation (Reclamation) for delivery of
20 22,000 AF/YR of CVP supplies. (Exhibit SCWA-14 is a true and correct
21 copy of Contract No. 6-07-20-W1372.) This supply may be used in Zone
22 40. This contract supply is often referred to as "Fazio Water" in recognition
23 of the efforts by Congressman Vic Fazio to secure this contract. Of this
24 22,000 AF/YR, 7,000 AF/YR has been subcontracted to the City of Folsom
25 for diversion from Folsom Lake. (Exhibit SCWA-15 is a true and correct
26 copy of SCWA's Subcontract with City of Folsom.) With this subcontract in
27 place, 15,000 AF/YR is available for SCWA under Contract No. 6-07-20-
28 W1372.

- SMUD Assignment. SCWA also holds a second CVP contract that provides for delivery of 30,000 AF/YR of water by Reclamation from the American River Division. SCWA holds this CVP contract as a result of a partial assignment of Contract No. 14-06-200-5198A from the Sacramento Municipal Utility District to the SCWA on July 12, 2006. (Exhibit SCWA-31 is a true and correct copy of the Agreement Approving Partial Assignment.) Subsequent to this assignment, SCWA entered into its own contract with Reclamation – Contract No. 14-06-200-5198B-IR1 (“IR1”), which was in effect through February 28, 2015. (Exhibit SCWA-16 is a true and correct copy of IR1) Currently, SCWA operates under a second interim renewal contract – Contract No. 14-06-200-5198B-IR2 (“IR2”), which is effective through February 28, 2017. IR2 renews all of the provisions of IR1, except the term. (See Exhibit SCWA-17, which is a true and correct copy of IR2.) Ultimately, upon completion of appropriate environmental review, SCWA anticipates executing a long-term renewal contract for a period not to exceed forty (40) years. This water is diverted by SCWA at the FRWP intake for use throughout Zone 40.

SCWA’s CVP supplies are subject to reductions in dry years based on a Reclamation policy that defines water shortage terms and conditions. The water supply allocations are defined by Reclamation on a year to year basis and are expressed as a percentage of either the contract amount or amount of average use. Reclamation initiated the development of a Municipal and Industrial (M&I) Water Shortage Policy (Shortage Policy) in 1992, with several proposals prepared through 2001. Reclamation updated the Shortage Policy in August 2015. Under the 2015 Shortage Policy, M&I water service contract allocations are to be maintained at 100 percent of Contract Total as agricultural water service contractor allocations are reduced to 75 percent of their Contract Total. Reductions in M&I water service contractor allocations are to begin once agricultural water service contractor allocations are reduced to 75 percent of the

1 Contract Total. Once M&I water service contractors are reduced below 100 percent,
2 then M&I allocations are based on historical use, which is use during the three most
3 recent unconstrained years. At the point agricultural water service contracts are at zero
4 percent, M&I water service contractors would be at the minimum of 50 percent of
5 historical use. A contractor's historical use may be adjusted for the use of non-CVP
6 water. Further, where a contractor's allocation is less than 75 percent of historical use,
7 then a contractor may request an adjustment to provide at least the unmet need of their
8 Public Health and Safety demand up to a maximum of 75 percent of historical use.

9 Based on modeling for the 2016 Infrastructure Plan, SCWA anticipates receiving
10 between about 22,500 – 45,000 AF/YR of CVP water, depending on hydrology. (See
11 Exhibit SCWA-18, which contains a true and correct copy of Table 4-1 from the 2016
12 Infrastructure Plan.) Over the long term, SCWA anticipates approximately 40,050
13 AF/YR of CVP water being available. (See Exhibit SCWA-18.)

