Submission No 385

INQUIRY INTO PROPOSAL TO RAISE THE WARRAGAMBA DAM WALL

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NSW Legislative Council
Select Committee on the Proposal to Raise the Warragamba Dam Wall
Att'n: Shu-Fang Wei
Senior Council Officer

Proposal to Raise the Warragamba Dam Wall – Comment re alternative approaches

As a Fellow of the Institution of Engineers Australia (Civil and Structural Colleges), I have been following the deliberations of this proposal for some years and would like to put forward to the Select Committee options for further consideration, before a decision is formally made to raise the Warragamba Dam Wall.

In short, I feel that the option of widening the Sackville Gorge – and perhaps other narrow gorges - on the Hawkesbury-Nepean River valley, to expand the "plug hole" that is causing a "bathtub" effect and thus reduce flooding upstream, must be further investigated and fully assessed on risk, economic, environmental and social measures, to properly compare with the option of raising the Warragamba Dam wall, both of which have major impacts across all four considerations.

Moreover, a best-case outcome may well be determined by developing a hybrid option, that combines elements of both of those proposals with other smart, flood-management practices. The latter should include utilising the more accurate short-to-medium range weather forecasting available to anticipate large rain events and lower the stored water, raised structures in flood-prone areas (like 'Queenslander' houses and tsunami-resilient buildings*) and flood-warning infrastructure.

Innovative engineering solutions, utilising the most appropriate scientific methods of design and construction should be explored, to ensure that the chosen solution to this critical, complex issue incorporates adequate robustness but also flexibility in its development and application.

* See for Hawaii, Japan and Australia, e.g.:
- https://planning.hawaii.gov/czm/probabilistic-tsunami-design-zone-maps-for-o%CA%BBahu/
- https://www.researchgate.net/publication/307578298_Tsunami-Resilient_Building_Designs_for_Hawaii_and_Other_High_Hazard_Regions
- https://www.abcb.gov.au/-/media/Files/Resources/Education-Training/Handbook-Flood-2012.pdf

https://www.ccaa.com.au/imis_prod/documents/Library%20Documents/CCAA%20Technical%20Publications/CCAA%20Briefings/Briefing18.pdf

Yours faithfully,

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