

 13/2/19

From: Ken Pearce <ken.pearce.rpeq@gmail.com>
Sent: Monday, 11 February 2019 10:57 PM
To: Rebecca Gilsean; IMF Bentham; The Premier of Queensland; Reception; Townsville Mayor
Cc: Phil Hassid; Greg McMahon; Michael Gillis; David Stark; Matt Wordsworth; Hedley Thomas; Sam Weir; Michael Madigan; Mark Solomons
Subject: Townsville Flooding - Ross River Dam

Mismanagement of major public infrastructure continues in Queensland

With devastating consequences for the community, costing billions

The outcome of flooding in the Townsville area this last week may have been very different had the Wivenhoe Dam class action proceeded with due diligence. It has been eight years since the 2011 floods – it is simply not that big a task. Even the much bigger banking royal commission was able to be undertaken in less than twelve months.

It is most likely to have meant that a far more professional approach would have been taken in operating the crest gates on Ross River Dam during the recent floods; and that the havoc in the downstream community would have been avoided.

The challenge for operators of dams like Ross River Dam is to minimise downstream flooding; and the implications for the community. They conventionally do this by keeping the water level in the dam as low as prudently possible; and by increasing the discharge from the dam as slowly as prudently possible.

Reservoirs are operated at the lowest possible level in order to maximise the potential to mitigate the flood peak; reduce the prospects of the dam amplifying the flood peak; and reduce the risk of the dam failing.

The evidence is that the level in Ross River Dam rose continuously from the onset of the flood to a peak of about 247% when the discharge from the dam doubled due to the automatics fully opening the crest gates.

Professional operators endeavour to avoid the automatics from taking control of releases as the purpose of the automatics is to limit the risk of a catastrophic dam failure under extreme conditions. In effect the automatics are a fail safe system. While the recent wet weather may be seen as an extreme weather event when compared to normal seasons, it would have been a relatively minor event when compared to the flood which the dam would have been designed to accommodate. The operator's job is to protect the downstream community. What all this means is that the operator is duty bound to have the gates fully open at the point in time when the gates would have otherwise been fully opened automatically i.e. there is no increase in discharge due to the automatics tripping. Reliance on the automatics for operation of the gates is a high risk operating strategy and is deemed to be professional negligence - it displays a total lack of regard for the downstream community. A sudden doubling of the discharge on the top of downstream floodwater would have caused a very dangerous and destructive surge. Additionally, the peak discharge from the facility would have been a lot higher than it would have been under manual operation under the same circumstances.

I am well qualified to make such comments, as I have in excess of thirty years' dam engineering experience and was one of the engineers responsible for the design of the Wivenhoe Dam facility.

Ross River Dam is owned by the Townsville City Council and apparently operated under some arrangement with SunWater. Flood gate operation is overseen by the Townsville Local Disaster Management Group which is chaired by Mayor Jenny Hill.

I note that the Mayor has said that Council decided to increase the flow above that allowed for in the Emergency Action Plan. The Mayor should be congratulated for Council's foresight in taking control of the situation; however, it is clearly evident that the action was taken far too late in the event. Media reports indicate that the advice of experts was sought. It begs the question as to who the experts were. They were clearly not experts in dam engineering or flood risk management, as the outcome would have been very different.

My advice to the Mayor is to terminate Council's arrangements with SunWater as the corporation takes a very unprofessional approach to the operation of its dams. SunWater nearly created a humanitarian disaster in South East Queensland when operating Wivenhoe Dam during the Millennium Drought; and was responsible for creating huge surges in the Brisbane River in 2011 and in the Callide Valley in 2013 and again in 2015. In 2015 they relied on the automatics to control the opening of the gates and released a surge in Callide Creek that was ten (10) times the bank full capacity of the watercourse.

It is clear that the Ross River Dam operators are inadequately trained for the task at hand. I would suggest to the Mayor that Council engage a dam engineer to oversee the operation of the facility as it is a very high risk activity, especially in view of the dam's foundation issues. While Council may have consulted expert hydrologists and meteorologists, they are unable to provide expert advice on the operation of gated dams as dam engineering is not one of their competencies. It has been my experience that even eminent hydrologists and meteorologists are not aware of dam flood risk management conventions.

The Premier has called the Townsville flood an "unprecedented" weather event, seemingly as an excuse for the devastation wrought on the Townsville community, attempting to shift the blame from the State to mother nature. **It is however clear that Ross River Dam was designed to protect the City of Townsville from floods far in excess of recent flooding; and that the dam would have protected the community if the gates had been professionally operated.** It is about time that the Premier stopped blaming the weather for the havoc caused by the State's unprofessional water bureaucracy.

The approach to date has been to have inquiries which have allowed powerful vested interests within the bureaucracy to spread misinformation, hijack the agenda and sweep the issues under the carpet. e.g. The Premier promised the people in the Callide Valley that the Government would determine the role that Callide Dam played in the 2015 flood event disaster. The Inspector-General of Emergency Management was commissioned to investigate; however, could not be persuaded to address the issue of SunWater's negligence in the operation of the Callide Dam floodgates. He simply failed to deliver on the Premier's commitment in relation to the dam. In response to the resulting outcry, the Chairman of the Reconstruction Commission was commissioned to oversee further studies prior to the 2017 State election. He also could not be induced to consider the issue. The studies were very unprofessional. It is undoubtedly the case that the outcome in the Townsville community would have been very different had the Chairman or the Inspector-General met their obligations to the Premier.

Where is the regulator – at best, fast asleep at the wheel. The regulator's role is to ensure that service providers understand and comply with the law. This means, among other things, ensuring that dam operators have the capacity and capability of operating large dams in compliance with conventional dam engineering principles and practices.

A senior member of the regulator's staff has spoken out about SunWater's inability to function – which begs the question as to why the regulator has not taken action against the corporation. The Director-General appears to have been captured by SunWater. The current regulator is the Department of Natural Resources, Mines and Energy. The Director-General, Mr James Purtill is in breach of the provisions of the professional engineers act. There are also sufficient grounds to charge Mr Purtill with criminal negligence. The same applies to SunWater's chief executive, Ms Nicole Hollows.

Bureaucratic failure has become far too acceptable to the Government of Queensland, which begs the questions as to how many more people have to die, how many more people and properties have to be devastated, and how much more money has to be wasted before the government will address the real issue – its unprofessional bureaucracy. With the changing weather patterns, it is of critical importance that the government build a very professional public sector. To do this it has to ensure that bureaucrats have the skills necessary to function; and that they are held accountable for poor outcomes.

The pressing of criminal charges against Mr Purtill and Ms Hollows would send a very strong message to the State public sector establishment, and to future aspirants for positions in the public service which are of fundamental importance to the safety of our communities and our standard of living. It would send the message to the the whole world that the Government is determined to build a strong State.

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13 FEB 2019

Tabled

By Leave

MP: *Mrs Buckley*

Clerk's Signature: *[Handwritten Signature]*