

4 June, 2015

REVIEW INTO CALLIDE CREEK FLOODING RELEASED

Residents in the Callide Valley in Central Queensland were not provided with adequate advice, planning and warnings to deal with flooding during Tropical Cyclone Marcia in February.

An independent review into events surrounding the February 20 flooding of Callide Creek and whether the operation of the Callide Dam near Biloela exacerbated flooding identified a number of areas for improvements in disaster management arrangements and warnings, which could have led to better outcomes for residents.

The independent review, undertaken by the Inspector-General Emergency Management Iain MacKenzie, has made 13 recommendations to improve outcomes for future flood events.

The review was commissioned by Police, Fire and Emergency Services Minister Jo-Ann Miller following a visit by Premier Anastacia Palaszczuk in February to flood affected areas in Banana Shire.

Tropical Cyclone Marcia brought significant rainfall and winds to the Callide Valley, which in turn caused rapid stream rises and extensive flood damage to properties in the district.

The gates of Callide Dam automatically opened during the event due to the raised level of the dam. Some residents allege the water release exacerbated flooding and that pre-releases prior to the event would have lessened the impact.

Hydrological assessment and modelling by independent consulting firm BMT WBM, found:

- The Callide Valley would have experienced major flooding during Tropical Cyclone Marcia, regardless of how the nearby Callide Dam was operated
- No evidence to suggest that dam operator SunWater did not operate the dam in accordance with the operational rules.
- While dam level reductions may have lowered water levels close to the dam, the effect on flood levels in Jambin and Goovigen would have been minimal had the gates been manually operated; had the dam been full; or even had the dam been reduced to 50% of the full supply level.

However, pre-release of water from a water storage facility such as Callide Dam is outside of SunWater's legislated ability and the dam operating manual.

While, for this event, the operation of Callide Dam had a limited impact on flooding in the Callide Valley, the review identified a number of areas for improvement regarding advice, planning, warnings and river gauging.

These included:

- The need for fit-for-purpose flood studies to allow improvements to Banana Shire Council's approach to flood risk management, including town planning
- Public difficulties in understanding the implications of SunWater's Emergency Action Plan activation and advice
- Significant gaps in the availability of operational information sources such as river and rainfall gauges to allow the Banana Shire Local Disaster Management Group to plan effectively and for the Bureau of Meteorology to accurately forecast.

- SunWater's reliance on rudimentary gauges and manual monitoring systems did not enable effective situation awareness and delayed warnings to downstream residents in this event
- Communications between Banana Shire Council and SunWater did not lead to consistent and timely warnings being delivered to the community downstream.
- The need to ensure prepared warnings within the Local Disaster Coordination Centre enable rapid and efficient processing through the State Disaster Coordination Centre and into the Emergency Alert system.
- The community needs to be provided with all of the available risk information relevant to the event.
- Issues related to telecommunications difficulties within the Local Disaster Coordination Centre may have been identified prior to the event if a business continuity plan had been completed and tested.
- The need to improve activation of the evacuation sub plan and associated activities.
- The opportunity for improvements within the Local Disaster Coordination Centre across the full range of incident management functions.

In response to the findings, Mr MacKenzie has made 13 recommendations involving Banana Shire Council, SunWater, the Department of Energy and Water Supply, the Bureau of Meteorology, Banana Shire Local Disaster Management Group and the State Disaster Coordination Centre.

The recommendations include:

- The prioritisation of a fit-for-purpose flood study for Banana Shire
- A feasibility study into operating Callide Dam as a flood mitigation dam
- Investigation of the requirements for a suitable gauge network in the Callide Valley
- Improvements to public education and information to downstream residents by SunWater and Banana Shire Council

- Improvements to warnings and messaging for downstream residents.
- A review of Local Disaster Coordination Centre capability and capacity.

