Independent Panel

Major Project: Kurnell Desalination Plant and Associated Infrastructure

Report to the NSW Minister for Planning, the Hon Frank Sartor MP, on the Kurnell Desalination Plant and Associated Infrastructure submitted in accordance with the terms of the Ministerial appointment issued on 29 November 2005.

Independent Panel Report Appendices

8 September 2006

Panel Members:

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government ▪ SECITARC 2002 – water recycling or minimisation should be seen as the norm and not a drought response measure (358) ▪ PMSEIC 2003 – promoted the use of recycling	
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Desalination technology	**Response in PPR**
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Operating experience of other plants ▪ Not fully considered ▪ San Diego ▪ Hong Kong ▪ Singapore ▪ Negative experiences of other plants worldwide ▪ Perth's desalination plant operated entirely by wind turbines (242)	
High embodied energy ▪ More cost-effective solutions ▪ More environmentally efficient solutions ▪ Consideration of evaporation technology ▪ Alternative technologies for desalination not sufficiently considered ▪ AH desalination technology – White Bay Power Station – thermal multiple effect evaporator distillation (189) ▪ New diffusion technology available (217)	7.3.1 7.3.2 7.3.8

Project capital cost	**Response in PPR**
Project cost ▪ Justification ▪ Cost comparison with alternatives (cost-effectiveness) – expensive ▪ Misleading figures supplied by Sydney Water (108) – costs per Mj ▪ Compensation payments to other companies ▪ Cheaper solutions / more energy efficient solutions not evaluated ▪ Project cost versus benefits to minor proportion of NSW population ▪ High cost if built and then not used because of higher rainfall in catchment ▪ Design life of plant and replacement cost ▪ California closed a number of desalination plants on cost grounds ▪ Is pipe infrastructure cost feasible when smaller plants used	4.5.1 4.3.21 7.3.17
Cost Benefit Analysis ▪ No CBA/NPV analysis ▪ Need to demonstrate economic costs/benefits in long run ▪ What is the effect of incrementally scaling of the plant compared with other options – economic benefits / cost comparisons ▪ CBA comparisons with recycling ▪ International desalination CBA comparisons ▪ Costs of implementation and customer willingness-to-pay have not been tested on all options (442)	2.3.5

Water pricing issues	**Response in PPR**
Cost to consumers and pricing issues ▪ Lack of consumer choice ▪ User pays system ▪ Install and use meters in flats and units – charge by usage ▪ Commercial/industrial uses pay too little for water ▪ Domestic customers paying too little, leading to waste ▪ Adjust water prices ▪ Increase cost passed on to consumer via higher water rates ▪ Elasticity of demand for water not clearly understood ▪ Multiple pricing options exists to affect demand (118) ▪ Impacts to economy of higher water prices ▪ Consumer choice whether to buy desalination or water from other sources ▪ Desalination plant already factored into IPART ruling ▪ Does $60-$150 pa per household increase in water rates	7.3.17

include long run costs of desalination ▪ Those bearing environmental, social, economic costs of desalination far outweigh those directly benefiting ▪ What are the pricing incentives for consumers to reduce demand ▪ Effect of the plant in term of Say's Law – supply creates its own demand ▪ Service availability charge – should include pipes and pumps ▪ Water/RL – cover production costs (153) ▪ Non-metro areas have water supply problems – inequitable not to finance these to the same level as the desalination project ▪ Cost comparisons with alternatives: AGL $1.35/kL; recycling to Prospect $1.15/kL; desalination $1.45-$1.80/kL. ▪ Costs of desalination water will increase as price of Greenhouse Emissions Trading Scheme increases ▪ Wholesale step-price for bulk water to deter perverse incentives against demand management (541)	As above.

Site selection	**Response in PPR**
Site selection process ▪ Insufficient detail to make an evaluation ▪ Social impacts ▪ Flora, fauna, habitats ▪ Aboriginal archaeology ▪ Surface and groundwater impacts ▪ Ocean water impacts	4.3.1 4.3.18 6.3.11
Alternative sites for desalination plant ▪ White Bay, Balmain ▪ Shoalhaven Catchment (162) ▪ Long Bay / Little Bay / Malabar – avoiding pipeline across Botany Bay ▪ Smaller plants throughout Metro Area	4.3.3
Site selection pipelines ▪ Location of pipelines (120) – Wollongong to Newcastle ▪ No redundancy built into pipes – no back-up if system fails	5.3.6 6.3.11
Kurnell site ▪ Too many heavy industries already ▪ Kurnell/Sutherland already has oil refinery, sewage treatment plant, nuclear reactor, sand-mining, Serenity Cove Industrial Park and film studios ▪ Dumping ground for industrial problems ▪ Location next to oil refinery – terrorist threat? ▪ Security/sabotage ▪ Minister's pledge for no further industrial development at	4.3.2 4.3.5

Kurnell (329) ▪ Contrary to regional planning strategies (329,p.5) ▪ Treat Peninsula as single ecological entity (329,p5) ▪ Kurnell site was cleared illegally (prior to Sydney Water purchase) – current proposal condones an illegal process (433)	

Construction impacts	**Response in PPR**
Pilot plants ▪ Comprehensive environmental assessment needed ▪ Model and investigate desalination plants already in operation to avoid any environmental damage from pilot plants	
Noise and air quality ▪ Need noise wall/barrier ▪ Cumulative impact – existing industries (sandmining, landfill, Caltex) ▪ Not sufficiently analysed both for construction and operating phases ▪ NSW Health (598) – impacts of noise on children's learning needs to be considered ▪ Concern about air quality in construction phase	4.3.7 4.3.8 6.3.1 6.3.2 6.3.18
Traffic generation ▪ Vehicle/truck movements ▪ 24hour a day operation ▪ Number of vehicles ▪ Times ▪ Impact on road surfaces of heavy vehicles ▪ No clear practical mitigation measures ▪ Underestimate of spoil generation (577, p.24) ▪ Spoil from ventilation tunnels and shafts not included (577)	4.3.6 4.3.8 4.3.17 6.3.2 10.3.2
Site remediation ▪ Weed eradication program required on annual basis ▪ Necessary to extend site on southern boundary to enhance environment (328) ▪ Remove industrial waste ▪ Protect bat colony environment – weed eradication	4.3.11 5.3.2 5.3.3 6.3.5
Reef and beaches ▪ Negative impacts during construction ▪ Potential destruction of reef / shelf ▪ Damage to Silver Beach	6.3.3 6.3.4 6.3.5 6.3.11

Damage to sea grass ▪ Impacts of other developments around Botany Bay ▪ Sea grass only just recovering ▪ Scepticism of sea grass restoration expressed in Commission of Inquiry into expansion of Port Botany (221) ▪ Poor record on sea grass restoration ▪ Sheet piling methods (577) ▪ Impacts on Cooks River and Rockdale Wetlands ▪ Damage to Silver Beach ▪ Dugong observed feeding on sea grass in area ▪ Restoration of sea grasses not proven in area ▪ Sea grass replacement 2:1 basis ▪ Cumulative impact on sea grass from Port Botany expansion ▪ Fish Habitat Protection Plan (no.2) under the Fisheries Management Act 1994 (548) ▪ Noxious marine weed Caulerpa taxiflora (548) ▪ Water quality monitoring (548) ▪ Potential dioxins in Botany Bay	6.3.11
Spoil management ▪ Obligation to conduct site rehabilitation ▪ Not sufficiently assessed ▪ Holt Submission – 584 ▪ Need comprehensive traffic study re spoil truck movements	4.3.6 4.3.12 4.3.20 5.3.3 5.3.7 6.3.6 6.3.10 6.3.16 7.3.22
Marine life – whales, sharks, fish, marine biota ▪ Impacts during construction phase, noise and blasting ▪ Operational noise from inlet pipe ▪ Whale detection system not specified ▪ Need independent study to demonstrate that whales not affected by construction or operation ▪ Whales / migration patterns / effect on migration (325) (518) (532) ▪ Danger of prey to young whale calves if have to migrate further off-shore ▪ Effects on whales not sufficiently know and therefore high risk ▪ Effect on whale migratory paths from inlet (Humpback, Minke, Southern Right) ▪ Southern Right Whales use shallow waters as nurseries, resting and foraging ▪ Impact on grey nurse shark ▪ End of Cape Solander whale watching (recreation impact) ▪ Whale key words – temperature, impacts, whale count (Meeting 25/01/06) ▪ Fish – effects on breeding ▪ Effects on Boat Harbour Aquatic Reserve not sufficiently assessed – especially The Merries Reef and Pimelwi Rocks – prohibited activities	5.3.1 5.3.5 5.3.6 9.3.3

▪ Construction of pipeline may disturb contaminants (Orica site) ▪ Weedy sea dragon (SW13)	
Construction of salt water intake/outlet ▪ Disturbance to sea bed ▪ Direct impacts on marine ecology during construction ▪ Construction under a National Park – amounts to mining which is prohibited (221) ▪ Effect on National Park values due to underground pipeline	5.3.1 5.3.2 5.3.3 5.3.4 5.3.5 5.3.6 5.3.7
Construction of pipeline through Kurnell ▪ Too close to residences ▪ 30 homes within 100 metres of pipeline ▪ Danger from disturbance to Caltex pipeline ▪ Danger to Telstra tower ▪ Unforeseen environmental impacts ▪ All pipeline routes should be subject to further assessment and construction traffic assessment ▪ Tunnel options need further consultation and separate project approval ▪ Impacts on Wilkins Public School (508) – trenching adjacent to school, impact on open space/school grounds, impact on Green Community Project, Travel Smart project with SSW Area Health Authority, social impacts, impact on pre-school centre – has the school received a briefing from SWC? ▪ NSW Health (598) – impacts on local school and community have been inadequately assessed	4.3.4 4.3.17 4.3.18 4.3.19 6.3.14 6.3.15 6.3.17 7.3.18 10.3.2
Construction of pipeline from Kyeemagh to Sydney Water system ▪ Delivery route not finalised? ▪ Separate project approval necessary ▪ Impacts on Cooks River ecology / wildlife corridor ▪ Issues re Cooks River foreshore ▪ Flooding impacts ▪ Damage or disturbance to open space/parks/reserves/cycle paths in 3 LGAs (Strathfield, Marrickville and Ashfield) ▪ Effects on Marrickville Council restoration programs ▪ Community consultation needed, especially if near or under homes ▪ Preference for routes under residential streets ▪ What is preferred route (469) ▪ Muddy Creek riparian impacts ▪ Potential soil and groundwater contamination	6.3.4 6.3.5 6.3.8 6.3.9 6.3.13 6.3.15 6.3.17 7.3.18
Mitigation – construction ▪ Develop contingency strategies for unforeseen impacts ▪ Stop work measures ▪ Independent audits ▪ Minimising impacts versus acceptability (577)	2.3.10 2.3.14 4.3.19 7.3.18

