

Project Approval

Section 75J of the *Environmental Planning and Assessment Act 1979*

I, the Minister for Planning, approve the project referred to in Schedule 1, subject to the conditions in Schedule 2.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.


Frank Sartor MP
Minister for Planning

Sydney

16 / 11 / 2006

File No: 9039739

SCHEDULE 1

Application No: 05_0082

Proponent: Sydney Water Corporation

Approval Authority: Minister for Planning

Project: "the desalination plant" project

Concept Plan: the project is a component of the approved concept plan for the Kurnell Desalination Plant (05_0082)

Major Project: On 25 October 2005, the Minister for Planning formed the opinion pursuant to clause 6 of *State Environmental Planning Policy (Major Projects) 2005* that the proposal is for the purpose of development described in Schedule 1 to that Policy (clause 25(2) – development for the purpose of a desalination plant for drinking water supply with capital investment in excess of \$10 million). The proposal is thus declared to be a project to which Part 3A of the *Environmental Planning and Assessment Act 1979* applies.

Concept Plan Authorisation: On 16 November 2005, the Minister for Planning authorised the submission of a concept plan for the proposal.

Critical Infrastructure: On 16 November 2005, the Minister for Planning formed the opinion pursuant to clause 6A of the *State Environmental*

Planning Policy (Major Projects) 2005 that the proposal is for the purpose of development described in Schedule 5 to that Policy (clause 1 – Kurnell desalination project). The proposal is thus declared to be a critical infrastructure project within the meaning of section 75C of the Act.

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SCHEDULE 2

Act, the	<i>Environmental Planning and Assessment Act, 1979</i>
Conditions of Approval	The Minister's conditions of approval for the project.
Council	Sutherland Shire Council
DEC	Department of Environment and Conservation
Department, the	Department of Planning
Director-General, the	Director-General of the Department of Planning (or delegate).
DNR	Department of Natural Resources
DPI	Department of Primary Industries
EA	<i>Environmental Assessment of the Concept Plan for Sydney's Desalination Project</i> , dated November 2005, and prepared by Sydney Water Corporation
EPA	Environment Protection Authority as part of the Department of Environment and Conservation
EPL	Environment Protection Licence issued under the <i>Protection of the Environment Operations Act 1997</i>
Minister, the	Minister for Planning.
Proponent	Sydney Water Corporation, or any party acting under authorisation from and on behalf of the Sydney Water Corporation
Publicly Available	Available for inspection by a member of the general public (for example available on an internet site or at a display centre).

1. ADMINISTRATIVE CONDITIONS

Terms of Project Approval

- 1.1 The Proponent shall carry out the project generally in accordance with the:
- Major Project Application 05_0082;
 - Environmental Assessment of the Concept Plan for Sydney's Desalination Project*, dated November 2005, and prepared by Sydney Water Corporation;
 - Sydney's Desalination Project: Preferred Project Report*, dated August 2006, and prepared by Sydney Water Corporation;
 - the concept plan approval granted with respect to the Kurnell Desalination Plant concept plan (05_0082); and
 - the conditions of this approval.
- 1.2 In the event of an inconsistency between:
- the conditions of this approval and any document listed from condition 1.1a) to 1.1c) inclusive, the conditions of this approval shall prevail to the extent of the inconsistency; and
 - any document listed from condition 1.1a) to 1.1c) inclusive, and any other document listed from condition 1.1a) to 1.1c) inclusive, the most recent document shall prevail to the extent of the inconsistency.
- 1.3 Notwithstanding condition 1.2, if there is any inconsistency between this project approval and the concept plan approval for the Kurnell Desalination Plant concept plan, the concept approval shall prevail to the extent of the inconsistency.
- 1.4 The Proponent shall comply with any reasonable requirement(s) of the Director-General arising from the Department's assessment of:
- any reports, plans or correspondence that are submitted in accordance with this approval; and
 - the implementation of any actions or measures contained in these reports, plans or correspondence.

Limits of Approval

- 1.5 This project approval shall lapse on 31 December 2015, unless works the subject of this project approval or any other project approval granted with respect to the Kurnell Desalination Plant concept approval are physically commenced on or before that date. The Director-General may extend this lapse date if the Proponent demonstrates to the satisfaction of the Director-General that the desalination plant technology remains current, appropriate and reflective of best practice at the date the approval would otherwise lapse.
- 1.6 Under this project approval, an annual daily average of up to 500 megalitres of potable drinking water shall be produced per day.

