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7 Principal, California Water Research

8 **BEFORE THE**  
9 **CALIFORNIA STATE WATER RESOURCES CONTROL BOARD**

10 HEARING REGARDING PETITION  
11 FILED BY THE DEPARTMENT OF  
12 WATER RESOURCES AND U.S. BUREAU  
13 OF RECLAMATION REQUESTING  
14 CHANGES IN WATER RIGHTS FOR THE  
15 CALIFORNIA WATERFIX PROJECT

MOTION FOR RECONSIDERATION OF  
HEARING RULINGS BARRING  
OBJECTIONS TO MODELING  
EVIDENCE

16 Deirdre Des Jardins, principal at California Water Research hereby requests that the  
17 Hearing Officers reconsider their February 21, 2017 Hearing ruling barring objections to  
18 Petitioners' foundational CALSIM II modeling evidence based on *Kelly-Frye* standards, as  
19 argued on points and authorities below. California Water Research also requests that the  
20 Hearing Officers reconsider the March 15, 2017 hearing ruling which bars submission of  
21 objections to admissibility of evidence, and the November 8, 2017 Hearing ruling barring  
22 submission of written objections before or during the Hearing. The effect of these rulings is  
23 basically to bar objections to Petitioners' foundational modeling evidence.

24 While California Water Research recognizes that excessive objections were submitted  
25 during Part 1 of the hearing, barring valid objections to foundational modeling evidence has been  
26 extremely prejudicial to protestants, as argued on points and authorities below.

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1 California Water Research requests that the Hearing Officers (1) reconsider the above  
2 Hearing rulings barring objections to the modeling evidence, and (2) give parties a week to  
3 submit written objections, and (3) not allow submission of any testimony or exhibits for the  
4 Hearing Record until the objections are received and considered.

5 Given that the Petitioners have submitted extensive testimony and evidence for Part 2 of  
6 the Hearing that is based on obsolete, inaccurate and speculative modeling of project operations,  
7 such objections are not meritless, as explained below. Allowing protestants to make objections  
8 based on Kelly-Frye is essential to ensure a fair hearing under California Code of Civil  
9 Procedure §1094.5 and §1085. California Water Research hereby incorporates California Water  
10 Research's February 7, 2018 Joinder in the Renewed Motion of NRDC et. al. to Stay or Continue  
11 Part 2 of the WaterFix Hearing as if set forth in full herein.

12  
13 I. Requirements for Admission of Scientific Evidence under Evidence Code §§ 801 and 802

14 As California Water Research argued in a filing on May 4, 2017,<sup>1</sup>

15 Adjudicative proceedings before the State Water Board are governed by Evidence Code  
16 §§ 801 to 805. (Cal. Code Regs., tit. 23, § 648.) Careful consideration of the reliability  
17 and probativeness of the scientific evidence and computer models and the associated  
18 testimony is required under Evidence Code §§ 801 and 802. These requirements were  
clarified in the recent California Supreme Court decision, *Sargon Enterprises v.*  
*University of Southern California* (2012) 55 Cal.4th 747. (p. 1.)

19 In *Sargon Enterprises, supra*, the court held that under Evidence Code section 802 "a court may  
20 inquire into, not only the type of material on which an expert relies, but also whether the material  
21 actually supports the expert's reasoning." *Id.* at 771. The *Sargon* court summarized the combined  
22 effect of Evidence Code sections 801(b) and 802:

23  
24 <sup>1</sup> California Water Research's May 4, 2017 filing, Argument for Allowing Full Cross Examination on Scientific  
25 Evidence in the Proceeding is available at  
[https://www.waterboards.ca.gov/waterrights/water\\_issues/programs/bay\\_delta/california\\_waterfix/docs/2017/20170504\\_ddj\\_request.pdf](https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/docs/2017/20170504_ddj_request.pdf)

1 Thus, under Evidence Code sections 801, subdivision (b) and 802, the trial court acts as a  
2 gatekeeper to exclude expert opinion testimony that is (1) based on matter of a type on  
3 which an expert may not reasonably rely, (2) based on reasons unsupported by the  
4 material on which the expert relies, or (3) speculative. Other provisions of law, including  
5 decisional law, may also provide reasons for excluding expert opinion testimony. (*Id* at  
6 771.)