Operational impacts	**Response in PPR**
Marine water quality ▪ Ocean – recreational use (surfing, scuba, swimming) ▪ Cumulative impact with sewage outfalls (3) ▪ Content of water returned / discharged (saline level) ▪ Monitoring actions – what happens if detrimental effects found?	9.3.1 9.3.2 9.3.4 10.3.1
Effect of intake ▪ Impacts not fully understood or assessed ▪ Location imprecise ▪ Trap / suck up marine life ▪ Entrapment of whales/dolphins/seals from inlets and grates / suction ▪ Intake is close to Kurnell refinery waste pipe – risk of cross-contamination ▪ Radioactive discharges by Lucas Heights (577) ▪ Impact on intake of Cronulla STP	7.3.6 8.3.1 8.3.2 8.3.3 8.3.4
Effect of discharge/outlet ▪ Impacts not fully understood or assessed ▪ Location of outflow is on the rocky ledge – contrary to DPI requirements ▪ Location imprecise ▪ Should be 3km offshore ▪ Discharges ▪ Increase of water temperature from discharges ▪ Ferrous (ferric chloride; ferric hydroxide) (577) ▪ Flaws in Ocean Modelling Report (577) ▪ Impact of ferric hydroxide flocculants on aquatic fauna (clogging gills; benthic fauna) – effects of accumulation on seabed ▪ Lime sludge ▪ Damage to marine life / marine ecology from discharge ▪ Need to conduct more marine ecology/hydrology/plankton quantification before proceeding ▪ Overseas studies – Red Sea, Mediterranean, Persian Gulf (358) ▪ Uncertain impact on osmosis conformers ▪ Negative buoyancy of saline plume - challenge to mixing ▪ General consensus even in EA studies that this is an area of limited knowledge ▪ Impact on marine food chain – salinity, temperature, chemicals ▪ Leading to impact on migratory patterns of whales etc ▪ Whales may avoid shallow waters in operational phase ▪ No studies on the impact of increased salinity on cetaceans ▪ Impact of outlets in lowering photosynthesis ▪ Effect on historic wreck – increase destruction ▪ Need longitudinal studies of mobile fish populations – only one	9.3.1 9.3.2 9.3.3 9.3.4 9.3.5 9.3.6 9.3.7

date for site inspections for fish (234) ▪ US study of detrimental effects on 55000 invertebrates and 78000 fish ▪ 'Hot' water discharge/temperature differences ▪ High saline discharge ▪ Other chemicals ▪ Extent of damage – beaches ▪ Extent of damage – Botany Bay to Batemans Bay ▪ Effect on Aquatic Reserve at Boat Bay / Potter Point ▪ Visual effects – plumes ▪ End of Cape Solander whale watching (recreation impact) and impacts on local economy / fundraising by local groups / loss of tourism ▪ Monitoring – Sydney Water's response if detrimental impacts found ▪ Expand monitoring to test impacts on water quality and aquatic fauna	As above.
Effect of high energy consumption ▪ Electricity demand – large increase ▪ Impact on electricity infrastructure ▪ Capacity of grid to supply plant (148) ▪ Reference Statement of Commitments ▪ Osmotic technology – seawater will always have higher energy demand than waste water treatment ▪ Use of the plant roof for solar panels to power plant (SW37) ▪ Consultation with Transgrid?	7.3.2 7.3.3 7.3.4 7.3.21
Effect on property values ▪ Cumulative impact on property values on Kurnell Peninsula in context of existing heavy industry ▪ Decline in property values – to unsaleable ▪ Resident (107) stated minimal impact of industry on 'village life' ▪ Australand property – Discovery Point (542)	4.5.2
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Visual amenity ▪ Plant will be seen from Cronulla Beach / other locations ▪ No artist's impression of plant	4.3.5 7.3.5 7.3.7 7.3.20
Cultural heritage – European ▪ Iconic value of location – Captain Cook's Landing and 'Birthplace of the Nation' ▪ Degradation of natural beauty of Kurnell ▪ Inter-generational equity issue	4.3.14 5.3.4 6.3.7 7.3.5
Cultural heritage – Aboriginal ▪ Degradation of natural beauty of Kurnell ▪ Inter-generational equity issue ▪ Aboriginal cultural values ignored ▪ Extensive evidence of Aboriginal occupation of the site ▪ Issues raised by Dharawal Elders Group not addressed ▪ Assessment is desktop only ▪ Impact on Aboriginal people beyond archaeological sites – value and significance of the place (329) ▪ Elders opposed to the use of the site ▪ Unclear which groups were consulted ▪ Concern that archaeological surveys not carried out properly (433) ▪ Statement of Sydney Water at Cronulla Community Workshop that there were no outstanding indigenous issues is erroneous	4.3.13 5.3.4 6.3.7 7.3.5
Terrestrial ecology ▪ Effect on groundwater at Kurnell Peninsula ▪ Groundwater effects not sufficiently analysed ▪ Need another conservation corridor – boundary with National Park ▪ Drainage of contaminants and impact on Quibray Bay ▪ Impact on Green and Golden Bell Frog; grey-headed flying fox, Wallum froglet, native ground orchids (433) ▪ Need independent hydrological assessment (548) ▪ Impact on groundwater dependent ecology – wetlands, birds, bats, frogs ▪ 250m from Ramsar listed wetland – Towra Point Nature Reserve ▪ NPWS undertaking project to stabilise sand banks at Towra Point created by changes in wave patterns in Botany Bay – at odds with this proposal ▪ Terrestrial fauna replacement should be on 2:1 basis ▪ Enhance conservation zone – replant corridors between site and adjacent area of remnant vegetation ▪ Impact on Botany Bay Bearded Greenhood orchid (Pterostyliss Sp.) ▪ Local indicators – Cudgery's Hole and pollution sourced from the refinery; Oyster Growers at Quibray Bay (329, p5)	2.3.15 2.3.16 4.3.9 4.3.10 4.3.11 4.3.15 4.3.16 7.3.5 7.3.15 7.3.19

▪ Grey-headed Flying Fox (548) – noise impacts ▪ Failure to map Threatened Species and Endangered Ecological Communities (518) ▪ No data from site visits and surveys on threatened species ▪ Conclusions based on limited scientific evidence ▪ Lack of rigour in ecological assessments by SWC ▪ Assessment under Threatened Species Conservation Act 1995 and Environmental Protection and Biodiversity Conservation Act 1999 ▪ Japanese Australian Migratory Birds Agreement (518, 526) ▪ Kurnell Dune Forest, Calsil Dune (577) ▪ Impact of tunnelling on perched aquifers (577)	As above.
Other impacts ▪ Reduction in air quality (457) ▪ Impacts on coastal zone, unspecified ▪ Threat to health (SW22, SW30) NHMRC Australian Drinking Water Guidelines 2004 ▪ No intergenerational equity (SW61)	1.3.4 4.3.6 6.3.11 7.3.8 7.3.11 7.3.13 7.3.14 7.3.16 10.3.1 10.3.2 10.3.3
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Greenhouse gas generation	**Response in PPR**
Government policy ▪ Contrary to Government commitments to reduce GHG emissions by 80% by 2050 ▪ Contrary to Sydney Metro Strategy commitments (538) ▪ Trigger under EPBC Act – 0.5 million tonnes of CO2 in 1 year (577) ▪ Implies climate change does not exist / not an important issue ▪ Conflicts with principles of sustainable development ▪ SWC Energy Savings Order 2005 (156) ▪ Difficult for Government to achieve overall reductions in emissions with the addition of such a high energy user (whether off-set or not) ▪ Climate change requires massive reductions is emissions, not offsetting measures ▪ Need energy efficiency gains and decrease in consumption	7.3.4

▪ Intergenerational equity issue – additional water should be emission neutral (438) ▪ Need whole of corporation analysis of power use	

Greenhouse gas emissions ▪ View in NSW frame – users ▪ 'Bottled electricity' ▪ Behavioural changes by households negated by one large project ▪ Paradox of increasing emissions when climate change is the cause of the water shortage ▪ Minimisation of power use as a major community issue ▪ Emissions of 1.25 million tonnes – equivalent to 250,000 new cars on the road ▪ Energy use unjustifiable in context of total fossil fuel reduction when lower energy options are available (358) ▪ Correct cost comparison should be desalination powered by renewable energy ▪ Desalination plant will exacerbate climate change ▪ Massive feedback loops if greenhouse emissions not dealt with/stopped ▪ Key problem is energy intensive users (429) ▪ Need 100% use of Green Power – not offsets (538)	7.3.2 7.3.3 7.3.4
Mitigation measures ▪ Advice needed from the Office of Renewable Energy Regulator and Australian Greenhouse Gas office ▪ Using renewable energy is the only legitimate way of cancelling emissions (429) ▪ RECs over NGACs (548) (SW145) ▪ Perth plant – 100% renewable energy (548) ▪ Viability ▪ Renewable industry is unable to meet current demand (526) ▪ Green Power could only meet a third of desalination plant requirements ▪ Gas emissions claim is questionable (50%) ▪ Justification of forestry sequestration (trees planting) ▪ Forests are part of atmospheric carbon system not part of fossil carbon system (429) ▪ Forest sequestration quantum can't be verified and the permanence of carbon sinks can't be guaranteed ▪ No system of offsets will work ▪ Use of nuclear power ▪ Use of solar power ▪ Use of wind turbines (148) ▪ NGACs system is flawed	2.3.12 7.3.2 7.3.4
Offsets ▪ Offsets should be 100% ▪ Offset approach is flawed – problem is intensive energy use	2.3.12 7.3.2 7.3.4

industries ▪ Reference Statement of Commitments ▪ Viability ▪ No system of offsets will work ▪ Why the 50% commitment ▪ Question framing commitment in terms of the next best available technology/alternative ▪ Comparator should be stormwater reuse ▪ How to achieve the targets	As above.

Operational issues	**Response in PPR**
Mineral content of intake ▪ Desalinated water quality ▪ Extraction of minerals for industrial purposes	8.3.1
Bio-fouling of intake ▪ Experience of Tampa Florida (219) ▪ Mussels ▪ How controlled	8.3.3
Energy recovery ▪ Level of recovery – best practice (50-75%) ▪ Co-location next to power generation to recover heat for use in desalination	7.3.4
Solar energy use ▪ Potential use for smaller plants	7.3.2
Control of assets ▪ Should be controlled by Government	1.8.4
Operating rules ▪ How turned off and on ▪ No precedent information from other desalination plants provided on the viability of 'reduce, suspend, recommence' water production ▪ Maintenance ▪ Cost of maintenance in inactive mode ▪ High costs of start-ups of plant	7.3.2 7.3.3
Other issues ▪ High level of corrosion to water pipes ▪ Plant will be a terrorist target	2.3.11 10.3.1 10.3.3

Government process	**Response in PPR**
Government decision-making ▪ Poor decision-making ▪ Not listening to people ▪ Financial gain ▪ Lack of long term planning ▪ Lack of earlier planning – 10 years ago ▪ Desalination against advice of Government's advisory committee (121) ▪ Decision already made ▪ Last minute decision ▪ Not long term solution ▪ Quick fix ▪ Question integrity of Government ▪ Change of opinion by Carr Government – opposition to support ▪ Greg Robinson issue (former CEO of SWC)	1.8.4
Tender process ▪ Payback to private enterprise ▪ Contracts to private sector are against public interest ▪ Consortia dates and final selection process ▪ Not a fair tendering process ▪ Macquarie Bank involvement – conflict of interest	1.8.4
Local Government ▪ Increase involvement of local government in water planning	Appendix B

