

Submission
No 315

**INQUIRY INTO PROPOSAL TO RAISE THE
WARRAGAMBA DAM WALL**

Name: Mr Tom Fawcett
Date Received: 3 September 2019

Partially
Confidential

Dear Madams and Sirs,

Opposition Leader, Jodi McKay
Deputy Opposition Leader, Yasmin Catley,
Leader of the Opposition in the Legislative Council, Adam Searle,
Shadow Minister for Water, Clayton Barr,
Shadow Minister for the Blue Mountains, Trish Doyle,
Shadow Minister for Environment and Heritage, Kate Washington,
Shadow Treasurer, Walt Secord, (as Shadow Shareholder to Sydney Water),
Shadow Finance Minister, Daniel Mookhey, (as Shareholder to Sydney Water)
Chris Minns
Penny Sharpe
Susan Templeman, MP Macquarie,

Please find below a submission to the EIS to the Waragamba Dam Raising.
Contact me if you require further information.

Tom Fawcett
MEng, MIEAust, CPEng

Subject: Waragamba Dam Raising EIS Submission

Dear Madams and Sirs,

The Premier and Honourable Ministers for:
Planning, Rob Stokes
Environment, Matthew Kean
Water, Melinda Pavey
Western Sydney, Stuart Ayres

The Treasurer, Dominic Perrottet
Minister for Finance, Damien Tudehope
As Shareholders to Sydney Water

Please find below my submission to the EIS for Waragamba Dam Raising

EIS for WARAGAMBA DAM RAISING

My Background

10 years as Shoalhaven Water Operations Engineer, which included managing dams, water conservation, water treatment, dam environmental effects, a 3 year EIS process on Shoalhaven Water \$90M Augmentation Program in 1990's, and considerable hydrology supervision of PWD

for EIS and Dam Yields. Masters degree on environmental effects of dams. Initiated the first environmental flow regime in NSW for water supply dams. Negotiated Shoalhaven River Water Sharing Agreement with SWC Dams Section, before it became The Catchment Authority, for a very favourable outcome for Shoalhaven Council.
Spent 7 years after that at SWC and AWT.

EIS ALTERNATIVE OF LEAVING ROOM IN THE DAM

I note that the EIS had an alternative of "Leaving Room in the Dam for Floods" option. It has now been discounted and removed from the EIS.
IT SHOULD NOT HAVE BEEN.

This option needs qualifying and expanding. Without certain conditions I know this option will be unacceptable to Water Supply Yield requirements of Sydney Water Corporation.

The alternative of Not raising and leaving room in the dam for flooding may not appear viable depending on the assumptions used to analyse the possible water savings by SWC conservation measures. I'm predicting that SWC will plead that they have done as much as they can - but I don't believe they have.

A large percentage of wasted water is flowing through SWC meters and being paid for by the customer - and this is not such a concern for SWC in a commercial sense. In fact, when I worked there from 2000 to 2007 the Finance Section of SWC were actually concerned that too much water conservation inside properties would affect their revenue stream!
I'm talking about the waste one sees in public buildings - ie toilets and urinals running 24/7/365 days. Toilets running in rented premises, toilets and taps leaking in owner occupied premises.

SWC will most likely plead it has no jurisdiction over this infrastructure project, however, it is inextricably linked because of SWC demand for water from Waragamba Dam. Demand is the key to Safe Yield and Safe Yield is the key to allowable water levels in the dam.
State Water may assert that they have no control over SWC. But the Minister responsible for Water (Melinda Pavey) does have considerable control over SWC.

SWC is a Statutory State Owned Corporation, wholly owned by the New South Wales Government. Sydney Water is Australia's largest water utility and therefore Federal Members of Parliament should be involved in this very large infrastructure project.

SWC portfolio ministers are the Honourable Melinda Pavey, Minister for Water.

SWC Shareholder Ministers are the Treasurer, Dominic Perrotet and the Minister for Finance, Damien Tudehope and the Minister for Services and Property, Melinda Pavey.