Note: Notwithstanding any condition of this approval, the Government has adopted a policy that the proposed desalination plant and associated infrastructure will only proceed to implementation as a contingency in the event of extreme drought conditions.

Staging of Project

- 1.7 The Proponent shall design the desalination plant such that it can be constructed and implemented in stages, with independent, compartmentalised reverse osmosis units.
- 1.8 If the Proponent intends to construct independent, compartmentalised reverse osmosis units to raise the output capacity of the project above 125 megalitres of potable drinking water per day, either initially and/ or from time to time, the Proponent shall ensure that it has considered the required output capacity necessary to correct or improve the metropolitan water supply-demand balance at the particular time, having regard to:
- current and recent water consumption in the Proponent's area of operations and trends in consumption rates;

- b) current and recent water storage levels in Sydney's water reservoirs, as determined by the Sydney Catchment Authority from time to time, and trends in those storage levels;
- c) the current and recent status of any water restrictions applied to the Proponent's area of operations, and any other relevant demand management measures have been fully or partly implemented in the area;
- d) the current and recent status of any new, additional or expanded water supply sources for the Proponent's area of operations; and
- e) the current and recent trends in precipitation in Sydney's water catchments and the intensity of drought conditions.

1.9 To avoid any doubt, this project approval does not limit the capacity of any other project component (including the seawater intake and discharge system, and the desalinated water distribution system).

Surrender of Planning Approvals

1.10 Prior to the commencement of construction of the desalination plant project, the Proponent shall surrender all development consents granted with respect to the site.

2. SPECIFIC ENVIRONMENTAL CONDITIONS

Greenhouse Gas Generation and Energy Efficiency

- 2.1 The desalination plant project shall be designed and constructed to incorporate energy recovery systems and energy efficient equipment to optimise energy efficiencies of the desalination plant operations.
- 2.2 Prior to the commencement of operation of the desalination plant project, the Proponent shall develop and submit for the approval of the Director-General, a **Greenhouse Gas Reduction Plan** to detail a strategic plan for the management, minimisation and off-set of greenhouse gas generation associated with electricity supply to the desalination plant. The Plan shall be consistent with the Plan detailed in the Proponent's Statement of Commitments and shall include, but not necessarily be limited to:
- a) a specified outcome that the desalination plant will be powered by 100% renewable energy, or equivalent;
 - b) details of how renewable energy will be purchased, such as using "Green Power", or equivalent;
 - c) details of relevant regulatory requirements with respect to energy and greenhouse gases, and a system for managing change in these requirements over time;
 - d) a monitoring and recording system to track the energy consumption of the desalination plant project and the resultant equivalent emissions of carbon dioxide;
 - e) a framework for considering and managing factors such as availability, certainty, flexibility, adaptability, additionality and any co-benefits of options identified and/ or applied to achieve the outcome specified under a) above;
 - f) a framework and management principles for accommodating any shortfalls in the availability of renewable energy that may occur from time to time;
 - g) systems to monitor and audit the processes, procedures and outcomes stipulated under the Plan; and
 - h) a program for periodic review of the energy performance, and consideration of additional or improved energy efficiency measures that may be reasonably applied from time to time to ensure efficiency energy use.

Impacts on Ecology

Conservation Areas

2.3 For the purpose of this project approval, the land within the "conservation zone boundary" delineated in yellow in Figure 1 of Appendix A4 to *Environmental Assessment of the Concept Plan for Sydney's Desalination Project*, dated November 2005, and prepared by Sydney Water Corporation shall be a "conservation area" on the project site and shall not be subject to any development works.