Assessment process	**Response in PPR**
Assessment process ▪ Assessment full of unsubstantiated terms – "unlikely, little effect, very small, will be designed, will be developed" ▪ Assessment based on out-of-date studies ▪ Needs to be an 'environmental bond' held by Public Trustee ▪ No information on site layout ▪ Triple bottom line assessment not conducted, including alternatives (442) ▪ Critical infrastructure designation removes the public's right to object ▪ Concept plan gives insufficient detail on the project proposal to make an adequate assessment of impacts (536) (548) ▪ No assessment of alternative options ▪ Should include 'do nothing' scenario / no desalination plant in PPR ▪ Risk assessment of delay required	1.8.4 2.3.1 2.3.2 2.3.3 2.3.4 2.3.5 2.3.6 2.3.7 2.3.8 2.3.9 2.3.10 2.3.11 2.3.12 2.3.13 2.3.14 2.3.15 2.3.16

▪ No economic CBA modelling ▪ Economic and environmental assessment of alternate technologies ▪ More environmentally friendly options not explored ▪ Cumulative impacts not assessed – other industries on Kurnell Peninsula and the Port Botany expansion ▪ Strategic Environmental Assessment necessary to assess cumulative effects (445) ▪ Lack of rigour in ecological assessments ▪ Monitoring procedures ▪ Independence of monitoring body ▪ DG requirements are deficient in not including assessment of alternate technologies ▪ Impact assessment not conducted by an independent authority ▪ Benefits of proposal not adequately presented ▪ Frequent reference to further studies, and knowledge gaps ▪ Comprehensive EA not undertaken ▪ Limited scope of Commonwealth EPBC Act (536) ▪ Process based on 'trust the developer' ▪ Reliant on community resources to review contingencies (135) ▪ Onus of proof for impacts on community not proponent ▪ Ignoring expert advice/opinion ▪ Experts ignored: Greg Robinson former MD Sydney Water; Charles Essery former ED Sydney Water; Report – A Sustainable Water Balance for Sydney; no public report of Government expert panel July 2004 (448) ▪ No 'net impact of project' presented (156) ▪ No CBA/economic impact assessment ▪ Project is concept only – unclear about environmental mitigation ▪ Lack of consideration of 'precautionary principle' ▪ Attachments A and E are not for public review ▪ Mitigation program unclear ▪ Statement of Commitments should be designed to be translated into conditions of consent – these are currently not sufficiently specific, measurable or reasonable for this to occur (442) ▪ Statement of Commitments should be performance requirements, relate to specific project components, contain measurable outcomes ▪ Inadequate studies and tests ▪ Statements in EA that 'there shall be impacts' and 'there is insufficient information to determine impacts' mean that the conclusions of the EA are not valid (442)	As above.

Consultation process	**Response in PPR**
Consultation process ▪ Poor consultation / rushed (538) ▪ No consultation on the need for the plant ▪ No consultation on site selection ▪ Process undertaken is contrary to the Government's / DoP's own guidelines on community consultation and engagement (442) ▪ Alternative supply sources are taken as beyond public debate ▪ After-thought / post-decision /token ▪ New 'consultation' approach – told project is fait accompli and community asked views on how it should operate ▪ More about selling Government's decision and PR ▪ Decision taken without sufficient community consultation ▪ Opinion polls show opposition ▪ 30 councils opposed to plant ▪ Experts opposed/reports ignored ▪ No consultation on the need for the plant ▪ Lack of notice in main EA regarding making formal submissions ▪ No consultation with Aboriginal Elders ▪ Poor consultation with local Kurnell community ▪ No consultation on site selection ▪ Consultation with community on Port Botany Expansion was ignored – Botany Bay Strategic Advisory Committee 2002-05 and Kevin Cleland's Report (329) ▪ Failure to consult on long term impacts – environmental/intergenerational ▪ Community Workshops held in same week, wrongly advertised, only allow for information, valid points raised were not answered – except with fait accompli responses ▪ Consultation with Department of Lands? ▪ Consultation with Transgrid? ▪ EAR only on exhibition in one location in Sutherland	3.4.1 3.4.2 3.4.3 3.4.4 3.4.5
Consultation – responses – formal submissions ▪ Kurnell Progress Association – letter and postcard petition – response by SWC/DoP? ▪ Nature Conservation Council – letter writing campaign – SWC/DoP response to points in letter ▪ Submissions from Local Government ▪ Submissions from PENGOs ▪ Submissions from local environmental groups ▪ Submissions from professionals	3.1 3.2 3.3 3.4

END.

B Submission to Sydney Water Corporation – 7 April 2006

David Evans
Managing Director
Sydney Water
Bathurst Street
Sydney 2000.

7 April 2006

Report of the Independent Panel - Kurnell Desalination Plant and Associated Infrastructure Regarding the Final Draft March 2006 – Preferred Project Report on Sydney's Desalination Project

Dear David

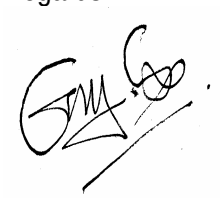
Please find attached the Independent Panel's submission on Sydney Water's PPR for this project. This report provides our comments and views on Sections 4 to 10 and Appendix B of the PPR.

Outstanding matters relating to the PPR will be dealt with as expeditiously as possible:

- An exclusions report – covering issues from the public submissions and other forms of communication not identified in the PPR but which the Panel considers require addressing by Sydney Water;
- Review of the Director-General's requirements as they relate to the PPR March draft;
- Any outstanding issues contained in Sections 1 to 3 and Section 11 that relate to the Panel's Terms of Reference;
- Review of Statement of Commitments for commitments not referenced and discussed in Sections 4 to 10 of the PPR.

The Panel is meeting with relevant staff from Sydney Water and GHD on Tuesday 18 April 2006 to provide an opportunity to clarify any matters in our report.

Regards



Dr Gary Cox
Member, Independent Panel

Independent Panel

Major Project: Kurnell Desalination Plant and Associated Infrastructure

Submission on Sydney Water Corporation's Preferred Project Report (Final Draft – March 2006)

7 April 2006

Panel Members:

Emeritus Professor Rolf Prince
Mr Tony Wright
Dr Gary Cox

Section 4 – Construction of the Plant at Kurnell

Sydney Water Paragraph Number 4.3.1 ***Concern about siting the desalination plant at Kurnell. It was claimed that the decision to locate the desalination plant at Kurnell is flawed.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. The issue concerns the methods used to select the Kurnell site out of a range of options (including a site at Malabar).	
2. Does Sydney Water's response adequately address the issue? The PPR needs to provide more detail relating to site selection and cross-reference the relevant section in the EA.	
3. What justification is made for Sydney Water's response? The justification is both procedural and substantive. The site selection decision is based on consideration of 6 key site attributes.	
4. What evidence is used to back Sydney Water's claims? Minimal.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate response if the above matters are included in the PPR and the reasoning behind the decision is made clearer.	
6. If not, what further response is needed to address the issue? As for 5.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number 4.3.2 ***Concern about another heavy industry at Kurnell.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The framing of the question has not been scoped properly. The concerns around heavy industry relate to the cumulative impacts of other developments and not zoning per se.	
2. Does Sydney Water's response adequately address the issue? No. More detailed is required to back the claim.	
3. What justification is made for Sydney Water's response? The sole justification is based on the current zoning by Sutherland Council. The response confuses permissible uses with potential impacts and cumulative impacts. The latter have not been addressed in the response.	
4. What evidence is used to back Sydney Water's claims? Minimal.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient.	
6. If not, what further response is needed to address the issue? The PPR needs to demonstrate an understanding of the range of concerns about heavy industry in this location and also demonstrate a fuller appreciation of cumulative impacts. These needs to be address in detail. Given that some of these concerns are dealt with further in the PPR, cross-referencing these later sections is warranted. The response should refer to the potential impacts of operation which are dealt with elsewhere in the PPR, for instance 7.3.16.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number 4.3.3 ***Concern that other sites such as the White Bay Power Station provide better options for siting the plant.*** ***Some submissions indicated that there are alternative locations for a desalination plant that are preferable to Kurnell. These include White Bay Power Station, Malabar, and the Shoalhaven area.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The issue has been framed correctly.	
2. Does Sydney Water's response adequately address the issue? The response is adequate but more detail is needed. Cross-referencing the EA and subsidiary documentation is necessary. The response needs to explicitly address the submitters' views about the benefits or superiority of the alternate sites.	
3. What justification is made for Sydney Water's response? The justifications provided are in summary form only. Some reference to the comparative costs of these alternatives would assist in understanding the site selection process as would comparative presentation of the other attributes (for examples, distance from residences).	
4. What evidence is used to back Sydney Water's claims? Minimal.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate response if the above matters are included in the PPR. Also cross-reference response to 4.3.1.	
6. If not, what further response is needed to address the issue? As for 5.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 4.3.4 ***Concern regarding impacts on the community.*** ***Potential impacts of disruption on the Kurnell community during the construction period have not been assessed.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? No. There are specific concerns from the written public submissions on the social impacts of construction. The affected communities are the Kurnell residents and the primary school and child care centre. Their issues need to be properly framed and answered directly.	
2. Does Sydney Water's response adequately address the issue? The "community" is treated generically in this response. The PPR needs to demonstrate that the various 'interested and affected parties' in the local community are accurately identified and their concerns fully understood; for example, the functioning of the school during the construction period should be addressed here, including the impact on children's health and safety and learning performance (referred to in submission from NSW Health).	
3. What justification is made for Sydney Water's response? Minimal.	
4. What evidence is used to back Sydney Water's claims? Minimal.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is inadequate and insufficient.	
6. If not, what further response is needed to address the issue? The response needs to directly answer issues in the relevant submissions – in particular, the Wilkins Public School P&C Association (508). In addition, the SOC should include a commitment to establish a local community 'people & place' working group to act as a communication vehicle between the potentially affected local Kurnell community and SWC during both construction and operation phases. This section should reference good practice in this matter of community consultation and community engagement during construction phases of large projects.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 4.3.4 ***Concern regarding impacts on the community.*** ***Protocols must exist to notify stakeholders of relevant activities and any incidents should they occur.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. The key issue is the notification protocols and communications around construction impacts.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is inadequate and insufficient. (Note that the cross-references in this section appear to be incorrectly numbered.)	
6. If not, what further response is needed to address the issue? The protocol is a critical component of the community consultation and feedback in the construction phase of the project. It is an essential tool to avoid, minimise and mitigate impacts. Much more detail and specificity must be provided. It would be useful if standard procedural documentation were included in an appendix to the PPR. An example of how Sydney Water typically conducts these exercises would greatly assist public understanding and ease concerns.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 4.3.5 ***Concern that the Kurnell peninsula is the aerial gateway to Sydney and the desalination plant will create another blight on the landscape.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The issue includes visual impact of the plant from both land and air. The view from the air (presumably, from passenger aircraft) is not explicitly addressed by the PPR.	
2. Does Sydney Water's response adequately address the issue? The response is very limited and general.	
3. What justification is made for Sydney Water's response? None made.	
4. What evidence is used to back Sydney Water's claims? No evidence used. For instance, no examples of industrial plants and warehouses that minimise visual impact have been presented.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? This is not a major impact issue; however, the response remains inadequate and insufficient.	
6. If not, what further response is needed to address the issue? More detail as to the types of visual treatments that could be used to minimise the impact – including impact from passenger aircraft.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number –4.3.6 ***Concern that construction activities will generate dust that may impact on air quality.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? It is accepted that dust management is a standard component of many construction projects; however, the methods of dust suppression have not been fully explained.	
4. What evidence is used to back Sydney Water's claims? None.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient response.	
6. If not, what further response is needed to address the issue? SOC36 should be framed to comply with a Department of Planning standard or normal condition for the scale of construction proposed. Refer also to our response under 6.3.18.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 4.3.7 ***Concern that construction activities will impact on the acoustic environment and amenity of the surrounding area.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? None. It is not clear what the comments about noise from Sydney Airport and the Caltex operation are meant to imply about the proponent's own responsibilities regarding noise generation during construction.	
4. What evidence is used to back Sydney Water's claims? None.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient response.	
6. If not, what further response is needed to address the issue? SOC 31 provides detail on the noise control measures proposed. These should be consistent with the DEC submission (607). The Panel is concerned at the repeated use of the phrase 'as far as practicable' in this SOC. In practice, this clause, if transposed into a condition of consent, could potentially nullify the effect of the condition. Given that noise is one of the most significant community issues with construction projects, this should be avoided. Further, the Panel does not understand why a limit of 'greater than 26 weeks' should be applied. This SOC should be reframed to include the requirement for the preparation of a Construction Noise Management Plan. (Refer to Panel response to 6.1.3 – points 5 and 6).	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 4.3.8 ***Concern regarding traffic noise.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? **See Panel response to 6.3.2.**	
2. Does Sydney Water's response adequately address the issue?	
3. What justification is made for Sydney Water's response?	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*?	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **See Panel response to 6.3.2.**	