14 **B. Appropriative Surface Water Right**

15 SCWA has an appropriative water right that allows it to divert surface water from
16 the Sacramento River at the FRWP point of diversion. In February 2008, the SWRCB
17 approved SCWA's Permit 21209. (Exhibit SCWA-20 is a true and correct copy of Permit
18 21209.) True and correct copies of SCWA's Progress Reports, as filed with the SWRCB
19 reflecting use under these rights for 2011 through 2015, are included as Exhibits SCWA-
20 21 through SCWA-25. Permit 21209 has a priority date of June 13, 1995. The
21 maximum amount of water available under Permit 21209 is 71,000 AF/YR. SCWA
22 anticipates this amount being available in wet years, primarily during the winter months.
23 Since SCWA's demands are low in the winter months, it is possible that not all of this
24 supply may be utilized without the ability to store the water. This right contains State
25 Water Board "Term 91", meaning that it is subject to curtailments by the State Water
26 Board when specific criteria are met.

27 For planning purposes, SCWA anticipates that, in a wet/average year, as much as
28 35,000 acre-feet may be available. (See Exhibit SCWA-18.) Based on SCWA's recent

experience during the 2013-2015 drought, SCWA assumes that in dry years this supply is not available due in part to its junior priority and the existence of Term 91 in Permit 21209. (See Exhibit SCWA-18.) On a long-term average basis, at buildout, SCWA is planning for approximately 22,400 AF/YR being available. (See Exhibit SCWA-18.)

C. Groundwater

SCWA Groundwater Production. In addition to the surface water supplies listed above, SCWA serves its customers groundwater from the South American Subbasin of the Sacramento Valley Basin. (See Exhibit SCWA-26, which is a true and correct copy of a map of the South American Subbasin, Zone 40, and Sacramento Central Groundwater Authority [SCGA] Boundary.) The "Central Basin" is located entirely within Sacramento County and partially within the South American Subbasin, and is bounded on the north by the American River, on the west by the Sacramento River and Interstate 5 and on the south roughly by the Cosumnes River. (See Exhibit SCWA-26.) The Central Basin has been actively and sustainably managed by the SCGA since the adoption of the Central Sacramento County Groundwater Management Plan (Management Plan) in 2006. (Exhibit SCWA-45 is a true and correct copy of the Management Plan.) Sacramento County is one of the five signatories to the joint powers agreement that governs the management of the Central Basin pursuant to the Management Plan.

The Management Plan builds on the management goals defined in the WFA, and relies on the sustainable yield of 273,000 AF/YR (long-term average) for the Central Basin, as calculated as part of the WFA process. SCWA's recent production from the South American Subbasin ranges from about 20,000-29,000 AF/YR between 2011 and 2015. (See Exhibit SCWA-42, which is a true and correct copy of Table 6-2 from SCWA's 2015 Urban Water Management Plan.) At buildout, SCWA anticipates that it will produce about 25,000-63,000 AF/YR, depending on the water year type. (Exhibit SCWA-27 is a true and correct copy of Figure 4-5 from the 2016 Infrastructure Plan.) With the passage of the Sustainable Groundwater Management Act (SGMA) in 2014,

1 SCGA is working toward SGMA compliance by working with stakeholders in the basin to
2 become a groundwater sustainability agency and ultimately update the Management
3 Plan to become the groundwater sustainability plan for this groundwater basin.

4 **D. Remediated Groundwater**

5 Groundwater remediation activities conducted by Aerojet and Boeing/McDonnell
6 Douglas in the eastern portion of Sacramento County include extraction and treatment of
7 contaminated groundwater, and discharge of that water to surface streams, including the
8 American River and its tributary waters. SCWA has the right to receive 8,900 AF/YR of
9 this remediated groundwater supply at the point(s) of discharge in accordance with the
10 terms and conditions in the agreement entitled "Agreement between Sacramento
11 County, SCWA, and Aerojet-General Corporation With Respect To Transfer of GET
12 Water" dated May 18, 2010. (Exhibit SCWA-28 is a true and correct copy of the County-
13 SCWA-Aerojet-General Agreement.) Due to Aerojet's obligations pursuant to regulatory
14 orders and the terms of the County-SCWA-Aerojet- General Agreement, SCWA planning
15 assumptions assume receipt of 8,900 AF/YR for the foreseeable future at the point of
16 discharge. SCWA assumes a loss of 10% between the point of discharge and point of
17 diversion at the FRWP intake.

