

**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**

**TENTH STATEMENT OF JOHN TIBALDI**

On the 22<sup>nd</sup> day of December 2011 I, John Tibaldi, of C/- 240 Margaret Street, Brisbane, state on oath:

1. I am currently employed by Queensland Bulk Water Supply Authority (*Seqwater*) as Principal Engineer, Dam Safety.
2. This statement is made in response to the requirement to provide statement issued by the Queensland Floods Commission of Inquiry on 20 December 2011 (*Requirement*) relating to Somerset Dam.

**Cracking in dams and dam failure**

3. In relation to the cracking in the embankment of Somerset Dam it is important that two general matters are understood:
  - (a) All concrete embankment dams have cracks. The presence of a crack does not on its own indicate a structural problem within the embankment of a concrete dam.
  - (b) The crack in the upper gallery of Somerset Dam is not related to the failure mode of the Dam that would be experienced if the lake level exceeded EL 109.7 during a flood event. That is, should Somerset Dam fail as a result of the lake level exceeding EL 109.7 during a flood event and should the crack in the upper gallery of Somerset Dam be inspected after such a failure (assuming that the gallery survives the failure), the

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crack would appear as it does today. Moreover, if the crack in the upper gallery of Somerset Dam was completely repaired, the failure mode of the Dam that would be experienced if the lake level exceeded EL 109.7 during a flood event would not change, nor would the understanding of the failure level of Somerset Dam. By way of example I refer to page ii of the Executive Summary of the report entitled Somerset Dam – Stability of Abutment Monoliths (NSW Department of Commerce – May 2005) where the report makes the following comment in relation to the crack in the upper gallery of Somerset Dam:

known cracks emerge in and drain to the gallery, making this section as stable (in some respects more stable) at high storage levels than adjacent sound concrete.

### **Dam Safety Inspection 2009**

4. In relation to the Somerset Dam Annual Dam Safety Inspection report dated 2 November 2009, I make the following comments:
  - (a) The standard practice of the Seqwater Dam Safety Group is to raise a flag in Annual Dam Safety Inspection Reports if issues are encountered during the inspections that are not fully understood by the author of the report. I consider this to be an appropriate practice.
  - (b) I followed this practice in conducting the November 2009 Annual Dam Safety Inspection of Somerset Dam. Because I was not satisfied, at that time, that I had a full and complete understanding of the impacts of the crack in the upper gallery of Somerset Dam, I raised a flag in the report to investigate this matter further.
  - (c) I recall that soon after I wrote the report, I discussed the matter with Mr Barton Maher of Seqwater and Mr Peter Allen of DERM since I was aware that both of these persons had investigated this issue previously in some detail.
  - (d) Following these discussions I was satisfied that the crack in the upper gallery of Somerset Dam was not a significant structural issue, but I resolved to investigate the matter myself in further detail as part of the Comprehensive Inspection of Somerset Dam that was scheduled for September 2010.
  - (e) I then investigated the crack in the upper gallery of Somerset Dam in detail as part of the Comprehensive Inspection of Somerset Dam that was undertaken in September 2010. I completed this investigation by reviewing in detail the previous investigations undertaken by engineering experts and by reviewing instrumentation

records. My general conclusion of this investigation, which can be found on page 21 of the report was:

The crack has been the subject of many studies and investigations in recent years with the general conclusion being that the crack is not presently an issue of structural concern, but that monitoring of the crack should continue.

(f) I remain of that view today.

5. The 2011 Annual Dam Safety Inspection of Somerset Dam has now been undertaken. I understand that a copy of the inspection report is being provided to the Commission separately. In relation to that inspection I make the following comments:

- (a) The inspection was undertaken by Mr Louw Van Blerk of Seqwater. Mr Van Blerk reports to me.
- (b) As the standard practice of the Seqwater Dam Safety Group is to raise a flag in Annual Dam Safety Inspection Reports if issues are encountered during the inspections that are not fully understood by the author of the report, Mr Van Blerk has raised a flag in relation to the crack in the upper gallery of Somerset Dam.
- (c) Mr Van Blerk has not, as far as I am aware, had the benefit of reviewing the past engineering reports on this discrete issue.
- (d) Moreover, before Mr Van Blerk produced the report I did not have the opportunity to discuss the investigations I undertook in 2010 with him because of a range of additional commitments I had, including responding to numerous Commission of Inquiry requirements.
- (e) Mr Van Blerk is currently on leave. When he returns, I intend to discuss with him the investigations I undertook in 2010. If Mr Van Blerk is then satisfied that the issue is resolved, an amended 2011 Annual Inspection Report will be issued. I believe this outcome is very likely.

- (f) The fact that Mr Van Blerk has raised the crack issue in the report does not alter my opinion as set out in paragraph 4(f) above.

**SWORN** by **JOHN TIBALDI** on the 22<sup>nd</sup> day of December 2011 at Brisbane in the presence of:

  
Deponent

  
Solicitor