Sydney Water Paragraph Number – 4.3.9 ***Concern regarding potential impacts on terrestrial ecology.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes. Observations made in the Holt submission (606, p.4) regarding the unauthorised removal of vegetation and disturbance of the bat colony need to be addressed in the management plan.	
3. What justification is made for Sydney Water's response? Based primarily on the Terrestrial Ecology Assessment (Appendix 4 of EA). The comment from some public submissions that previous survey data is not presented has not been addressed by the PPR.	
4. What evidence is used to back Sydney Water's claims? As above.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and but insufficient response in terms of the SOCs.	
6. If not, what further response is needed to address the issue? The SOCs need to address DEC's requirements for detailed management plans and provide more detail on the proposed habitat corridor linking the Commonwealth Conservation Area with the Botany Bay National Park. A SOC should be framed to deal with the extension to the habitat corridor. Also, SOCs 3 to 6 should stipulate 'to DEC requirements'	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 4.3.10 ***Concern that construction activities will disturb the land surface and erosion may lead to stormwater from the site impacting on water quality in sensitive downstream environments such as Quibray Bay and the Towra Point RAMSAR wetland.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? **See Panel response to 6.3.4.**	
2. Does Sydney Water's response adequately address the issue?	
3. What justification is made for Sydney Water's response?	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*?	
6. If not, what further response is needed to address the issue? **See Panel response to 6.3.4.** Also, include in SOC 8 – 'to DEC requirements'.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 4.3.11 ***Concern regarding site contamination.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? A site audit statement and contaminated land assessments on Lot 102 and Lot 101 respectively, were obtained by SWC prior to purchase.	
4. What evidence is used to back Sydney Water's claims? It is noted that the above statements have not been made publicly available (ie not included in either the EA or PPR).	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is adequate but not sufficient.	
6. If not, what further response is needed to address the issue? The PPR should address the situation where unexpected contaminants are discovered on site during excavation or construction. The response to this situation as presented in the EA (p.9.4) is very vague. What procedures will be adopted in this situation? This will presumably be to DEC requirements. The SOC should be appropriately amended, including referencing relevant guidelines.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 4.3.12 ***The preferred option for spoil management has not been clearly defined.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? It does not provide any further information than that contained in the EA.	
3. What justification is made for Sydney Water's response? A detailed response is stated as forthcoming once a detailed design is completed.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? SOC 27 adopts recommended practice as contained in the DEC submission. However, no clear management plan has been given at this stage beyond this statement of principles. The response does not represent a 'clearly defined spoil management plan'. SOC 27 should be extended to include a requirement to prepare a Spoil Management Plan. See also Panel's response to 6.3.10.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 4.3.13 ***Concern regarding impacts on the indigenous heritage of the Kurnell peninsula.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes – in SOC 46 and 47.	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient, but see not under 6 below.	
6. If not, what further response is needed to address the issue? The issue of how previously unidentified Aboriginal objects may be discovered during construction is very unclear. It is probable that non-specialists would not recognise certain Aboriginal objects if indeed they were disturbed during construction. SOC 47 needs to address this issue with advice from DEC. See also Panel's response to 6.3.7.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 4.3.14 ***Concern regarding impacts on the non-indigenous heritage significance of the Kurnell peninsula.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. It is noted that this was a concern in a significant number of submissions, including local residents of Kurnell and more widely, Sutherland Shire. **See Panel response to 6.3.7.**	
2. Does Sydney Water's response adequately address the issue? Not completely	
3. What justification is made for Sydney Water's response? Mainly justified via the referral to the Commonwealth Department of Environment and Heritage.	
4. What evidence is used to back Sydney Water's claims? The advice/response re the referral on the matter from the Commonwealth Minister for Environment and Heritage should be included in the final PPR.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate but not sufficient.	
6. If not, what further response is needed to address the issue? Include relevant correspondence in PPR as indicated under point 4. **See Panel response to 6.3.7.**	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 4.3.15 ***Concern regarding the potential for stormwater from the site to impact on water quality in downstream environments.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? Reference to Landcom guidance (2004).	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient. Amendments to SOC 5 and 7 are noted.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 4.3.16 ***Concern regarding changes to the groundwater regime.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Addressed in part.	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Response is incomplete and insufficient.	
6. If not, what further response is needed to address the issue? SOC 3(d) regarding 'sufficient area for effective stormwater controls' needs a clearer justification and demonstration of how such area will be quantified.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 4.3.17 ***Concern regarding impacts on the local transport network.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. A number of submissions, including local residents, the school, adjoining landowners and council, mentioned traffic impacts during construction.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? None.	
4. What evidence is used to back Sydney Water's claims? None.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient. There is insufficient analysis/evidence in the EA and PPR to make any reasonable judgement on this issue. SOC 34 and SOC 35 are adequate re safety and access. However, terms like 'practicable' and 'feasible' should be avoided.	
6. If not, what further response is needed to address the issue? The PPR should reference a traffic study detailing possible construction scenarios and likely or possible traffic routes. In the absence of such analysis, only vague and unquantified statements can be made on this issue. See also the Panel response to 6.3.10.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 4.3.18 ***Site and its regional context.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? No. The PPR does not fully explain its understanding of this issue.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? None.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient.	
6. If not, what further response is needed to address the issue? SWC need to review the submissions where this matter is referred to and address any relevant matters in the REP.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 4.3.19 ***Concern regarding hazards and risks.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient but see comment under 6.	
6. If not, what further response is needed to address the issue? SOC 34, SOC 52 and SOC 55 adequately address these issues; however, terms such as 'as far as practicable' and 'generally in line with' should be avoided/removed.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 4.3.20 ***Waste should be managed in accordance with relevant guidelines***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Reference to EPA Guideline.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient response.	
6. If not, what further response is needed to address the issue? See Panel comments on 6.3.16.	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 4.3.21 ***Substances of economic value may be able to be recovered from the seawater concentrate.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Financial viability in the light of low levels of concentrated minerals (1.5 to 2.0 times).	
4. What evidence is used to back Sydney Water's claims? Little evidence but this is sufficient given that it is a commercial issue not primarily one of impact assessment.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 4.5.1 ***Unspecified concern about the cost of the project and the costs of construction.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? A straightforward analysis is presented of implications for the consumer of full cost recovery under the two scenarios using IPART assumptions.	
4. What evidence is used to back Sydney Water's claims? Basic cost data.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient.	
6. If not, what further response is needed to address the issue? The response should address how SWC will deal with possible cost overruns. The argument presented is tautologous and implies that cost overruns will simply be dealt with in terms of the IPART process; the outcome being that consumers will pay more for water. The response to this issue should be carefully reconsidered.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 4.5.2 ***Concern about impacts on property values.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. The concern clearly refers to concerns in the Kurnell community rather that more broadly.	
2. Does Sydney Water's response adequately address the issue? Very inadequate.	
3. What justification is made for Sydney Water's response? None.	
4. What evidence is used to back Sydney Water's claims? None.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient.	
6. If not, what further response is needed to address the issue? This is a poor response to a genuine issue of community concern. The comments made in the PPR are dismissive and unsubstantiated. The PPR should decide what level of evidence and analysis is required and demonstrate clearly their case that local property values will not be affected by the construction and operation of the plant. The analysis should consider both options (125ML/ady and 500ML/day separately). Furthermore, the analysis needs to be independent and authoritative.	
Panel Recommendation **Amend as advised.**	

Section 5 – Construction of Intake and Outlet

Sydney Water Paragraph Number – 5.3.1 ***Concern that construction of the intakes and outlets will generate noise underwater.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes, these noise concerns all relate to effect on whales	
2. Does Sydney Water's response adequately address the issue? Impact on whales treated specifically in 5.3.5. No other aspects require comment.	
3. What justification is made for Sydney Water's response?	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 5.3.2 ***Concern that construction may impact on groundwater levels and this may impact on terrestrial ecology.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? **See Panel response to 4.3.16 and 6.3.10.**	
2. Does Sydney Water's response adequately address the issue?	
3. What justification is made for Sydney Water's response?	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue? **See Panel response to 4.3.16 and 6.3.10.**	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 5.3.3 ***Concern that the preferred option for spoil management has not been clearly defined.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? **See Panel response to 4.3.12 and 6.3.10.**	
2. Does Sydney Water's response adequately address the issue?	
3. What justification is made for Sydney Water's response?	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Sutherland's [P577] quantity calculations need checking, and if necessary answering.	
6. If not, what further response is needed to address the issue? **See Panel response to 4.3.12 and 6.3.10.**	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 5.3.4 ***The desalination plant is offensive to the heritage/indigenous interests of the Sutherland Shire, Sydney and Australia.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? **Refer to Panel responses to 4.3.13 and 4.3.14.** Summarises the general tenor of the relevant submissions for land issues. Shipwrecks are the only sea issue.	
2. Does Sydney Water's response adequately address the issue?	
3. What justification is made for Sydney Water's response? We note that shipwrecks have been checked, and will be checked further. SOC 46(b) covers the necessary aspects.	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue? **Refer to Panel responses to 4.3.13 and 4.3.14.**	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 5.3.5 ***Concern about impacts on whales.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes	
2. Does Sydney Water's response adequately address the issue? Yes, based on the Ecology Lab Report (EA Appendix 3). Response in the PPR should reference and include relevant extracts of this report.	
3. What justification is made for Sydney Water's response? Covers Kerr [P505] as far as needed, also Coastal Councils [P518] A more specific reply to Harris [P532] might be considered.	
4. What evidence is used to back Sydney Water's claims? This is provided in the Ecology Lab Report.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Generally an adequate response given SOC 19, but insufficient.	
6. If not, what further response is needed to address the issue? The response should provide more detail from the Ecology Lab report. It should explain the effect of SOC 19 in some detail. In addition, the outcomes of the stakeholder meeting with the Cape Solander Research Team (25 January 2006) should be explicitly included and fully explained.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 5.3.6 ***Concern that the Environmental Assessment did not justify the intake and outlet locations in terms of alternative locations.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes	
2. Does Sydney Water's response adequately address the issue? The "sand bed v. rocky reef" issue, while treated, should be separately analysed and discussed. This would allow meeting more directly relevant comments from Coastal Councils [P518], Sutherland [P577] and DPI [616]. The DPI suggestion of co-disposal with deep ocean outfalls should be specifically addressed. A direct response to this issue is further warranted due to the fact that it was specifically raised at the Planning Focus Meeting (Comments from NSW DPI) held on 15 August 2005.	
3. What justification is made for Sydney Water's response? Based on the EA, detailed and effectively summarised.	
4. What evidence is used to back Sydney Water's claims? Work underlying the EA report.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient.	
6. If not, what further response is needed to address the issue? The response should deal with 'near field' impacts on marine ecology in more depth.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 5.3.7 ***Waste should be managed in accordance with relevant guidelines.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? **Refer to Panel response to 4.3.20 and 6.3.16.** Yes	
2. Does Sydney Water's response adequately address the issue? Suggest some brief listing here of the general types of wastes relevant, and a response more framed in terms of these.	
3. What justification is made for Sydney Water's response?	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Subject to comment above.	
6. If not, what further response is needed to address the issue? **Refer to Panel response to 4.3.20 and 6.3.16.**	
Panel Recommendation **Amend as advised.**	

