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7 Attorneys for **SAN JOAQUIN**
TRIBUTARIES AUTHORITY

10 BEFORE THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

11 IN THE MATTER OF

12 CALIFORNIA DEPARTMENT OF WATER) **TESTIMONY OF DANIEL B. STEINER**
 13 | RESOURCES AND UNITED STATES)
 BUREAU OF RECLATION PETITION FOR) **(SJTA REBUTTAL, EXHIBIT 101)**
 14 WATER RIGHT CHANGE RE:)
 CALIFORNIA WATERFIX.)

18
 19 I, Daniel B. Steiner, declare as follows:

20 **SUMMARY OF CREDENTIALS AND TESTIMONY**

21 1. I am a registered civil engineer in the State of California (C32666). I hold a
 22 Bachelor’s of Science Degree in Engineering from the University of California, Davis.

23 2. I have 39 years of experience in water resources planning, development, and
 24 management, including operations planning for multipurpose water systems. I am experienced with
 25 water operations and system integration for the San Joaquin River Basin, as well as the Central
 26 Valley Project (CVP) and State Water Project (SWP) systems.

27 3. I was a co-developer of the San Joaquin River Component of CALSIM II. The effort
 28 included the research and development of a long-term hydrologic record of stream flows, depletions

1 and accretions for the San Joaquin River Basin. Significant to the effort was the depiction of current
2 water project operations throughout the Valley, including considerations for water supply, power
3 generation, flood control, water quality and fisheries.

4 4. I provide ongoing evaluations of hydrology and operations of the San Joaquin River,
5 inclusive of the Stanislaus, Tuolumne, and Merced River tributaries. I assist with the development
6 of operational agreements, water transfers, and numerous hydrologic evaluations concerning water
7 system operations affecting the San Joaquin River. In the past that included documentation of the
8 San Joaquin River Agreement within Water Rights Decision 1641 (D-1641) for Reclamation and
9 the SWRCB. During the recent drought, and still ongoing, I advise clients regarding CVP and SWP
10 operations, including challenges to the CVP in meeting its water supply obligations because of
11 compliance to regulatory requirements. I have developed modeling tools to forecast the integrated
12 operation of CVP facilities including the Friant Division to meet CVP demands, with consideration
13 given to Bay-Delta requirements, fishery protection and coordination with the SWP. I provide
14 evaluations of water flow and quality conditions in the San Joaquin River, and the effect upon water
15 system operations due to alternative regulatory requirements.

16 5. I have appeared before the SWRCB during the proceedings of D-1641 concerning
17 the San Joaquin River and implementation of the Vernalis Adaptive Management Program.

18 6. A true and correct copy of my resume is provided as Exhibit SJTA-102.

19 7. For this proceeding, I have been asked to prepare exhibits and testimony regarding
20 past compliance by the United States Bureau of Reclamation with the flow requirements set forth in
21 D-1641 for the compliance point at Vernalis. As described in the testimony below, STJA Exhibit
22 103 demonstrates repeated noncompliance by USBR with the Vernalis flow requirements in D-
23 1641.

24 **REVIEW OF PETITIONERS' WRITTEN TESTIMONY AND EXHIBITS**

25 8. In preparing my testimony and exhibits for this proceeding, I reviewed, among other
26 things, the written testimony of John Leahigh, Chief of the SWP Water Operations Office,
27 submitted by the Department of Water Resources (DWR) as DWR-61. I also reviewed the written
28 testimony of Ronald Milligan, Manager of the Central Valley Operations Office for the Bureau of

1 Reclamation's Mid-Pacific Region, submitted by the United States Department of the Interior for
2 the Bureau of Reclamation (USBR) as DOI-7. I have also reviewed the exhibits relied upon by Mr.
3 Leahigh and Mr. Milligan in their testimony, including DWR-401, 402, 403 and 404.

4 9. Mr. Leahigh's testimony was submitted, in part, to explain "the highly successful
5 record of compliance" with the objectives contained in the Bay-Delta Water Quality Control Plan,
6 implemented through D-1641. (DWR-61, p. 2.) He asserted that SWP and CVP operators have "had
7 a high degree of success in meeting all operative water quality standards since 1978" and opined
8 that this regulatory compliance would be "at least as good, if not better" if the California Waterfix
9 project is built and implemented. (DWR-61, p. 7.) The compliance data relied upon by Mr. Leahigh
10 did not include exceedances of water quality objectives during times the State Water Board has
11 approved a Temporary Urgency Change Petition relaxing the requirements. (DWR-61, p. 13.)

12 10. The following testimony and exhibits rebut the assertions by Mr. Leahigh that SWP
13 and CVP operators have been successful in achieving the requirements set forth in D-1641.

14 **REPEATED NONCOMPLIANCE WITH D-1641 REQUIREMENTS**

15 11. I conducted an examination of compliance with the Vernalis flow and pulse flow
16 requirements of D-1641 over the years 2003 to 2016. As reflected in D-1641, the April-May pulse
17 flow requirement at Vernalis was not operative from 2003 through 2009. Instead, for those years,
18 D-1641 required implementation of the Vernalis Adaptive Management Program (VAMP), which
19 allowed for lower flows at Vernalis during the April-May pulse flow period than were required
20 under the objectives in the 1995 Bay-Delta Plan, Table 3. (SWRCB-12 [D-1641], p 19.)

21 12. SJTA Exhibit 103, Table 1 demonstrates the results of my analysis. Shown in Table
22 1 are data concerning compliance to D-1641 during the February through June Vernalis flow
23 requirement. For each period the "Actual" flow (average cubic feet per second) reported at Vernalis
24 is shown alongside my estimate of the required flow of D-1641. As the operations during April and
25 May contain a yearly varying begin-end pulse flow period, for illustration purposes the
26 computations assume 16 days of pulse requirement during April and 15 days of pulse requirement
27 during May. Also shown in Table 1 is the nature of the SWRCB flow requirement during the April-
28

1 May pulse flow period being either the VAMP "Pulse Target" or being D1641 Table 3 (Post
2 VAMP).

3 13. I examined 14 years of data focusing on compliance within two separate periods of
4 the flow requirement, the pulse flow period during April and May and the remaining periods within
5 February through June. During the pulse flow period, generally between mid-April and mid-May,
6 compliance with VAMP target flows occurred during 2003-2009. Since VAMP expired (seven
7 years), non-compliance with the D-1641 pulse flow requirements has occurred more than half the
8 years. For the non-pulse flow periods, compliance with D-1641 requirements has not been
9 consistent. In about half of the 14 years compliance did not occur during 1 or more month/period of
10 a year.

11 14. SJTA Exhibit 103, Table 2 provides the data used to develop the Vernalis flow
12 requirements for the 2003-2016 examination period. Included are the values used for determining
13 the two triggering parameters of the requirement, namely the forecasted San Joaquin Valley Water
14 Year Hydrologic Classification (602020) and the previous month Eight River Index. Recorded flow
15 at Vernalis was acquired from United States Geological Survey. During the development of SJTA
16 Exhibit 103 I did not consider any relaxation of the requirements if a TUCP or other compliance
17 accommodation had been made between the SWRCB and the USBR.

18 I declare under penalty of perjury under the laws of the State of California that the foregoing
19 is true and correct and that this declaration was executed on March 21, 2017, in Sacramento,
20 California.

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23 DANIEL B. STEINER
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