I am writing this submission in response to the Warragamba Dam wall raising EIS, in which I oppose the proposed raising of the Warragamba Dam wall to prevent extreme flooding events in the Hawkesbury-Nepean Valley. This proposal has many short-comings, most of which stem from a lack of interest to pursue rational strategies that will have a greater impact on reducing the flood risk posed to the Hawkesbury-Nepean Valley. Instead, strategies that are cost effective in the short-term, degrade World-Heritage listed areas and promote unsafe and excessive development within floodplains have been adopted.

Firstly, as graduating civil engineer, I believe this proposal to raise Warragamba dam wall and the associated EIS report produced by SMEC is woefully inaccurate on providing relevant information of upstream catchment flows both into Warragamba Dam and also, the large catchment area of the Nepean River, outside of the Warragamba Dam catchment.

The Project Development and Alternatives chapter does nothing to explore options of altering inflows in the upper catchment regions, rather it rewrites recommendations on information compiled in the 1990's. Altering flows in the upper catchment regions of the Coxs, Nattai, Wingecarribee and Wollondilly Rivers would go a long way in controlling and managing inflows in extreme rainfall events. Considerations of creating pump-stations that can begin to pump water out of existing dams such as Pejar Dam, Lake Lyell and Lake Sooley into nearby catchments like the upper Lachlan river catchment and the Fish/Macquarie River catchments in conjunction with other flood mitigation strategies such as a lower the stored water height in Warragamba dam could provide viable flood mitigation for the Hawkesbury-Nepean Valley. Furthermore, it appears that throughout this EIS presented by SMEC, that very little consideration was given to exploring alternative flood mitigation strategies in the upper Nepean River catchments. It should be common knowledge, especially to an engineering firm like SMEC, that better flood mitigation comes from adequate up-stream controls of inflows rather than providing a higher dam wall to control flood events. I ask, as a civil engineer, who has better understanding of most regarding hydrology, that better studies be performed and alternative options provided that work in conjunction together to provide a better and more resilient option at reducing the flooding risk in the Hawkesbury-Nepean Valley.

The climate change chapter in the EIS produced by SMEC is diabolical. How is it possible in 2021, that a 15 page chapter is all that is produced for a proposed project as large as this? No information is provided on the climate change impacts over the catchment area, only the impact it could have on construction of the dam wall itself, this demonstrates a lack of comprehensiveness. This highlights the lack of consideration SMEC has given to this project and instead argues for it to be pursued in-light of countless experts opposing the dam wall raising and insurance companies refusing their services. Particular issues with this chapter include, section: 14.7: What peer reviewed climate research has specified that an extra 3m high spillway would be required to provide similar flood mitigation outcomes as the one proposed now by 2090? Where are the peer reviewed climate research articles referenced, either here or in the appendices? Is this fabricated information to support raising the dam wall? Another huge problem with this chapter and highlights the severe failings in the whole EIS is the fact SMEC included a 'Global average surface temperature change' graph. How is this relevant,

considering this project is focussing on the severe and intense rainfall events. Why are there no graphs highlighting a change in the frequency and intensity of rainfall over the catchment in a changing climate? This section on climate change is extremely lacking. Referencing NARCLiM data needs to be supported with a much more in-depth climate analysis of the whole catchment. How can any robust climate predictions be made when rainfall trends over the catchment haven't been mentioned or tabulated in the climate change section? This leads to a failing to acknowledge the connection between the project climate change risk and the environmental climate change risk. They are dependent on each other, especially when the whole idea of this project is to supposedly mitigate against severe flooding of the Hawkesbury Nepean river valley.

Finally, the negative media reports surrounding this proposal, SMEC as a company in general and their track record with neglecting traditional owners lands leads to this EIS being woefully inadequate for such a highly contentious project. This is further highlighted with particular word selection, trying to reduce the severity of flooding a World-Heritage listed area. One particular example is: *'areas potentially' affected by upstream inundation.* You **cannot** potentially affect an area with inundation. It is either affected or not. This is prevalent throughout the many chapters of this EIS. What is also concerning is the sheer neglect and lack of consideration and time given to adequately report the Aboriginal heritage in the Warragamba Dam inundation area. This is a known sacred area and further removing and degrading it to help make developers dirty money on floodplains is abhorrent.

This whole idea of raising the Warragamba Dam wall is floored. There are many other options out there that have not been considered and should be before this proposal is further progressed. Technology improves every year and this must be harnessed to ensure the best possible solution is achieved, not the most cost effective one that reduces the quality of a World-Heritage listed area and disrespects culture.

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