Sydney WATER

Australia's urban water sector

Sydney Water's response to the Productivity Commission's Draft Report

May 2011

Overview

Sydney Water welcomes the release of the Productivity Commission's Draft Report into Australia's Urban Water Sector.

Sydney Water is pleased that the Commission has taken account of the views expressed in its submissions to the inquiry, particularly the work on estimating the elasticity of demand for water.

However, the Commission has made a number of inaccurate comments with respect to the urban water planning framework in Sydney and the decision to construct the desalination plant.

The desalination plant is an essential component of Sydney's water supply. It was constructed on time and under budget and its costs are fully reflected in water prices. The specific inaccuracies in the Commission's draft report are addressed below.

Desalination as part of an adaptive policy framework

The Report cites an "absence of clarity about government objectives for guiding policy development and its implementation" in the urban water sector. In Sydney's case, the Commission's criticism culminates in the statement that that the adaptive management framework underpinning the NSW Government's *Metropolitan Water Plan* was "abandoned" when the decision to build the desalination plant was made:

> *A plausible interpretation of these events is that a real options/adaptive management approach to supply augmentation was adopted, but then abandoned due to the political environment created by a looming election… Abandoning a real options approach in this way seems likely to impose a high cost on water users in Sydney. (Draft Report, page 122.)*

This statement is incorrect. Since 2004 an adaptive management framework, the *Metropolitan Water Plan,* has guided urban water policy in NSW. Planning for a potential desalination plant for Sydney was put in place from the first *Plan* in 2004. The policy framework around implementation of the plant was managed through the subsequent progress reports and updated *Plans*, most notably the 2006 *Plan.*

The 2006 *Plan*, included a desalination construction trigger of "*around 30 per cent"* of storage capacity. The 2006 *Plan* states this trigger could also be "adaptively modified over time".

A critical assumption of the 2006 *Plan* was that if the decision to build was made at around 30 per cent storages, the full 500 ML per day plant (around one third of supply) would be available if storages dropped to 15 per cent.

As storage levels continued to deplete throughout 2006, at a rate of around two per cent per month, it became clear that there was a risk that a desalination plant would not be ready at 15 per cent storages, given the three-year construction timeframe.

This made the decision to proceed with tenders all the more important, when dam levels dropped to 34%, their lowest level since the commissioning of Warragamba Dam, in 1960. The risks and consequences associated with a city like Sydney running out of water, made a 'do nothing' option impossible to contemplate.

Endorsed by independent experts

Rather than relying on press reports to criticise the desalination plant, the Commission should have reported the views of Metropolitan Water Plan Independent Review Panel. For the relevant period the Panel was chaired by the late Dr Peter Cullen, one of Australia's most highly regarded water scientists. Other panel members included Dr Ronnie Harding of the NSW Natural Resources Commission, Blair Nancarrow of the CSIRO, Professor John Langford of the University of Melbourne, Chris Davis of the Australian Water Association and economist Ross Chapman.

In December 2006, Professor Cullen wrote to the NSW Government, confirming that the diverse range of measures in the *Plan* – including desalination – provided a "robust approach" to managing Sydney's water supply.

In the letter, Professor Cullen recommended that the Government adopt a "precautionary approach" to safeguarding the water supply. Professor Cullen strongly recommended, on behalf of the Panel, that "desalination must remain a central part of the Government's Water Plan for Sydney and that planning should continue so that a plant could be built in a timely way".

Furthermore, the Panel advised the importance of the message that: "proceeding with the desalination plant is an essential part of the Government's Plan which secures Sydney's current and future water needs".

Sydney's multi-faceted approach to securing supply

The Commission's Draft Report suggests that across Australia, there was a "focus on desalination, to the exclusion of any options other than restrictions". In Sydney this is untrue.

Under the *Metropolitan Water Plan* framework, the desalination plant was one part of a multi-faceted approach to securing the water supply, which also included recycled water schemes, investment in fixing leaking pipes, and a suite of water efficiency measures. The full response is well documented and was referred to in Sydney Water's submission to the inquiry.

Consideration of alternative supply options

As stated above, during 2006 dam storage levels were falling at around two per cent per month. During this time, a number of alternative large-scale supply options were considered. Of all the alternatives, however, desalination was still the least cost large-scale supply option. It was also the option that could be delivered more quickly than any other.

Indirect potable reuse, for example, would have been much more expensive – at least twice as much as the cost of desalination. The reason for this relates to the topography of Sydney (a basin) and the need to pump recycled water back uphill. In about 30 years there may be a sufficient population near water storages (especially Prospect Reservoir) for this option to become viable, but it is not yet.

Virtually nowhere in the world, apart from Windhoek in Namibia, is 100% recycled water directly injected into reticulation systems for human consumption. As a barrier to protect public health, recycled water would need to be mixed with dam water for an adequate detention period. This means in Sydney, recycled water from the coastal treatment plants would need to be pumped west, to Warragamba or Prospect.

Not even taking into account the likely significant levels of community resistance to such a proposal, this option is clearly financially undesirable in Sydney.

In fact, the approach in Sydney has been to balance supply and demand of water by giving consideration to all options, and choosing those that are least cost, with a maximum ability to do so. This included various water efficiency measures, specific recycled water schemes, and desalination.

In summary

The decision to commit to the construction of the desalination plant represented a balanced outcome given the continued learning from the 2004 and 2006 *Plans,* and the legitimate role of the NSW Government to secure Sydney's water supply.

The Commission concedes in the Draft Report, that achieving least cost planning by not building desalination plants if subsequent years are going to be wet, *"is clearly infeasible as it requires knowledge of the future that is unobtainable."*

Despite the end of the recent extreme drought conditions and investment in measures such as desalination, recycling and water efficiency – severe and extreme drought conditions can re-emerge quickly in Sydney. As seen in the period between 2004 and 2006, dam levels can and do deplete rapidly – at one to two per cent per month.

As such, the adaptive, Metropolitan Water Plan framework remains in place to safeguard the water supply into the future, with an updated *Plan* being released in 2010.