

**Submission
No 133**

INQUIRY INTO A SUSTAINABLE WATER SUPPLY FOR SYDNEY

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Subject:

Summary



Sustainable Water Solutions

Mr. Ian Cohen, MLC
Committee Chair SC No.5
Inquiry into Sustainable Water Supply for Sydney
Parliament House
Macquarie St
Sydney
NSW 2000

Date: 16th February 2006

Dear Mr. Cohen,

Thank you for your letter inviting me to make a submission to the Committee. As I write this submission, it is within the context that the proposed desalination plant has been shelved, but may be reactivated should Sydney's water supply fall below 30%. As such, I would strongly suggest that the respite provided by the Government's "*shelving*" decision be used to broaden the debate at both the political and community levels. This would, I hope, ensure that NSW citizens are better informed to make decisions about Sydney's future sustainable water cycle management.

As part of my submission, I would like to provide a recent editorial that I had published in the Sydney Morning Herald on the varied myths and misinformation that exist across the water supply debate (Attachment 1). This covers some of the fundamental issues that need to be addressed if we are to move ahead and plan for a more secure and efficient water supply.

With regard to your terms of reference, I would like to add the following comments.

1. The environmental impacts of the proposed desalination plant.

Like all industrial developments, a desalination plant creates an environmental footprint. In the case of a desalination plant in any of Australia's cities, the most crippling impact comes from the cumulative results of increased energy consumption and the wastage of recyclable water *per se*. A desalination plant simply delays Australia's need to address the water recycling that it does not do (currently recycling is at 9% across Australia, and less than 3 in Sydney). In addition, localized impacts of the plant, and the impacts of brine streams have not been studied. Before we would commission a plant, these studies need to be done (and not by Sydney Water's internal "pet" scientists or "favoured" consultants).



I recommend that Sydney Water Corporation be required to undertake open and informed studies of the potential direct and indirect impacts of desalination plants, and in particular with respect to the sustainable social, environmental and economic balance that is required for secure water supplies.

2. The methods for reducing use of water

There are a myriad of tools and techniques that can and have been used successfully across the world to encourage water conservation and more appropriate “multi-grade” uses of water across domestic, commercial and agricultural users. Sydney Water has a number of initiatives in place to promote better use, but in comparison to the performance of Sydneysiders under the water restrictions (circa 100 GL/year or 15%), these initiatives have had little impact.

Sydney Water has not performed well against its annual performance audits on water conservation, as specified in their operating licence. In IPART reviews between 1992 and 1995, Sydney water demand forecasts have been shown to be underestimating demand. I would suggest that is why that when this drought hit Sydney, the impact was more severe than expected. Sydney Water’s performance on water conservation cannot be measured transparently while Sydney Water runs the demand forecasting models to suit its needs and performance requirements, rather than as a tool to report honestly and plan for the future.

I suggest that a truly independent review of the demand forecasts, water consumption data and basic measurement accuracy of Sydney’s water utilities (Sydney Water Corporation, Sydney Catchment Authority or any future bodies) be commissioned and used to enforce better internal management of the various operational and planning activities that are currently under the control of closed, internal groups within government.

3. The costs and benefits of desalination and alternatives

In this case, the data and reports that are already in the hands of the government agencies on this matter need to be released publicly, with time given to equal analysis of the alternatives through appropriate independent experts, not appointed by the current interests and partisan groups.

It would be a wasteful and academic exercise to offer comment on this term of reference, as the critical information that would allow such analysis to be undertaken is being withheld from the public by Sydney Water and the associated government agencies. Public access to information is essential, including ready access to:

- long-term records of daily water production from our dams (not piecemeal week by week data that take endless hours to collate off web-sites)
- quarterly water consumption by suburb;
- Quarterly water consumption for each suburb by commercial, residential and industrial customers;
- Water leakage by water supply zone;
- Breakdown of water users by water supply zone, including water leakage loss; and
- Access to the costings provided to the Water Expert Panel in 2003/4. this is important, as the documents in the 33 boxes disclosed to the inquiry only



showed Water Expert Panel documents that did not rate desalination as an viable option).

