



January 25, 2023

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**Re: Plan for Water (PFW) Questions**

Dear NID Board and Ms. Hanson,

We would like to thank you for the opportunity to meaningfully engage in the PFW process. As interested stakeholders who continue to actively participate in technical stakeholder meetings and publicly scheduled PFW meetings, we have several outstanding questions that we would like to have formally answered by the consultants or NID, as indicated in each question, prior to the next PFW meeting.

1. (Question for NID) How does NID define applied raw water and demand raw water? How does the model consider applied water vs. demand water. Are they considered together? Separate? Unable to differentiate?
2. (Question for NID) We have reviewed the [glossary of terms](#) that NID has published for the PFW and have found it to be fairly limited. With respect to definitions more broadly, we recommend that NID develop a robust glossary with the community using mutually accepted definitions as part of the PFW process. This is analogous to the State and Federal general, coordinated, specific, and water quality plans; all have specific definitions included to fit the goals, objectives, and science of each document. We would be happy to share and develop these definitions with NID.

- a. Specifically, the PFW glossary of terms published by NID conflates the definition of terms with NID operations and analysis which can serve to confuse the formal definition with NID operations or business. Some examples include:
    - i. “FERC Relicensing” which includes a discussion of dams owned and operated by NID, but does not actually define the FERC relicensing process, what it entails, how frequently it happens, or any of the other relevant information for someone who is not familiar with the process to understand it.
    - ii. “Instream Flow” which does not define instream flow, but instream use instead, which is a different concept. The definition goes on to define instream use (not instream flow as the heading says) as “water discharge at least partly controlled by a dam or diversion structure” which is inaccurate.
    - iii. “Surface Water” which begins with an appropriate definition. But the second sentence invokes an inappropriate judgment that the water cycle is water “lost.”
  - b. Alignment with Statewide and Regional adopted water resources planning, management, and operational terms is essential for robust decision-making in the face of climate change. A [Basic-Water Glossary](#) has been developed for the California Water Plan and its Updates to foster public understanding. The California Water Plan is the [Statewide Water Resources Strategic/Master Planning](#) effort. While it is expected that terms may be defined somewhat differently for the Plan for Water and its many connected parts, we encourage NID to start with these broadly accepted definitions and modify as needed to be placed in context with the various levels of NID’s planning, management, and operations.
3. (Question for Consultant & NID) What are the limitations of NID’s historical water use data as it applies to setting a believable benchmark for historical water demand?
- a. Specifically, in a system with significant unaccountable losses, and very little means of knowing exactly what demand is, what is the margin of error (in units of AF, miner’s inches or gallons) that the use of historical demand data could be over or underestimating the actual demand? We are primarily interested in raw water use.
4. (Question for Consultant) How does the consultant plan to deal with the 30m x 30m spatial resolution of the OpenET dataset which relies on Landsat data? Especially as related to the mixed pixel problem and unirrigated forest type landcovers adjacent to, and bordering irrigated lands.
5. (Question for NID & Consultant) In the last PFW meeting, there was a discussion about “ground truthing.” We would like to know how NID will corroborate information

received through existing datasets with a real time on-the-ground accounting of water demand.

- a. Has NID considered instituting raw water customer audits? This can engage the customer to see what is actually happening on site, the intentions of the customer for the future, the willingness of the customer to undertake water conservation efforts, the current irrigation practices and potential Best Management Practices.
6. (Question for Consultant) How are different inputs weighted in the Demand model?
    - a. If agriculture demand at a farm (represented by X pixels) relies on OpenET data, DWR crop data, historical NID data, and NID crop surveys, how is the accuracy of each data set assessed and weighted relative to the others?
  7. (Question for Consultant) We would like to see an example of what the Demand model output looks like given a set of hypothetical inputs, as well as a robust sensitivity analysis of the model. Examples of questions the sensitivity analysis should help us understand include:
    - a. If urban demand doubles and all other variables (e.g. evapotranspiration, raw water demand and environmental requirements) remain equal, how does that impact the model output?
    - b. What if all demand remains the same, but there is zero environmental loss (e.g. no evaporation, no infiltration through canals, etc.)?
    - c. In predicting future demand, how does the model respond to a dry climate with less water, similar or increases in environmental water requirements, and the total water available in the system? And as a percentage of non-environmental water demand.
  8. (Question for NID) Please explain how farm gates and orifice plates function, how they are used and how the assumed 6” head required for a defined miner’s inch of water maintained consistently throughout the length of a canal?
  9. (Question for NID) Please explain how ditch end spill is maintained or controlled, how it relates to maintaining the farm gate orifice head consistently throughout the canal and show us a picture or two of a typical canal end configuration?

In addition to providing responses to the questions outlined above, we respectfully request that NID provide critical PFW meeting documents such as the “[Demand Model Data Sources and Assumptions](#)” well in advance as we have previously requested. This time is critical for stakeholders to absorb, understand the information, and develop any questions, concerns or feedback. We also request that NID set aside dedicated time during PFW meetings to address the Demand Model Sources and Assumptions document and any future PFW documents, as well as take time to answer any questions individuals may have.

Specifically related to the Demand Model Data Sources and Assumptions document, we would like to know what the anticipated process is for making changes to this draft document, and if there are deadlines we should be aware of with respect to providing input on the document. We would like this to be a focus of discussion, which may necessitate scheduling a longer PFW meeting if necessary.

Thank you in advance for providing us with clarifications on the questions above. Providing clarity on these items will ensure that we are well informed as we continue to participate in this incredibly important process.

Sincerely,



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