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General Purpose Standing Committee No. 5  
Parliament House  
Macquarie Street  
Sydney NSW 2000

CM003-06

### **Re: Inquiry into a sustainable water supply for Sydney**

The Sydney Coastal Councils Group (SCCG) would like to take this opportunity to provide comment to the General Purpose Standing Committee No. 5 Inquiry into a sustainable water supply for Sydney.

SCCG would like to congratulate the NSW Government on its decision not to proceed with a Desalination plant at Kurnell. This decision provides the opportunity for a thorough investigation of all possible solutions to finding a sustainable water supply for Sydney.

In making this submission SCCG would like to focus on the ongoing need for an open and transparent comparison between all possible options required to address Sydney's water needs. Without a rigorous environmental, financial and social assessment of all options the most sustainable solution will not be found.

The SCCG supports open and public debate on finding a sustainable water supply of Sydney. To date the opportunity for public debate on the value of desalination compared to other options has been limited. Please find all terms of reference for the Inquiry addressed below.

#### **a. The environmental impact of the proposed desalination plant at Kurnell**

In light of the NSW Government's decision not to proceed with the proposed desalination plant at Kurnell SCCG believes the following comments will be useful in assessing the environmental impacts of all possible solutions to providing Sydney with a sustainable water supply.

Construction and operation of major infrastructure solutions, such as a desalination plant, will have a significant impact on the sites they are built on and surrounding areas. A decision to proceed with major infrastructure options to provide Sydney with a sustainable water source must only be made following a complete environmental impact assessment. The SCCG believes the environmental assessment for the desalination plant at Kurnell failed to identify the full extent of environmental impacts of the proposal.

SCCG had two major concerns with the environmental impact assessment of the proposed desalination plant at Kurnell:

1. The *Environmental Assessment of the Concept Plan for Sydney's Desalination Project* was incomplete and significantly understated the negative impacts of the proposal.

2. Many of the impacts of the proposal would not have been completely understood until after the proposal was built and had been operating for a number of years.

**The *Environmental Assessment of the Concept Plan for Sydney's Desalination Project* was incomplete and significantly understated the negative impacts of the proposal.**

The Kurnell Peninsula and surrounding environments are sensitive and dynamic ecosystems containing internationally and nationally protected wetlands as well as communities and species listed as threatened under NSW Threatened Species legislation. Inadequate environmental assessment for a proposal of this profile and scale is unacceptable.

SCCG has provided comment to the State Government on the *Environmental Assessment of the Concept Plan for Sydney's Desalination Project* and the Department of Environment Heritage EPBC Referrals Unit on the possible impacts of the proposed desalination plant at Kurnell. Both of these submissions are attached and outline in detail SCCG's concerns with the environmental impacts of the proposal.

Overall, the Environmental Assessment of the proposal failed to adequately identify the environmental impacts and possible strategies to mitigate impacts of the proposal on;

- Terrestrial Ecology
- Aquatic Ecology
- Water Quality
- Matters of National Environmental Significance.
- Greenhouse Gas Emissions

Specifically the *Environmental Assessment of the Concept Plan for Sydney's Desalination Project*

- Failed to map the Threatened Species and Endangered Ecological Communities to be cleared as a result of the proposal;
- Failed to justify the conclusion that construction and operation of the proposal will not have a significant impact on a Ramsar listed wetland and the internationally listed bird species that nest within it;
- Understated the potential impacts of the proposal on the groundwater hydrology of the Kurnell Peninsula and surrounding dependent ecosystem;
- Observed that the environmental impacts associated with release of the plumb containing brine and chemicals used in the treatment process are unknown;
- Did not provide sufficient detail to conclude that greenhouse gas emissions from the proposal will be offset by 50%;
- Did not contain information obtained from site visits or surveys for this proposal;
- Had made conclusions about the impact of the proposal based on very limited scientific assessment; and
- Made no attempt to consider the cumulative impacts of the proposal and previous developments on the conservation of the Kurnell Peninsula and surrounding environments.

Incomplete environmental assessment of a proposal such as this will result in severe and irreversible environmental impacts. Therefore complete environmental assessment of all proposals is required before they proceed.

