

**GOSFORD – WYONG COUNCILS' WATER AUTHORITY
INTERNAL MEMO**

GC:KB F2004/06808

21 February 2007

Mayor L Maher

Chairperson

Gosford

Cr J Macfadyen

Cr R Bell

Cr M Brooks(Alternate)

Wyong

Mayor B Graham

Cr N Rose

Cr K Forster

Cr R Stevens (Alternate)

Mr P Wilson

Mr R Williams

Mr K Yates

Mr D Cathers

Ms P McCann

Mr K Grantham

Ms K Gillett

Mrs L McDermott

Ms H Cambourn

Authority Staff

Mr G Casement

Mrs K Bushnell

Mr B Fullagar

MINUTES OF BOARD MEETING HELD 21 FEBRUARY 2007 AT GOSFORD CITY COUNCIL

Please find attached:-

- Minutes of the Gosford/Wyong Councils' Water Authority Board Meeting held February 21st 2007 at Gosford City Council.

The next scheduled Board meeting is set on 21st March (Wednesday) at Wyong Shire Council. The room location will be advised with the Agenda.

K Yates

Secretary

Gosford/Wyong Councils' Water Authority

**MINUTES OF THE GOSFORD – WYONG COUNCILS' WATER AUTHORITY
BOARD MEETING AT GOSFORD CITY COUNCIL
ON WEDNESDAY 21ST FEBRUARY, 2007 COMMENCING AT 8:30 am**

Present:

Mayor L Maher*

Chairperson

Gosford

Cr R Bell*

Cr M Brooks

(Alternate)*

Wyong

Mayor B Graham*

Cr R Stevens (Alternate)*

Mr R Williams

(Acting GM)*

Ms P McCann

(Acting Director)

Mr K Yates*

Mr K Grantham (Acting Director)*

Ms Kylie Gillett

Ms K Baker

Mr Brett Koisumi-

Smith

Mrs L McDermott

Ms H Cambourn

* Board Members with Voting Rights at this meeting.

Authority Staff

Mr G Casement

Mrs K Bushnell

Mr B Fullagar

1. RECEIPT OF APOLOGIES

Mr. Peter Wilson, Mr. David Cathers, Cr Kath Forster, Cr Neil Rose and Cr J Macfadyen,

2. PECUNIARY INTEREST/CONFLICT OF INTEREST

Nil

3. CONFIRMATION OF MINUTES

Moved:

011/07:

Cr R Stevens

RESOLVED:

Seconded:

Mr K Yates

That the Minutes of the Board meeting held January 17th 2007 be confirmed with the following changes:

1. With an amendment to the name Cr M Bell which should be Cr R Bell
2. With an amendment in General Business – to say ‘...that a report by Professor Albani relating to very low flushing rates from Brisbane Water should be taken into account in any consideration for Temporary Desalination in Brisbane Water’.

4. BUSINESS ARISING

Nil

5 TECHNICAL ADVISORY GROUP (TAG) REPORT

5.1 Regular Information Report - Annexure A

Moved: Cr B Graham **Seconded:** Cr R Bell
012/07: **RESOLVED:** That the Board note the above report.

5.2 Summary Report on Demand Reduction Activities and Contingency Plans - Annexure B

Moved: Cr R Stevens **Seconded:** Cr B Graham
013/07: **RESOLVED:** That the Board note the above report.

5.3 Drought Status Report - Annexure C

Moved: Cr B Graham **Seconded:** Mr K Yates
014/07: **RESOLVED:** That the Board note the information and recommend to the two Councils that:

1. The Board re-evaluate the need, timing and capacity of future temporary desalination at its March 2007 meeting.
2. That the first amount of temporary desalination to be installed, if required, be a minimum of 8 ML/d.
3. That the TAG report to the next meeting in relation to Level 5 restrictions and provide advice in relation to nurseries and commercial gardens and the use of rainwater tanks connected internally.

5.4 Progress Report on Contingency Projects- Annexure D

Moved: Cr R Bell **Seconded:** Cr R Stevens
015/07: **RESOLVED:** That the Board note the information and recommend to the two Councils the following:

1. A budget of \$55,000 be approved for the activities associated with Ourimbah Creek Weir Temporary Bypass Flow Reduction project.
2. The budget for the Porters Creek Temporary Weir project be increased from \$876,000 to \$1,620,000.
3. The budget for the Lower Mangrove Weir to Mooney Dam Link project be increased from \$2,075,000 to \$2,760,000.

5.5 Progress Report on Temporary Desalination Contingency Supply Project - Annexure E

Moved: Cr B Graham
016/07: **RESOLVED:**

Seconded: Mr K Yates

1. That the Board note the information.
2. The Board support in principle the preference for the Vales Point option as the preferred first temporary desalination plant site and that this option is pursued subject to it achieving capacity and timing requirements.

5.6 Contingency Plan – Use of Groundwater - Annexure F

Moved: Cr R Bell
017/07: **RESOLVED:**

Seconded: Cr R Stevens
That the Board note the information.

5.7 Hunter Connection Contingency Progress Report - Annexure G

Moved: Cr M Brooks
018/07: **RESOLVED:**

Seconded: Cr R Stevens
That the Board note the information and recommend to the Councils the following:

1. The budget for the Council's contributions towards the project "Hunter Water Transfer – 20 ML/d" be increased from \$17,970,000 to \$21,360,000.

5.8 Progress Report on Capital Improvement Works - Annexure H

Moved: Cr B Graham
019/07: **RESOLVED:**

Seconded: Mr R Williams
That the Board note the information.

5.9 Evaporative Desalination Plants Using Solar Energy - Annexure I

Moved: Cr M Brooks
020/07: **RESOLVED:**

Seconded: Cr B Graham

1. That the Board note the information.
2. That the Authority write to the State and Federal Governments enquiring if there has been any progress in examining the report by five CSIRO Scientists in relation to Solar Thermal Technology, which a report indicated to have the capacity to meet Australia's entire current demand for electricity and be cost effective within seven years.

5.10 Vales Point and Munmorah Power Stations – Annexure J

Moved: Cr R Bell
021/07: **RESOLVED:** **Seconded:** Mr K Yates

1. That the Board note the information.
2. That representations be made to the State Government to proceed with stages 2 and 3 as soon as possible.

5.11 Water Management Plans – Annexure K

Moved: Cr B Graham
022/07: **RESOLVED:** **Seconded:** Cr R Stevens
That the Board note the information.

5.12 Rainwater Tank Rebates for large sized tanks at multiple occupancy / commercial / industrial users - Annexure L

Moved: Cr R Bell
023/07: **RESOLVED:** **Seconded:** Cr R Stevens

1. That the Board note the information.
2. That the councils continue to pursue the issue of a state funded rainwater tank rebate program to be available on the Central Coast.

