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14
15 BEFORE THE
16 CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

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18 HEARING ON THE MATTER OF
CALIFORNIA DEPARTMENT OF WATER
19 RESOURCES AND UNITED STATES
BUREAU OF RECLAMATION REQUEST
20 FOR A CHANGE IN POINT OF DIVERSION
FOR CALIFORNIA WATER FIX.
21

**PART 2 TESTIMONY OF
PRABHAKAR SOMAVARAPU, P.E.**

22
23 This testimony is offered on behalf of the Sacramento Regional County Sanitation
24 District (Regional San).

25 **I. INTRODUCTION**

26 My name is Prabhakar Somavarapu. I am the District Engineer for the
27 Sacramento Regional County Sanitation District (Regional San). Regional San owns
28 and operates the Sacramento Regional Wastewater Treatment Plant (SRWTP). As the

1 District Engineer, I take direction from Regional San's Board of Directors and serve as
2 the executive manager with overall responsibility for all activities that Regional San
3 conducts, including the work of a staff of over 400 permanent employees. Prior to
4 becoming the District Engineer in 2013, I worked in a variety of positions in various areas
5 of Regional San. These have included other executive management positions such as
6 the Director of Policy and Planning, the Director of Operations, and the manager for the
7 Operations Support Group and Asset Management Group. Before I began work with
8 Regional San in 1996, I worked for the State of California Department of Public Health
9 for approximately four (4) years as a regulatory engineer in the Drinking Water Field
10 Operations office, and I worked approximately three years as a design engineer for a
11 consulting firm in Montana, designing improvements to water and wastewater systems. I
12 hold a Master of Science degree in Civil Engineering from New Mexico State University
13 and a Bachelor of Technology degree in Civil Engineering from India. I am also a
14 registered civil engineer in the State of California. My testimony addresses Regional
15 San's history and operations, and development of the EchoWater Project.

16 **II. REGIONAL SAN'S ESTABLISHMENT AND HISTORICAL OPERATIONS**

17 As District Engineer and based on my experience from my prior positions, I have
18 personal knowledge of Regional San's operations, maintenance, engineering,
19 administration, construction programs, laboratory services, long-range planning efforts,
20 rate and fee development, regulatory and legislative affairs, National Pollutant Discharge
21 Elimination System (NPDES) and recycled water permitting, scientific research,
22 wastewater source control, and policy development. In addition, during my tenure at
23 Regional San, I have investigated the history and circumstances of Regional San's
24 formation and the initiation of the SRWTP.

25 Regional San was formed in early 1970s, pursuant to California Health and Safety
26 Code section 4700, for the purpose of consolidating wastewater treatment and disposal
27 that had previously been provided by over 20 separate wastewater treatment plants
28 serving the Sacramento region. Most of these treatment plants, many discharging to the

1 American and Sacramento Rivers, were replaced by the SRWTP in 1982. The few that
2 remained in operation after the initial consolidation have since that time also been
3 replaced by the SRWTP.

4 Currently, Regional San provides wastewater conveyance, treatment, and
5 disposal for approximately 1.4 million people in the urbanized area of Sacramento
6 County and the City of West Sacramento in Yolo County. West Sacramento
7 discontinued its own wastewater treatment and joined Regional San in 2007. Regional
8 San is governed by a Board of Directors composed of the five (5) members of the
9 Sacramento County Board of Supervisors, a member of the Yolo County Board of
10 Supervisors, five members from the Council of the City of Sacramento, two (2) members
11 from the Council of the City of Elk Grove, and one (1) Council member from each of the
12 cities of Citrus Heights, Folsom, Rancho Cordova, and West Sacramento.

13 The SRWTP receives wastewater from businesses and residences collected in
14 local wastewater collection systems operated by the City of Folsom, City of Sacramento,
15 City of West Sacramento, and the Sacramento Area Sewer District. The SRWTP itself is
16 located approximately 10 miles south of downtown Sacramento, at 8521 Laguna Station
17 Road in Elk Grove, California.

