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Sent: Saturday, 15 January 2011 5:48 PM
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Subject: Template for briefing including Sections 1 and 6
Attachments: Ministerial Briefing Note January 17 2011.doc

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Date: 5/2/12 JM

Exhibit Number: 1063

Ministerial Briefing Note

17 January 2010

Flood Event January 2011

1. Background Information on Wivenhoe Dam
2. Flood Operations 2010/11
3. The Manual of Operational Procedures for Flood Mitigation at Wivenhoe Dam and Somerset Dam
 - a. How does it work
 - b. How did it operate during the flood event
 - c. Benefits from the operation of the dam
 - d. Pre emptive releases
4. Regulatory Context
5. Compliance with Manual
6. Event Review

1. Background Information on Wivenhoe Dam

Wivenhoe Dam was constructed by the Queensland Government between 1977 and 1984. The dam is a 56 metre high, 2.3 kilometre long earth and rock embankment separated into two parts by a concrete gravity spillway. The spillway is controlled by 5 radial gates, each 12.0 metres wide by 16.0 metres high. Two saddle dam embankments are located on the left side of the reservoir.

The dam spillway capacity was upgraded in 2005. This was done primarily through the construction of a 164 metre wide secondary spillway through the right abutment of the existing dam. This spillway contains three eroding earth fill fuse plug embankments that are initiated at different dam levels in excess of EL 75.5.

The dam has two main functions by providing:

- A 1,165,000 ML storage at full supply level (FSL EL 67.0) providing an urban water supply for Brisbane and surrounding areas;
- Flood mitigation in the Brisbane River by providing a dedicated flood storage volume of 1,450,000 ML up to EL77 (this flood storage volume was increased to EL80m in 2005 changing the flood storage volume to 2,000,000 ML).

The dam has an EXTREME hazard classification under ANCOLD guidelines because of the significant development downstream in the Brisbane and Ipswich metropolitan areas, with the population at risk in the event of a dam failure numbering in the hundreds of thousands.

In accordance with the Queensland Regulatory program for dam spillway upgrades, a further upgrade of Wivenhoe Dam is scheduled to occur prior to 2035 to enable the dam to safely pass the Probable Maximum Flood. This work will involve the reconstruction of Saddle Dam 2 as a fuse plug spillway.

Wivenhoe Dam is currently excellent condition. Comprehensive Dam Safety reviews undertaken in accordance with ANCOLD guidelines have been undertaken in 1997 (Gutteridge, Haskins & Davey Pty Ltd), 2003 (Wivenhoe Alliance), 2006 (NSW Department of Commerce), 2009 (GHD) and September 2010 (Seqwater). The reports concluded that

the design of the dam is in accordance with modern day standards and that there are no significant outstanding design or construction issues that require investigation.

2. Flood Operations 2010/11

3. The Manual of Operational Procedures for Flood Mitigation at Wivenhoe Dam and Somerset Dam

4. Regulatory Context

5. Compliance with Manual

6. Event Review

Under the Manual of Operational Procedures for Flood Mitigation at Wivenhoe Dam and Somerset Dam that are approved and gazetted by the Department of Environment and Resource Management there is a regulatory requirement that a report must be prepared as per the below wording

“Seqwater must prepare a report after each Flood Event. The report must contain details of the procedures used, the reasons therefore and other pertinent information. Seqwater must forward the report to the Chief Executive within six weeks of the completion of the Flood Event.”

Such a report was prepared for the flood events of February and March 2010 and copies are available. A copy of the Table of Contents of that report are included as Appendix 1.

For this event, the report would be a comprehensive summary of all procedures, actions, outcomes and processes during the event.

It is recommended that the process for such a report be

- Seqwater prepare the report as per the requirements of the Act and the gazetted manual and any requirements of the Dam Safety Regulator
- The report would then be reviewed by the Dam Safety Regulator in conjunction with any peer review they require
- Based on this review, a review of the Manual of Operational Procedures for Flood Mitigation at Wivenhoe Dam and Somerset Dam would occur utilising an expert panel of review including representatives of DERM, Seqwater, BoM, affected Local Governments and other stakeholders as necessary.

The review would be initiated within two weeks of the final close out of the current flood event to allow the Flood Operations Centre to demobilise and recover. However this is dependent on any further rainfall resulting in gate operations. Predictions indicate that this is a possibility. It is anticipated that such a comprehensive review and report would take approximately 4 weeks to complete.

Attachments

Final Report – Flood Events at Wivenhoe, Somerset and North Pine Dams for February and March 2010

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