(A full list of findings and recommendations is included as an attachment to this media release)

Mr MacKenzie said he was confident that if the recommendations were considered and implemented, residents of the Callide Valley would enjoy significantly improved outcomes for future events.

“The rain event that Tropical Cyclone Marcia brought to parts of the Callide Valley was particularly intense,” Mr MacKenzie said.

“While we can’t always prevent flooding occurring, we can better prepare for such an event and ensure the best possible disaster management arrangements are in place to support and assist residents.

“I believe the recommendations made in this report, if acted upon comprehensively and fully, will lead to significantly improved outcomes for residents, who have endured so much over the past few years.”

Mr MacKenzie extended his thanks to the residents of the Banana Shire who met with him, opened their properties for inspection, made submissions, provided photographic and other evidence, attended the initial public meeting, and participated in the extensive community telephone survey.

“Without the involvement and deep commitment of the community, often under extremely trying circumstances, we would not have been able to fully uncover the facts involved with this event,” Mr MacKenzie said.

“To those residents, I offer my sincere thanks.”

The review, along with a number of reports and submissions, is available at:
www.igem.qld.gov.au

2015 Callide Creek Review Report

Findings and Recommendations

Review Report Findings

#	Finding	Theme	Chapter	Page
1	There is currently insufficient information available to allow a fully informed decision on the use of Callide Dam to provide more active flood mitigation than its original design.	Operation of the Callide Dam	04	48
2	Improved policy coordination of flood risk management would support councils to develop better flood risk management and town planning.	Managing Floods	05	53
3	Improvements to Banana Shire Council's approach to flood risk management, including town planning, are dependent upon the Council having access to fit-for-purpose flood studies.	Disaster Management Planning & Preparation	06	72
4	Of those surveyed, 55% indicated they had limited or no knowledge of disaster management arrangements.	Disaster Management Planning & Preparation	06	72
5	It is difficult for residents to easily understand the implications of an Emergency Action Plan activation.	Disaster Management Planning & Preparation	06	72
6	Believing there to be no legal option, SunWater followed the Emergency Action Plan, despite having information regarding emerging risks to downstream residents.	Disaster Management Planning & Preparation	06	72
7	In relation to warnings, SunWater's understanding of Emergency Action Plan compliance requirements is divergent to that of the Department of Energy and Water Supply, which supports the notion of flexibility to deal with emergent conditions.	Disaster Management Planning & Preparation	06	72
8	For flood events, there are significant gaps in the availability of operational information sources (such as real-time river and rainfall gauges) for the Banana Shire Local Disaster Management Group to utilise. This limits its ability to produce actionable intelligence and plan effectively for these events.	Disaster Management Response	07	119
9	SunWater's reliance on rudimentary gauges and manual monitoring systems did not enable effective situational awareness and delayed warnings to downstream residents in this event.	Disaster Management Response	07	119
10	The Bureau of Meteorology's ability to accurately forecast flood events in the Callide Valley is significantly limited by the quality and quantity of data sources.	Disaster Management Response	07	119
11	Although the Banana Shire Council and SunWater communicated regularly during the event, this collaboration did not result in consistent and timely warnings being delivered to the community.	Disaster Management Response	07	119
12	The prepared warning messages within the Local Disaster Coordination Centre were not adequate to enable rapid and efficient processing through the State Disaster Coordination Centre and into the Emergency Alert system.	Disaster Management Response	07	119
13	The community was not provided with all the available risk information relevant to this event.	Disaster Management Response	07	119
14	There is opportunity for improvement in the operation of the Local Disaster Coordination Centre across the full range of incident management functions that will particularly enhance planning, decision making, and warning processes in the future.	Disaster Management Response	07	119
15	Issues related to telecommunications difficulties within the Local Disaster Coordination Centre may have been identified prior to the event if a business continuity plan had been completed and tested.	Disaster Management Response	07	119
16	The event has highlighted opportunities for improvement in activation of the evacuation sub-plan and associated activities.	Disaster Management Response	07	119
17	State Disaster Coordination Centre situational awareness would be improved through direct access to representatives of critical infrastructure owners.	Disaster Management Response	07	119