- 2.4 During the detailed design of the project, the Proponent shall consider opportunities for habitat connection on the site, between the conservation area referred to under condition 2.3 and areas of vegetation adjoining the site along the south-eastern boundary. Where opportunities exist and are practical, the Proponent shall include habitat connection as part of the conservation area under condition 2.3.
- 2.5 The Proponent shall revegetate and rehabilitate the conservation area referred to under condition 2.3 of this approval utilising local native species of local provenance which naturally occur in the adjoining vegetation communities. Particular focus shall be placed on revegetation and rehabilitation with the following vegetation communities: Swamp Sclerophyll Forest on Coastal Floodplains (SSFCF), Kurnell Dune Forest (KDF), Sydney Freshwater Wetlands (SFW) and Swamp Oak Floodplain Forest (SOFF). Revegetation and rehabilitation shall be undertaken in accordance with an approved Conservation Area Management Plan (refer to condition 4.6b)).
- 2.6 The Proponent shall install and maintain a clearly visible barrier along the boundary of the conservation area referred to under condition 2.3 of this approval for the duration of construction works on the site, to prevent encroachment of construction activities and equipment into this area.
- 2.7 All construction works undertaken on the site between 1 September and 1 December shall be undertaken consistent with guidance provided by an independent ecologist skilled and experienced with *Pteropus poliocephalus*. The Proponent shall employ such an ecologist to provide specific advice on the prevention and minimisation of roosting disturbance that may result from construction works and the potential for spontaneous abortions in pregnant roosting females.

Noise Impacts

Construction Noise

- 2.8 Unless otherwise specified in an approved Noise Management Plan for the construction of the project (refer to condition 4.2d) of this approval), the Proponent shall only undertake construction activities associated with the project that would generate an audible noise at any residential premises during the following hours:
- 7:00 am to 6:00 pm, Mondays to Fridays, inclusive;
 - 8:00 am to 1:00 pm on Saturdays; and
 - at no time on Sundays or public holidays.

This condition does not apply in the event of a direction from police or other relevant authority for safety reasons.

Operation Noise

- 2.9 Prior to the commencement of construction of the project, the Proponent shall derive noise limits for the project in accordance with the *New South Wales Industrial Noise Policy* (EPA, 2000). The Proponent shall submit a copy of this noise assessment to the Director-General and the DEC. The Director-General may, in consultation with the DEC, approve the noise limits derived for the project, in which case, the noise limits shall henceforth apply to the project.

Note: derivation of noise limits has been required prior to the commencement of construction to take into account the actual existing acoustic environment at the time the desalination plant is to proceed.

Air Quality Impacts

- 2.10 The Proponent shall construct the project in a manner that minimises dust emissions from the site, including wind-blown and traffic-generated dust. All activities on the site shall be undertaken with the objective of preventing visible emissions of dust from the site.

Soil and Water Quality Impacts

- 2.11 The Proponent shall employ soil and water management controls to minimise soil erosion and the discharge of sediment and other pollutants to lands and/or waters during construction of the project, in accordance with *Managing Urban Stormwater: Soils and Conservation* (Landcom, 2004).

Waste Management

- 2.12 All wastes generated by the project, other than those materials permitted to be discharged as part of the seawater concentrate discharge stream, shall be beneficially reused, recycled or directed to a waste facility lawfully permitted to accept the materials.
- 2.13 In the case of lime sludge, the Proponent shall preferentially direct the waste for beneficial reuse.

Visual Amenity

- 2.14 The Proponent shall ensure that all new external lighting associated with the project is mounted, screened, and directed in such a manner so as not to create a nuisance to surrounding land uses. The lighting shall be the minimum level of illumination necessary, and be in general accordance with *AS 4282 – 1997 Control of the Obtrusive Effects of Outdoor Lighting*.
- 2.15 Prior to the commencement of construction of the project, the Proponent shall submit, for the approval of the Director-General, details of the external façade for the building and structures, including demonstration of the façade(s) on an external finishing board. The finishing board shall clearly show the materials to be used for the building façade including details of external treatments of the structures and buildings (such as painting, and other external features aimed at reducing the bulk of the building and to improve the general appearance of the project). The finishing board shall demonstrate that the external treatments of the structures and buildings are non-reflective and of sufficient design quality to minimise the visual affects of the development, as far as is reasonable and feasible.

Hazards and Risk Impacts

- 2.16 The Proponent shall store and handle all dangerous goods, as defined by the Australian Dangerous Goods Code, strictly in accordance with:
- a) all relevant Australian Standards;
 - b) for liquids, a minimum bund volume requirement of 110% of the volume of the largest single stored volume within the bund; and
 - c) the DEC's Environment Protection Manual Technical Bulletin *Bunding and Spill Management*.

