

SYDNEY COASTAL COUNCILS GROUP Inc.
C/- City of Sydney Council
Level 12, 456 Kent Street
GPO Box 1591, SYDNEY NSW 2001

Phone: (02) 9246 7791
Facsimile: (02) 9265 9660
Email: info@sydneycoastalcouncils.com.au
Internet: www.sydneycoastalcouncils.com.au
ABN: 39 638 876 538



Kurnell Desalination Submissions
Major Development Assessment
Department of Planning
GPO Box 39
SYDNEY NSW 2001

CM001-06

3 February 2005

Re: Environmental Assessment of the Concept Plan for Sydney's Desalination Project

The Sydney Coastal Councils Group (SCCG) would like to take this opportunity to provide comment on the Environmental Assessment of the Concept Plan for Sydney's Desalination Project.

SCCG considers that the construction of a Desalination Plant should not be undertaken without a proper investigation of the range of solutions needed to address a water shortage in Sydney. Before a decision is made on this project, the financial, environmental and social impacts of all options to address Sydney's water crisis should be compared and publicly debated.

In September 2005 the SCCG wrote to The Hon. Morris Iemma, NSW Premier, raising significant concerns with plans to build a desalination plant in Sydney. The correspondence highlighted the unanimous resolution of SCCG Member Councils to request the State Government promote and facilitate public consultation and education on 'Finding Answers to Sydney's Water Needs'.

A decision to proceed with construction of a Desalination plant for Sydney should only be undertaken following meaningful public consultation identifying public support for the proposal and including comprehensive environmental assessment. The Environmental Assessment undertaken for the Sydney's Desalination Project:

- Lacks the appropriate level of detail to demonstrate all environmental impacts;
- Does not identify the need for the project compared to other options; and
- That the appropriate level of public consultation has been undertaken

In making this submission SCCG would like to focus on the following aspects of the Environmental Assessment of the Concept Plan for Sydney's Desalination Project:

1. The Statutory requirements of the Environmental Assessment;
2. Need for the proposal;
3. Energy Use and Greenhouse Gas emissions;
4. The Environmental Assessment of the Concept Plan;
 - Terrestrial Ecology
 - Aquatic Ecology
 - Water Quality
 - Matters of National Environmental Significance
5. Stakeholder Consultation and Engagement; and
6. Draft Statement of Commitments.

1. Statutory requirements of the Environmental Assessment

Recommendation

Approval for the proposal is withheld until the project proposal is finalised and all environmental impacts are adequately understood.

The Environmental Assessment has not met its statutory requirements as outlined under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A). It does 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 is resulting in inadequate assessment of environmental impacts and identification of potential mitigation measures. Therefore SCCG recommend approval for the proposal is withheld until the project proposal is finalised and all environmental impacts are completely understood.

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 outline specific issues that must 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 is still at the concept stage the Environmental Assessment asserts, *"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 makes 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 has not provided sufficient detail to satisfactorily meet the requirements of Part 3A of the EP&A Act.

2. Need for the proposal

Recommendation

The Preferred Projects Report recommend a comparison of all available options for securing Sydney more water be undertaken before the proponent proceeds with 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 would 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 fails to adequately state the need for the proposal as an alternative to other options. Chapter 1.2 of the Environmental Assessment states 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 the project the need for the proposal has not been established. In preparation of the Preferred Projects Report SCCG requests that the report recommend a comparison of all options to provide Sydney with more water be undertaken before the proponent proceeds with the proposal.

3. Energy Use and Green House Gas Emissions

Recommendations

SCCG recommends Sydney Water and the NSW Government investigate implementing water recycling options and offset the associated green house gas emissions to make the provision of additional water for Sydney greenhouse gas neutral.

The mitigation measures to be used for the project be identified and quantified before the project proceeds.

The application of desalination as a solution to providing Sydney with more water is extremely energy intensive compared to alternative options. Offsetting the associated greenhouse gas emissions by 50% to bring the greenhouse gas emissions to a level equivalent to alternative water sources such as recycling is a costly and unsustainable solution.