7 For Part 2 of the WaterFix Hearing, the Hearing Team has apparently evaluated  
8 testimony and evidence based on the CWF H3+ operational scenario for the State Water Project  
9 and Central Valley Project and determined that it is suitable for admission into evidence. But  
10 even before DWR announced that proposed operations for the WaterFix project were changing,  
11 the CWF H3+ operational scenario was inherently speculative, since it was based only on a  
12 Notice of Determination by the Department of Water Resources (“DWR”), with no Record of  
13 Decision by the Bureau of Reclamation.

14 The speculative nature of the WaterFix Final EIR/EIS operations was recognized by the  
15 Hearing Officers in the August 31, 2017 Hearing ruling, where the Hearing Officers stated,

16 petitioners may need to supply more information than anticipated through the hearing  
17 process in order to meet their burden of proof without the benefit of a ROD and complete  
18 consultation under section 7 of the ESA (p. 2.)

19 and

20 ...we may find that the lack of definitive operational constraints prevents us from making  
21 the findings necessary to approve the petition, in which case petitioners will have failed  
22 to carry their burden of proof. (p. 5.)

23 The Hearing Officers and Hearing Team should not require protestants to respond to  
24 evidence and testimony that is based on an operational scenario that is so speculative that it can  
25 never rise to the level of substantial evidence. California Water Research previously cited  
26 *Pacific Gas & Electric Co. v. Zuckerman* (1987), 189 Cal. App. 3d at 1135<sup>2</sup>:

27 Where an expert bases his conclusion upon assumptions which are not supported by the  
28 record, upon matters which are not reasonably relied upon by other experts, or upon

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<sup>2</sup> California Water Research hereby incorporates California Water Research’s November 6, 2017 filing, *Re: Statutory and regulatory requirements for Change Petition still not met*, as if set forth in full herein.

1 factors which are speculative, remote or conjectural, then his conclusion has no  
2 evidentiary value. [citations omitted] In those circumstances the expert's opinion cannot  
rise to the dignity of substantial evidence. [citations omitted.] (underlining added.)

3 While the Hearing Officers, advised by the Hearing Team counsel, ruled in Part 1 that  
4 DWR's CALSIM modeling was reliable, and so not subject to Kelly-Frye, there is no absolute  
5 reliability for computer modeling. As testified by California Water Research in Part 1B of the  
6 Hearing, basic engineering standards for use of computer models include proper verification,  
7 testing, calibration, and validation (Exhibit DDJ-108 errata.)

8 To meet the standard of admissibility under *People v. Kelly* (1976) 17 Cal.3d 24, the  
9 party offering the evidence must use a qualified expert to establish its general acceptance in the  
10 field, and in addition must demonstrate that correct scientific procedures were used in the  
11 particular case. The Board has been skipping this step in admitting DWR's CALSIM modeling  
12 evidence into hearings.

13 The most fundamental, first step in modeling of operations, is verification and validation  
14 that the operations represented in the model *represent the actual planned operations*. If the  
15 planned operations are not adequately defined, the model simply fails verification and validation,  
16 and any results are fundamentally speculative and unreliable. Computer modelers use the term  
17 "garbage in, garbage out."