**Many of the impacts of the proposal would not have been completely understood until after the proposal was built and had been operating for a number of years**

The impacts of the proposed desalination plant on the aquatic ecology of the surrounding areas would not have been completely understood until the proposal was built and had been operating for a number of years.

The Environmental Assessment for the proposed desalination plant at Kurnell observed that chemicals to be released from the outlet pipe included sodium hypochlorite, sodium bisulfite, sulfuric acid, ferric chloride, polymer, acidic detergent, polycarboxylic acid and lime and statements in the Environmental Assessment that,

*“it must be noted that no data collection has been undertaken for the verification of the relative impacts of these plumes”*; and

*“Because no specific information can be found on the likely effects on local benthic or planktonic communities, it is essential that monitoring of local populations or species and toxicity test be done”*

indicate that the dispersion of brine and pollutants from the outlet pipes is unknown and the impacts of the plumes on water quality and the aquatic ecology are also unknown and will remain so until after the project has been operational for a number of years.

Studies undertaken for the Sewage Treatment Plant (STP) at Cronulla have indicated that effluent released from the STP remains in Bate Bay for significant periods due to the prevailing currents and circulation. Similar pollutant dispersal modelling studies must be undertaken for the Desalination Plant to assess behaviour and potential impacts of the plume from the outlet pipe and the potential cumulative impacts of the desalination plume and the STP effluent on the aquatic ecology of the area.

For a proposal of this profile, where the proponent is a State owned Corporation that level of uncertainty is unacceptable. The Botany/Kurnell area has a history of pollution resulting from previous land uses where the environmental impacts have been unknown or gone unmonitored. This has resulted in significant social, environmental and financial costs to the community, industry and the NSW Government. Approval of this proposal was highly likely to result in similar outcomes at a site rich in aquatic ecology.

**b. The environmental assessment process associated with the proposed desalination plant**

Despite a decision not to proceed with the proposed desalination plant at Kurnell the environmental assessment process associated with the proposal was flawed. SCCG believes that due to incomplete environmental impact assessment, outlined above, the process lacked the appropriate detail for a project of this scale. In particular the assessment process failed to;

- Fulfil its Statutory Requirements
- Identify the need for the project

This proposal was the first to be assessed under the critical infrastructure provisions of Part 3A of the *Environmental Planning and Assessment Act 1979* and it identified a number of flaws with the process. It is unacceptable that any large infrastructure

proposal assessed under part 3A be considered without a complete and adequate consultation and environmental assessment process.

### **Statutory requirements of the Environmental Assessment**

The Environmental Assessment did not meet its statutory requirements as outlined under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A). It did not provide sufficient detail to assess the environmental impacts of the proposal or meet the Director Generals Requirements.

The lack of certainty with final details of the proposal resulted in an adequate assessment of environmental impacts and identification of potential mitigation measures.

Sydney's Desalination Project is the first major project to be classified as "Critical Infrastructure" and be assessed under the associated statutory requirements of EP&A Act. This project and associated Environmental Assessment will provide a benchmark for all future Critical Infrastructure projects. Therefore the principles of Ecologically Sustainable Development (ESD) embedded in the Act and the expectations that the Director General's requirements will be strictly adhered to, must be met.

Under Part 3A of EP&A Act the Environmental Assessment Report must provide sufficient information:

- Enable environmental assessment of the key issues surrounding the project; and
- Assess the required level of environmental management and monitoring for the project.

The Director Generals requirements outlined specific issues to be addressed in the Environmental Assessment for issues such as greenhouse gas abatement, ecological impacts and water quality which have not been completely addressed. Specific examples of each of these are provided later in the submission.

As the proposal was still at the concept stage the Environmental Assessment asserted,

*"The precise details of the desalination plant, final distribution routes and other infrastructure will be available once further investigation and detailed designs are completed."*

This made the assessment of environmental impacts for issues surrounding the project very difficult and identification of methods for management and monitoring impossible. Therefore, the Environmental Assessment did not provide sufficient detail to satisfactorily meet the requirements of Part 3A of the EP&A Act.