SWC has three equal, principal objectives:

To protect public health

To protect the environment

To be a successful business

It is noted from the SWC web site, that SWC does not have one Board Member with environmental qualifications or experience. It has a Water Engineer, in _____ as Managing Director, and another engineer in _____ but it appears there is very little relevant water supply experience. There is mostly financial experience - which I find concerning. Its Senior executive management also has no environmental qualifications nor experience. Relevant water supply engineering experience is also missing.

I believe there is still a large potential to lower SWC demand through water conservation measures.

Metered Waste in Commercial, Rented and Owner Occupied Premises

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Unmetered properties in Inner Suburbs of Sydney.

There are thousands of unmetered houses in Inner Suburbs of Sydney. If one takes a walk in Balmain, Paddington or Newtown, one will find many un-metered terrace house properties. The water supply to these properties was constructed about 1885-95 and no meters or meter cocks were placed on the water service. These properties pay the "Average Consumption" for all residential properties of Sydney. This is more often than not higher than the the actual consumption of the terrace houses because they have no gardens to water. And SWC likes this because they get more revenue!

BUT, these houses would use less water if they had a meter. I raised this, while at SWC, but the Finance Section didn't want to Install meters because they believed the capital cost of doing so would be great AND they would get less revenue once the property owner knew they had a meter. Scandalous! Well it's still going on.

If contract plumbers were used in whole street programs, an economy of scale could be had in installing meters to unmetered properties. They can freeze the house services and install a meter in very little time.

Large service meters to Commercial Properties Accuracy

Many of these are old Helix Meters that do not pick up low waste flows from leaky toilets and urinals - these need to be replaced with modern accurate meters that can pick up low wasteful flows. The owners of these premises would then get their plumbing fixtures fixed when they get the first "shock" bill for the quarter with their real use.

New premises where builder has not had meter installed

Builders often get free water with un-metered services while a building is under construction as the meter has not been installed. I have seen new properties finished and occupied with no meters for 2 years! Because the builder has not got his plumber to install the meter! Not good enough!

SWC had a large wasteful re-organisation in 2005 - 08 and a lot of engineering expertise were paid exorbitant amounts to retire and a lot of expertise went out the door. Kerry Schott, MD stemmed this flow out to some extent but the damage has been done. SWC is not the great technical body it once was.

SWC has cut down on its rapid response to water main leaks due to commercial considerations

I have seen leaking hydrants, valves and pipes going for days.
Not good enough SWC!

Improved Yield Management Utilising The Shoalhaven System and Kurnell Desalination Plant

Safe Yield can be improved for Waragamba with better management of pumping from the Shoalhaven System in times of high or flood flow. The Kurnell Desalination Plant, although expensive to run, could improve Safe Yield of Waragamba Dam.

Safe Yield from a dam can be improved if the annual demand is reduced. This will be possible if SWC spends money on the conservation measures above.

Sydney Water gives a large dividend to the state government. This should be used on conservation measures.

State Water need to employ consultants that are expert in estimating water savings from demand management methods above.

Customer Referendum on Demand Management and saving the upstream valleys of the Waragamba River

In the 1990s Shoalhaven Water (Shoalhaven Council) held a customer referendum on paying slightly more for sewerage services and pumping treated sewage to irrigation areas against pumping treated sewage into Jervis Bay and the Pacific Ocean. A majority of rate payers voted to pump to irrigation areas. A re-use irrigation scheme was successfully completed (REMS Scheme). State Water could let the customers decide. That is SWC customers not State Water customers. Ask SWC customers if they want the SWC annual dividend paid to the NSW Government or plowed back into water conservation measures. If the demand can be lowered, the Safe Yield can be lowered and hence the volume required in Waragamba for Safe Yield.

This will need Ministerial intervention as SWC is a separate State Owned organisation.

So can you please ask your Sydney Water customers what they want?
A flooded heritage valley or be more careful with water use????

State Water Extra Environmental Proposals

Has State Water considered the following environmental extras in the EIS?

- a) Fish Ladder
- b) Multi-Level Outlet for release of ambient temperature water
- c) Compressed Air Destratification

Please acknowledge my submission and advise what you are going to do about analysing the possible water savings by Safe Yield Analysis and how this will affect the yield analysis for SWC. Please advise me of the assumptions used.

Tom Fawcett

MEng, MIEAust, CPEng,
APEC Engineer, Int PE (Aust)