5.13 WaterPlan 2050 Status Report - Annexure M

Moved: Cr R Bell
024/07: **RESOLVED:** **Seconded:** Cr B Graham
That the Board note the information.

5.14 Communications Update - Annexure N

Moved: Cr B Graham
025/07: **RESOLVED:** **Seconded:** Mr R Williams

1. That the Board note the above report.
2. That the communications strategy be continued.

5.15 Outcome of 3-Year University of Technology Kulnura-Mangrove Mountain Aquifer Study – Annexure O

Moved: Cr M Brooks
026/07: **RESOLVED:** **Seconded:** Cr B Graham

That the Board note the above report and recommend to the two councils that:

1. The Minister for Natural Resources be requested to place a moratorium on the issuing of any further water entitlements on the Kulnura-Mangrove Mountain plateau.
2. The Minister be requested to initiate steps to buy back current licences to ensure that existing extraction limits are within the sustainable yield for dry climatic conditions.

5.16 Regional Water Education Programs Funding – Annexure P

Moved: Mr K Yates
027/07: **RESOLVED:** **Seconded:** Cr B Graham
That the Board note the information and recommend to the two councils that:
1. A budget of \$125,000 be approved for the Pre-School and High School Water Education programs.

5.17 Environmental Flow Study – Annexure Q

Moved: Cr B Graham
028/07: **RESOLVED:** **Seconded:** Cr R Bell
That the Board note the information and recommend to the two councils to:
1. Approve a total project budget for the Environmental Flows Study of \$708,000.
2. Approve an expenditure of \$200,000 from the total budget within the 2006/2007 financial year.

5.18 Budget and Financial Information Summary – Annexure R

Moved: Cr B Graham
029/07: **RESOLVED:** **Seconded:** Cr R Stevens
That the Board note the information and recommend to the two councils:
1. That the approved budget be revised to the amounts detailed in the “Working Budget” as detailed in Attachment 1, for the JWS Operations.

6. GENERAL BUSINESS

Long Term Desalination

Ken Grantham provided to the Board a paper relating to Development Consent, section 80 of the Environmental Planning and Assessment Act 1979 (attached).

Moved:
030/07:

Cr L Maher
RESOLVED:

Seconded: Cr B Graham

That the Board note the information and recommend to Wyong Shire Council the:

1. acceptance of the DOP Development Consent conditions for the proposed 20 ML/d desalination plant to be located adjacent to the Toukley Sewage Treatment Plant. (Attachments 2 & 3)

Public Comments by Board Members.

To ensure open and transparent information to the community, it is considered appropriate that Board members distinguish between their own personal positions and those of the Board.

Moved:
031/07:

Cr L Maher
RESOLVED:

Seconded: Cr B Graham

1. That when Board members express an opinion that does not reflect the position of the Board, that Board member will advise that it is their own personal position and not that of the Board.

7 NEXT MEETING CONFIRMATION

The next scheduled Board meeting is set on March 21st 2007 (Wednesday) at Wyong Shire Council. The room location will be advised with the Agenda.

There being no further business, the meeting closed at 10:25 am.