In essence, there is a lot of generic information that shows desalination is the most expensive option, with the greatest indirect environmental social costs. BUT without open access the data on Sydney Water's operations and performance, the balanced, sustainable solution will be unattainable.

There is a wealth of international information that demonstrates that desalination is the last resort and most expensive source of water. Sydney is the second wettest city in Australia in terms of rainfall, yet it is the greatest discharger of primary treated waste water. It does not take the intellect of Einstein or David Suzuki to realize that this is a sad question for such an inquiry to be addressing.

I suggest that the committee recommend open and transparent access to the information on water use. Intelligent visionary analysis should be applied to ensure that Sydney should never have to resort to such extreme and wasteful solutions, like desalination. In Sydney's case, this is in fact the recycling of seawater, mixed with the primary treated effluent from Malabar sewage treatment plant, several kilometers to the north of the proposed desalination intake at Kurnell.

4. Practices on Trade Waste

Sydney Water employees and managers should be commended for having introduced sound trade waste management practices into the culture of water utilities in the late 1980s. State guidelines now exist for the whole of NSW. What is required is greater emphasis on compliance and adoption of best management practice in the management of trade wastes. At the moment trade waste management is more or less a voluntary process, left to the local influences and considerations of each operator. The trade waste policies in Sydney are focused on improving the performance and protecting of the sewerage system assets. It would be even more beneficial, if trade waste was targeted and improving the capacity for waste to be recycled.

I suggest a review of the effectiveness of current practices would be beneficial, with a mandate for recommending greater compliance and the adoption of new technologies and management approaches to what is a very important aspect, not only of waste disposal, but also the potential capacity of waste effluent for reuse and recycling.

5. Other relevant matters

I would like to suggest that the inquiry consider a number of issues that I believe are pertinent to the subject of the inquiry.

a. Accountability of SWC executives for poor planning since 1995

Sydney Water executives involved in the analysis of planning and options need to be questioned on the rationale of the last 20 years' planning activities and made responsible for their personal performance agreements versus the performance of the Corporation in terms of its specified operating license targets on water consumption and demand management.



b. Governance issues regarding influences on decision making

Like other utilities, the principles of COAG from 1994 have tried to enforce the transparency and accountability of monopoly services providers to Australian citizens. I would suggest that a review is required to ensure that the policy, governance, pecuniary interests of Treasury and the service to consumers using cross party, non-partisan criteria to ensure that the community receives value for the money they pay for water.

c. Transparency of information and analysis.

Information on water use and waste production is difficult to access. The government has invested hundreds of millions of dollars on a state-wide natural resource inventory known as "CANRI", yet water consumers and parties interested in analysis of our water industry performance who pay for much of this, must fight to access the information that exists in massive, closed databases within Sydney Water. The community and analysts need access to the basic facts, not the filtered information that is delivered through media statements. We pay universities and researchers to study our community, but what value is this when the information is locked within the vested interests of publicly owned utilities?

d. Need for an independent, non-partisan regulator and reporting body with clear direction for a sustainable water supply

Sydney Water Corporation has not performed well under a number of the criteria stated in its original 1995 operating licence. Despite significant lack of performance, its executive management at the operational level remains unaccountable. NSW needs a truly independent reviewer. Perhaps the Auditor General's office could take this role to ensure that the community receives the performance they deserve, irrespective of short-term political interference. In recent experience, the Auditor-General's office has been the only government funded office to question the validity of the Metro Water Plan. To date, I have seen no public response by the current government or the associated water authorities to our only independent Director-General.

I would encourage you to open up this debate. Should you require any further information or clarification, I would be pleased to be of assistance.

Yours sincerely

Dr Charles I Essery

Independent Water Consultant,

Adjunct Professor, University of Western Sydney, Engrg. & Industrial Design).



ATTACHMENT 1

Sydney Morning Herald

Home » Opinion » Article

Wasted gigalitres are just water down the drain

February 15, 2006

Charles Essery challenges some of the myths about the nature of, and solutions to, Sydney's crisis.

