Memorandum

February 25, 2004

To: Tom Scott

Subject: Prosser Reservoir - - Minimum Storage and 5,000 acre-foot Objective Under TROA Conditions

From: Rod Hall

You asked about the Truckee Operation Model's management of Prosser Reservoir storage during the analysis of TROA for the revised draft of the EIS/EIR. This memo discusses the model's calculation of Prosser and other operations in a little detail.

If we look at the calculated Prosser operation during 1931, we see that the end-of-month storages for February through April are:

February EOM	=	7,090 acre-feet
March EOM	=	5,000 acre-feet
April EOM	=	1,650 acre-feet

For these months, the target inflows to Pyramid Lake and the calculated inflows to Pyramid Lake are:

February	Target Inflow	=	90 cfs
	Calculated Inflow	=	90 cfs
March	Target Inflow	=	140 cfs
	Calculated Inflow	=	67 cfs
April	Target Inflow	=	200 cfs
	Calculated Inflow	=	100 cfs

During these months, other than in Prosser Reservoir, there was little or no Fish Credit or Fish Water stored (in any reservoir, including Stampede). Stampede had more than 80,000 acre-feet of storage. But, this Stampede storage is provided by TMWA's (Sierra) M&I Credit Water, JPFCW, California M&I Credit and Water Quality Credit. None of these other storages were established or maintained at the expense of Project Water (Fish Water).

TROA Section 5.B.6(c)(4) provides that Prosser Fish Water and Fish Credit Water will be operated to "maintain a total storage of all water in Prosser Creek Reservoir of at least 5,000 acre-feet as a minimum pool for fish at all times, or such lesser amount as may be determined by California Department of Fish and Game to better serve the fishery

throughout the Truckee River Basin". "Truckee River Basin" is defined to mean the entire basin tributary to Pyramid Lake except for the Lake Tahoe basin.

The Truckee Operation model made the following water management decisions.

1. During February, it was possible to provide the target inflow to Pyramid Lake and still keep the Prosser storage above 5,000 acre-feet.

2. During March, it was not possible to provide the target inflow to Pyramid Lake while keeping the Prosser storage above 5,000 acre-feet. In this month, the Pyramid inflow was allowed to drop to 67 cfs (73 cfs below the 140 cfs target) so that the Prosser storage could be maintained at 5,000 acre-feet. (Note, that there is no other storage available to be released for the purpose of providing inflow to Pyramid Lake.) Now, before going to the next bullet, it should be noted that March was calculated by the operation model to be a non- "Drought Situation". (A "Drought Situation" is a 12-month (April-March) condition based upon the April first forecast and TMWA's water supply situation is related to the existence or non-existence of a "Drought Situation". - - see TROA definitions)

3. During April, it was not possible to provide the target inflow to Pyramid Lake while keeping the Prosser storage above 5,000 acre-feet. However, by allowing the Prosser storage to drop to 1,650 acre-feet, it was possible to provide Pyramid Lake inflow equal to 100 cfs (still less than the 200 cfs target inflow).

4. The Truckee Operation Model employs "logic" that directs operation calculations to ignore the 5,000 acre-foot limitation on Prosser Reservoir storage when a "Drought Situation" exists. For April of 1931, the Truckee Operation Model calculated that a "Drought Situation" existed. This allowed the release of Prosser Reservoir storage, dropping the storage to 1,650 acre-feet.

Discussion

The Truckee Operation Model uses the existence or non-existence of a "Drought Situation" condition to define what will best "serve the fishery throughout the Truckee River Basin" (see reference to TROA Section 5.B.6(c)(4) above). There is probably a better way to do this. A better method would probably avoid the somewhat illogical change in management between March and April of 1931. However, it may be reasonable to suppose that fishery throughout the Truckee basin may be best served by providing some inflow to Pyramid Lake at the expense of storage in Prosser Reservoir. (I don't know.)

If more sophisticated criteria were to be employed by the Truckee Operation Model, the characteristic of having some low inflows to Pyramid Lake and some low storage in Prosser Reservoir would probably be about as calculated by the model. Only the timing might be changed a little.

You and others on the EIS/EIR team can review this and decide whether or not it would be worthwhile to revise the model.

I hope this has explained (at least a little) why by Truckee Operation Model occassionally calculates Prosser storage that is less than 5,000 acre-feet.

If there is more information I can provide or if you want to suggest a different approach for incorporating Prosser management (when there is a conflict between maintaining some inflow to Pyramid Lake and maintaining some storage in Prosser), please let me know.