Section 6 – Construction of Delivery Infrastructure

Sydney Water Paragraph Number – 6.3.1 ***Construction noise impacts.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The PPR has captured the community concern that the EA provides no indication of the likely **location**, **duration**, or **level** of noise impacts.	
2. Does Sydney Water's response adequately address the issue? SWC explains that the noise impacts (duration and level) will depend on selected construction methodology. Locations are implicitly clarified. At SOC 31 SWC outlines how noise goals will be established prior to construction "in line with" the *Environmental Noise Control Manual* (EPA 1994) "…for activities at work sites operating for a period greater than 26 weeks…background LA90 noise level is not exceeded by more than 5dB(A) at any residence or other noise sensitive receiver". A road traffic noise objective will be applied "…in line with the *Environmental Criteria for Road Traffic Noise* (EPA 1999)". Where noise objectives cannot be achieved, reasonable and feasible noise mitigation measures are proposed. Activities such as sheet piling and blasting are mentioned as examples.	
3. What justification is made for Sydney Water's response? The choice of delivery technology has not yet been made; options include tunnel or pipeline(s). At page 67 it is stated that pipeline construction may involve trenchless technologies such as micro tunnelling and Horizontal Directional Drilling.	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The approach to noise management has taken account of DEC advice. However, DEC goes further and justifiably calls for a comprehensive Construction Noise Management Plan. DEC recommends that any blasting is controlled to limits in ANZEC 1990 *Technical Basis for Guidelines to Minimise Annoyance due to Blasting.* The PPR is unclear about why it is not feasible to provide any indication of the level and duration of noise impacts associated with alternative construction methodologies. With the time pressure now eased, it ought to be possible to engage in more definitive project planning.	

6. If not, what further response is needed to address the issue? Preparation of comprehensive Construction Noise Management Plan in consultation with stakeholders and indicating key noise locations together with likely noise levels and durations.	
Panel Recommendation **Amend as advised. Preparation of this plan should be made an explicit point in SOC 31.**	

Sydney Water Paragraph Number – 6.3.2 ***Concern that noise generated by additional vehicle movements during the construction phase.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Issue framing is correct but not complete; it does not capture the concern that there is no indication of noise impacts (as per 6.3.1) and no opportunity for public input.	
2. Does Sydney Water's response adequately address the issue? SWC explains that a traffic noise assessment will be conducted when the route for delivery infrastructure is selected. Noise goals will be established "in line with the Environmental Criteria for Road Traffic Noise (EPA 1999) as far as practicable". Given that the originally proposed pipeline to Miranda/Caringbah has now been deleted from the project, it would seem feasible to provide an indication of traffic noise impact levels at other broad delivery infrastructure locations. This may allay concerns expressed by stakeholders. In respect of spoil transport, traffic management measures are proposed, including restrictions on routes and times, on the basis of consultation with local communities.	
3. What justification is made for Sydney Water's response? Essentially that the issue requires input by the selected contractor.	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Moderately adequate: the contractor does need to be involved in noise assessments and consultation. However, conscious of the large number of spoil transport movements involved with this project, DEC "…recommends the proponent develops and implements a comprehensive and detailed Road Traffic Noise Management Plan". DEC also notes, in respect of Road Traffic Noise: "…the proponent must ensure that all reasonable and feasible measures are adopted to reduce noise impacts including best practice and innovative management approaches."	

6. If not, what further response is needed to address the issue? Road traffic noise impacts should be determined and a comprehensive Road Traffic Noise Management Plan should be developed in consultation with stakeholders.	
Panel Recommendation **The DEC recommendations should be implemented as per 6 above. Preparation of this plan should be made an explicit point in SOC 31.**	

Sydney Water Paragraph Number – 6.3.3 ***Concern that impact of construction on terrestrial ecology.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The key issues are captured: ecological constraints are poorly known in respect of proposed routes; no assessment, as yet, of impacts on terrestrial ecology along the distribution routes, which are yet to be determined.	
2. Does Sydney Water's response adequately address the issue? SOC 26 outlines a set of actions to avoid/minimise impacts on terrestrial ecology to be undertaken during the design phase. This includes detailed ecological assessments as part of the selection of a preferred route. DEC's request for management plans to address threatened species and biodiversity conservation is not specifically addressed, though it could possibly be comprehended by SOC 26.	
3. What justification is made for Sydney Water's response? The broad justification that the distribution routes have not yet been determined.	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Reasonable response given the undefined distribution plan. However, given the Government's decision not to proceed at this time, it ought to be possible to develop a distribution management plan that includes selection of distribution routes that minimise terrestrial impacts. Following Concept Approval, SWC propose to select final distribution routes and seek Project Approval. Communities along the affected route would then be "informed".	
6. If not, what further response is needed to address the issue? SWC's focus here is on community disturbance and disruption impacts. It is not clear what level of scrutiny is proposed to ensure that terrestrial ecology is not compromised.	

Panel Recommendation **The planned distribution infrastructure scheme should be subjected to DEC assessment for impacts on terrestrial ecology prior to Project Approval. This should be explicitly stated in SOC 26.**	

Sydney Water Paragraph Number – 6.3.4 ***Concern regarding impacts on water quality due to erosion and sedimentation.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The issue is appropriately framed in respect of sedimentation and erosion from work sites. However, a number of submissions express concern about the prospect of sediments in the water column adjacent to the proposed Botany Bay dredging activities. This would compromise aquaculture and oyster cultivation in the immediate vicinity.	
2. Does Sydney Water's response adequately address the issue? SOC 38 addresses adequately the terrestrial erosion and sedimentation issues, citing SWC's experience in erosion control. The PPR does not demonstrate how this experience would be transferred to contract arrangements. SOC 20 includes a single-sentence statement that dredging activities will be carried out to prevent sediment deposition over seagrass beds. A desired outcome of no significant or irreversible impacts from dredging is also given. This response is regarded as unconvincing because it is unclear how the outcome would be achieved, despite SWC's request for Project Approval.. This is especially important because DEC requires that sediment controls are installed to ensure that ANZECC 2000 water quality criteria are met. DPI also express strong concern about silt and sediment impacts on seagrasses, recreational fishing, oyster farming, and (most importantly) on the sea cage aquaculture venture off Silver Beach.	
3. What justification is made for Sydney Water's response? N/a	
4. What evidence is used to back Sydney Water's claims? None, other than experience related to terrestrial runoff issues; no evidence is provided in relation to how the aquatic ecology impacts from dredging would be handled.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? A great more must be done to strengthen the response to reach regulators' requirements, not to mention other stakeholders' concerns.	

6. If not, what further response is needed to address the issue? More information is required in the PPR to demonstrate that the proponent understands the potential impacts and has an intention to ensure that the sub-contractors engaged by the prime contractor are able to mitigate the ecology impacts. SOC 20 should be modified to undertake preparation of a robust plan for sediment control in the event that pipeline is selected as the preferred scheme for bay crossing. This plan should be assessed by DPI prior to Project Approval of the bay crossing.	
Panel Recommendation **The PPR should be strengthened as outlined at 6 above. See also Panel response to Issue 6.3.11 which deals with analysis of options for bay crossing.**	

Sydney Water Paragraph Number – 6.3.5 ***Concern about contamination.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Two sets of issues have been raised in submissions: impacts of contaminated soils along the land-based pipeline; and disturbance of contaminated sediments during dredging for the cross-bay pipeline, particularly near the mouth of the Cooks River. SWC has captured these issues.	
2. Does Sydney Water's response adequately address the issue? Section 6.3.5 of the PPR says that SOC 41 "…indicates that water quality will be monitored during construction of the pipeline across Botany Bay". Further appropriately precautionary undertakings are made in 6.3.2. However, these specific and important undertakings have not been carried through to SOC 41. Rather, they are covered at SOC 22.	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The potential for broad-scale sediment contamination to force closure of Botany Bay to recreational fishing and oyster cultivation is a valid concern (raised by DPI and other stakeholders) that does not seem to have been adequately covered in the Statement of Commitments, save for a water quality monitoring program.	

6. If not, what further response is needed to address the issue? Inclusion of the issues noted at point 2 above as undertakings in SOC 41 so that they are not overlooked.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 6.3.6 ***Calculation of spoil volumes.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? SWC explains that the bulking factor was already included in the base calculation.	
3. What justification is made for Sydney Water's response? N/a	
4. What evidence is used to back Sydney Water's claims? The assertion is made that a bulking factor of 1.6 has been used.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 6.3.7 ***Concern about indigenous and non-indigenous heritage along the route of the delivery infrastructure.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? SWC has recognised the potential heritage issues associated with as yet unspecified pipeline routes.	
2. Does Sydney Water's response adequately address the issue? SOCs 46, 47, 48 outline a comprehensive scheme to manage impacts on cultural heritage values.	
3. What justification is made for Sydney Water's response? N/a	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate.	
6. If not, what further response is needed to address the issue? It would be helpful to undertake broad Cultural Heritage studies prior to optimal route and site selection, rather than "…once final delivery route option is chosen…" (SOC 46). The decide and defend strategy is flawed.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 6.3.8 ***Concern that the route for the delivery infrastructure will pass through flood prone land.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes, a large diameter pipeline constructed through flood prone land could alter the behaviour of existing flood mitigation works. Section 6.3.8 specifically refers to above-ground structures.	
2. Does Sydney Water's response adequately address the issue? SWC recognises the issue and proposes, in SOC 39 to design effective stormwater management measures – for the desalination plant site. It is not clear that this commitment refers also to: (a) the delivery infrastructure; and (b) that it is meant to cover both the construction period and the ongoing issue of stormwater management.	