SCCG recommends Sydney Water and the NSW Government investigate the implementation of water recycling and utilise the offsets identified for desalination to make the provision of additional water for Sydney greenhouse gas neutral.

The Director Generals Requirements state:

“Where greenhouse gas offsets are proposed details of each option must be included in the Environmental Assessment including implementation measures for each offset option”

The Environmental Assessment observes that greenhouse offsets will be achieved by a range of greenhouse reduction measures and that Sydney Water will develop a cost effective portfolio of mitigation measures. In not providing the specific implementation measures to be included in the portfolio or quantifying the offset value of each option the Environmental Assessment fails to meet the Director Generals Requirements for this issue.

4. Ecological Assessment of the Concept

Many of the direct and indirect ecological impacts of the proposal have not been identified. The Environmental Assessment:

- Fails to map the Threatened Species and Endangered Ecological Communities to be cleared as a result of the proposal;
- Does not contain information obtained from site visits or surveys for this proposal; and
- Has made conclusions about the impact of the proposal based on very limited scientific assessment.

Therefore the Director Generals Requirement that

“The assessment must consider direct impacts on ecological values as well as indirect impacts that may be associated with changes in water quality conditions and flow characteristics in the vicinity of intake and discharge infrastructure.”

has not been adequately satisfied.

Terrestrial Ecology

Recommendations

The maintenance of a vegetation corridor between the southwest boundary of the site and Botany Bay National Park is a condition of consent of the approval.

Approval of the proposal IS withheld until the impacts of the proposal on species communities or populations listed under the schedules of the TSC and EPBC Acts are accurately identified.

Accurate assessment of the potential stormwater and groundwater impacts of the proposal must be undertaken and independently examined for its accuracy before assessment for the proposal is to proceed

In assessing the impacts on terrestrial ecology of the proposal the Environmental Assessment notes the criteria for assessment include:

- Development is not enough to encroach within the conservation area created by previous development approvals for the site;
- Offsite impacts on the Towra Point Nature Reserve should be minimised;
- Significant impacts on species communities or populations listed under the schedules of the *Threatened Species Conservation Act 1995* or the *Environment Protection and Biodiversity Conservation Act 1999*; and

Development is not enough to encroach within the conservation area created by previous development approvals for the site

The true impacts of the proposal on the conservation area and its functionality have not been outlined in the Environmental Assessment. The conservation area identified on the site provides critical habitat to the many flora and fauna species present on the Kurnell peninsula as well as providing a corridor for the movement of these species throughout the Kurnell peninsula.

The Environmental Assessment does not identify the proposed loss of vegetation, containing Endangered Ecological Communities, on the southwest boundary as significant. The report also fails to note the desire of many stakeholders, including Sutherland Shire Council, for this vegetation to be retained to create a wildlife corridor along the southwest boundary of the site and maintain connectivity between the conservation area and Botany Bay National Park. As a result of the identified clearing and without such a corridor the capacity of the conservation area to fulfil all its ecological functions is greatly reduced.

Offsite impacts on the Towra Point Nature Reserve should be minimised

The Environmental Assessment significantly understates the impacts of the proposal on the Towra Point Nature Reserve. Towra Point Nature Reserve is a RAMSAR listed wetland and regionally contains 90% of Sydney's saltmarsh and an area that represents 50% of the Sydney regions wetlands.

Towra Point Nature Reserve provides habitat for a number of internationally listed migratory wetland species. Of particular significance is the occurrence of 31 of the 66 species presently listed in the Japan Australia Migratory Birds Agreement. These species are typically very sensitive to changes in light and noise in their surrounding area for distances of up to 350 meters.

As the proposal extends to within 250 meters of Towra Point the Environmental Assessment does not provide enough detail to justify the conclusion that the plant or the associated infrastructure is 'unlikely to have a significant impact on these species and the functionality of the reserve'. Further detailed assessment is required before the effectiveness of construction and site management mitigation measures to prevent offsite impacts on Towra Point Nature Reserve.

