

## Some notes on the Qld Government's response to questions on notice.

Steve Burgess 8/06/2007

I hope that these brief notes are of some assistance to the senate. I wish to have them documented as part of a supplementary submission to my original submission to the enquiry.

### **Issue 1 – Simulated dam storage behaviour to 2002-2007**

The results of the modelled dam performance produced by the Qld Government do not state any assumptions regarding evaporation, seepage, allocations for downstream users or environmental flows – all of which determine predicted dam storage levels. Still, the curve produced roughly supports the modelling referred to in the SaveTheMaryRiver Coordinating Group submissions.

- STMRCG modelling predicted dam supply failure of Stage 1 in 2002. Qld Government submission chose to start simulation after this point.
- At the end of March 2007, the Queensland Deputy Premier publicly announced that if the dam had been constructed 3 years ago, (assume 1 April 2004) it would have been nearly full at the time of her announcement. (assume 1 April 2007). At the time STMRCG modelling showed that if dam had been constructed at that time, it would have been at about 5% (dead storage) by 1 April 2007. The storage behaviour curve recently submitted by the Qld Government shows that if the dam started from FULL at 1/04/2004 (**with a 153,000ML head start**), it would have contained only approx 33,000ML on 1/04/ 2007 (about 21%). Without the 153,000ML head start their modelling also concurs with the STMRCG modelling that it would have almost certainly have been at dead storage level long before April 2007.
- Statements that if the dam had been built, the extra 70,000ML/year yield from it into SE Qld grid would have maintained higher storage levels in other SEQ dams are completely irrelevant to the issue. ANY source of 70,000ML/year of water would also achieve the same result – it adds no weight at all to the choice of Traveston over any other option. It adds just as much weight to the case for building an additional desalination plant, or combining urban stormwater and rooftop rain collection with recycling technology, for instance. (Both of which would be considerably cheaper, more reliable, much quicker and capable of providing the same amount of new water resource)

### **Issue2 - Seepage/evaporation**

- Evaporation/ net loss calculations in the Qld Government's response take no account of shape of the storage. 1000mm loss in a storage that is 1m deep is very different to 1000mm loss in a storage that is 10m deep.
- Quoted net losses for storages are at complete variance with Sunwater's own loss estimates published in operating licences for the storages. I quote from a letter to the editor which I believe was forwarded to the committee a few weeks ago.

*“In Figure 8.5 of their submission to the Federal Senate Inquiry, the Queensland Government attempted to show that the Traveston site would have a net annual loss of 520mm to evaporation and seepage. They state that this is even less than Borumba dam with a net loss of 539mm/year. This implies that if no water flowed out of the dam, and no water flowed in, the water level would fall at less than 1.5mm/day on average – an absolutely amazing achievement by world standards.*

*However, if you look up the evaporation and seepage allowance that is written in to page 24 of Sunwater's licence for Borumba dam, they actually use a figure of 1251mm per annum. Therefore, the estimated losses used by Sunwater for Borumba Dam are 2.3 times greater than the figure given*

*to the Senate. The climate at Borumba Dam is virtually identical to the climate at the Traveston Crossing site, and is in a geological location with far less potential for seepage”*

- There are flaws in the arguments about seepage losses – there are many major fault lines in the rocks throughout the proposed dam storage basin which connect to other watersheds. It is unlikely that all of these potential leaks will be able to be located and sealed with grout before filling the storage. The sealing of the permeable rock with a grout curtain only refers to the vicinity of the dam wall.
- In spite of the Qld Government’s public insistence that there is no underground aquifer at the dam wall site (Deputy Premier at the November 2006 public meeting in Gympie, and correspondence from the D P’s office), the Qld Government was able to submit salinity measurements to the senate from water pumped from this aquifer. (Document 12) The full interpretation of this report is not possible from the information provided without the provision of location , depth and flow data for the boreholes listed in the report.

### **Issue 3 - Inflow comparisons between Wivenhoe/Somerset and Traveston catchments**

The graphs produced by the Qld Government in response to questions on notice very clearly show that

- Dam inflows are much more variable than rainfall
- The Traveston catchment has low inflows at the same times that the Wivenhoe System has low inflows.
- The Wivenhoe inflows in general are greater than the Traveston inflows.

This suggests that the only time that Traveston site will have good inflows is when there is plenty of water in the Wivenhoe system, and therefore is of little use in diversifying supply in times of long drought. Extra storage in the Wivenhoe system would probably be at least as useful and much cheaper, quicker and less damaging to achieve.

This conclusion is born out by the Queensland Government’s own application for WaterSmart Australia funding for the Western Corridor Recycling Pipeline, where it rules out sourcing water for Tarong Power station (which currently sources water from Wivenhoe) from the Paradise Dam, because it expects both Paradise and Wivenhoe are likely to be in drought at the same time. The Traveston site is much closer to Wivenhoe than Paradise is.

### **Issue 4 – TAP report on water storage options.**

In my opinion, one of the most significant documents presented to the enquiry by the Queensland Government last week is the final report prepared by the State Government’s Technical Advisory Panel on the environmental impacts of the various dam proposals in SE Qld. (Document 15 in the list of documents submitted to the Senate). Although the existence and some conclusions of this important report have been publicly known for some time, the report itself has been suppressed until now.

Section 4 clearly documents the advice given to the Qld Government on the likely extent of significant environmental damage and impacts on Matters of National Environmental Significance that would be deliberately caused by the construction and operation of the Traveston Crossing Dam. In fact the TAP could not reach a definite conclusion as to whether a single dam at Traveston would have more or less adverse environmental impact than the total impact caused by a combination of 4 other major dams across SE Qld catchments.