3. What justification is made for Sydney Water's response? N/a	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is unclear.	
6. If not, what further response is needed to address the issue? SOC 39 should be amended to clarify the scope of the *Desired Outcome* and ensure a comprehensive *Action* plan.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 6.3.9 ***Concern that construction activities have the potential to impact on water quality in adjoining water bodies.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Note the response to 6.3.5 is considered to cover this issue.	
2. Does Sydney Water's response adequately address the issue?	
3. What justification is made for Sydney Water's response?	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? N/a.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 6.3.10 ***Concern that spoil management and traffic impacts. (Note wording is as per PPR)***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The issues of concern relate principally to traffic disruption due to spoil transport. SWC has captured this concern.	
2. Does Sydney Water's response adequately address the issue? SWC's analysis in the PPR demonstrates the level of service impact at four intersections on Captain Cook Drive would decline only minimal impact during both AM and PM peak periods.	
3. What justification is made for Sydney Water's response? The analysis is based on the maximum rates at which tunnel boring machines can operate, with one TBM, or two operating simultaneously, yielding 200 or 400 (non-articulated vehicle) daily movements respectively. The assumption is made that most of the excavated material would be accepted at the Holt Land Rehabilitation site on Captain Cook Drive, or at the Kurnell Landfill.	
4. What evidence is used to back Sydney Water's claims? Tabulation of expected intersection performance is provided.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is considered adequate. However, the assertion is made at Section 6.3.10 of the PPR that the assessment is based on maximum tunnelling, including the scenario of a tunnel under Botany Bay. However, Table 9.1 of the EA indicates spoil volumes for locations that include the Botany Bay "Pipeline". This apparently conflicting information should be resolved.	
6. If not, what further response is needed to address the issue? It is not the role of the Panel to check calculations or assumptions.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 6.3.11 ***Concern about the impact of constructing a pipeline on the floor of Botany Bay.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The central issues relate to protection of seagrass habitats and possible impacts from the proposed pipeline on commercial and recreational activities. These issues are captured in the PPR.	
2. Does Sydney Water's response adequately address the issue? SWC dismisses tunnelling beneath the bay on the basis of risks and excessive construction time. Microtunnelling and Horizontal Directional Drilling (HDD) are reviewed in the PPR but not endorsed (though not dismissed). It is apparent that the cross-bay construction method has not yet been decided yet this is fundamental to the project and SWC seeks Project Approval for this component. SOC 20 outlines mitigation actions including finding an optimal route, preventing sediment deposition, and seagrass replanting and/or offsets. The SOC aims for no significant or irreversible impacts on oyster leases or aquaculture – in consultation with DPI. No boundary conditions are included.	
3. What justification is made for Sydney Water's response? The report provides no justification for favouring dredging and pipeline for distribution across the bay over microtunnelling/HDD. DPI expresses concern about potential seagrass impacts and cautions that few attempts at replanting have been successful. The PPR acknowledges the limited success in transplanting seagrass in Botany Bay and commits to minimise impacts. DPI "requests" that alternative methods for crossing Botany Bay and land-based methods be investigated in detail and costed. The agency sets out stringent requirements, including a bond, "…should the other delivery options be justifiably eliminated". DEC expresses similar concerns, and stipulates that "…the proponent should compare and contrast water delivery options in terms of costs, risks, and potential impacts on the environment". Such an analysis has apparently not been undertaken.	
4. What evidence is used to back Sydney Water's claims? No evidence is provided for the implicit choice of dredging/pipelaying, other than a citation of risks associated with microtunnelling/HDD put forward without clear rationale. No comparative analysis is presented.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? SWC may not fully appreciate the environmental risks and expense associated with the dredging/pipeline option for delivering treated water into the distribution system. The response is inadequate for such a key issue at this PPR stage, especially as Project Approval is sought for this component. See also Panel response to Issue 6.3.4.	

6. If not, what further response is needed to address the issue? A serious, objective assessment of alternative schemes for transferring treated water to the distribution system is needed as a basis of the PPR and for Project Approval. This should be in sufficient detail to: • Clarify all boundary conditions, including sediment deposition, noise levels, etc, so that parameters so that the basis on which approval is granted is fully transparent; • Inform the community in a transparent way of SWC's analysis of options, and intent and undertakings in respect of this crucial project component. The PPR should be amended to provide an undertaking that a bulk water distribution plan will be prepared based on rigorous analysis of alternative bay crossing schemes.	
Panel Recommendation **The Government decision on the status of the Desalination Project provides time for a full evaluation of alternative schemes for bulk transfer of treated water across Botany Bay to the reticulation system. The PPR needs to be strengthened as outlined at 6 above.** **The request for Planning Approval for this part of the project should be withdrawn pending preparation of a clear management plan for bulk distribution of desalinated water that can be subjected to public scrutiny.**	

Sydney Water Paragraph Number – 6.3.12 ***Concern that private property could be damaged during construction.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? SWC recognises the concern and has framed the issue appropriately.	
2. Does Sydney Water's response adequately address the issue? Yes. The response goes to prevention or mitigation of damage as well as rectification, where necessary.	
3. What justification is made for Sydney Water's response? N/a	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is adequate.	

6. If not, what further response is needed to address the issue? N/a	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 6.3.13 ***Concern that the location of the distribution infrastructure is yet to be resolved.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. There is a level of frustration expressed in some submissions that the distribution infrastructure routes should have been included in the EA.	
2. Does Sydney Water's response adequately address the issue? The response at 6.3.13 explains that the preferred routes will be selected after Concept Approval. An assessment of the routes would be included in the subsequent submission for Project Approval. At SOC 67 SWC advises that Councils, stakeholder groups and the community will be consulted.	
3. What justification is made for Sydney Water's response? Not explained other than by a statement that additional investigations will inform the decision.	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is considered adequate.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept subject to responses on 6.3.3, 6.3.7, 6.3.8, 6.3.11.**	

Sydney Water Paragraph Number – 6.3.14 ***Will pipelines be laid under houses at Kurnell?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? SWC has captured the general concern.	
2. Does Sydney Water's response adequately address the issue? Yes. SWC explains that pipelines will not be laid under houses.	
3. What justification is made for Sydney Water's response? SWC advises in the PPR that pipelines will be laid under street pavement and other public places.	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate.	
6. If not, what further response is needed to address the issue? N/a	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 6.3.15 ***What public scrutiny will be available for tunnelling approvals?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? SWC reflects accurately the concern expressed in some submissions that construction of infrastructure delivery tunnels will be undertaken without the opportunity for further scrutiny.	
2. Does Sydney Water's response adequately address the issue? SWC's response at SOC 69 and SOC 70 advises that tunnels under urban areas will be the subject of a detailed "Tunnel Impacts Investigation Report" and that: '…no substantial construction of tunnels through urban areas will be undertaken without prior Project Approval by the Minister for Planning.". No undertaking for public scrutiny is given in either nominated SOC. However, at Section 11.1.2 of the PPR, SWC is in fact seeking Project Approval for the intake connecting tunnel, the outlet connecting tunnel and the cross-bay infrastructure. It would appear that, if Project Approval is granted at this stage, then no further opportunity for scrutiny will be available, and no further approvals are necessary.	

3. What justification is made for Sydney Water's response? No justification is provided.	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is inadequate because it does not clearly respond to the question that SWC has itself framed: Will public scrutiny be available for tunnel approvals?	
6. If not, what further response is needed to address the issue? SWC should withdraw its proposal for Project Approval of tunnelling. SOC 69 and SOC 70 should be amended accordingly and should provide an undertaking in regard to public scrutiny of tunnel plans and local consultation on local impacts.	
Panel Recommendation **Tunnel plans and any reports, including the proposed Tunnel Impacts Investigation Report should be exhibited for public comment prior to Project Approval being sought.** **Regular consultation arrangements should be undertaken during tunnelling.**	

Sydney Water Paragraph Number – 6.3.16 ***Waste management in accordance with relevant guidelines.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The issue framing summarises lengthy comments by DEC in particular.	
2. Does Sydney Water's response adequately address the issue? DEC calls for a "Waste Management Plan" and this need is noted in PPR 6.3.16. SOC 57 calls for procedures for classification and management of waste materials. Although the details differ, the intent to ensure sound management is accepted.	
3. What justification is made for Sydney Water's response? N/a	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 6.3.17 ***Construction impacts on public open space and cycle paths.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The issue is appropriately framed.	
2. Does Sydney Water's response adequately address the issue? SWC directly addresses the issue at SOC 35.	
3. What justification is made for Sydney Water's response? N/a	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is regarded as adequate.	
6. If not, what further response is needed to address the issue? N/a	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 6.3.18 ***Concern about air quality impacts during construction.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The issue is appropriately framed.	
2. Does Sydney Water's response adequately address the issue? SWC directly addresses the issue at SOC 36.	
3. What justification is made for Sydney Water's response? N/a	
4. What evidence is used to back Sydney Water's claims? N/a	

5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is regarded as adequate.	
6. If not, what further response is needed to address the issue? N/a	
Panel Recommendation **Accept.**	

Section 7 – Operation of the Plant

This section is poorly structured and needs a complete review prior to publication. In particular the sections on energy use and greenhouse gases are confused and mixed up.

Sydney Water Paragraph Number – 7.3.1 ***Thermal processes should be preferred to a reverse osmosis process.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Quantum of energy used for thermal process is three times that of reverse osmosis.	
4. What evidence is used to back Sydney Water's claims? Sufficient, including discussion in EA.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 7.3.2 ***Concern about energy use.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Incomplete. This section lists a number of specific issues raised in submissions a, eg use of solar power. However, the general point of overall energy consumption (regardless of source has not been addressed). 221 submissions (on SWC count) raised the broader issue. According to Sydney Water's EI Compliance Report 2005, total energy consumption in 2004-5-05 was 425GWh. The plant would consume between 225GWh and 900GWh per annum. This issue has not been addressed.	
2. Does Sydney Water's response adequately address the issue? The PPR adequately addresses the solar and nuclear questions but fails to address the main question about quantum of energy consumed. SWC response should include the fact that the power supply to the plant is able to be interrupted due to the nature of the industrial process.	
3. What justification is made for Sydney Water's response? Solar and nuclear issues appropriately justified. Energy consumption is merely stated (repeated from the EA).	
4. What evidence is used to back Sydney Water's claims? Basic calculation for the solar issue. None relating to the broad concern about energy use.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient.	
6. If not, what further response is needed to address the issue? The proposed energy consumption of the plant under any configuration would radically alter SWC's Energy Performance Targets. The broad issue of energy consumption has not been addressed in the PPR and is not placed in any policy context, whether Government or the corporation's own Environment Policy and EI Compliance regime. This is a significant omission given the number of public submissions that expressed concern about energy consumption.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 7.3.3 ***Concerns about capacity of the electricity network.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? A simple statement is made that 'Sydney Water has been advised that there is sufficient capacity in the electricity generation and distribution system'.	
4. What evidence is used to back Sydney Water's claims? None.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient response.	
6. If not, what further response is needed to address the issue? SWC needs to provide documentary evidence by way of letters or statements from Energy Australia and Transgrid to back up the claim in the EA. Such evidence is normal practice to include in EIS reports and there is no good reason not to include these here. This is particularly warranted due to the genuine concerns from local residents and business about the adequacy and continuity of power supply in Kurnell Peninsula. The issue of power blackouts needs to be placed in a suitably worded SOC.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 7.3.4 ***Concern about Greenhouse gas emissions.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? No. This was one of the major issues in the public submissions (450 submissions on SWC count) and the other forms of community input during the exhibition period. The Government announcement of 8 February 2006 was after the close of the exhibition period. Given the significance of the issue, the PPR needs to revisit the GHG issue in the light of the Government announcement.	
2. Does Sydney Water's response adequately address the issue? No. Give the level of detailed comment provided in many of the public submissions, the response by Sydney Water in the PPR is inadequate. The response to the greenhouse issues needs to be much more detailed. This level of response should be consistent with commitments made in Sydney Water's Environment Policy and their obligations to act as good corporate citizens.	
3. What justification is made for Sydney Water's response? None. Sydney Water's response merely reiterates the Government's announcement on the Metropolitan Water Plan of 8 February 2006.	
4. What evidence is used to back Sydney Water's claims? No evidence is used to back the claim. Indeed, a great deal of background analysis has been excluded from the PPR though subject of multi-agency Greenhouse Reduction Plan Working Group. The material and analysis in the report of the working group is of high quality but surprisingly has not been drawn on in the PPR. The PPR provides misleading evidence. This must be addressed, verified and corrected. The statement in the PPR that there is 'currently enough renewable energy through packages such as Green Power to power a 500ML/day plant' (p.95) is at variance with the statement in the EA that a 500ML/day plant would require 'almost triple the amount of current Green Power supply' (p.6.12).	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Highly inadequate and highly insufficient. Sydney Water's response must demonstrate how the Government's policy will be implemented should the project proceed. The response should reference the Progress Report on the Metropolitan Water Plan, the NSW Greenhouse Policy and the detailed work of the Greenhouse Reductions Plan Working Group. Should the policy need to be implemented in stages, a timetable should be provided that indicates key milestones and actions.	