The potential for the proposal to lead to a significant increase in storm water run-off and sedimentation into Towra Point Aquatic Reserve and reduced groundwater recharge of the groundwater dependent Towra Point Nature Reserve is highly likely. This could result in the significant degradation of both the Nature and Aquatic Reserves at Towra Point.

In not recognising the cumulative impacts of the proposal on the functionality and ongoing ecological quality of Towra Point Nature Reserve the Environmental Assessment has significantly understated the potential impacts of the proposal. Without an accurate assessment of the projects impacts, significant degradation of Towra Point Nature and Aquatic Reserves is inevitable.

Significant impacts on species communities or populations listed under the schedules of the Threatened Species Conservation Act 1995 (TSC) or the Environment Protection and Biodiversity Conservation Act 1999 (EPBC)

Endangered Ecological Communities and Threatened Species (TSC)

The Environmental Assessment does not adequately identify the impacts of the proposal on species, communities or populations listed under the schedules of the TSC or the EPBC Acts. The Environmental Assessment provides no mapping of the areas to be cleared or a comparison of the areas of EECs to be cleared with those to

be retained. It is difficult to evaluate the extent of the impacts of the proposal on these communities and impossible to conclude that there will be no significant impact.

As stated above SCCG recommends that the maintenance of a vegetation corridor between the southwest boundary of the site and Botany Bay National Park be a condition of consent of the approval. The species in this area of the site are representative of a number of Endangered Ecological Communities (EEC). The clearing of these communities will have a significant impact as it will isolate currently connected vegetation. The impact of this action is magnified by the fact the species being cleared provided a corridor between the conservation area and Botany Bay National Park.

The Environmental Assessment also understates the impact of the proposal on an area that is habitat for a maternal colony of Grey-Headed Flying Fox (*Pteropus poliocephalus*). The Concept Plan proposes to clear native vegetation along the western boundary of the site that connects the conservation area to other areas of Grey-Headed Flying Fox habitat. The conclusion that this clearing would not result in isolation of currently interconnecting areas of habitat and will not significantly impact the Grey Headed Flying Fox colony is not supported by the information provided in the Environmental Assessment.

Migratory Patterns of Whales (EPBC)

The Environmental Assessment of the proposal has significantly understated the impact of the proposal on EECs and threatened species listed under the TSC Act and species listed under the EPBC Act affected by the proposal. Therefore, it has not met its statutory requirements and approval should be withheld until the full impacts of the development are identified.

The impacts of this proposal on the migratory patterns of Cetaceans (whales), protected under the EPBC Act, remain unclear. The Environmental Assessment states that the construction and operational phases of the project may cause whales to change their current migratory path but that migration corridors are likely to be wide so the impact will not be significant. There is no evidence provided in the assessment to support this conclusion.

There has been no study of the migratory patterns of whales in this area, so the statement that the migratory patterns are wide is an assumption. Further, whales have preferred resting areas along migratory pathways and it is unknown if the area effected by the proposal functions as a rest area. Therefore the potential impacts of the dispersion of brine and other pollutants, including sodium hypochlorite, sodium bisulfite, sulfuric acid, ferric chloride, polymer, acidic detergent, polycarboxylic acid and lime, from the outlet pipe on migrating whales is potentially very significant.

Aquatic Ecology

Recommendations

Preferred Projects Report identify that to reduce environmental impact of the proposal the construction of the intake and outlet pipes occur further offshore than the locations outlined in the Environmental Assessment.

Approval of the proposal be withheld until the impacts of entrainment into the intake pipe and increased pollution resulting from the outlet pipe on the aquatic ecology have been adequately identified.

The impacts of positioning the intake and outlet pipes on the rocky reef, entrainment of aquatic species into the intake pipe and increased pollution resulting from the outlet pipe have the potential to significantly impact on the aquatic ecology of the area surrounding the proposal. These impacts have not been completely addressed

in the Environmental Assessment and have therefore not had appropriate mitigation strategies developed.