OVER the past three years, Sydney's water "crisis" has been prominent in the minds of Sydneysiders. And, not surprisingly, advocates have been peddling their particular agendas - environmental, political, technical or commercial.

The State Government's decision to shelve the desalination plant in favour of using groundwater does not solve Sydney's water problem, although it does give some breathing space to develop longer-term solutions.

The water shortage has presented fertile ground for a number of outlandish statements, many of which seem to have become embedded in popular consciousness, with a number of myths dominating the public debate.

The first myth is that desalination is a viable option for Sydney. This is wrong on economic, social and environmental grounds. Desalination is the least appropriate technology for Sydney or any of our capital cities. The industry and its associations have tried their best to introduce this technological solution, but failed. The public doesn't want it.

Second, Sydney is short of water. Wrong again. Sydney is the second wettest capital in Australia. We use about 640 gigalitres a year from our drinking water catchments, yet we waste more than 400 gigalitres a year through ocean outfalls; ignore the 200 gigalitres a year we could collect in rainwater tanks; waste more than 500 gigalitres a year in stormwater; and have ignored the 230 gigalitres a year of sustainable groundwater that lies under the Sydney Basin. So we ignore, or waste, roughly twice what we require.

The public's response to water restrictions has been the most valuable contribution to reducing the crisis. But if we used the water that is wasted, we could tend to the garden or wash the car without being fined for the privilege. Moreover, Sydney would have a secure water future.

The third myth is that recycling is unsafe, unhealthy and unacceptable. This claim is wrong on all counts. It's been done for decades all over Australia (and the world), including in Sydney and all along our inland rivers. With modern technology (the same as a desalination technology, in fact) recycled water is cleaner, safer and healthier than our existing drinking water, at half the cost of desalinated water. The "yuck factor" is an inaccurate perception and a creation of those wishing to misinform the public.



Fourth is the myth that rainwater is not a practical solution for cities. Wrong. With a 3000-litre tank installed for half the houses of Sydney, we could economically collect more than half our water needs. Cost is an issue and with the present meagre subsidies, this will not change. But with a bit of vision, the \$120 million being spent to acquire the Kurnell site for the shelved desalination plant could supply rain tanks for more than 150,000 households.

The fifth myth is that using groundwater is short-term and unsustainable. Wrong. It is sustainable, if managed responsibly. It is true that in rural NSW, government policy of over-allocation in the past 30 years has been a disgrace, but if Sydney's groundwater resources are managed well, they will provide a secure water source for use in drought periods.

The next myth is that we should build another dam. Wrong. You need catchments that have good rainfall to fill dams, and all the best sites have been used. Our city and new developments are, in fact, the best places to harvest water, not remote rural areas.

The last myth is that water utilities are run by government for the benefit of the people. Treasury reaps significant cash from water utilities. In 2004, the State Government approved a scheme for water authorities run by local government to pay dividends to their council to help cross-subsidise other services.

At the same time, these councils are complaining about a \$400 million cut in state funding for basic water services. So while the state reaps dividends from Sydney Water, it is cutting funding for rural towns, yet opening opportunities for councils to extract dividends from their underfunded water authorities.

Sydney's water crisis is not over. Without significant changes in attitude and management, it will worsen. With desalination shelved and existing groundwater "unveiled" to support us during the drought, we have time for consultation, and to plan a secure water supply. We need to recycle water, tap into the huge amounts of wasted stormwater and rainwater and demand that the Government adopts a modern, open approach to urban water services.

Sydney has abundant water. It has the knowledge to use this water, it has the technology and it certainly has the ability to pay for better water and waste water services. We pay only a third of the price required of Europeans.

What is lacking is good management, effective government, vision and leadership. We don't need secret reports, token community consultation or so-called independent expert panels or committees stacked with long-term friends of the government of the day. Until changes are made in the way this state manages water, the only control the average consumer has is to buy a rainwater tank. When you collect it, you value it - and there is no tax on collecting rainwater. Yet.

Dr Charles Essery, an adjunct professor at the University of Western Sydney, was a senior executive to the NSW Government on town water treatment and recycling and water policy and reform from 1999 to 2003.