### **Need for the proposal**

Desalination was identified as one of the possible water supply solutions in the Metropolitan Water Plan. SCCG believes a combination of water recycling, stormwater harvesting and demand management options will provide a more environmentally sensitive and cost effective and secure supplement to Sydney's water supply.

In failing to provide a comparison between the financial, environmental and social impacts of other options the Environmental Assessment failed to adequately state the need for the proposal as an alternative to other options. Chapter 1.2 of the

Environmental Assessment stated the issues preventing the implementation of alternative actions to construction of a desalination plant include:

- time to demonstrate safety of alternative actions;
- acceptability to the community;
- cost of implementation; and
- the community's willingness to pay.

The required use of recycled water systems in all greenfield areas of Sydney and wide spread community acceptance of water restrictions suggests issues of safety and community acceptance to alternative options to desalination is much greater than the Environmental Assessment suggests.

Without a comparison of alternative options to desalination a decision on the need for the proposal has been left to the project proponent. This lacks the transparency and accountability that the community should be able to expect from proposals classified as critical.

Through processes such as the Department of Utilities, Energy and Sustainability Water Savings Plan and the Department of Environment and Heritage Community Water Grants Local Government is implementing a diverse range of water saving strategies and actions. Many of these actions are trials and applications on a larger scale are possible if greater funding were available. The large investment required for construction of a Desalination Plant should be utilised to expand the many actions being undertaken by Local Government to increase water recycling and reduced demand for potable quality water.

SCCG considers that in the absence of a financial, environmental and social comparison of alternatives to any project the need for individual proposals will not be established.

### **c. Methods for reducing the use of potable water for domestic, industrial, commercial and agricultural purposes, including sustainable water consumption practices**

Methods for reducing the use of potable water for domestic, industrial, commercial and agricultural purposes, including sustainable water consumption practices include:

- Demand management strategies;
- Recycling and re-use options at varying scales;
- Stormwater capture and use; and
- Development of "fit for use" guidelines and strategies.

Each of these options has benefits and limitations. However, as less than 2% of total water used in Sydney is recycled and Sydney has reduced water consumption by more than 10% since the introduction of water restrictions SCCG believes the viability of these options needs to be meaningfully assessed and compared. (PENGOs 2004, NSW Government, 2004)

The biggest gains in reducing use of potable water can be made through the application of a combination of strategies outlined above and implemented at varying scales. For example;

- In Sydney, 17% of all households have converted to water efficient products saving 4.5 billion litres of water per year (NSW Government, 2004). If this figure were to rise to 50% of households an estimated 13.20 billion litres could be saved per year. This is the equivalent of the volume of water produced by a 125ML capacity Desalination Plant in 100 days.

- Sydney currently recycles 15 billion litres of treated waste water per year. Traditionally community acceptance of recycled water has been low. However due to increased community awareness on the need for sustainable water management, this is changing. With increased acceptance of recycled water to potable and non potable quality the potential to increase the level of water recycled beyond 3% of total water used is great and would significantly assist in providing Sydney with a sustainable long - term source of water (PENGOs 2004).
- The National Resource Management Ministerial Council (NRMMC) has recently released Daft National Guidelines for Water Recycling. Adoption of these guidelines by the NSW Government would assist Local Government, Industry and the Community to implement “fit for use” recycling strategies that would significantly reduce the demand on the potable water supply.

SCCG recommends a combination of methods be investigated to reduce the demand on Sydney’s potable water supply. The application of Desalination as the major solution will be environmentally and financially costly and possibly unnecessary if a combination of alternative solutions is applied to provide a sustainable water source for Sydney.

**d. The costs and benefits of desalination and alternative sources of water including recycled waste water, groundwater, rainwater tanks and stormwater harvesting.**

It is very difficult to accurately assess the costs and benefits of desalination with alternative sources of water because a comparison of these options has not been undertaken. SCCG recommends a Triple Bottom Line Assessment of all possible solutions be undertaken. This will assist in identifying the most appropriate combination of solutions.