The intake and outlet structures for the proposal are to be located on a large rocky reef bed which supports a wide variety of marine life and sea grass beds. Construction of both these structures on the rocky reef bed, with high conservation and biodiversity values, will have significantly more impact on the marine diversity than if they were to be constructed on the sandy beds existing further offshore.

From the Environmental Assessment it is not possible to adequately assess the impacts of the construction and operation phases on the aquatic ecology of the area affected by the proposal.

Water Quality

Recommendation

Approval of the proposal be withheld until the impacts of the dispersion and circulation of brine and pollutants from the outlet pipes on water quality and the aquatic ecology are known.

SCCG is greatly concerned that the impacts to water quality of the proposal will not be completely understood until after the plant is operational. The Environmental Assessment observes that chemicals to be released from the outlet pipe include 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 this 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 is highly likely to result in similar outcomes at a site rich in aquatic ecology.

Matters of National Environmental Significance

Recommendation

Approval of the proposal be withheld until the impacts of proposal on Matters of National Environmental Significance have been fully determined.

Due to the impacts of this proposal on matters of National Environmental Significance including Ramsar listed wetlands, groundwater hydrology and species of migratory birds SCCG believes the Director Generals Requirements for this issue have not been met. In November 2005, SCCG submitted to the EPBC Referrals Section of the Department of Environment and Heritage that the proposal for a Desalination Plant at Kurnell be assessed under the Environmental Protection Biodiversity Act 1999 due to the likely impact to matters of National Significance of the proposal. Please find the SCCG EPBC Referrals submission attached.

5. Stakeholder Consultation and Engagement

Recommendation

Sydney Water and the NSW Government undertake meaningful consultation with Local Government and the community on the range of options available to provide Sydney with a sustainable water supply before a final decision to proceed with any one option is made.

As stated in the Director Generals requirements

“Appropriate consultation with Sutherland Shire Council and the local community should be undertaken”

Much of the community consultation outlined in the Environmental Assessment relates to the provision of information rather than meaningful consultation with Sutherland Shire Council and the broader community. To compound this issue Sydney Water has often provided information after making public announcements through the media. SCCG does not consider this to be an appropriate level of consultation for a proposal of this significance.

6. Draft Statement of Commitments

Recommendation

If a decision to proceed with construction of a desalination plant is made a Statement of Commitments that contains defined actions and timelines be incorporated into the conditions of consent.

In light of the lack of detail contained within the Environmental Assessment on key issues such as greenhouse gas emissions, ecological impacts, water quality impacts the Statement of Commitments made by the proponent lacks the appropriate level of detail for a proposal of this significance. Many of the commitments made by the proponent including but not limited to,

“management systems in place to protect the environment

“no significant impacts on seawater quality from sea water concentrate”, and

“no significant impacts on aquatic ecology from the sea water intake”.

are too broad to be meaningfully implemented. If the appropriate environmental assessments are undertaken and the decision to proceed with construction of a desalination plant is made a Statement of Commitments that contains defined actions and timelines for such actions be developed and incorporated into the conditions of consent.

Conclusion

The project proposal will benefit from a more open consultation process prior to development of the Concept Plan and Environmental Assessment. The statement within the Environmental Assessment that 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; and
- Cost of implementation and the community's willingness to pay,

despite evidence to the contrary. As well as the lack of accurate comparison between alternative solutions to desalination in the Environmental Assessment or elsewhere to date despite requests for such information from Local Government and the community support this point.

Sydney Water and the NSW Government have not adequately acknowledged that much of the consultation surrounding this proposal has identified that the majority of Sydney's community consider desalination should only be considered as a solution to a water shortage in Sydney after all possible options have been compared and considered.

I trust that the information provided in this submission will receive appropriate attention when assessing the Environmental Assessment of the Concept Plan for Sydney's Desalination Project. 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

Yours sincerely,



Patricia Harvey, OAM
Chairperson

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.