6. If not, what further response is needed to address the issue? Stipitate the key principles in assessing renewable energy options: • Must represent new 'additional' renewable power and not crowd out existing green energy consumers; • Must be genuine renewable energy – ie no operating GHG emissions (some GHG is released in construction of plant and equipment for renewable energy); • Transparent and auditable processes (link to EI Compliance); • Understood by the general public. Sydney Water needs to completely revise this section of the PPR and clearly address its own environmental reporting requirements (eg Objective 8). Renewable energy cannot be directly purchased by any consumer, whether wholesale, commercial or residential. (The exception would be renewable energy supplied 'over-the-fence' from say an adjacent wind farm.) Renewable energy is currently purchased through 'abstract' means, such as Green Power. Though the Green Power scheme is understood in principle by many consumers, there are significant complexities about how it currently operates and its future operating environment. Issue of market availability of Green Power and any other renewable options must be addressed. This issue of how to source renewable energy is side-stepped in the PPR. Given the strength of opinion from the public submissions, this issue must be discussed in the PPR. Sydney Water needs to provide detail on how renewable energy will be sourced for this project. There are complex issues about delivery and market conditions that were raised in submissions (and by the Greenhouse Reductions Group) but have not been referred to in any way in the PPR. SOC 2 needs to be strengthened and made much clearer. The first sentence of the SOC is highly ambiguous: – What is meant by 'effectively' powered (does this means offsets will be permitted?); – The 'no net greenhouse impact' needs to be referenced to an accounting framework, which should be either the State of NSW or Australia; as it stands, the clause has no meaning.	
Panel Recommendation **It is the view of the Panel that SWC is highly exposed on this issue and significant effort should be made to address this issue more directly.** **A further SOC should be framed that addresses the principles around which SWC will source renewable energy. These should be 'future proofed' as far as possible in order to be relevant for future market and regulatory conditions. This SOC should directly address the issues discussed in this response and those highlighted in the Greenhouse Reductions Group Report.** **Amend as advised.**	

Sydney Water Paragraph Number – 7.3.4 ***Energy recover devices should be mandatory, not optional***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Reference to the EA and a general claim that energy recovery devices have reduced consumption in similar plants by 40%.	
4. What evidence is used to back Sydney Water's claims? Provided in EA.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient. SOC 1 provides that energy recovery be mandatory. This SOC could be strengthened with a minimum target recovery rate specified.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 7.3.5 ***Concerns about the general degradation of Kurnell.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes, though the response is fairly brief.	
3. What justification is made for Sydney Water's response? The current industrial zoning, the 'clean' nature of the industry (re immediate pollutants), and the conservation and landscaping commitments given.	
4. What evidence is used to back Sydney Water's claims? As above.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient. But could cross-reference the applicable SOCs that address the issue.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 7.3.6 ***Concern about the water quality produced by the plant.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. A number of specific issues are covered by this response.	
2. Does Sydney Water's response adequately address the issue? Generally, yes.	
3. What justification is made for Sydney Water's response? Adherence to NSW Health requirements and Australian Drinking Water Guidelines.	
4. What evidence is used to back Sydney Water's claims? Greater detail could have been provided in the EA about this issue in the form of an appendix. (This is not strictly an EA issue as it relates to product security but it is an important public concern nonetheless.) The matter was not addressed in the submission by NSW Health. The ADWG was not included in the EA nor any detailed discussion about how water quality is tested.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient, though more detail would address public concerns more fully.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 7.3.7 ***Concern about the visual impact of the plant.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? **Refer to Panel response to 4.3.5.** Yes.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? None.	
4. What evidence is used to back Sydney Water's claims? None.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient.	
6. If not, what further response is needed to address the issue? **Refer to Panel response to 4.3.5.** The response is vague and general. An adequate response should detail specific design options and principles that will inform the final design of the plant. Examples of existing plants would assist the explanation. SOC 50 and SOC 51 require strengthening.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 7.3.8 ***The benefit of producing 500ML/day has not been presented. Why not a greater volume?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? The general Government policy response as stated in the Metro Water Plan is provided. This is sufficient justification.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 7.3.9 ***Hazards and risks, such as the need to evacuate Kurnell if there is an incident at Caltex.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? Minimal.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient.	
6. If not, what further response is needed to address the issue? This issue should be expressed in a SOC.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 7.3.10 ***Concern about chemical use and storages on-site.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Contractors will be required to adhere to requirements in the SOCs	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient. SOC 53 and SOC 54 are appropriate conditions.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 7.3.11 ***What is the impact from chemicals used to preserve the membranes?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? A 40% solution of sodium bisulfite is stated.	
4. What evidence is used to back Sydney Water's claims? Response is specific.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 7.3.12 ***The reverse osmosis process is not adequately described.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Reference to the EA.	
4. What evidence is used to back Sydney Water's claims? N/a. But literature is referred to – this could be explicitly referenced.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 7.3.13 ***Concern about operational noise.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Noise assessment and modelling.	
4. What evidence is used to back Sydney Water's claims? Evidence has been provided by SWC's noise consultants, Heggie Associates.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient. SOC 33 details the monitoring process adequately. Note comments on issue 4.3.7 relating to construction noise.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 7.3.14 ***Concern about traffic noise.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Analysis is basic but adequate.	
4. What evidence is used to back Sydney Water's claims? Based on the 500GL/plant which is the correct base for 'worst-case'.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate but insufficient, due to absence of relevant SOC.	
6. If not, what further response is needed to address the issue? The commitment to limit truck movements to daytime hours should be expressed in a SOC.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 7.3.15 ***Concern that stormwater runoff from the site may impact on water quality in Quibray Bay.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? Consideration in EA.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient, but some strengthening of SOCs required. SOC 7 should state 'to DEC requirements'; SOC 39 needs to specify who are the 'relevant authorities'.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 7.3.16 ***Concern about air emissions generated by the plant.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? No on site emissions due to the technology used.	
4. What evidence is used to back Sydney Water's claims? N/a. The question relates to the previous operating scenario of using 50% non-renewable energy.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 7.3.16 ***Concern about odours generated by the plant.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Marine debris is identified as a potential source of odour.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate but insufficient in terms of the SOC.	
6. If not, what further response is needed to address the issue? This SOC must specify a monitoring mechanism and process.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 7.3.17 ***Concern about the operational costs of the project.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? Average annual cost increases to consumers based on IPART assumptions.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient.	
6. If not, what further response is needed to address the issue? A fuller response is warranted. This should include some indication of proportional increases in household bill, not just the average dollar values. Also, some indication of ranges of increases should be given. Importantly, price increases to vulnerable groups such as low income households and pensions should be provided.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 7.3.18 ***Notifying the community.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Current operating procedures are highlighted but not specified in detail.	
4. What evidence is used to back Sydney Water's claims? It would be useful to indicate where these policies and procedures can be viewed.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient. But see recommendation under issue 4.3.4 regarding the immediately affected community.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 7.3.19 ***Concern about flora and fauna.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? All these issues are dealt with in other areas of the PPR.	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? See issue 4.3.10; 4.3.9.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 7.3.20 ***The Kurnell peninsula is the aerial gateway to Sydney and the desalination plant will create another blight on the landscape.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? **See Panel response to 4.3.5.**	
2. Does Sydney Water's response adequately address the issue?	
3. What justification is made for Sydney Water's response?	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? N/a.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Amend as advised. See Panel response to 4.3.5.**	

Sydney Water Paragraph Number – 7.3.21 ***Concern regarding the lack of detail on the operational regime for the plant.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Current methods for plant operation adequately handle the conditions described.	
4. What evidence is used to back Sydney Water's claims? Brief but sufficient explanation of operation procedures.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 7.3.22 ***Waste should be managed in accordance with relevant guidelines.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? **Refer to Panel response to 4.3.20, 5.3.7 and 6.3.16.** Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Relevant guideline is cited.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient, including SOC 57.	
6. If not, what further response is needed to address the issue? **Refer to Panel response to 4.3.20, 5.3.7 and 6.3.16.**	
Panel Recommendation **Accept.**	

Section 8 – Operation of the Intake

Sydney Water Paragraph Number – 8.3.1 ***Concern about intake water quality.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes	
2. Does Sydney Water's response adequately address the issue? Very adequate with respect to DOOs [the dilutions expected by the Water Research Laboratory report might be quoted]; other discharges; and algae. Sutherland's [P577] concerns about radioisotopes from ANSTO in the Cronulla STP discharge might be addressed directly, quantitatively, based on Section 5.2 of the Water Research Laboratory Report. A final comment might be added, that there will be no danger to health from harmful organisms.	
3. What justification is made for Sydney Water's response? Water Research Laboratory modelling	
4. What evidence is used to back Sydney Water's claims? Water Research Laboratory modelling	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Generally yes, but see 2 above.	
6. If not, what further response is needed to address the issue? As for 2 above.	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 8.3.2 ***Impacts on aquatic ecology due to impingement and entrainment of biota.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes	
2. Does Sydney Water's response adequately address the issue? Yes, in that a range of potentially effective technologies are described, and the pilot modelling to be instituted.	
3. What justification is made for Sydney Water's response? Ecology Lab Report, technology information.	
4. What evidence is used to back Sydney Water's claims? Ecology Lab Report, technology information.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes, in the light of what could reasonably have been done in the timeframe for the EA, and what is proposed to be still done.	
6. If not, what further response is needed to address the issue? Suggest putting into SOC 16 that monitoring results and intake type selection and design will be discussed with bodies such as DPI, and submitted to DEC for approval.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 8.3.3 ***What chemicals will be used to clean the intake pipes?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes	
3. What justification is made for Sydney Water's response? Simple process, for which there is extensive experience.	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue? Perhaps add comment on the lines that the proposed treatment is similar to swimming pool maintenance.	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 8.3.4 ***Exclusion zones.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes	
2. Does Sydney Water's response adequately address the issue? Yes	
3. What justification is made for Sydney Water's response? Based on clear requirements and regulations.	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue? See also the Panel response to 9.3.3, general comment 2, suggesting a plan of the outlet zone. An enlarged, dimensioned and appropriately detailed part of PPR Figure 5.2 would answer questions on both inlet and outlet zones.	
Panel Recommendation **Amend as advised.**	

Section 9 – Operation of the Outlet

Sydney Water Paragraph Number – 9.3.1 ***What effect will the discharge structures and discharge of seawater concentrate have on fishing?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue?	
3. What justification is made for Sydney Water's response? The area potentially denied is only the "mixing" area, which is very small compared to that locally available to fishing.	
4. What evidence is used to back Sydney Water's claims? Modelling by the Water Research Laboratory (Appendix A2 of EA) defines the mixing zone; but see Panel comments regarding the definition under 9.3.3. Water Research Laboratory modelling and Ecology Lab Report (Appendix A3 of EA) do not expect any significant impact on fishing outside the zone.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 9.3.2 ***What effect will discharge of seawater concentrate have on recreational use of the area in the vicinity of the outlet?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes, again many submissions make this reference.	
2. Does Sydney Water's response adequately address the issue?	
3. What justification is made for Sydney Water's response? The area potentially denied is only the "mixing" area, which is very small compared to that locally available for recreational activities, and is not suitable for many of them.	
4. What evidence is used to back Sydney Water's claims? Modelling by Water Research Laboratory defines the mixing zone (but see comments re the definition under Panel response to 9.3.3).	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 9.3.3

Concern regarding impacts on marine ecology due to discharge of seawater concentrate.

