

## Summary of March 28 Gaming

Gamed 1985 - 1987

New issues, new discussion

- We got confirmation from Chet Bowling that, at least for this game (which is something of a worst case scenario), we should retain all upstream/downstream linkages. Thus, export reductions linked to backed storage have no net b(2) cost.
- **WQCP costs – differences between PROSIM and DWRSIM** estimates continue to be an issue. However, some of the difference may be due to differences in how the number is calculated. DWRSIM simply looked at changes in CVP exports and reported that number. The PROSIM calculation is based upon the same metrics as the DOI criteria, and therefore looks at changes in upstream flows and upstream storage (on February 1) as well as changes in exports. In drier years the WQCP reduces CVP exports. Some of these lost exports are backed up into upstream CVP storage. This increased upstream storage reduces the net b(2) costs – i.e., export b(2) costs are cancelled out somewhat by reduced b(2) costs upstream. The net effect is a reduction in the b(2) cost figures reported. This difference may explain some of the differences. We need more analysis to find out.
- The fact that WQCP impacts are split into several divisions (upstream storage before February, upstream releases after February, export changes) creates a number of issues:
  - I presume that the 450 kaf cap on b(2) deductions for the WQCP impacts refers to this net impact, not export impacts alone.
  - However, the 640 kaf limit on post-January export impacts surely does look solely at the export component of the WQCP impact.
  - Upstream credits generated in the WQCP impact analysis will offset other b(2) upstream releases in the post-January period.
  - Thus, for example, consider a dry year in which 500 kaf of export impacts are caused by the WQCP, with 200 kaf of upstream credits. The net cost is only 300 kaf, leaving 500 kaf of b(2) water left. However, due to the limit of 640 kaf on post-January impacts, only another 140 kaf of export impacts are allowed in the export area after January. If this 140 kaf were used for VAMP, then no more export reductions are possible, except to the extent that upstream AFRP releases increase exports.
- I need the b(2) WQCP cost breakdown into the three categories for 1981 – 1985 to confirm that our accounting was correct in these year [**Rob Tull, please email**].
- We found another loophole in the JPOD, assuming some level of SWP cooperation. In 1987 we made a total of 698 kaf in net export cuts from February through May, including the WQCP impacts. This value was ostensibly a violation of the cap of 640 kaf in post-January export cuts. However, 258 kaf of this export cut was made by the SWP on behalf of the CVP. Because we had 250 kaf of upstream b(2) credits, we released the 250 kaf and paid off some 243 kaf of the debt to the SWP, thereby reducing the total export impact from 698 to 455 kaf. There are several policy issues embedded here:
  - Is the 640 kaf limitation an annual limitation or an instantaneous limitation? Can we go above 640 kaf as long as we bring annual export impacts below 640 by the end of the water year?
  - The 250 kaf of upstream water was released in August and September, much of it after SLR lowpoint. Thus, even though we replaced the water, we did so too late to be of use for the current growing season. As a result, we may have forced additional shortages upon the contractors. Is this legitimate?
  - Does the 640 kaf limit apply to all export impacts or only CVP impacts. In the 1985 example, the export impact on the CVP was only 440 kaf. The rest was debt owed to the CVP. I would say that all export impacts count, since payback of the SWP debt will create additional CVP export impacts.