RESERVED WATER RIGHTS COMPACT COMMISSION



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October 25, 2010

Clayton Matt Confederated Salish & Kootenai Tribes PO Box 278 Pablo, MT 59855

RE: Review of Hydross Model Jocko and Mission Baseline Condition

Dear Mr. Matt:

Thank you for providing the Montana Reserved Water Rights Compact Commission ("Commission") with copies of the Draft Jocko HYDROSS Model Baseline Conditions, August 2010 and the Draft Mission HYDROSS Model Baseline Conditions August 2010. Commission technical staff has carefully reviewed the reports. From their review, I offer the following comments.

The models clearly reflect a substantial investment of time and effort by the Tribes and DOWL HKM, which we greatly appreciate, and the results appear to be of very high quality. The baseline model runs appear to be based on reasonable assumptions and contain outputs that line up with the measured data reasonably well. Page 1 states that HYDROSS is a planning model, not a daily operations model. The Commission agrees that the best use of the model is to facilitate planning, and we believe it to be a very useful tool for that purpose.

That said, it is important to bear in mind some of the models' inherent limitations.

Although there is a strong database of existing flow records in the Jocko and Mission valleys, development of the model nevertheless required estimates upon estimates. For example, the model is heavily reliant upon the 2009 canal seepage study. Even though estimates of canal seepage losses are based upon data acquired under careful quality-controlled constraints, the estimates nevertheless carry some statistical uncertainty and apply only to a single irrigation season. To take these somewhat uncertain estimates and extend them to multiple irrigation seasons over the full length of the canals (which themselves have wide variability) leads to even wider uncertainty. Certainly, however, the estimates are the best available information at the time and we believe it is appropriate to use them in the manner applied in the model. In a similar vein, the estimate that 95% of delivery system and on-farm inefficiencies make their way to the next downstream node appears to be appropriate for the Jocko area, but given the vast amount of

wetlands in the Mission area, we expected lower returns on the Mission (or conversely, higher returns on the Jocko). These estimates should be revisited at such time that estimates of water use by irrigation-affected wetlands, riparian areas, and groundwater become available (METRIC).

Our concerns about the models' limitations are eased by Wade Irion's assurance that they have been 'stress tested'. By this we assume that they have been subjected to extreme scenarios (for example, lining of all canals, non-use of selected canals, extreme adjustments to the 95% estimate of return flows, or something similar) to see if they produce reasonable results.

It would also be helpful to reorganize table 2.3.8, capacity limits, by canal and sub-canal so that flow amounts can be tracked and tied back to their sources. Organizing outputs by Node ID produces results that appear somewhat scrambled. I recognize, however, that given the complex linkages between canals, this approach might prove unworkable.

None of the foregoing, however, should be read to detract from the Commission's appreciation for the time, resources, and effort the Tribes have invested in developing the HYDROSS models or the Commission's belief that the August 2010 Draft HYDROSS Model Baseline Conditions for Jocko and Mission Valleys are an appropriate basis for moving ahead with Compact negotiations.

Sincerely,

Bill Schultz, Program Manager

Reserved Water Rights Compact Commission

Cc: Wade Irion

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