The implementation of major infrastructure solutions as an answer to Sydney’s water needs will have significant financial and environmental impacts on the State. A decision on the most appropriate solutions should not be made without considering the following issues

**Financial impacts of solutions**

Continued investment in major infrastructure solutions will act as a disincentive for public and private investment in recycling and re-use options. The financial impacts on Government spending and long-term viability of all potential solutions must be open to public scrutiny before a final decision is made.

**Environmental impact and assessment**

The lack of certainty surrounding environmental assessment of the impacts of major infrastructure solutions such as transfers from the Shoalhaven and desalination must be addressed by the State Government. It is the responsibility of the State Government to demonstrate the environmental impacts of major infrastructure solutions as well as potential alternatives have been fully investigated and compared.

**Public education**

Through a combination of public education and regulation Sydney's water use has been 10% lower than the 10-year average use since the introduction mandatory water restrictions were accompanied by an awareness raising campaign (NSW Government, 2004). Further investment in public education in the Greater Metropolitan Region would assist the implementation and improve the effectiveness of demand management options.

### **The role of Local Government**

As Local Government is often best placed to communicate to diverse communities and is responsible for the majority of planning decisions that occur in the urban coastal areas. It is therefore in a position to play an integral role in community consultation and finding solutions to the potential risk of a water shortage in Sydney.

### **e. Practices concerning the disposal of trade waste**

It is very difficult to make generalisations about practices to improve disposal of trade waste. Producers of trade waste range from Council truck depots, to golf courses and local takeaway stores. Therefore the quantity and level of contamination produced varies.

As some industries produce highly contaminated trade waste, opportunities for recycling are often limited. However as part of implementing a sustainable water strategy for Sydney, SCCG recommends all stakeholders investigate strategies, opportunities and incentives for;

- On-site recycling of trade waste where quantities and levels of contamination are suitable; and
- Encouraging industries to use non potable quality water for activities where appropriate.

Ongoing and regular monitoring by Sydney Water of the volume and contamination levels of trade waste disposed should be adequately resourced and maintained.

### **f. The tender process and contractual arrangements, including public private partnerships, in relation to the proposed desalination plant**

SCCG look forward to seeing the details of the tender process and contractual arrangements and trust that these processes were undertaken in an open and transparent manner.

### **g. Any other relevant matter**

SCCG would like to raise the matter of community consultation that has been undertaken for the proposed desalination plant at Kurnell and finding a sustainable water supply for Sydney.

Much of the community consultation by Sydney Water for the desalination plant at Kurnell related to the provision of information rather than meaningful consultation with Local Government and the broader community. To compound this issue Sydney Water often provided information after making public announcements through the media. SCCG does not consider this to be an appropriate level of consultation for an issue of this significance.

Ongoing identification of possible solutions to Sydney's water will benefit from a more open consultation process prior to development of future Concept Plans and Environmental Assessments. A transparent survey of the communities acceptance of recycled water and an accurate comparison between alternative solutions to desalination need to be undertaken.

Sydney Water and the NSW Government need to acknowledge that much of the public comment surrounding this proposal has identified that the majority of Sydney's community consider desalination should only be implemented as a solution to a water shortage in Sydney after all possible options have been compared and considered.

## **Conclusion**

I trust that the information provided in this submission will receive appropriate attention when undertaking the Inquiry into a sustainable water supply for Sydney. If you wish to clarify any matter in the submission or require further information, please contact Craig Morrison (Coastal Projects Officer) on 9246 7702 or [craig@sydneycoastalcouncils.com.au](mailto:craig@sydneycoastalcouncils.com.au)

Yours sincerely,



Patricia Harvey, OAM

**Chairperson**

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**Sydney Coastal Councils Group Inc.** The SCCG consists of 15 member councils with sea and harbour frontages in Sydney, including, Botany, Hornsby, Leichhardt, Manly, Mosman, North Sydney, Pittwater, Randwick, Rockdale, Sutherland, Sydney, Warringah, Waverley, Willoughby and Woollahra. Collectively we represent over 1.3 million Sydneysiders. The Group is concerned with the promotion of cooperation and coordination to achieve the sustainable management of the urban coastal environment.

## **References**

Meeting the Challenges- Securing Sydney's Water Future (NSW Government, 2004)  
Sydney Water, Going to Waste (Peak Environment NGOs, 2004)