18 The SRWTP treats wastewater through a series of treatment steps or processes.
19 Primary treatment removes waste through physical and chemical processes. Secondary
20 treatment occurs in a pure oxygen activated sludge process, which uses aeration tanks
21 and secondary clarifiers to remove the organic matter from the wastewater with the
22 injection of pure oxygen into the wastewater to grow microorganisms capable of
23 removing the organic matter. Following the biological secondary treatment step, liquid
24 chlorine is added to the wastewater for the purpose of disinfection to destroy pathogenic
25 organisms. Chlorinated wastewater travels in a pipeline for approximately two (2) miles
26 to a location where the chlorine is removed by a dechlorination step before the water is
27 discharged to the Sacramento River. The treated water is discharged to the Sacramento
28 River, just downstream of the Freeport Bridge, through a high rate diffuser designed to

1 rapidly mix the treated water with the Sacramento River. The diffuser is basically a large
2 pipe on the bottom of the Sacramento River, oriented perpendicular to the direction of
3 river flow with 74 exit “ports” (or holes) through which the treated effluent is released,
4 parallel to the river flow. The SRWTP has a permitted capacity based on average dry
5 weather flow of 181 million gallons per day (MGD), and over the past decade,
6 discharged, on average, 133 MGD. The current treatment process is categorized as the
7 secondary treatment process. Regional San participates in and supports regional
8 partnerships aimed at understanding and improving environmental health and
9 sustainability through funding regional monitoring programs, research, resource
10 recovery, and conservation.

11 **III. MAJOR IMPROVEMENTS TO SRWTP UNDER DEVELOPMENT**
12 **INCLUDING PRODUCTION OF TITLE 22 EFFLUENT**

13 Discharge from the SRWTP is authorized and regulated under NPDES permits
14 issued by the California Regional Water Quality Control Board, Central Valley Region
15 (Regional Water Board). Prior to 2010, these permits required that the SRWTP meet
16 effluent limitations based on secondary treatment. In December of 2010, the Regional
17 Water Board renewed the NPDES permit and imposed much more stringent
18 requirements relative to nutrient and pathogen removal. To meet these requirements,
19 Regional San is required to modify or replace current secondary treatment, construct
20 nitrification processes (for ammonia removal) and denitrification (for removal of nitrate
21 resulting from nitrification), and filtration and new disinfection facilities.

22 In April of 2016, the Regional Water Board again renewed the NPDES permit for
23 the SRWTP. Like the predecessor permit, the renewed permit, Regional Water Board
24 Order R5-2016-0020, requires ammonia and nitrogen removal and tertiary filtration and
25 disinfection. The deadlines for compliance are: May 11, 2021 for compliance with
26 ammonia limitations; and May 9, 2023 for compliance with tertiary filtration and
27 disinfection requirements. (Exhibit SRCSD_3 is a true and correct copy of Regional
28 Water Board Order R5-2016-0020 without its attachments.)

1 Since adoption of the NPDES permit in December 2010, Regional San has
2 engaged in a major effort directed toward design and construction of the capital facilities
3 required for compliance with permit requirements. This project, known as the
4 EchoWater Project, is currently estimated to cost between \$1.7 and \$2.1 billion. When
5 the EchoWater Project is complete, all of the SRWTP effluent during May-October will be
6 suitable for expanded reuse, and nearly all effluent will be suitable for expanded reuse
7 on a year-round basis.

8 The EchoWater Project is on schedule. (Exhibit SRCSD_33 is a true and correct
9 copy of the most recent progress report submitted to the Regional Water Board by
10 Regional San.)

11 In addition, Regional San adopted a goal in 2004 to increase recycling by 30 to
12 40 MGD by 2024. This goal is complementary to the State Water Resources Control
13 Board's (State Water Board) goal to increase the use of recycled water over 2002 levels
14 by at least 2 million acre-feet by 2030. This was a subject of Regional San testimony in
15 Part 1 of this proceeding.

16 **IV. PART 2 ISSUES AND CONDITIONS NECESSARY TO PROTECT REGIONAL**
17 **SAN OPERATIONS FROM ADVERSE IMPACTS OF WATERFIX**

18 Regional San has paid careful attention to the proposed WaterFix Project.
19 Regional San has no general position, but opposes development of the project if impacts
20 on Regional San and its interests are not fully avoided or mitigated. I understand that
21 Phase 2 of this proceeding will consider impacts on the public interest and environment.

22 Regional San staff and consulting firms that know our operations and understand
23 regulatory actions and policy and the WaterFix Project have evaluated various sources
24 of potential impacts to SRWTP and Regional San operations from WaterFix. Overall, it
25 is difficult to identify all the potential impacts, because of a lack of sufficient detail about
26 the operation of the WaterFix Project and related facilities, the absence of relevant
27 modeling data, and other uncertainties concerning the future. However, we have
28 identified several specific known and potential impacts that we believe must be mitigated

