

J. JOHNS

Mr. Gerald Johns
Deputy Director, DWR

October 2, 2005

Subject: Response to Director Johns' Letter of September 22, 2005 on CALSIM II

Dear Mr. Johns:

The letter was directed to the EIR committee but in fact it deals with comments generated by the plaintiff group of the committee. The comments we have generated over the past several months go to the technical validity of the model, CALSIM II, and because of its shortcomings its use as the tool in the Monterey Plus EIR. In your letter you make several assertions that are intended to respond to our comments but none really deal with the technical shortcomings of the model. As we have attempted to point out, the model contains fundamental errors in its construction that probably cannot be readily fixed. To continue to use this model in the EIR process will jeopardize the entire validity of the EIR. Accordingly, it is important that the Department undertake actions to address the vulnerability of the EIR.

You state that the model is an important tool to "study many technical and policy issues related to water supply reliability, environmental management and performance, water demands, economics, hydrology and climate, and regulatory compliance." In truth the model is not really specified to do these things and its construction is ill-suited to do them. ~~Water supply reliability requires a model that has verified absolute accuracy, which can only be accomplished by calibration of this model to the historical record, which the Department has steadfastly refused to do.~~

Calsim

Environmental management and performance would require that the model output provides measures that can be reasonably used to perform these tasks. In fact, the model treats the environmental issues as constraints buried in the hard code of the model and some of these constraints are of lower priority than water deliveries in the model. Furthermore, the constraints are based primarily on studies of the response of the environment in the Sacramento basin to conditions and project operations prior to the Monterey Amendments. ~~Because this uncalibrated model now predicts that average future deliveries can be increased by 50% over pre-Monterey operations, a review of those old constraints is absolutely required.~~ The current conditions of ecological collapse in the Delta demand it. But this model is exceedingly cumbersome to use for this purpose. What new constraints should be offered? Shouldn't we be going back to the State Water Resources Control Board for review? These are questions that need to be answered before an EIR is ever published.

Calsim

~~Water demands are not treated by this model save for the users in the Sacramento Valley, most of who are not SWP beneficiaries. In fact, the model assumes that all SWP contractors except MWD and KCWA will request full Table A amounts from now on. Furthermore, as we have pointed out in our previous comments, at least one of those demands is totally unrealistic and that is the case of San Luis Obispo County for which the model assumes 25,000 acre-feet as its annual request when in fact it has SWP pipeline capacity for only 4800 acre-feet. Other demands can also be argued to be without any merit. One must conclude that the model is not being used to "study water demands"~~

Calsim

~~when in fact demands are taken as fixed inputs to the model without any critical evaluation of the capabilities of the contractors to take such amounts.~~

Similar arguments can be raised as to how much the model is used to study "regional hydrology." As with demands, the most important hydrologic input is the historical record of major stream runoff into the Central Valley. If this hydrologic record had been studied, one would have immediately found that its statistical makeup is very complex and that the simple tacit assumptions built in to the model regarding that makeup are just plain wrong. The statistical flaws impact both the interpretation given to the model's output and to the fundamental specification of indices used in the model. These flaws are of such degree that both the model and the indices need to be re-specified. The model as it stands is basically useless as a tool for EIR or reliability studies.

Calsim
~~In general, the model is ill-specified for the uses to which it is being put in the Monterey Plus EIR. A correctly specified model would begin with environmental variables as dependent variables rather than constraints. In other words, we need a model in which one can input hydrology and demands and retrieve as output changes in the environment. CALSIM II does the exact opposite. In fact, it is very reasonable to question a model that is designed to maximize exports as in any way suitable to study environmental impacts.~~

Calsim
~~Your assertion that CALSIM II is an accepted tool for use in environmental impact analysis and planning is not warranted. The Peer Review Committee strongly recommended that CALSIM II be calibrated properly if it is to be used for objective measures of system performance. Both reliability assessment and environmental impact analysis both depend on objective measures.~~

And again, I must take issue with your general assertions of "good faith" efforts on the part of DWR staff. The Department has been asked on several occasions beginning with the settlement negotiations on through the EIR preparation to perform calibration of the model. The Department has stonewalled on this request for close to 5 years now.

As to your comments on how the Department has made its choice to use this model after receiving comments from many forums, again there has been a total reluctance to join the technical issues of the model's flaws. We made very specific comments on the draft Reliability report questioning the statistical use of the output data. There was no response from anyone in DWR to support its particular use of statistics. In general, the Department has never attempted to join the issue of the statistical flaws in the model, continuing to dismiss criticisms to that effect with broad statements such as you make here. We must consider these broad statements to be totally inadequate as a response.

You refer to the Peer Review Committee's report to substantiate your general claims for this model. However, you should realize that the Peer Review Panel made its comments about optimization models and their suitability as a general approach. Their more specific claims about the use of CALSIM II were not supportive. And we must remind the Department that the Peer Review Panel was asked to review a model without any specific application in mind nor without any model specification. In fact, we have not seen a model specification against which we can validate the model's performance. A model specification is an essential step in any model development. We are sure that if the original model specification had called for the ability to perform environmental impact

analyses and delivery reliability assessments it would have been structured in a completely different fashion. It certainly would have called for model calibration and that requirement would have led to a model whose structure would readily allow calibration. We have been continually told that this model can't be calibrated, which we consider nonsense.

With regard to the Department's report where they outline their continuing effort to establish trust in and credibility for the model, we regard that as nothing but "spin" given the Department's stonewalling on critical technical issues that have more to do with developing "trust and credibility".

Finally, if your letter was intended to be a response to technical comments, we regard it as totally unresponsive.

Sincerely,

Arve R. Sjovold
Plaintiff Citizens Planning
Association Representative
To The EIR Committee