In the event of an inconsistency between the requirements listed from a) to c) above, the most stringent requirement shall prevail to the extent of the inconsistency.

3. ENVIRONMENTAL MONITORING AND AUDITING

Acoustic Performance Audit

- 3.1 Within 90 days of the commencement of operation of desalination plant project, or as may be agreed by the Director-General, and during a period in which the project is operating under design loads and normal operating conditions, the Proponent shall undertake a program to confirm the noise emission performance of the project. The program shall include, but not necessarily be limited to:
- a) noise monitoring, consistent with the guidelines provided in the *New South Wales Industrial Noise Policy* (DEC, 2005), to assess compliance with the noise limits derived and approved under condition 2.9 of this approval;
 - b) methodologies for noise monitoring;
 - c) location of noise monitoring;
 - d) frequency of noise monitoring; and

- e) identification of monitoring sites at which pre- and post-commissioning noise levels can be ascertained.

A report providing the results of the program shall be submitted to the Director-General within 28 days of completion of the testing required under a).

- 3.2 In the event that the program undertaken to satisfy condition 3.1 of this approval indicates that the operation of the desalination plant project, under design loads and normal operating conditions, will lead to greater noise impacts than permitted under condition 2.9 of this approval, then the Proponent shall provide details of remedial measures to be implemented to reduce noise impacts to levels required by that condition. Details of the remedial measures and a timetable for implementation shall be submitted to the Director-General for approval within such period as the Director-General may agree.

4. ENVIRONMENTAL MANAGEMENT

Construction Environmental Management

- 4.1 The Proponent shall apply the **Construction Environmental Management System** developed under the concept approval for the Kurnell Desalination Project during construction of the desalination plant project.
- 4.2 In addition to the general requirements of the Construction Environmental Management System, the Proponent shall prepare and implement the following project-specific Construction Environmental Management Plans during the construction of the desalination plant project:
 - a) where soil testing prior to the commencement of construction identifies the presence of acid sulfate soils, an **Acid Sulfate Soil Management Plan** prepared in accordance with guidance provided in *Acid Sulfate Soil Manual* (Acid Sulfate Soil Management Advisory Committee, 1998);
 - b) a **Biodiversity Protection Plan** to detail how construction impacts on biodiversity will be minimised and managed, including, but not necessarily limited to:
 - i) details of work practices (such as fencing and construction worker education) to minimise the potential for damage to vegetation and native fauna during construction;
 - ii) measures such as directing lighting away from Grey-headed Flying Fox colonies, and reducing short, sharp noises (for example, sirens or the use of compressed air);
 - iii) weed management measures focusing on early identification of invasive weeds and determining effectiveness of management controls;
 - iv) on-site landscaping to include plants of local provenance and trees that enhance fauna foraging habitat; and
 - v) an auditing program for construction work practices to ensure that there is no impact on threatened species or their habitats.
 - c) a **Construction Surface Water Management Plan** to detail how surface water and stormwater will be managed on the site during construction. The Plan shall include use of appropriately-sized stormwater controls, in accordance with *Managing Urban Stormwater: Soils and Construction* (Landcom, 2004). The Plan shall include specific measures to avoid sediment-laden stormwater from entering Quibray Bay, and a monitoring program for stormwater leaving the site; and
 - d) a **Construction Noise Management Plan** to detail how construction noise and vibration impacts would be minimised and managed, including, but not necessarily limited to:
 - i) details of construction activities and a schedule for construction works;
 - ii) identification of construction activities that have the potential to generate noise and/ or vibration impacts on surrounding land uses, particularly residential areas;
 - iii) a detailed description of what actions and measures would be implemented to ensure that these works would comply with the relevant noise and vibration criteria/ guidelines;

- iv) procedures for notifying residents of construction activities that are likely to effect their noise and vibration amenity, as well as procedures for dealing with and responding to noise complaints; and
 - v) a description of how the effectiveness of these actions and measures would be monitored during the proposed works, clearly indicating how often this monitoring would be conducted, how the results of this monitoring would be recorded; and, if any non-compliance is detected.
- e) a **Construction Traffic Management Protocol** to detail how heavy vehicle movements associated with the project (other than in relation to spoil management) will be managed during construction. The Protocol shall specifically address the movement of oversize loads to and from the site, the management of construction traffic, restrictions to the hours of heavy vehicle movements to avoid road use conflicts, and the transport of construction waste materials.