JWS OPERATIONS BUDGET															
Operations and Maintenance	Id No	Responsibility to Manage	2006/07 Budget & Expenditure								Forward Budgets			Notes	
			Original Budget \$	Current Council Approved	Working Budget	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Expended \$ to 31/12/2006	% Expended of Current Budget	2007/08	2008/09		beyond 2009/10
Pump Stations	1	Gosford	1,401,281	1,401,281	1,401,281	120,151	367,938			488,089	35%				Recurrent costs for the management of Mangrove and Mooney pumping stations.
Treatment Plant	2	Gosford	1,258,519	1,258,519	1,258,519	505,219	401,736			906,955	72%				Recurrent costs for the management of Somersby Water Treatment Plant.
Mains/Reservoirs	3	Gosford	600,087	600,087	600,087	138,365	83,516			221,881	37%				Recurrent costs covering the management of Jointly owned reservoirs and trunk mains.
Dams/Weirs	4	Gosford	1,578,807	1,578,807	1,578,807	386,097	468,040			854,137	54%				Recurrent costs covering the management of Mangrove and Mooney Dams and Mangrove Weir. Reallocation of budget between Mains/Reservoirs and Dams/Weirs.
Purchase water from the Hunter	5	Gosford	1,660,000	1,660,000	1,660,000	296,380	233,567			529,947	32%				Budget for 2006/07 provides for 4033ML to be purchased. Accounts still outstanding for purchases in reporting period.
Contingency Plan Operating Costs	6	Gosford	200,000	200,000	200,000	39,964	20,000			59,964	30%				Costs for operating additional potable water source contingency plans. Operating costs for borefields to licensing requirements. Bore operating expenditure an estimate only. Operating expenditure to be deducted from the Groundwater capital expenditure.
Sub Total Gosford	7	Gosford	6,698,694	6,698,694	6,698,694	1,486,176	1,574,797	0	0	3,060,973	46%	7,976,687	8,212,951	8,402,578	Budgets for 2007/2008 and beyond account for increased transfers from HWC. Forward Budgets currently being reviewed.
Pump Stations	8	Wyong	856,000	856,000	750,000	115,485	193,945			309,430	36%				Operation and maintenance of jointly owned water pump stations. Lower expenditure levels due to reduced pumpage resulting from low flows in Wyong River and Ourimbah Creek.
Treatment Plant	9	Wyong	1,100,000	1,100,000	1,000,000	204,864	233,556			438,420	40%				Operation and maintenance of Mardi Water Treatment Plant. Current expenditure level is due to reduced production at Mardi WTP. Reduced production at Mardi WTP has occurred as a result of a water quality strategy to cease drawing water when Mardi Dam levels are low. Reduced WTP production has been offset by increased transfers from GCC.
Mains/Reservoirs	10	Wyong	31,000	31,000	95,000	65,921	10,009			75,930	245%				Operation and maintenance of jointly owned mains and reservoirs. Increased level of expenditure has resulted from unforeseen works in 1st quarter associated with the rebuilding of the surge tank on Rising Main 11. Existing fittings were leaking and required replacement.
Dams/Weirs	11	Wyong	274,000	274,000	274,000	74,088	111,912			186,000	68%				Operation and maintenance of jointly owned dams and weirs.
Purchase of water from Hunter Water Corporation	12	Wyong	1,660,000	1,660,000	1,660,000	296,380	233,567			529,947	32%				Budget for 2006/07 provides for 4033ML to be purchased. Accounts still outstanding for purchases in reporting period.
Contingency Plan Operating Costs	13	Wyong	210,000	210,000	240,000	58,557	68,843			127,400	61%				Operation of potable groundwater systems in Wyong Shire.
Sub Total Wyong	14	Wyong	4,131,000	4,131,000	4,019,000	815,295	851,832	0	0	1,667,127	40%	5,022,000	5,113,000	5,113,000	Budgets for 2007/2008 and 2008/2009 account for increasing transfers from HWC.
Sub Total Gosford & Wyong	15		10,829,694	10,829,694	10,717,694	2,301,471	2,426,629	0	0	4,728,100	44%				
JWS Operations	ID No	Responsibility to Manage	2006/07 Budget & Expenditure								Forward Budgets			Notes	
			Original Budget \$	Current Council Approved	Working Budget	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Expended \$ to 31/12/2006	% Expended of current budget	2007/08	2008/09		beyond 2008/09
JWA Employee Costs	16	Authority	290,000	290,000	290,000	69,798	73,648	-	-	143,446	49%				Headworks Manager, Engineer, Projects Officer, Administration Officer and Student (does not include oncosts)
Communications	17	Authority	547,000	547,000	760,000	313,598	280,202	-	-	593,800	109%				Raising profile of water supply issues within community. Includes costs for advertising, communication consultancies, water restrictions and water events.
Board Expenses	18	Authority	25,000	25,000	15,000	2,374	6,959	-	-	9,333	37%				Costs associated with the running of the Board, including Chairman payments, meeting expenses and document printing.
Water Plan 2050	19	Authority	50,000	50,000	200,000	19,336	85,729	-	-	105,065	210%				Water Plan 2050 includes costs associated with project management, preparation of Strategy Report and community consultation. Expenditure has exceeded budget due to additional resources required for preparation of WaterPlan 2050 Strategy Report, project management and an ecological survey as part of a Mardi Dam to Mangrove Creek Dam Transfer System feasibility study.
Administration Expenses	20	Authority	15,000	15,000	7,000	1,166	2,213	-	-	3,379	23%				Office related expenses as incurred by the GWCWA.
Investigation Projects	21	Authority	50,000	50,000	50,000	25,016	0	-	-	25,016	50%				Research projects involving the GWCWA including Kulnura mangrove mountain Aquifer investigations and Nutrient Run-off study.
Supply and Scheme Analysis	22	Authority	290,000	290,000	290,000	0	0	-	-	0	0%				Incorporates consultancies, reviews, analysis and investigations being undertaken by the GWCWA in the area of water supply. Includes professional services for revised system modelling and feasibility studies for a Mardi Dam to Mangrove Creek Dam Transfer System.
Demand and Distribution Analysis	23	Authority	10,000	10,000	5,000	155	0	-	-	155	2%				Incorporates consultancies, reviews, analysis and investigations being undertaken by the GWCWA in the area of demand management.
Pre School Water Education Program	24	Authority	0	0	45,000	0	0	-	-	0	-	45,000			Pre School Water Education Program. Includes costs for education officer. Program commenced in 3rd quarter.
High School Water Education Program	25	Authority	0	0	80,000	0	0	0	0	0	-	40,000			High School Education Program. Includes costs for education officer. Program commenced in 3rd quarter.
Environmental Flows Study	26	Authority			200,000					0	-	508,000			A comprehensive environmental flows study of the Wyong River aimed at supporting the environmental impact assessment and licensing requirement for increased transfers. A separate report is contained at Annexure Q.
Sub Total JWS Operations	27	Authority	1,277,000	1,277,000	1,942,000	431,443	448,751	0	0	880,194	69%				
Total Operations	28		12,106,694	12,106,694	12,659,694	2,732,914	2,875,380	0	0	5,608,294	46%				

Development Consent

Section 80 of the *Environmental Planning and Assessment Act 1979*

I, the Minister for Planning, pursuant to section 80 of the *Environmental Planning and Assessment Act 1979*, grant consent to the development 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 development.

Frank Sartor MP
Minister for Planning

Sydney

2007

File No: 9037379

SCHEDULE 1

Development Application: DA-168-7-2005-i

Application made by: Wyong Shire Council

To: Minister for Planning

In respect of: Lot 11 DP 632403, Lakes Beach (Crown Land) and Road Reserves of Budgewoi Road, Wilfred Barrett Drive and Main Road

For the following: Construction and operation of a 20 megalitre per day seawater reverse osmosis desalination plant adjacent to the Toukley sewage treatment plant, and associated infrastructure including:

- sub-surface seawater intake infrastructure beneath Lakes Beach;
- raw water pumping station at Lakes Beach;
- raw water transfer main between Lakes Beach and the desalination plant; and
- saline reject water discharge through the existing Norah Head Outfall.

This is page (8) of the Minutes of the Gosford-Wyong Councils' Water Authority Board meeting held at Gosford City Council on Wednesday, 21st February 2007.

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Chairperson

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SCHEDULE 2

Act, the	<i>Environmental Planning and Assessment Act, 1979</i>
Applicant, the	Wyong Shire Council
BCA, the	Building Code of Australia
Conditions of Consent	The Minister's conditions of consent for the development
Construction	Any work requiring a Construction Certificate or bulk earthworks
Council	Wyong 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).
Director-General's Approval	A written approval from the Director-General (or delegate).
	Where the Director-General's Approval is required under a condition the Director-General will endeavour to provide a response within one month of receiving an approval request. The Director-General may ask for additional information if the approval request is considered incomplete. When further information is requested the time taken for the Applicant to respond in writing will be added to the one month period.
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.
Operation	Intake of seawater in the desalination plant, for the purpose of testing/ commissioning or the production of potable drinking water
Publicly Available	Available for inspection by a member of the general public (for example available on an internet site or at a display centre).
RTA, the	NSW Roads and Traffic Authority
Site	Land to which development application DA-168-7-2005-i) applies.

1. ADMINISTRATIVE CONDITIONS

Terms of Approval

- 1.1 The Applicant shall carry out the development generally in accordance with:
- Development Application DA-168-7-2005-i, lodged with the Department of Planning on 12 July 2005;
 - Gosford Wyong Water Supply Desalination Scheme: Statement of Environmental Effects* (two volumes), prepared by Sinclair Knight Merz and dated July 2005;
 - Gosford Wyong Water Supply Desalination Scheme: Additional Water Quality and Aquatic Ecology Assessment*, prepared by Sinclair Knight Merz and dated October 2005; and
 - the conditions of this consent.
- 1.2 If there is any inconsistency between the above, the conditions of this consent shall prevail to the extent of the inconsistency.
- 1.3 In the event of an inconsistency between:
- the conditions of this approval and any document listed from condition 1.1a) to 1.1c) to inclusive, the conditions of this consent 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.
- 1.4 The Applicant 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 consent; and
 - the implementation of any actions or measures contained in these reports, plans or correspondence

Limits of Approval

- 1.5 The development shall be limited to a nominal capacity of 7000 megalitres of desalinated water per annum.

