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June 16, 2016 **Via email**

VIA electronic mail to CWFhearing@waterboards.ca.gov and service list of hearing participants.

Felicia Marcus, Chair and Co-Hearing Officer
Tam Doduc, Member and Co-Hearing Officer
State Water Resources Control Board
1001 I Street
Sacramento, California 95814

Objection to testimony of Dr. Parviz Nader-Tehrani (Exhibit DWR-932)

Deirdre Des Jardins, principal at California Water Research, "California Water Research" hereby objects to the admission of exhibit DWR-932, on the following grounds:

(1) The requisite foundation for the DSM2 modeling and the CALSIM II modeling which provides the boundary conditions for DSM2 has not been provided for the hearing, and so Dr. Nader-Tehrani cannot reasonably rely on DSM2 the modeling for his opinion. The opinions are therefore inadmissible under Evidence Code 802, as interpreted by the California Supreme Court in *Sargon Enterprises v. University of Southern California* (2012) 55 Cal.4th 747.

a. Dr. Nader-Tehrani testified under cross-examination in rebuttal that (1) the CALSIM II model sets boundary conditions for the DSM2 model.
b. Dr. Nader-Tehrani testified that he had no idea what the errors were in the CALSIM II model inputs to DSM2.
c. There was no direct testimony in the Hearing on the DSM2 model calibration and the errors in the DSM2 model.

(2) California Water Research has also not had adequate opportunity to examine and rebut the CALSIM II and DSM2 modeling evidence which is the foundation for Dr. Nader-Tehrani's opinion.

a. The CALSIM II and DSM2 modeling results were not provided to the Hearing in a human-readable form. The Sacramento Valley Water Users did provide partial CALSIM II outputs as a rebuttal exhibit, to which the Petitioners objected. The modeling was in a raw data format that requires a program to extract.
b. Petitioners could have provided the data in the human-readable format which they used to review the data.
c. Testing and calibration information for the current version of the CALSIM II model was also not provided to the Hearing, and has not been published.
d. California Water Research requested that both human-readable spreadsheets of model outputs and testing and calibration information for the CALSIM II model be provided for the hearing.
e. Petitioners responded that the information was not relevant to the hearing, or was publicly available. Both were incorrect.
f. The Hearing Officer declined California Water Research and PCFFA's request for additional time to extract and review the modeling data, based on the Petitioners' statement that the CALSIM II modeling was not going to be submitted for the hearing.
g. Cross-examination in Part 1A was limited to model results which were for future levels of development and which had not been provided in human-readable format (see attachment.)
h. Cross-examination in rebuttal on DSM2 model calibration was also not allowed on the basis of scope.

Sincerely,

Deirdre Des Jardins

STATEMENT OF SERVICE

CALIFORNIA WATERFIX PETITION HEARING

Department of Water Resources and U.S. Bureau of Reclamation (Petitioners)

I hereby certify that I have this day submitted to the State Water Resources Control Board and caused a true and correct copy of the following document(s):

OBJECTIONS TO DWR SURREBUTTAL EXHIBITS

to be served **by Electronic Mail** (email) upon the parties listed in Table 1 of the **Current Service List** for the California WaterFix Petition Hearing, dated June 14, 2017, posted by the State Water Resources Control Board at http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/service_list.shtml

I certify that the foregoing is true and correct and that this document was executed on June 16, 2017.

Signature:

Name: Deirdre Des Jardins
Title: Principal, California Water Research

Party/Affiliation:
Deirdre Des Jardins

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ATTACHMENT A

Cross-examination of Dr. Nader-Tehrani on CALSIM II inputs to DSM2 (R.T. May 12, 2017, 52:18-53:11.)

MS. DES JARDINS: So do you have an idea what the monthly errors are in the CalSim model, river inputs in, for example, flow into Freeport?

WITNESS NADER-TEHRANI: That was not part of my testimony. No.

MS. DES JARDINS: You don't. So you have no idea what the errors are in the boundary conditions?

WITNESS NADER-TEHRANI: No, I don't.

MS. DES JARDINS: How can you then say that these forecasts have any relation to actual predicted values if you don't know what the errors are in the model input?

MR. BERLINER: Objection. Now we're going to go deep into modeling calibration questions which we did not cover in this redirect testimony.

MS. DES JARDINS: There is a saying in modeling; garbage in, garbage out.

CO-HEARING OFFICER DODUC: The objection is sustained.

Barring of cross-examination on errors on CALSIM flows into the Delta in Part 1A because no testimony was provided on errors (R.T. August 26, 2016, 16:21-19:7.)

CO-HEARING OFFICER DODUC: All right.
Ms. DesJardins, I'm going to ask that you use your cross-examination for these witnesses to test the direct testimony they provided as a result of the modeling and not to explore the reliability of the model itself.
MS. DES JARDINS: Ms. Doduc, with due respect, I do have a right under Evidence -- under 1151(3)(b) to ask questions on any matter relevant to the proceedings. And to the extent that there may be increased flows into the Delta in dry years that aren't there in the model, I would argue that is relevant to this proceeding.
CO-HEARING OFFICER DODUC: Your objection is noted.
And to the extent that your cross-examination is directed to questioning the witnesses on the flows and on the other results of the modeling, that is, in my opinion, relevant and should proceed. However, I

will not allow you to explore in general terms the issue of model reliability.
Focus your cross-examination of these witnesses, on their direct testimony as a result of that model.
MS. DES JARDINS: Respectfully, this is meant to explore the direct testimony in DWR-71 that a historical validation study matched the inflows at Freeport with plus or minus 3 percent accuracy. And I would argue based on this that there's other considerations, like, if that plus or minus 3 percent is April to October in critical dry years, that might be significant.
CO-HEARING OFFICER DODUC: Go to their direct testimony upon which you would like to conduct cross-examination, where you question the result of the modeling and the direct testimony they provided. Go there.
MS. DES JARDINS: I need to -- I just need to look at the actual historical model. It -- respectfully, there is just a little bit more I'd like to do.
CO-HEARING OFFICER DODUC: I have received a lot of respect from you. I appreciate that. But I've given you some direction, and I expect we will go down that pathway.
Mr. Eichenberg?
MR. EICHENBERG: I just want to put out that the reliability of the science upon which these witnesses are basing their conclusions seems that it should be relevant in terms of cross-examination. As expert witnesses, they should be asked to account for the reliability of their assumptions.
CO-HEARING OFFICER DODUC: And, Mr. Eichenberg, thank you. That is noted.
And, again, to the extent that your questions on reliability are directed towards the direct testimony and the results of the modeling from these witnesses, you may go there, but not on the general reliability of the model itself. Direct your cross-exam to specific modeling output that these witnesses prepared and submitted to the Board for consideration.