

**IN THE MATTER OF
THE QUEENSLAND FLOODS COMMISSION OF INQUIRY**

**A COMMISSION OF INQUIRY UNDER THE
COMMISSIONS OF INQUIRY ACT 1950**

**AND PURSUANT TO
COMMISSIONS OF INQUIRY ORDER (No. 1) 2011**

THIRD STATEMENT OF JOHN TIBALDI

On the 11th day of April 2011 I, **John Tibaldi**, of C/- 240 Margaret Street, Brisbane, says as follows:

1. I am currently employed by Queensland Bulk Water Supply Authority ("Seqwater") as Principal Engineer, Dam Safety.

4,000 m³/s at Moggill

2. I refer to paragraphs 63 to 68 of my first statement dated 25 March 2011 (*my first statement*).
3. The Manual provides that, for the purposes of Strategy W3, the upper limit for non-damaging floods downstream is 4,000 m³/s at Moggill.
4. I have always understood and applied this threshold on the basis that it identifies the point at which flood waters commence flooding the habitable floors of urban dwellings downstream of Moggill.
5. I also understood that the threshold does not mean or imply that there is no damage of any kind in urban areas until flows exceed 4,000 m³/s at Moggill. There will be damage in urban areas when flows are below 4,000 m³/s at Moggill.
6. This damage might include impacts on roads, bikeways, walkways and parks; and flooding of properties that does not involve flood waters impacting on the habitable floors of urban dwellings.

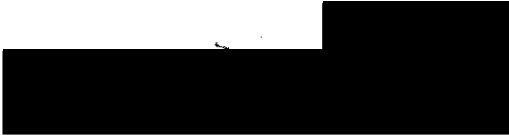
Filed on behalf of: Queensland Bulk Water Supply Authority trading as Seqwater

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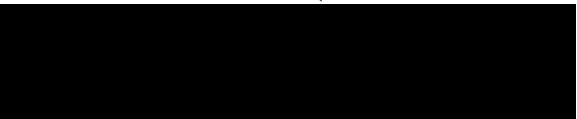
7. I refer to paragraph 67 of my first statement that describes how increasing the outflow from Wivenhoe Dam was paused for a short period on the morning of 10 January 2011 to maintain the flow at Moggill below 3,500m³/s. This action was taken with the aim of protecting urban areas below Moggill from inundation and followed a conversation with the BCC.
8. This pause in increasing the flow at Moggill from 3,500m³/s to 4,000m³/s did not, in my opinion, have any impact on the outflows from the dam the following day or on the peak flow at Moggill during the flood event.
9. The reason for this is that the six hour pause in increasing releases resulted in a maximum of 10,800ML being held in the dam above what would have been released had the pause not occurred. This is a relatively insignificant volume when compared to the total flood event volume of 2,650,000ML and equates to an increase in storage level of less than seven millimetres when the event peaked at a lake level of EL 74.97m. A seven millimetre increase or decrease in lake level at this time or in the period leading up to this time would have had no impact on the decisions to release flood water that were made on 11 January 2011 and therefore would not have increased the flood peak in the Brisbane River below Moggill.

Early release strategy

10. I am aware that some have criticised the release strategy adopted in operating Wivenhoe and Somerset dams during the January 2011 flood event, suggesting that a strategy that increased releases from Wivenhoe dam early in the event should have been adopted.
11. The adoption of an early release strategy of the kind suggested would not accord with the Manual. However, the question as to whether the Manual should be changed to provide for such an early release strategy is one that warrants discussion.
12. The adoption of an early release strategy that involves increasing dam releases during the course of a flood event in anticipation of a major flood is a gamble where the outcome depends amongst other things, upon whether the flood event will be large enough to cause Strategy W4 to be invoked.
13. This is not something that can be known with certainty during a flood event until sufficient rain has fallen and has been recorded in the rainfall station network to indicate that the level in Wivenhoe Dam will exceed EL 74.0m.

14. In flood events where there is no need to invoke Strategy W4, the adoption of such an early release strategy will likely result in increased damage and adverse impacts below Moggill that may include flooding of urban dwellings and commercial buildings.
15. Since Wivenhoe dam was constructed, significant floods of this type have occurred in March 1989, April 1989, February 1999, October 2010 and December 2010.
16. Using an early release strategy during these events rather than following the strategies contained in the Manual would likely have produced damage to areas below Moggill when there was no need for such damage to occur. Following the Manual in these events prevented unnecessary damage.
17. During the January 2011 Flood Event, adopting an early release strategy on the night of Sunday, 9 January 2011 following the inundation of Fernvale Bridge by flood water may have reduced the peak of the flood.
18. However:
 - (a) If less rain had fallen after this time, the adoption of an early release strategy may have increased the peak of the flood.
 - (b) If the rain that fell on Tuesday, 11 January 2011 had fallen further south, an early release strategy may also have increased the peak of the flood.
19. Accordingly, even in floods such as the January 2011 event that is categorised by generally accepted engineering standards as large and rare, the adoption of an early release strategy would not necessarily guarantee a better outcome. In some cases, it may contribute to a worse outcome.
20. Any change to the Manual to incorporate an early release strategy would increase the risk of flood damage below Moggill occurring more frequently. Therefore, this is a matter that will need careful consideration in the upcoming review of the Manual.

Additional filling of the flood storage compartments of the dams

21. I am also aware that some have suggested that the flood compartments of the dams should have been utilised to a greater degree than they were during the January 2011 Flood Event.
 22. Again, the adoption of a strategy of the kind suggested would not accord with the Manual.
 23. I have made some comments on this topic in paragraphs 59 to 61 of my first statement.
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24. Like an early release strategy, the additional filling of the flood storage compartments of the dams is a gamble. However, the stakes are the lives of persons downstream of the dam that live in the path of the flood wave produced by a failure of the dam.
25. The outcome depends, amongst other things, upon whether the flood is small enough to avoid the overtopping of the dam. Whether the flood is of this size cannot be known with certainty during a flood event and can only be determined with hindsight.
26. Additional filling of the flood storage compartments of the dams is also a gamble that a second flood event will not closely follow the flood event being managed. History has shown that this is possible, most notably in 1893. Again, there is no way to know with certainty during a flood event how soon the next flood event will occur.
27. If the gamble is lost and Wivenhoe dam is overtopped, the consequences will be devastating. Wivenhoe dam is not designed to be overtopped. Overtopping the dam will cause it to fail resulting in significant loss of life, extreme damage to rural and urban communities downstream of the dam and the loss of south east Queensland's primary source of water. This is not a risk that any responsible owner or operator of a large, extreme hazard dam would be prepared to take.
28. For these reasons, the additional filling of the flood storage compartments is not an acceptable strategy. The Manual does not provide for it, and it was not used during the January 2011 Flood Event.

SIGNED by **JOHN TIBALDI** on 11 April 2011 at Brisbane in the presence of:



Deponent



Solicitor

JAMES ANTHONY HUGHES