Statutory Requirements

- 1.6 ¹The Applicant shall ensure that all licences, permits and approvals are obtained and kept up-to-date as required throughout the life of the development. No condition of this consent removes the obligation for the Applicant to obtain, renew or comply with such licences, permits or approvals.

Utilities and Services

- 1.7 ²Prior to the commencement of construction of the development, the Applicant shall identify (including, but not limited to the position and level of service) all public utility services on the site, roadway, footpath, public reserve or any public areas that are associated with, and/or adjacent to the site, and/or likely to be affected by the construction and operation of the development.
- 1.8 ³The Applicant shall consult with the relevant utility provider(s) for those services identified under condition 1.7 and make arrangements to adjust and/or relocate services as required. The Applicant shall bear the full cost associated with providing utilities and

¹ Incorporates a Wyong Shire Council General Term of Approval (8)

² Incorporates a Wyong Shire Council General Term of Approval (15)

³ Incorporates a Wyong Shire Council General Term of Approval (15)

services to the site, and restoring any public infrastructure that may be damaged during the proposed works.

- 1.9 ⁴Prior to the commencement of construction works that may affect services/utilities, the Applicant shall provide documentary evidence to the Director-General that the requirements of the relevant utility provider(s) have been met.

Compliance

- 1.10 The Applicant shall ensure that employees, contractors and sub-contractors are aware of, and comply with, the conditions of this consent relevant to their respective activities.
- 1.11 The Applicant shall be responsible for environmental impacts resulting from the actions of all persons on site, including contractors, sub-contractors and visitors.
- 1.12 Prior to each of the events listed below, the Applicant shall certify in writing to the satisfaction of the Director-General that it has complied with all conditions of this consent applicable prior to that event.
- a) commencement of construction of the development;
 - b) commencement of commissioning the development;
 - c) commencement of operation of the development.

2. SPECIFIC ENVIRONMENTAL CONDITIONS

Development Design Requirements

- 2.1 ⁵Prior to the commencement of construction of the development, the Applicant shall certify to the satisfaction of the Director-General that the relevant requirements of *Development Control Plan No. 67 – Engineering Requirements for Development* have been or will be met in relation to carrying out the development.
- 2.2 ⁶Prior to the commencement of construction of the development, the Applicant shall demonstrate to the satisfaction of the Director-General that it has obtained a Certificate of Compliance under the *Water Management Act 2000* for water and sewer requirements.

Greenhouse Gas Generation and Energy Efficiency

- 2.3 The development shall be designed and constructed to incorporate energy recovery systems and energy efficient equipment to optimise energy efficiencies of the desalination plant operations.
- 2.4 Prior to the commencement of operation of the development, the Applicant 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 include, but not necessarily be limited to:
- a) a specified outcome that greenhouse gas emissions attributable to the development (directly and indirectly) will be off-set to achieve a net operating performance criterion for the RO (membrane) plant of 2.0 kg CO₂ (equivalent) per kilolitre of desalinated water produced (ie an offset of 33% based on concept design estimates);
 - b) details of relevant regulatory requirements with respect to energy and greenhouse gases, and a system for managing change in these requirements over time;

⁴ Incorporates a Wyong Shire Council General Term of Approval (15)

⁵ Incorporates Wyong Shire Council General Terms of Approval (5, 6, 7, 17 and 22)

⁶ Incorporates a Wyong Shire Council General Term of Approval (2)

- c) a monitoring and recording system to track the energy consumption of the desalination plant development and the resultant equivalent emissions of carbon dioxide;
- d) 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;
- e) a framework and management principles for accommodating any shortfalls in the availability of renewable energy that may occur from time to time;
- f) systems to monitor and audit the processes, procedures and outcomes stipulated under the Plan; and
- g) 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.

Dune and Beach Management

- 2.5 Prior to the commencement of construction works on Lakes Beach (including seawater intake and pumping station infrastructure), the Applicant shall install visible barriers to prevent unauthorised access to the construction area. The barriers shall be maintained for the duration of the construction works and shall be removed once the works have been completed.
- 2.6 As part of the barriers referred to under condition 2.5 of this consent, the Applicant shall install visible signage on the barriers to indicate:
- a) the nature, purpose and duration of construction works being undertaken;
 - b) that unauthorised access to the construction area is prohibited;
 - c) a contact name and telephone number for the person responsible for the management of the construction area and for responding to public inquiries; and
 - d) where relevant, the nearest alternative Beach access point(s) and route(s) for public access around the construction area.
- 2.7 To minimise the potential for erosion, the Applicant shall install timber sleepers and chains, or other measure acceptable to the Director-General, along the length of vehicle access points associated with construction works on Lakes Beach.
- 2.8 As soon as practicable after the conclusion of construction works along Lakes Beach, the Applicant shall stabilise and revegetate disturbed areas using locally endemic species.
- 2.9 All caissons and ancillary pipework installed as part of the development shall be constructed and maintained below the anticipated active scour depth on the active profile of Lakes Beach. Caissons and ancillary pipework shall only be permitted to be installed above this level with the prior written agreement of the Director-General, in consultation with DNR. In seeking the Director-General's approval under this condition, the Applicant shall submit a report, prepared by an independent and appropriately-qualified coastal engineering consultant, that demonstrates that installation of caissons and pipework above the anticipated active scour depth will not have an adverse impact on coastal processes and associated hazards.

Soil and Water Quality Impacts

- 2.10 Except as may be expressively provided by an Environment Protection Licence for the development, the Applicant shall comply with section 120 of the *Protection of the Environment Operations Act 1997* which prohibits the pollution of waters.

Discharge Water Impacts

- 2.11 The Applicant shall not permit the disposal to waters of lime sludge and backwash solids. This is page (13) of the Minutes of the Gosford-Wyong Councils' Water Authority Board meeting held at Gosford City Council on Wednesday, 21st February 2007.

