
REVIEW OF DAM SAFETY DAM SAFETY ACT 1978

BURRINJUCK DAM November 2013

We are the operators of two sand and gravel quarries on the Murrumbidgee River, one at Jugiong and the other at Gundagai. The quarry at Jugiong has been in operation since 1966 and under our management since 1980, however our association with the quarry goes back prior to this. As long term operators of the quarry site and also land owners on a flood plain we are acutely aware of flooding and how local rainfall affects the Murrumbidgee River flows.

Our main points of concern are as a result of the December 2010 and March 2012 floods, as well as the continued management of the outflows of Burrinjuck Dam.

We believe that while the 2010 and 2012 floods were exceptional events, and Burrinjuck Dam helped mitigate high river flows, the flooding would have been further reduced by better management and communication, as well as a better understanding of the upstream and down stream river flows. It should be acknowledged that since these two major flood events the communication system with down stream stakeholders has improved, and will continue to improve.

Three main areas we believe require reviewing are in relation to the management of Burrinjuck Dam only.

1. DAM WATER FLOOD RELEASES

Since the 2010 and 2012 flood events we have been involved in various correspondence and communication with all levels of control and management of Burrinjuck Dam. Particularly in the days leading up to and immediately following the floods.

During the communications it became clear that the various individuals and organisations that are in control are very quick to defend their actions and demonstrate that policy and procedures were duly followed. It never seemed an option to question whether or not the policies and procedures were current best practice and/or needed reviewing, which hopefully this Review will uncover.

We strongly believe that the current process of regulating dam heights and river flows with data from the Bureau of Metrology (BOM) could be improved. By reviewing this information in the days leading up to the 2010 and 2012 floods it can be clearly identified that if the dam releases were actioned a few days earlier than they were, the down stream flood heights could have been further reduced.

It was acutely obvious to all down stream stakeholders that prior to both floods the river heights were extremely low right up until the dam level had reached capacity and there was no further options available other than to release massive quantities of water. In both cases the catchment was saturated and the forecasts from Bureau of Metrology (BOM) predicted very heavy rainfall in the catchment area.

We believe the management of dam releases could be improved by more local input, better utilization of the current forecasting technology available, and a better understanding by the decision makers of the ramifications of their action or lack thereof.

2. DAM WATER HEIGHTS

Burrinjuck Dam wall underwent a major strengthening and safety upgrade during the 1990s. I am of the understanding that part of this project was to allow for an increase in the water level of the dam above normal full capacity during a flood without compromising the safety and integrity of the dam wall.

As the current Dam Safety Act under review is dated 1978 this begs the question – ‘Has the completion of the work some 20 years after this Act, been allowed for when managing the dam water level during a flood event?’ The basis of this is that it may well be possible to allow the dam level to raise say, another 300mm above what is currently the case in order to allow down stream flows to dissipate. Therefore, increasing the upstream of the dam flooding to reduce the down stream flooding. It would be reasonable to assume that an extra 300mm in water height above the dam would do less damage to property than a 300mm increase in water level down stream. It would also be reasonable to assume that an extra 300mm of down stream river height would be much less than this when spread across the area of the dam.

Of course this question could only be answered by consultation with dam engineers and hydrologists. However, it does appear that the dam flood management procedures may have been formulated before the 1990s work and not been allowed for.

3. ENVIRONMENTAL FLOWS

The advent of environmental flows seems to be something that has occurred in recent times. While I do not agree with the reasoning for these I propose that if they are to continue then a review of the consequences of these occurrences needs to be carried out.

As stated earlier the notifications to stakeholders down stream of Burrinjuck Dam of pending releases has improved. This is essential when there are dramatic increases in river heights in very short periods. Sometimes these releases have been in the order of meters increases in the river heights. There is also quite a pattern forming of these discharges occur during the night and particularly on weekends.

On more than one occasion I have personally patrolled the river’s edge around Jugiong and moved campers on who unbeknown to them would have had their camp site inundated with water as they slept. On every occasion this has occurred on a weekend or even a long weekend. The timing of these releases needs to be considered before they occur.
