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BEFORE THE

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

HEARING IN 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**

DECLARATION OF DR. PARVIZ NADER-TEHRANI

I, Dr. Parviz Nader-Tehrani, do hereby declare that I have read, reviewed and assisted in the creation of testimony from Ms. Tara Smith submitted by the California Department of Water Resources (DWR) as exhibit DWR-1015 in Part 2 of the water rights hearing conducted to assess the petitioned change in points of diversion for permits held by DWR and the U.S. Bureau of Reclamation. The testimony falls within my expertise and reflects opinions I hold regarding the DSM2 modeling conducted to support the California WaterFix Alternative 4A operational scenario H3+ (CWF H3+).

My opinions are:

- The fish and wildlife beneficial use objectives for the Suisun Marsh locations were mostly met under all the scenarios. The small percentage of exceedances (less than 5%) that occurred for a few locations under the CWF H3+ scenario was in line with the percentage that occurred for the NAA.

- For the fish and wildlife beneficial use objectives for the San Joaquin River reach between Prisoners Point and Jersey Point, the objective was fully met at Jersey Point and San Andreas Landing for all alternatives. At Prisoners Point, the objective was exceeded for approximately 10% of time under CWF H3+ relative to NAA, due to the presence of a greater proportion of higher EC San Joaquin water at this location. This is due to lower south Delta exports and the closure of the Head of Old River Gate, in the spring months.
- Incremental changes in CWF H3+ salinity results are largely similar to the H3 and H4 results presented in Part 1, when compared to the No Action Alternative. Exceptions to this are dependent on location and are mostly due to the following.
    - o Higher spring Delta outflow requirements resulted in less southern Delta exports. With less exports, fresher Sacramento River water is not moved through the interior Delta, resulting in higher salinity in the interior Delta.
    - o The monthly average Electrical Conductivity (EC) results for CWF H3+ during the months of October and November are somewhat similar to those under NAA, with slight variations. Fall south Delta export restrictions for CWF H3+ as compared to the BA H3+ constraints were removed which resulted in a lower net Delta outflow and higher salinity in fall and winter months. D-1641 objectives were still met.
- D-1641 municipal, industrial, and agricultural beneficial use objectives were mostly met under all scenarios. The small percentage of CWF H3+ exceedances is similar to the NAA. As explained by Dr. Nader-Tehrani in Part 1, the exceedances are mostly a result of differences in model assumptions, and SWP/CVP project operators have been able to meet their regulatory obligations and achieve high degree of compliance, as testified by Mr. Leahigh in Part 1.
- Water Level effects for CWF H3+ and BA H3+ are similar to H3 and H4. Compared to the NAA, the largest reduction in water levels is expected to occur just downstream of the NOD and mostly during high flow periods. During low flow

periods, the expected reduction in daily minimum water levels is less than 0.5 ft near the three intakes and much smaller at locations farther from the three intakes.

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These opinions are supported by the analysis contained within DWR-1015. I am competent and able to testify, if needed, to these opinions and the content of DWR-1015 and exhibits referenced within DWR-1015.

Executed on this 22 day of November, 2017 in Sacramento, California.

Parv Nader Tehra

(Parviz Nader-Tehrani)