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Chairperson

- 2.12 Notwithstanding condition 2.11, the Applicant may seek the Director-General's approval to discharge backwash (whether solid or in solution) to waters. In seeking approval under this condition, the Applicant shall prepare, and have subject to an independent and internationally-recognised peer review, a report that assesses and demonstrates as acceptable the impacts of backwash discharge to waters. The report shall be submitted to the satisfaction of the Director-General and the DEC, and shall include, but not necessarily be limited to, consideration of:
- a) water quality impacts of the backwash discharge, assessed against water quality criteria (including, as relevant, physico-chemical properties, odour and colour), guidelines and policies in force and applicable at the time of assessment;
 - b) aquatic ecological impacts, including ecotoxicity, bioaccumulation, physical interference (for example, physical disruption of gill function) and the potential for smothering of benthic organisms; and
 - c) amenity impacts, including the potential for re-entrainment and spread of any solid component of backwash discharges, effects on water colour and appearance and the potential for solids to be washed to shore or into recreational or commercial fishing areas.

The Applicant shall not permit the discharge of any backwash under this condition without the prior approval of the Director-General, after having consulted with the DEC.

- 2.13 ⁷The Applicant shall ensure that seawater concentrate generated by the desalination plant is only discharged through the Norah Head Ocean Outfall and only after thorough mixing with effluent from the Toukley Sewage Treatment Plant.

- 2.14 ⁸The Applicant shall ensure that seawater concentrate generated by the desalination plant and directed to the Toukley Sewage Treatment Plant does not exceed 33,000 kilolitres per day.

Discharge Design Requirements

- 2.15 ⁹The Applicant shall design and construct the development so that seawater concentrate meets water quality criteria for relevant physico-chemical parameters (in particular, salinity and treatment chemicals) at the edge of the near field mixing zone, consistent with *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (ANZECC, 2000) and consistent with the objectives in *Marine Water Quality Objectives for NSW Ocean Waters* (DEC, 2006). In undertaking the design of the development to achieve these outcomes, the Applicant shall:
- a) consult with the DEC and DPI during the design of the development with respect to achievement of the outcomes specified under this condition;
 - b) develop a strategy for the desalination plant design and operation to verify the targeted dilution of the seawater concentrate at the edge of the near field mixing zone, including where necessary, further water quality sampling of receiving waters and a program of toxicity testing on simulated seawater concentrate in association with pilot testing;
 - c) develop measures to minimise the potential for seawater concentrate to cause acute toxicity within the near field mixing zone, including measures such as modification of the design of the outlets to increase the rate of dispersion or modification of the treatment process and chemicals to reduce the toxicity of the discharge;

⁷ Incorporates Environment Protection Authority General Terms of Approval (O10.1 and O10.2)

⁸ Incorporates an Environment Protection Authority General Terms of Approval (L4.1)

⁹ Incorporates Environment Protection Authority General Terms of Approval (L2.2, L3.1, L3.2, L3.3 and M2.1)

- d) refine the design of the discharge point to minimise impacts on water quality and ecology as far as practicable, including as necessary, further surveys of current movements, physical modelling of near field dilution and habitat surveys.

The Applicant shall submit details of the final design of the seawater concentrate discharge point to the Director-General prior to the commencement of its construction, or within such period as otherwise agreed by the Director-General, demonstrating how the Applicant has complied with the requirements of this condition.

Noise Impacts

Construction Noise

- 2.16 ¹⁰The Applicant shall only undertake construction activities associated with the development that would generate an audible noise at the any residential premises between the following hours:
- a) 7:00 am to 6:00 pm, Mondays to Fridays, inclusive;
 - b) 8:00 am to 1:00 pm on Saturdays; and
 - c) 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.

- 2.17 The hours of construction activities specified under condition 2.16 of this consent may be varied with the prior written consent of the Director-General. Any request to alter the hours of construction specified under condition 2.16 shall be:
- a) considered on a case-by-case basis;
 - b) accompanied by details of the nature and need for activities to be conducted during the varied construction hours; and
 - c) accompanied by written evidence of the DEC's agreement with the proposed variation in construction times, after providing any information necessary for the DEC to reasonably determine that activities undertaken during the varied construction hours will not adversely impact on the acoustic amenity of receptors in the vicinity of the site.

Operation Noise

- 2.18 The Applicant shall design, operate and maintain the desalination plant and raw water pumping station to ensure that the noise contribution from the development to the background acoustic environment at any residential premises in the Evans Road or Budgewoi Road residential areas does not exceed an $L_{Aeq(15\text{ minute})}$ value of 35 dB(A) at any time. The maximum allowable noise contribution applies under:
- a) wind speeds up to 3 ms^{-1} (measured at 10 metres above ground level); or
 - b) temperature inversion conditions up to 3°C per 100 metres and wind speeds up to 3 ms^{-1} (measured at 10 metres above ground level).
- 2.19 For the purpose of assessment of noise contributions specified under condition 2.18 of this consent, noise from the development shall be
- a) measured at the most affected point on or within the site boundary at the most sensitive locations to determine compliance with $L_{Aeq(15\text{ minute})}$ noise limits; and
 - b) subject to the modification factors provided in Section 4 of the *New South Wales Industrial Noise Policy* (EPA, 2000), where applicable.

Notwithstanding, should direct measurement of noise from the development be impractical, the Applicant may employ an alternative noise assessment method deemed

¹⁰ Incorporates a Wyong Shire Council General Term of Approval (16)

acceptable by the DEC (refer to Section 11 of the *New South Wales Industrial Noise Policy* (EPA, 2000)). Details of such an alternative noise assessment method accepted by the DEC shall be submitted to the Director-General prior to the implementation of the assessment method.

Contamination and Waste Management

- 2.20 All waste materials removed from the site shall only be directed to a waste management facility lawfully permitted to accept the materials.
- 2.21 The Applicant shall ensure that all liquid and/ or non-liquid waste generated and/ or stored on the site is assessed and classified in accordance with the EPA's Environmental Guidelines: *Assessment, Classification and Management of Liquid and Non-Liquid Wastes* (Waste Guidelines) as in force as at 1 July 1999.
- 2.22 ¹¹The Applicant shall develop and implement waste management measures for the development in accordance with *Development Control Plan No. 69 – Controls for Site Waste Management*.

Stockpiled Materials

- 2.23 Prior to the commencement of construction of the desalination plant, the Applicant shall undertake representative sampling and testing of materials currently stockpiled on that land, and shall characterise the stockpiled materials in accordance with *Environmental Guidelines: Assessment, Classification & Management of Liquid & Non-Liquid Wastes* (EPA, 1999). All stockpiled materials shall be removed from the site prior to the commencement of construction and shall be disposed of to a waste management facility lawfully permitted to accept the materials.

Dangerous Goods and Chemical Storage

- 2.24 The Applicant shall store and handle all relevant combustible liquids and dangerous goods (as defined by the Australian Dangerous Goods Code) in impervious bunds or sealed areas consistent with all relevant Australian Standards and Environment Protection Manual Technical Bulletin *Bundling and Spill Management* (EPA, 1997).

