Submission No 249

INQUIRY INTO PROPOSAL TO RAISE THE WARRAGAMBA DAM WALL

Name: Mrs Gaye Cameron

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Chairman & Committee
NSW Legislative Council Select Committee on the Proposal to Raise the Warragamba Dam Wall
Macquarie Street
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September 7 2019

Mrs Gaye Cameron MBA

OBJECTIONS & CAUTIONS TO RAISING WARRAGAMBA DAM

Dear Committee,

Firstly I want to give you a background on myself to give credibility on what I present to the Review Committee. I have over thirty (30) plus years in working in the fields of Emergency Management / Risk Management, including 14 years as the Local Controller for the City of Randwick State Emergency Service. During this time I have gained recognition from former Premiers for Commendation for attending Natural Disasters including Thredbo Landslide, 1999 Sydney Hail Storm, and attending other natural disasters including Flooding [Grafton, Liverpool, Sutherland etc]. During my time I have also represented the Community on Local & District Emergency Management Committees, and presently still a Community Representative of the Sutherland Shire Local Flood Planning Committee. During my career I have also been fortunate to have worked as the Emergency Risk Manager for WaterNSW, responsible for the development of 'Dam Safety Emergency Plans' for 20 Major Dams across NSW [excluding Warragamba – at the time it was under another State Authority]. I also have Undergraduate & Post Graduate Qualifications in Risk & Security Management, Business Administration & numerous Emergency Management qualifications.

I want to draw to the Committee's attention a number of Critical Manuals and Documents of which need to be studied in quite detail, and I also at this early point, would request the expertise of Dam Engineers not only from Australia but from overseas, in particular Dr Chas Keys who would be regarded as the 'gooroo' for Flood Planning and Mitigation in Australia, and many in the State Emergency Service would have high regard for.

The following Manuals and Documents are absolute critical to be part of this review process:

- Planning Safer Communities: Land Use Planning for Natural Disasters, Manual No. 7, Australian Institute for Disaster Resilience – (Link) https://knowledge.aidr.org.au/media/1958/manual-7-planning-safer-communities.pdf
- Flood Planning, Manual 20., Australian Institute for Disaster Resilience – (Link) https://knowledge.aidr.org.au/media/1963/manual-20-flood-preparedness.pdf
- Flood Warning, Manual 21., Australian Institute for Disaster Resilience – (Link) https://knowledge.aidr.org.au/media/1964/manual-21-flood-warning.pdf
- Flood Response, Manual 22., Australian Institute for Disaster Resilience – (Link) https://knowledge.aidr.org.au/media/1965/manual-22-flood-response.pdf
- Emergency Planning for Floods affected by Dams, Manual 23., Australian Institute for Disaster Resilience – (Link) https://knowledge.aidr.org.au/media/1966/manual-23-emergency-management-planning-for-floods-affected-by-dams.pdf
- Regulation and Practice for the Environmental Management of Dams in Australia (June 2014), Australian National Committee on Large Dams Incorporated (Link) - https://www.ancold.org.au/?page_id=334

  - Describing the complex Commonwealth and individual State regulatory environments that must be dealt with in all dam projects;
  - Discussing key issues surrounding the practices for effective stakeholder and community consultation;
  - Considering risk assessment for environmental matters associated directly with construction and operation, as well as the broader and more complex regulatory concerns of cumulative and consequential impacts; and
  - Providing a series of technical Practice Notes on a range of environmental issues that dam owners/ operators need to be aware of in all dam projects
- Guidelines on Strengthening and Raising Concrete Gravity Dams (1992), Australian National Committee on Large Dams Incorporated (Link) - https://www.ancold.org.au/?page_id=334

Flood Management

The International Commission into Large Dams (ICOLD) reports that floods represented 30% of all natural disasters between 1975 and 2000. Meteorological models indicate that intense rainfall is more likely in the future due to indicators of changes in climate modelling. Australia's population is concentrated where there is available water supply in fertile river valleys, in particular, it would be noted that there is an intense population growth in the flood plain/valley downstream of Warragamba Dam. This puts pressure on Authorities to release land in flood plains for development. Dams, such as Warragamba Dam, with significant storage capacity are be designed and operated to provide flood mitigation through the storage of water during peak flood flow, to be released slowly at a later time when natural river levels are lower. There are several ways this is achieved, including:

- Having storage available within a reservoir to hold flood water.
- Gated spillways which can be operated to control the outflows
- A small primary spillway that restricts the outflow

During a large flood the ability of a dam to attenuate a flood may be exceeded resulting in the need to release water to maintain the safety of the dam itself. The protection of the population from the more frequent small to medium floods gives an expectation that they are also protected from the more infrequent large floods. There is a need to raise awareness of the hazards associated with development within a flood plain. It may not be economic or practical to provide protection from all floods.

Flood Plain Management – Improvements

It has been reported quite extensively in Europe; many countries are moving away from 'developing & building' on Flood Plains, simply for the reason, the flood plain, in its natural state, functions as a sponge during floods and absorb flood waters. If we continue building and developing on floodplains, we are significantly putting lives at risk and also destroying the natural ecosystem of which a flood plain acts.

Reference:

- https://www.eea.europa.eu/highlights/floodplain-management-reducing-flood-risks
- https://www.floodplainconference.com/papers2015/Ferdinand%20Diermanse.pdf;
- https://www.independent.co.uk/environment/nature/the-more-the-experts-warn-against-the-more-we-build-on-flood-plains-9101710.html

Summary & Conclusion

I simply ask the Committee to examine and review all materials put before you, put on your 'moral & ethical' caps and think 'people & planet before profits'. The 'risk' is too great to put lives & ecosystems and heritage items at state, simply for the fact of potential re-zoning of lands downstream. Much work has already been done on Warragamba Dam including its expanded spill way and fuse plugs – there is no need to raise the wall and spill way – it's only put heritage sites and lives at state.

Gaye Cameron MBA