18 The Department of Water Resources cited *People v. Doolin* (2009) 45 Cal.4th 390, 21  
19 447, in responses to objections made by protestants prior to Part 1 of the hearing. *People v.*  
20 *Doolin* involved the use of DNA evidence in a first-degree murder case. DWR stated,

21 Further, even if *People v. Kelly* were applied in this situation, CALSIM2 clearly meets  
22 the Kelly requirements, because for purposes of the Kelly test, once a published appellate  
23 opinion has accepted a scientific technique, that precedent controls any subsequent trials  
24 where that technique is used. (*People v. Doolin* (2009) 45 Cal.4th 390, 21 447.)  
25 Therefore, if the Board did choose to apply *People v. Kelly* to the Change Petition, it  
26 must permit CALSIM2 because of its precedential acceptance before this Board and in  
13 separate federal and state decisions (see discussion, *supra*.)  
(*California Department of Water Resources, Master Response to Similar Objections  
Made by Protestants Collectively*, Section E, 17:21.)

1 DWR's argument was inaccurate, in that there was explicit consideration of Kelly-Frye  
2 requirements in *People v. Doolin, supra*, prior to the admission of the DNA evidence.

3 To introduce DNA evidence in a criminal trial, the prosecution is required to establish  
4 that the DNA evidence was matched to a sample from the accused. The situation with the  
5 WaterFix hearing is analogous to the prosecution in a murder trial introducing DNA evidence  
6 matched to the accused's neighbor and second and third cousins, claiming it is "close enough."  
7 Imagine a murder case where the judge had not held a Kelly-Frye hearing on DNA evidence, and  
8 instead ruled that DNA tests were reliable, and that he had knowledge of DNA tests and could  
9 determine how to weigh the tests, and so admitted evidence matched to the accused's neighbor  
10 and second and third cousins. This clearly would have been an abuse of discretion if the accused  
11 had been convicted.

12 Courts could well decide that a similar abuse of discretion occurred when the Hearing  
13 Officers ruled on February 21, 2017 that formal consideration of Kelly-Frye requirements was  
14 not required in the hearing:

15 State Water Board staff and the Board Members have developed a solid understanding of  
16 both the utility and the limitations of models such as CalSim II and DSM2. [...] For this  
17 reason, application of the Kelly rule in this proceeding to petitioners' testimony based on  
18 modeling results is unnecessary to ensure that the modeling evidence is afforded the  
19 proper weight. (p. 9.)

20 As argued above, standards for scientific evidence require formal consideration of  
21 whether proper computer modeling methods were used, including model verification and  
22 validation, *before* admitting the scientific evidence into the hearing. Since the Hearing Officers  
23 later barred motions for summary judgement (March 15, 2017 Hearing ruling, p. 2), the  
24 admission of extensive testimony and evidence based on DWR's obsolete and/or speculative  
25 "operational scenario" modeling in Part 1 of the hearing basically required protestants to spend  
26 large amounts of time and money responding, no matter the state of the evidence. A similar  
27 situation is developing for Part 2.

1 V. False claims of model peer review

2 The Department of Water Resources has also made misleading and inaccurate statements  
3 that the CALSIM model has been peer reviewed. In the Department of Water Resources'  
4 "Master Response to Similar Objections Made by Protestants Collectively," filed on July 20,  
5 2016, DWR's counsel stated that the CALSIM II model had been peer reviewed in 2003 (p. 14).  
6 But the 2003 CALSIM "peer review" was not a peer review, but only a strategic review of the  
7 model, because DWR *never provided the information for a technical peer review*. The review  
8 panel explained:

9  
10 The information we received and the shortness of our meetings with modeling staff  
11 precluded a thorough technical analysis of CALSIM II. We believe such a technical  
12 review should be carried out. Only then will users of CALSIM II have some assurance as  
13 to the appropriateness of its assumptions and to the quality (accuracy) of its results. By  
14 necessity our review is more strategic. It offers some suggestions for establishing a more  
15 complete technical peer review, for managing the CALSIM II applications and for  
16 ensuring greater quality control over the model and its input data, and for increasing the  
17 quality of the model, the precision of its results, and their documentation. (Exhibit DDJ-  
18 101, *California Bay Delta Science Program, A Strategic Review of CalSim II and its Use  
19 for Water Planning, Management, and Operations in Central California* (Dec. 4, 2003),  
20 p. 3.)