Traffic and Transport

Works Affecting the Road Reserve

- 2.25 The Applicant shall ensure that all works affecting the intersection of Main Road and Wilfred Barrett Drive are undertaken utilising trenchless technologies, and that these works do not require or lead to the opening of the road pavement in this location. The road crossing shall be perpendicular to the kerb or road shoulder.
- 2.26 Where possible, the Applicant shall install the raw water transfer main within existing easements for electrical supplies or outside the road reserve in a separate easement. Where this cannot be achieved, the Applicant may install the transfer main within the footpath or verge, but shall ensure that these works do not require or lead to the opening of the road pavement.
- 2.27 Prior to the commencement of construction of the development, the Applicant shall consult and enter into an agreement with the RTA with respect to management of the road reserve and potential conflicts between the road and the raw water transfer main. The agreement shall include, but need not necessarily be limited to arrangements for:
- a) indemnity incurred for the service;

¹¹ Incorporates a Wyong Shire Council General Term of Approval (10)

This is page (16) of the Minutes of the Gosford-Wyong Councils' Water Authority Board meeting held at Gosford City Council on Wednesday, 21st February 2007.

- b) upkeep of the road reserve affected by the development;
- c) any damage caused or contamination of the soil due to pipeline failure; and
- d) future relocation of the raw water transfer main and any other services associated with the development as part of any future road upgrades.

A copy of the agreement reached with the RTA shall be provided to the Director-General prior to the commencement of construction of the development.

Internal Roads and Parking

2.28 The Applicant shall design, construct and maintain all internal road works with the desalination plant site, including associated parking facilities and loading bays, to meet or exceed the following requirements:

- a) compliance with the provisions of relevant Australian Standards, RTA standards and guidelines, and Council codes;
- b) installation of clear signage to demarcate all vehicle movements within the site;
- c) provision of directional pavement arrows on all internal road, and line-marking and signage to indicate designated truck routes and bays;
- d) internal roadways wide enough to accommodate through traffic and turning two-way traffic;
- e) design of site ingress and egress points to ensure that all vehicles enter and leave the site in a forward direction;
- f) installation and maintenance of any landscaping on the site so as not to affect driver sight distance for vehicles entering and exiting the site;
- g) provision for the separation of heavy and light vehicle ingress and egress points; and
- h) clear demarcation of all visitor, disabled, ambulance and service vehicle parking areas.

2.29 The Applicant shall not permit any vehicles associated with the construction or operation of the development to park in Wilfred Barrett Drive or Budgewoi Road.

Air Quality Impacts

2.30 The Applicant shall not permit any offensive odour, as defined under section 129 of the *Protection of the Environment Operations Act 1997*, to be emitted beyond the boundary of the site.

2.31 The Applicant shall design, construct, commission, operate and maintain the development in a manner that minimises or prevents the emission of dust from the site. This shall include all trafficable areas and vehicle manoeuvring areas.

Visual Amenity

2.32 The Applicant shall ensure that all new external lighting associated with the development 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*.

Heritage Impacts

2.33 The Applicant shall not undertake any construction activities that disturb or impact on the BW1 or BW2 aboriginal heritage areas.

3. ENVIRONMENTAL MONITORING AND AUDITING

Water Quality Monitoring

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- 3.1 ¹²The Applicant shall continuously monitor the volumes of seawater delivered to the desalination plant and the volumes of seawater concentrate discharged from the desalination plant to the Toukley Sewage Treatment Plant.
- 3.2 ¹³The Applicant shall prepare and implement a **Marine Monitoring Program** to validate and calibrate modelling presented in the documents referred to under condition 1.1, and to provide proactive and reactive mechanisms for the mitigation and management of acute and chronic impacts associated with discharge of seawater concentrate from the Norah Head Ocean Outfall. Implementation of the Program shall be commenced prior to the commencement of commissioning of the development, and shall continue throughout the life of the development, unless otherwise agreed by the DEC. The Program shall include, but need not necessarily be limited to:
- a) the use of passive introduced tracers in the discharge stream, pre- and post-commissioning, under a range of oceanographic and discharge conditions to calibrate and validate a near field numerical model that will make robust diagnostic and prognostic predictions of plume geometry and dilutions. This will require monitoring of ambient oceanographic conditions (eg currents, density structure, winds and a specific plume tracking regime);
 - b) consideration, as part of the modelling undertaken under a) of any changes to the configuration or orientation of discharge points associated with the existing Norah Head Ocean Outfall multi-port shoreline diffuser;
 - c) based on the calibrated and validated modelling undertaken under a), establishment and optimisation of the performance envelope of the outfall/ discharge in order to minimise the size/ volume of the mixing zone and to limit undesirable features such as boundary attachment;
 - d) reconciliation of the optimisation of the diffuser/ effluent/ plume matrix against the relevant ANZECC guidelines to provide a clear understanding of the mixing zone. Results are to be presented using a statistical approach that defines best, typical and worst case scenarios and the relative likely occurrence of each.
 - e) a program for periodic reporting of results of the Program to the DEC and the Director-General.

The Applicant shall submit a copy of the Program to the Director-General and the DEC prior to implementation.

Groundwater Monitoring

- 3.3 The Applicant shall prepare and implement a **Groundwater Monitoring Program** to monitor the effects of the seawater intake on local groundwater flows. The Program shall include, but not necessarily be limited to:
- a) locations of monitoring bores, both up and down gradient of the seawater intake points;
 - b) parameters to be monitored, including procedures and protocols for sampling and testing;
 - c) a schedule for periodic monitoring of groundwater quality, depth and flow, at an initial frequency of not less than once every six months;
 - d) details of a background survey to establish groundwater quality, depth and flow prior to the commencement of construction the development; and
 - e) details of groundwater depth and flow changes that would indicate that the development is having an adverse impact on groundwater depths and flows, or is adversely impacting on surrounding groundwater-dependent ecosystems, and a contingency plan in the event that such impacts occur.

¹² Incorporates Environment Protection Authority General Terms of Approval (P1.3 and M6.1)

¹³ Incorporates Environment Protection Authority General Terms of Approval (U1.1)

The Groundwater Monitoring Program shall be submitted for the approval of the Director-General prior to the commencement of construction of the development, or within such period as the Director-General may agree.