4.3 The Plans and Protocols referred to under condition 4.2 shall be submitted for the approval of the Director-General prior to the commencement of construction.

4.4 Nothing in this approval precludes the Proponent from developing the Plans referred to under condition 4.2 as separate plans, or as a single plan.

Operation Environmental Management

4.5 The Proponent shall apply the **Operational Environmental Management System** developed under the concept approval for the Kurnell Desalination Project during operation of the desalination plant project.

4.6 In addition to the general requirements of the Operational Environmental Management System, the Proponent shall prepare and implement the following project-specific Operational Environmental Management Plans during the operation of the desalination plant project:

- a) a **Noise Management Plan** to outline monitoring, management procedures and measures to minimise total operational noise emissions from the project. The Plan shall also include, but not necessarily be limited to:
 - i) identification of all relevant receivers and the applicable criteria at those receivers commensurate with the noise limits derived/ applied under this approval;
 - ii) identification of activities that will be carried out in relation to the project and the associated noise sources;
 - iii) assessment of project noise impacts at the relevant receivers against the noise limits specified under this approval;
 - iv) details of all management methods and procedures that will be implemented to control individual and overall noise emissions from the site during the project;
 - v) development of reactive and pro-active strategies for dealing promptly with any noise complaints;
 - vi) noise monitoring and reporting procedures;
 - vii) regular internal audits of compliance of all plant and equipment with acceptable design noise;
- b) a **Conservation Area Management Plan** to detail measures for the on-going management of the conservation area on the site. The Plan shall be developed in consultation with the DEC, and shall include, but not necessarily limited to:
 - i) a vegetation management program based on maintenance and rehabilitation of intact vegetation communities;
 - ii) methods in line with standard bush regeneration techniques, such as the Bradley method where appropriate;
 - iii) measures to minimise impacts on Grey-headed Flying Fox colonies, such as directing light away from the colonies and reducing short, sharp noises (for example, sirens or the use of compressed air);
 - iv) measures to protect the habitat within the conservation area for the Green and Golden Bell Frog, the Wallum Froglet and the Large-footed Myotis;

- v) provisions for monitoring the condition of the conservation area over time;
- c) a **Surface Water and Groundwater Management Plan** to detail how surface water and groundwater will be managed to minimise impacts on ecology and water quality. The Plan shall be developed in consultation with the DEC and DPI and shall include, but not necessarily limited to:
 - Surface Water**
 - i) source control methods to reduce sediment load, and separate and divert water flows on the site;
 - ii) measures to avoid contaminated stormwater run-off from the site from entering Quibray Bay, such as directing all hardstand areas to a first-flush system and consideration of stormwater connection shut-off mechanisms;
 - iii) use of appropriately-sized structural mitigation measures such as artificial wetlands, sedimentation basins and gross pollutant traps;
 - iv) bunding of chemical storage areas;
 - Groundwater**
 - v) provision for artificial recharge through stormwater retention and infiltration-based management, such as on-site wetlands where appropriate;
 - vi) measures to provide for use of stormwater for irrigation on site where practicable;
 - vii) a groundwater monitoring program to establish baseline conditions (including groundwater levels, quality and flows);
- d) a **Waste Management Plan** to outline measures to minimise the production and impact of wastes handled, treated and produced at the project, with a specific focus on lime sludges and backwash solids (where relevant). The Plan shall include a framework for periodic review of alternative waste management measures and options for beneficial reuse of wastes, where appropriate.

4.7 The Plans referred to under condition 4.6 shall be submitted for the approval of the Director-General prior to the commencement of operation.

4.8 Nothing in this approval precludes the Proponent from developing the Plans referred to under condition 4.6 as separate plans, or as a single plan.

5. ENVIRONMENTAL REPORTING

Incident Reporting

5.1 The Proponent shall notify the Director-General of any incident with actual or potential significant off-site impacts on people or the biophysical environment as soon as practicable and within 24 hours after the occurrence of the incident. The Proponent shall provide full written details of the incident to the Director-General within seven days of the date on which the incident occurred.

5.2 The Proponent shall meet the requirements of the Director-General to address the cause or impact of any incident, as it relates to this approval, reported in accordance with condition 5.1 of this approval, within such period as the Director-General may require.