1 or avoided. These are detailed in the Part 2 testimony of Ruben Robles, P.E. (Exhibit
2 SRCSD_28), Susan Paulsen, Ph.D., P.E. (Exhibit SRCSD _29), and Thomas Grovhoug,
3 P.E. (Exhibit SRCSD_16), and include: 1) impacts that will require allocation of the
4 SRWTP storage capacity to WaterFix and increased diversion of effluent to storage,
5 which has economic impacts and also reduces operational flexibility and causes risks
6 related to Regional San meeting NPDES permit obligations; 2) changes in Delta water
7 quality and residence time in the Delta, which can affect SRWTP requirements for
8 discharge of salinity, nutrients, and potentially other constituents, all at a cost to
9 Regional San and its ratepayers; and 3) increased regulatory demands for SRWTP's
10 NPDES permit based on the location of new diversions from the Sacramento River
11 immediately downstream of the SRWTP discharge. These impacts and costs of
12 addressing these impacts should not be borne by the communities of the Sacramento
13 region.

14 To avoid or offset impacts to Regional San and the public it serves, the State
15 Water Board should not approve the petitioned changes unless the order and related
16 actions include the following:

17 1. If the SRWTP is required to improve effluent quality, or to refrain from
18 discharge, to any extent beyond the numeric requirements of the current NPDES permit
19 (Order No. R5-2016-0020) based in any part on a determination by the Regional Water
20 Board, State Water Board, or other entity with jurisdiction of the need or desire to
21 improve water quality at one or more of the WaterFix diversion structures, Petitioners
22 shall bear the project costs and incremental increases in Regional San operation and
23 maintenance costs associated with any such requirement.

24 2. Prohibit diversion at or upstream of proposed WaterFix diversion structure
25 location No. 2;

26 3. Include in the order a binding determination that WaterFix diversion
27 structure locations shall not impact the SRWTP harmonic mean flow-based human
28 health mixing zone determination.

1 4. The State Water Board must find and determine or rule that the WaterFix
2 diversion structures are not a drinking water intake (or any similar characterization) for
3 the purposes of the Policy for Implementation of Toxics Standards for Inland Surface
4 Waters, Enclosed Bays and Estuaries of California (SIP) and any other law, regulation,
5 or policy that applies to the determination of the need for, or calculation of, effluent or
6 receiving water requirements in NPDES permits.

7 5. The State Water Board must find and determine or rule that the SRWTP
8 discharge to the Sacramento River does not constitute raw water augmentation or
9 reservoir water augmentation as defined in Section 13561 of the Water Code (added by
10 AB 574).

11 6. The findings and determinations referenced in paragraphs 3-5 above may
12 be reflected in an order on the change petition, but in any event must be in a form that
13 will be binding on all regulatory parties and the interested public and reliable for Regional
14 San. This may be in a Basin Plan amendment or other forms but in no event should
15 diversion be allowed at the WaterFix diversion structures until such findings and
16 determinations or rules are final.

17 7. Require Petitioners to participate in funding the CVSALTS Salinity
18 Prioritization and Optimization Study and Bay-Delta Plan implementation efforts to
19 establish effective mitigation for degradation of Electrical Conductivity (EC) ambient
20 levels in the Delta. Clarify that language in the WaterFix Final environmental impact
21 report/environmental impact statement (EIR/EIS), but not adopted by Petitioner
22 Department of Water Resources in its approval of the WaterFix Project, expressing a
23 commitment by Petitioners to work with Regional San to address impacts to its
24 operations, is insufficiently defined, incomplete and unenforceable, and thus is
25 inadequate.

26 8. Require Petitioners to participate in funding the Regional Water Board's
27 Delta Nutrient Research Plan and related efforts to determine the value of nutrient load
28 management and to determine effective management strategies for controlling harmful

1 algal blooms (HABs) and macrophytes in the Delta.

2 9. Require Petitioners to compensate and reimburse Regional San for the
3 required dedication of existing or future SRWTP storage capacity to WaterFix, as
4 provided in Mr. Robles's testimony. (Exhibit SRSCD_28)

5 10. Require Petitioners to compensate and reimburse Regional San for its
6 increased operation and maintenance costs resulting from increased need to divert
7 water to temporary storage as a result of WaterFix, as provided in Mr. Robles's
8 testimony. (Exhibit SRSCD_28)

9 11. Require Petitioners to compensate and reimburse Regional San for its
10 consequences of reduced operational flexibility and the potential increased risk of
11 violating its NPDES permit obligations due to a lack of capacity under certain situations.

12 12. Regional San may have additional specific recommendations, which would
13 be submitted at a time or times the State Water Board allows.

14 I declare under penalty of perjury under the laws of the State of California that the
15 foregoing is true and correct.

16 Executed on this 30th day of November 2017 in Sacramento, California.

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18 Prabhakar Somavarapu, P.E.

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