18 The Aerojet remediated groundwater supply is diverted by SCWA from the
19 Sacramento River at Freeport after it is discharged into the American River or its
20 tributaries. In this manner, Aerojet water may be diverted at the same time as SCWA's
21 surface water supplies. However, when other SCWA surface supplies are unavailable
22 for diversion, SCWA continues to have the opportunity to divert Aerojet water.

23 As Sacramento County grows and the SCWA service area builds out, water
24 supplies will be used according to availability and cost with consideration for both
25 perfecting SCWA's appropriative water right and developing a historical use of CVP
26 supplies. SCWA committed as part of the WFA process to implement a conjunctive use
27 program that balances surface and groundwater use in order to protect both resources
28 and SCWA has been working toward that goal with significant investments in both

1 groundwater and surface water infrastructure. This system depends on the availability
2 of surface water during wet and average years, and reliance on groundwater during dry
3 years.

4 The Water Forum has defined conjunctive use as the “planned joint use of surface
5 and groundwater to improve overall water supply reliability.” Since forming Zone 40,
6 SCWA has had as its goal the development of a conjunctive use water supply system
7 supplementing its groundwater supplies with surface water. In 2011, upon the
8 completion of the FRWP and Vineyard SWTP, this goal was achieved. In recent years
9 the drought has limited SCWA’s ability to access surface water both from CVP contracts
10 and appropriative supplies. At buildout, provided that SCWA is able to perfect its
11 appropriative water right and develop a historic use for CVP contract supplies, it is
12 anticipated that surface water will account for approximately 70 percent of supplies
13 during wet and average years and approximately 30 percent of supplies in the driest
14 years to maintain a long-term average of almost 60 percent of supply. (See Exhibit
15 SCWA-29 which is a true and correct copy of the Table 4-3 of 2016 Infrastructure Plan;
16 See also Exhibit SCWA-27.)

17 VI. INJURY TO SCWA’S WATER RIGHTS

18 A. MBK Analysis

19 SCWA, in partnership with other agencies in Northern California, collectively
20 known as the Sacramento Valley Water Users, or SVWU, funded a report by MBK
21 Engineers (MBK) to analyze the impacts of the WaterFix project on the region’s water
22 supplies (MBK Report). MBK, on behalf of the SVWU, also prepared a Technical
23 Memorandum regarding WaterFix impacts on upstream reservoir storage (MBK-TM).

24 The MBK Report concludes that the modeling performed by DWR and Bureau is
25 flawed and does not accurately represent the SWP and CVP, as they would be
26 operated. MBK performed independent modeling using CalSim II that addresses the
27 flaws and more accurately represents how the system would be operated, given what we
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1 know today about the regulatory environment and operational decisions made during the
2 recent drought.

3 Based upon the modeling by MBK Engineers, as documented in the MBK Report
4 (comparing the MBK Alternative 4A, Delta Outflow [MBK 4A DO] to the MBK No-Action
5 Alternative [MBK NAA]), it is my understanding that with the WaterFix project
6 constructed and operating, the following impacts to SVWU water supplies could occur:

- 7 • Reduction in CVP Deliveries. The MBK Report identifies a reduction in
8 CVP Municipal and Industrial (M&I) North of Delta (NOD) deliveries of
9 approximately 5,000 AF/YR, on average, and as much as 12,000 AF/YR
10 during below normal rainfall years. SCWA, as a NOD M&I contractor,
11 could realize a reduction in CVP deliveries under the MBK 4A DO scenario.
12 With a reduction in available CVP supplies, at buildout, the SCWA would
13 need to rely on alternative supplies, such as groundwater. Greater reliance
14 on groundwater would negatively affect SCWA's conjunctive use program
15 because it would disrupt SCWA's planned groundwater extractions.
- 16 • Increased Frequency of Term 91 Curtailments. SCWA's Permit 21209 is
17 subject to Term 91 curtailment. According to the MBK Report, Term 91
18 curtailments will be triggered more frequently when the WaterFix project is
19 constructed and operating. With an increase in Term 91 curtailments,
20 SCWA will be unable to rely on Permit 21209 as often as planned in order
21 to meet demands.
- 22 • Reduction in Carryover Storage in Folsom Reservoir. SCWA relies on
23 CVP supplies stored in Folsom Reservoir for deliveries under its CVP
24 contracts. The MBK Report indicates that the average change in End of
25 September carryover storage will be about 29,000 acre-feet less as
26 compared to the MBK NAA, and drawdown will begin as early as April.
27 This reduction in carryover storage increases the likelihood that
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1 Reclamation will be unable to deliver SCWA's full CVP supplies.

- 2 • Specific Two-Year Period. Further, the MBK-TM discusses modeling that
3 MBK performed for a specific two-year period, 1993 to 1994. The analysis
4 of this discrete two-year period indicates that, with the WaterFix project in
5 place, CVP deliveries for north of delta M&I contractors could decrease by
6 as much as 5 percent in this type of two-year hydrologic cycle, which would
7 impact SCWA's access to CVP supplies.

8 **B. FRWA Reverse Flow Impacts Analysis**

9 It is my understanding that the testimony prepared by EBMUD concerning the
10 WaterFix project's potential to increase the frequency of events requiring a shutdown of
11 the FRWP intake (Exh. EBMUD-152), along with SCWA's testimony concerning the
12 impact of reverse flows on SCWA's operations (See Exhibit SCWA-3), demonstrates that
13 the increased occurrence of reverse flows at the FRWP intake on the Sacramento River,
14 will constrain SCWA's surface water diversions at the FRWP intake. It is my
15 understanding that the increased occurrence of reverse flow events that are likely as a
16 result of the operation of the WaterFix project will likely occur during low-flow periods of
17 dry years when SCWA relies heavily on the remediated groundwater as a reliable source
18 of supply when other supplies have been curtailed or cut back. It is my understanding
19 that this increased occurrence of reverse flow events that require shut down of the
20 FRWP intake will create operational burdens for SCWA.

21 **C. Groundwater Impact Analysis**

22 The testimony prepared by Dr. Steffen Mehl, on SCWA's behalf, analyzes the
23 potential impacts of the operation of the WaterFix project on the interconnected water
24 supplies in the South American Subbasin in Sacramento County. (See Exhibit SCWA-
25 4.) Dr. Mehl analyzes the adequacy of the Petitioners' testimony and analysis with
26 respect to impacts to the South American Subbasin. Dr. Mehl found that the Petitioners'
27 testimony and related documents lack such an analysis on the topic of groundwater. Dr.
28 Mehl concludes that in order to analyze whether the WaterFix project adversely affects

1 groundwater availability in the South American Subbasin, the Petitioners need to use a
2 model that analyzes changes in groundwater/surface water interactions as a result of the
3 WaterFix project.

4 **D. SCWA's Conjunctive Use Program**

5 As described in this testimony, SCWA's long-range planning efforts tie back to the
6 WFA in which SCWA committed to implement a conjunctive use program in the South
7 American Subbasin. Based on that commitment and the desire to serve growth areas
8 identified by Sacramento County and the cities of Elk Grove and Rancho Cordova,
9 SCWA conducted extensive planning, and invested in surface water supplies and
10 infrastructure in order to implement a conjunctive use program. As discussed in the
11 MBK Report and MBK-TM, and in the testimony of EBMUD and SCWA regarding
12 reverse flows, SCWA could experience reduced access to both surface water and
13 groundwater with implementation of the WaterFix project. This reduced access could
14 negatively affect SCWA's conjunctive use program.

15 I declare under penalty of perjury under the laws of the State of California that the
16 facts recited above are true and correct. Executed on this 31st day of August 2016 in
17 Sacramento, California.

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19 Michael L. Peterson
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