Review Report Recommendations

#	Responsible Entity	Recommendation	Chapter	Page
1	Department of Energy and Water Supply, SunWater	The Department of Energy and Water Supply and SunWater, undertake the necessary studies to determine whether or not it is feasible to operate Callide Dam as a flood mitigation dam. Such studies should include matters in relation to, but not limited to: <ul style="list-style-type: none"> The effect on the Callide Valley water supply Dam safety issues Actual mitigation outcomes Cost-benefit analysis of alternative strategies Alternative means of effecting improved community outcomes. The results of this work should be made public to enhance public knowledge and provide confidence regarding dam operations.	04	48
2	Banana Shire Council	Banana Shire Council investigate means to prioritise the commissioning of a fit-for-purpose flood study for high-risk areas across the Banana Shire to better inform flood risk management, including improved town planning. The outcomes of such a study should be available to the public and inform flood awareness campaigns, flood warnings, and building approvals.	05	53
3	Banana Shire Council	Banana Shire Council coordinates the development of a strategy to significantly enhance public education regarding local disaster management arrangements within the Banana Shire, focusing on key identified risks.	06	72
4	SunWater	SunWater provide downstream residents with easily understood information regarding operation of the dam, and the impacts that various outflows may have for them, in accordance with mapping prepared for the Emergency Action Plan. This information should be complementary to any information from the Banana Shire Council.	06	72
5	Department of Energy and Water Supply, SunWater	The Department of Energy and Water Supply, in conjunction with SunWater, seek clarification of the dam owners' legal obligation to comply with Emergency Action Plans and, if required, investigate how a more flexible approach may be adopted.	06	72
6	Banana Shire Council, SunWater, the Bureau of Meteorology	In accordance with recommendations of the BMT WBM report, the Banana Shire Council, SunWater, and the Bureau of Meteorology, under the stewardship of the Department of Natural Resources and Mines, jointly identify the requirements for a suitable gauge network for the Callide Valley to allow meaningful and timely flood warnings. The review should identify key stakeholders, examine potential funding sources and include a cost benefit analysis.	07	120
7	Banana Shire Council	Prior to September 2015, the Banana Shire Council develops a multi-channel warning strategy and associated public information campaign, including common language and consistent messaging, for the Banana Shire.	07	120
8	SunWater and Banana Shire Council	Prior to September 2015, SunWater and the Banana Shire Council jointly develop a multi-channel, common warning strategy, including common language and consistent messaging, for residents downstream of SunWater assets within the Banana Shire Council, and clearly articulate procedures for dissemination.	07	120
9	Banana Shire Council and SunWater	As part of the above, both the Banana Shire Council and SunWater ensure Emergency Alert messages are pre-formatted, consistent, polygons are identified according to risk, and that they are tested and practiced with the State Disaster Coordination Centre.	07	120
10	Banana Shire Local Disaster Management Group	Local Disaster Coordination Centre capability and capacity should be reviewed to ensure adequate staffing arrangements are in place to fill key positions, and that operational protocols are known and practiced across all functions to provide redundancy. Assistance for review and necessary training should be sought from key Local Disaster Management Group member agencies.	07	120
11	Banana Shire Council	Banana Shire Council completes business continuity planning as a matter of priority, including documentation and testing of the plan.	07	120
12	Banana Shire Council	The evacuation sub-plan component of the Local Disaster Management Plan should be reviewed, including any identified triggers for activation. Ideally, the plan should be tested in a live, multi-agency exercise prior to next summer.	07	120
13	State Disaster Coordination Centre	State Disaster Coordination Centre considers requesting a representative from critical infrastructure owners be present as a liaison officer in the State Disaster Coordination Centre during activations for events that may impact on their assets.	07	120