Noise Monitoring

- 3.4 Within 90 days of the commencement of operation of the development, or as may be directed by the Director-General, and during a period in which the development is operating under normal operating conditions, the Applicant shall undertake a program to confirm the noise emission performance of the facility. The program shall meet the requirements of the DEC, and shall include, but not necessarily be limited to:
- a) noise monitoring, consistent with the guidelines provided in the *New South Wales Industrial Noise Policy* (EPA, 2000), to assess compliance with condition 2.18 of this consent;
 - b) methodologies for noise monitoring;
 - c) location of noise monitoring;
 - d) frequency of noise monitoring;
 - e) identification of monitoring sites at which pre- and post-development noise levels can be ascertained;
 - f) details of any complaints received in relation to noise generated by the development within the first 90 days of operation;
 - g) an assessment of night-time use of audible alarm systems;
 - h) details of any noise mitigation measures and timetables for implementation; and
 - i) recommendations and timetables for implementation for any additional measures necessary to ensure compliance with the relevant noise-related conditions of this consent.

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

Independent Environmental Auditing

- 3.5 Within one year of the commencement of operation of the development, and then as may be directed by the Director-General, the Applicant shall commission an independent person or team to undertake an Environmental Audit of the development. The independent person or team shall be approved by the Director-General prior to the commencement of the Audit. The Audit shall:
- a) be carried out in accordance with *ISO 19011:2002 - Guidelines for Quality and/or Environmental Management Systems Auditing*;
 - b) assess compliance with the requirements of this consent, and other licences and approvals that apply to the development;
 - c) assess the environmental performance of the development against the predictions made and conclusions drawn in the documents referred to under condition 1.1 of this consent; and
 - d) review the effectiveness of the environmental management of the development, including any environmental impact mitigation works.

An **Environmental Audit Report** shall be submitted to the Director-General within two months of the completion of the Audit, detailing the findings and recommendations of the Audit and including a detailed response from the Applicant to any of the recommendations contained in the Report.

4. COMMUNITY INFORMATION, CONSULTATION AND INVOLVEMENT

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- 4.1 Subject to confidentiality, the Applicant shall make all documents required under this consent available for public inspection on request.

Complaints Procedure

- 4.2 Prior to the commencement of construction of the development, the Applicant shall ensure that the following are available for community complaints for the life of the development (including construction and operation):
- a) a telephone number on which complaints about construction and operational activities at the site may be registered;
 - b) a postal address to which written complaints may be sent; and
 - c) an email address to which electronic complaints may be transmitted.

The telephone number, the postal address and the email address shall be displayed on a sign near the entrance to the site (at the desalination plant site and the raw water pumping station site), in a position that is clearly visible to the public, and which clearly indicates the purposes of the sign.

- 4.3 The Applicant shall record details of all complaints received through the means listed under condition 4.2 of this consent in an up-to-date Complaints Register. The Register shall record, but not necessarily be limited to:
- a) the date and time, where relevant, of the complaint;
 - b) the means by which the complaint was made (telephone, mail or email);
 - c) any personal details of the complainant that were provided, or if no details were provided, a note to that effect;
 - d) the nature of the complaint;
 - e) any action(s) taken by the Applicant in relation to the complaint, including any follow-up contact with the complainant; and
 - f) if no action was taken by the Applicant in relation to the complaint, the reason(s) why no action was taken.

The Complaints Register shall be made available for inspection by the Director-General upon request.

5. ENVIRONMENTAL MANAGEMENT

Environmental Representative

- 5.1 Prior to the commencement of construction of the development, the Applicant shall nominate a suitably qualified and experienced Environmental Representative(s) for the approval of the Director-General. The Applicant shall employ the Environmental Representative(s) on a full-time basis, or as otherwise agreed by the Director-General, during the life of the development. The Environmental Representative shall be:
- a) the primary contact point in relation to the environmental performance of the development;
 - b) responsible for all Management Plans and Monitoring Programs required under this consent;
 - c) responsible for considering and advising on matters specified in the conditions of this consent, and all other licences and approvals related to the environmental performance and impacts of the development;
 - d) responsible for receiving and responding to complaints in accordance with condition 4.2 of this consent; and
 - e) given the authority and independence to require reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts, and failing the effectiveness of such steps, to direct that relevant actions be ceased immediately should an adverse impact on the environment be likely to occur.

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The Applicant shall notify the Director General of any changes to that appointment that may occur from time to time.

Construction Environmental Management Plan

5.2 ¹⁴Prior to the commencement of construction of the development, the Applicant shall prepare and submit for the approval of the Director-General a **Construction Environmental Management Plan** to outline environmental management practices and procedures to be followed during the construction of the development. Construction shall not commence until written approval has been received from the Director-General. The Plan shall be consistent with *Guideline for the Preparation of Environmental Management Plans* (DIPNR 2004) and shall include, but not necessarily be limited to:

- a) a description of all activities to be undertaken on the site during construction of the development, including an indication of stages of construction, where relevant;
- b) statutory and other obligations that the Applicant is required to fulfil during construction, including all approvals, consultations and agreements required from authorities and other stakeholders, and key legislation and policies;
- c) specific consideration of measures to address any requirements of the DEC during construction;
- d) a description of the roles and responsibilities for all relevant employees involved in the construction of the development and a program for how these employees will be trained in responsibilities identified in the plan;
- e) details of how the environmental performance of the construction works will be monitored, and what actions will be taken to address identified adverse environmental impacts. In particular, the following environmental performance issues shall be addressed in the Plan:
 - i) measures to monitor and manage dust emissions;
 - ii) ¹⁵measures to monitor and minimise soil erosion and the discharge of sediment and other pollutants to lands and/ or waters during construction activities. These measures shall be in accordance with the requirements outlined in the Department of Housing's *Managing Urban Stormwater: Soils and Construction* and Wyong Shire Council's *Policy E1 – Erosion and Sediment Control*;
 - iii) measures to monitor and manage any contaminated soils/ materials encountered during construction;
 - iv) measures to monitor and manage any groundwater encountered during construction; and
 - v) measures to monitor and control noise emissions during construction;
- f) a description of the roles and responsibilities for all relevant employees involved in construction associated with the development; and
- g) arrangements for community consultation and complaints handling procedures during construction.

5.3 Where site preparation and construction works are to be undertaken in stages, the Applicant may, with the agreement of the Director-General, submit separate or staged Construction Environmental Plans relevant to the particular stages of construction.

Operational Environmental Management Plan

5.4 Prior to the commencement of operation of the development, the Applicant shall prepare and submit for the approval of the Director-General an **Operational Environmental Management Plan** to outline environmental management practices and procedures to be followed during the operation of the development. The Plan shall be consistent with the

¹⁴ Incorporates a Wyong Shire Council General Term of Approval (11)

¹⁵ Incorporates a Wyong Shire Council General Term of Approval (7)

This is page (21) of the Minutes of the Gosford-Wyong Councils' Water Authority Board meeting held at Gosford City Council on Wednesday, 21st February 2007.