21  
22 On June 9, 2016, California Water Research requested that DWR disclose the documentation  
23 that DWR was maintaining for the model, referring to the recommendations of the 2003  
24 CALSIM strategic review panel:

25 There has not been sufficiently systematic, transparent, and accessible approach to the  
26 development and use of hydrologic, water demand, capacity and operational data. The  
27 administration of data development is fragmented, disintegrated, and lacks a coherent  
28 technical or administrative framework." (Exhibit DDJ-101, *supra*, p. 20.)

The 2004 peer review response by DWR and USBR stated in part,

The validity of data inputs impacts both model results and model credibility. The greatest concern is the validity of the hydrologic inputs and parameters. Concern is compounded by the current lack of complete documentation. Over the last two years DWR and Reclamation have attempted to document model inputs. Reclamation is currently

1 documenting the current CalSim-II hydrology procedures. This effort needs to be  
2 extended and updated. (Exhibit DDJ-102, p. 17.)

3 DWR refused to disclose whether the model documentation database was still maintained, and  
4 refused to even provide it under subpoena. Under *Kelly-Frye* standards, Petitioners should have  
5 provided testimony and evidence on the development of the model. The information is also  
6 required by the Board's October 30, 2015 Hearing Notice, which states:

7 Exhibits based on technical studies or models shall be accompanied by sufficient  
8 information to clearly identify and explain the logic, assumptions, development, and  
9 operation of the studies or models

10 To use the analogy with the DNA evidence in *People v. Doolin*, the analogy would be  
11 that not only was the DNA evidence not from the suspect, the prosecution made a false claim  
12 that the lab which analyzed the DNA evidence has been certified, and refused to disclose any  
13 information about the lab's quality assurance procedures, even under subpoena.<sup>3</sup>

14 In conclusion, objections based on standards for admissibility of scientific evidence in  
15 this hearing are not meritless, and depriving protestants of the opportunity to raise such  
16 objections subjects protestants to enormous burden and expense to respond to a series of  
17 obsolete, inaccurate, or speculative "operating scenarios."

18 Dated February 7, 2018

18 Respectfully submitted,

19  
20 

21  
22 Deirdre Des Jardins  
23 Principal, California Water Research

24  
25 <sup>3</sup> Even without the technical documentation, California Water Research managed to show that DWR's Part 1  
26 CALSIM II modeling of reservoir operations was obsolete and inaccurate, and concealed significant risks that DWR  
was taking with carryover storage. (Exhibit DDJ-208 errata, p.9.) The model had clearly not had recent validation.

1 **STATEMENT OF SERVICE**

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3 **CALIFORNIA WATERFIX PETITION HEARING**  
4 **Department of Water Resources and U.S. Bureau of Reclamation**  
5 **(Petitioners)**

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

8 **Motion for Reconsideration of Hearing Rulings barring objections to**  
9 **Modeling Evidence**

10 to be served by Electronic Mail (email) upon the parties listed in the Current Service List  
11 for the California Water Fix Petition Hearing, dated January 24, 2018, posted by the  
12 State Water Resources Control Board at  
13 [http://www.waterboards.ca.gov/waterrights/water\\_issues/programs/bay\\_delta/california](http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/service_list.shtml)  
14 [waterfix/service\\_list.shtml](http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/service_list.shtml)

15 *Note: In the event that any emails to any parties on the Current Service List are*  
16 *undeliverable, you must attempt to effectuate service using another method of service, if*  
17 *necessary, and submit another statement of service that describes any changes to the*  
18 *date and method of service for those parties.*

19 I certify that the foregoing is true and correct and that this document was executed on  
20 February 7, 2018.

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26  
27  
28  
Signature:



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