Department's *Guideline for the Preparation of Environmental Management Plans* (DIPNR 2004). Operations shall not commence until written approval has been received from the Director General.

6. ENVIRONMENTAL REPORTING

Annual Performance Reporting

6.1 The Applicant shall, throughout the life of the development, prepare and submit to the Director-General, an **Annual Environmental Management Report (AEMR)**. The AEMR shall review the performance of the development against the Operation Environmental Management Plan (refer to condition 5.4 of this consent), the conditions of this consent and other licences and approvals relating to the development. The AEMR shall include, but not necessarily be limited to:

- a) details of compliance with the conditions of this consent;
- b) a copy of the Complaints Register (refer to condition 4.3 of this consent) for the preceding twelve-month period (exclusive of personal details), and details of how these complaints were address and resolved;
- c) a comparison of the environmental impacts and performance of the development against the environmental impacts and performance predicted in those documents listed under condition 1.1 of this consent;
- d) results of all environmental monitoring required under this consent and other approvals, including interpretations and discussion by a suitably qualified person; and
- e) a list of all occasions in the preceding twelve-month period when environmental performance goals for the development have not been achieved, indicating the reason for failure to meet the goals and the action taken to prevent recurrence of that type of incident.

The Applicant shall submit a copy of the AEMR to the Director-General every year, with the first AEMR to be submitted no later than twelve months after the commencement of operation of the development.

6.2 The Director-General may require the Applicant to address certain matters in relation to the environmental performance of the development, in response to review of the Annual Environmental Report. Any action required to be undertaken shall be completed within such period as the Director-General may agree.

Incident Reporting

6.3 The Applicant 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 after the occurrence of the incident. The Applicant shall provide written details of the incident to the Director-General within seven days of the date on which the incident occurred.

6.4 The Applicant shall meet the requirements of the Director-General to address the cause or impact of any incident, as it relates to this consent, reported in accordance with condition 6.3 of this consent, within such period as the Director-General may agree.

GOSFORD-WYONG DESALINATION SCHEME DEVELOPMENT CONSENT CONDITIONS

The Development Application for the permanent 20 ML/d Desalination Scheme was lodged with Department of Planning (DOP), as the consent authority, on 12 July 2005.

DOP issued its initial draft "Conditions of Consent" in May 2006. Subsequent negotiations with DOP regarding several conditions that were considered onerous and impractical by Council, culminated in Councils submitting revised conditions to DOP for its consideration in August 2006.

DOP has now issued its final draft "Development Consent" conditions for the Scheme for Council concurrence and/or comment prior to formal approval by the Minister. These final conditions (forwarded by DOP 16 February 2007) are consistent with the approval conditions applicable to the Sydney Water desalination project. A copy of the conditions is attached.

Comments on the key issues and changes requested by Councils in August 2006 and the relevant requirements included in the DOP's final draft conditions are summarised below.

1. Deferred Commencement

DOP has accepted Council request to remove the deferred commencement provisions. Previously, DOP required approval to all designs prior to it giving approval to commence construction, significantly increasing risks to project costs and delivery time.

2. Location of the beach well intake structures (caissons)

DOP originally required these to be located behind the Lakes Beach dune, necessitating an increase in the number of horizontal screens / caissons and their spacing due to reduced yield of the intake system as it would be located further from the ocean. This would increase costs and increase possible impacts on groundwater dependent ecological communities adjacent to Tuggerah Lakes.

Council offered to undertake further investigations, as part of the design phase work, in regard to location of the caissons forward of the dune as proposed in the concept designs. If investigations showed increased risk to coastal processes and that the development would be inconsistent with SEPP 71 and the Coastal Protection Act 1979, then Council would agree to locate the caissons behind the dune and implement additional environmental safeguards.

DOP has now revised its requirement to limit construction below the anticipated "active scour depth" of the beach, with provision to construct above this level subject to approval of DOP in consultation with DNR.

The revised condition is considered appropriate and meets the intent of Councils proposals for the development of the beach well intake, subject to further detailed investigations.

3. Greenhouse Gas Management

DOP's original requirement was to limit greenhouse gas emissions resulting from operation of the desalination scheme to 2.0 kg CO₂-e per kL, representing an approximate 50% offset.

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Council argued that whilst the Desalination Scheme would use more energy than other conventional water supply options, it should be recognised that desalination is a last resort option for the Central Coast. There are no other supply options identified (surface water, ground water or reclaimed water) that are environmentally acceptable, economically viable and that could be delivered before complete failure of the Central Coast water supply. Those options that are available have already been implemented or are under development, and any requirement for the desalination scheme to specifically offset greenhouse gas emissions as proposed by DOP would unfairly target this supply option.

Nevertheless, Council offered to adopt a net operational performance criterion for the operation of the RO (membrane) plant alone of not more than 2.0 kg CO₂-e emissions per kL of permeate (desalinated water) produced.

Note: This represents an effective offset of 33% for the RO (membrane) plant alone ie. a reduction from estimated 3.0 kg CO₂-e to 2.0 kg CO₂-e per kL (excluding pre- and post-treatment, residuals treatment, source and product water delivery systems etc) or 25% offset for the total scheme (reduction from 4.2 kg CO₂-e per kL to 3.2 kg CO₂-e per kL).

The offset would be achieved by purchase of renewable energy ("Green Power") or by other offsets and energy improvements to the Desalination Scheme that may be achieved over time (eg. use of higher efficiency membranes).

The additional operating cost to achieve the 33% offset for the RO plant is estimated at \$0.23M pa.

By comparison, it should be noted that Sydney Water will be using 100% "green" power for its desalination plant. This option is still available to the Councils should they so choose.

4. Residuals management

Council agreed to accept DOP's original condition for no discharge of residuals (pre-treatment and post-treatment residuals from backwashing etc) with the saline reject water, albeit at an additional cost of \$2.9M and operating costs of \$0.5M pa.

In its final draft conditions, DOP has provided opportunity for discharge of residuals with the saline reject water provided it is shown that there will be no significant environmental impact.

Various other minor changes have been incorporated in the final draft conditions to clarify environmental and administrative requirements.

As noted above, the key issues identified by Council in the earlier draft conditions have been largely adopted and incorporated by DOP in its final draft.

RECOMMENDATION

That the Board recommend to Wyong Council acceptance of the DOP Development Consent conditions for the proposed 20 ML/d desalination plant to be located adjacent the Toukley Sewage treatment Plant.