General comment about this issues

The issues here concern potential problems inside the mixing zone. We comment:

1. The zone is stated as extending 50m–75m from the outlet. We suggest an explicit statement of what this is based on: is it based on the Water Research Laboratory estimate of reaching the 1 ppt excess limit at 22.6 m for a 500 Ml plant, times a "safety factor" of 2–3; or is that an allowance for high currents? Is the distance measured at right angles to the proposed line of three risers at 25m intervals? A simple plan of risers and zone, also noting the distance to the shore, would assist appreciation of the SWC arguments. That should also resolve questions regarding the size of the zone posed in Sutherland Council [P577].

As for the inlet, the possible range of outlet locations should also be shown.

2. Is the SWC position that conditions inside the mixing zone are not, cannot be guaranteed to be acceptable to all forms of plant and animal life; but as the zone is very small relative to the Kurnell shoreline the impact will be negligible? If so, it may be best stated at the outset.

An enlarged, dimensioned and appropriately detailed part of PPR Figure 5.2 (p.58) would answer questions on both inlet and outlet zones.

Sydney Water Paragraph Number – 9.3.3

Concern regarding impacts on marine ecology due to discharge of seawater concentrate.

Sub-issue Impact on marine ecology

1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes, many submissions come down to this.	
2. Does Sydney Water's response adequately address the issue? A reasonably comprehensive statement	
3. What justification is made for Sydney Water's response? Based principally on the Ecology Lab Report, EA Appendix A3, which might be cited more directly.	
4. What evidence is used to back Sydney Water's claims? Detailed in the Ecology Lab Report	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue? Reference to our general comment (2).	
Panel Recommendation **Accept, subject to comments above.**	

Sydney Water Paragraph Number – 9.3.3 ***Concern regarding impacts on marine ecology due to discharge of seawater concentrate.*** ***Sub-issue Avoiding discharge on ecologically significant areas***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Adequate	
3. What justification is made for Sydney Water's response? Based principally on the Ecology Lab Report, which might again be cited more directly. Also Water Research Laboratory modelling with respect to Boat Harbour	
4. What evidence is used to back Sydney Water's claims? Detailed in the Water Research Laboratory and Ecology Lab Reports.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes, as further investigation of potential threatened species danger is now possible	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 9.3.3 ***Concern regarding impacts on marine ecology due to discharge of seawater concentrate.*** ***Sub-topic Will there be acute toxic materials in the zone?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Specific DEC question	
2. Does Sydney Water's response adequately address the issue? Qualified by statement of further review and monitoring in the pilot program, set out in SOC13, for which there is now time.	
3. What justification is made for Sydney Water's response? Ecology Lab assessment, based on discharges listed in EA Table 7.4, that no such effects are expected.	
4. What evidence is used to back Sydney Water's claims? As in Ecology Lab Report, to be supported by further work, referred to in (2) above.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient, within limits indicated.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 9.3.3 ***Concern regarding impacts on marine ecology due to discharge of seawater concentrate.*** ***Sub-topic Salinity tolerances assessment deficient***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. A number of submissions suggest this.	
2. Does Sydney Water's response adequately address the issue? In direct terms.	
3. What justification is made for Sydney Water's response? Waters outside the mixing zone are within ANZECC limits.	
4. What evidence is used to back Sydney Water's claims? Water Research Laboratory modelling, Ecology Lab assessments.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue? SWC intends extensive further investigations, as per SOC 12, 13, covering the expressed concerns, and for which there is now time to do that in the pilot program.	
Panel Recommendation **Accept, subject to the undertakings in SOC 12 and 13.**	

Sydney Water Paragraph Number – 9.3.3 ***Concern regarding impacts on marine ecology due to discharge of seawater concentrate.*** ***Sub-topic Actions if discharges kill marine life***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Presumably refers to life outside mixing zone. This needs to be clarified.	
2. Does Sydney Water's response adequately address the issue? Both types of action proposed are feasible, the first, increasing discharge velocities, decreasing the mixing zone at increased pumping costs.	
3. What justification is made for Sydney Water's response? Modelling, analysis of chemistry of the concentrate. Reference Ecology Lab Report.	
4. What evidence is used to back Sydney Water's claims? As for (3)	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 9.3.3 ***Concern regarding impacts on marine ecology due to discharge of seawater concentrate.*** ***Sub-topics Impact on whales of mixing zone salinity, bubbles and noise***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. Specifically raised in submissions.	
2. Does Sydney Water's response adequately address the issue? Appropriate direct statements.	
3. What justification is made for Sydney Water's response? Ecology Lab Report and specific literature reference.	
4. What evidence is used to back Sydney Water's claims? Limited literature review, but considered sufficient.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 9.3.3 ***Concern regarding impacts on marine ecology due to discharge of seawater concentrate.*** ***Sub-issue Concern that mixing zone conditions may lead to undesirable or nuisance aquatic life.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. Encapsulates a concern expressed by DEC and others.	
2. Does Sydney Water's response adequately address the issue? Yes, In terms of what can be said now. Pilot plant monitoring is to be undertaken, which will clarify matters.	
3. What justification is made for Sydney Water's response? Ecology Lab report, that algal blooms unlikely, and no other obvious threats seen.	
4. What evidence is used to back Sydney Water's claims? In Ecology Lab Report.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 9.3.4 ***Concern regarding the impact of seawater concentrate on sea water quality.*** This issue is discussed in terms of the questions and recommendations of DEC, which appear to cover all relevant matters raised in the other public submissions.

Sydney Water Paragraph Number – 9.3.4 ***Concern regarding the impact of seawater concentrate on sea water quality.*** ***Sub-issue Attaining ANZECC criteria beyond mixing zone. Concern about possible irreversibility of zone inputs.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. Direct DEC statement.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Modelling results, Table 7.4 show the ANZECC limits will be met, for the specified materials.	
4. What evidence is used to back Sydney Water's claims? Water Research Laboratory and Ecology Lab Reports.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? It is stated that reversibility of mixing zone inputs cannot at this time be guaranteed, but that pilot monitoring will look for irreversible effects.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept, subject to further monitoring.**	

Sydney Water Paragraph Number – 9.3.4 ***Concern regarding the impact of seawater concentrate on sea water quality.*** ***Sub-issue Plumes hugging the bottom***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes, DEC question.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Water Research Laboratory modelling, conservative prediction.	
4. What evidence is used to back Sydney Water's claims? As in (3) above.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 9.3.4 ***Concern regarding the impact of seawater concentrate on sea water quality.*** ***Sub-issue Chemicals to be used in the process.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes, DEC question.	
2. Does Sydney Water's response adequately address the issue? Yes, in Table 7.1, in terms of present knowledge.	
3. What justification is made for Sydney Water's response? As for (2)	
4. What evidence is used to back Sydney Water's claims? As for (2)	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Can and would be revised, extended during the pilot program. Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 9.3.4 ***Concern regarding the impact of seawater concentrate on sea water quality.*** ***Sub-issue Avoiding sedimentation of solids; settlement of ferric hydroxide and other backwash materials***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes, DEC question.	
2. Does Sydney Water's response adequately address the issue? It is well discussed in the EA. As the question of the eventual fate of the ferric hydroxide in particular has been raised in several submissions, the detailed response here, including the mitigation measures already set out in section 7.2.3, which could be adopted if pilot operation showed the need, is appropriate.	
3. What justification is made for Sydney Water's response? In EA.	
4. What evidence is used to back Sydney Water's claims? In EA.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 9.3.4 ***Concern regarding the impact of seawater concentrate on sea water quality.*** ***Sub-issues In mixing zone no bio-accumulation; no re-entrainment; no harmful deposits; no floating debris, etc; no colour or other problematic effects.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes, DEC question.	
2. Does Sydney Water's response adequately address the issue? Yes, straightforward, direct answers; can be checked by pilot monitoring.	
3. What justification is made for Sydney Water's response? Plant discharge assessments.	
4. What evidence is used to back Sydney Water's claims? As above.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 9.3.5 ***Concern that there are deficiencies in the modelling report. Specifics considered:*** ***1: Insufficient data on currents, etc;*** ***2: Eddy current in Bate Bay;*** ***3: Quality Control;*** ***4: Dense plume prediction limitations;*** ***5: Near field [mixing zone] under-represented.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. The specifics above summarise appropriately concerns raised in the submissions.	
2. Does Sydney Water's response adequately address the issues? (2) and (3) have factual replies. (1): Generally adequate; although the results of recent current metering, said to be in the PPR, could not be found. The Water Research Laboratory report does have results for an observed, [but limited] range of currents, which might be referred to specifically. (4), (5): The implications of the present limits to predicting dense plume behaviour, and the meaning of the word "conservative" appear to have been misunderstood in several submissions (which in this case refers to more quiescent conditions). It might help to put the explanation, here divided between the two sections, together, and perhaps support it with a couple of diagrams. In regard to (5), see also the "General" comment (1) at the start of 9.3.3. Overall, reference might be made to the success [in terms of verification by Beachwatch] of the extensive Deepwater Outfall modelling, an effective base for Water Research Laboratory for the present work.	
3. What justification is made for Sydney Water's response? The Water Research Laboratory report.	
4. What evidence is used to back Sydney Water's claims? As above.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Subject to comments under point 2.	
6. If not, what further response is needed to address the issue? Detailed under point 2.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 9.3.6 ***Consideration of diffuser technology.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes, as raised in submissions.	
2. Does Sydney Water's response adequately address the issue? Some clarification, extension should be considered. Specifically, it is not clear whether different nozzle designs, and different parameters, such as discharge angle and fluid velocity, can or will be tested during the pilot program.	
3. What justification is made for Sydney Water's response? Statement of intent.	
4. What evidence is used to back Sydney Water's claims? No claim made.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? See point 2 above.	
6. If not, what further response is needed to address the issue? See point 2 above.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 9.3.7 ***Concern over the proposed monitoring programs.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes: the program is critically important, and its implementation is an essential part of many of the SWC responses in this PPR.	
2. Does Sydney Water's response adequately address the issue? Deferment of full scale plant construction may allow a more extended and deeper program than originally envisaged: if that is so, it should be indicated in SOC 13. It is noted that the program will be developed in discussion with DEC and DPI. We recommend that the consequences of the outcomes of the program for full scale plant design and operation be also discussed with and approved by DEC and DPI. SOC 13 should be extended to cover this.	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? See point 2, above. The current proposed monitoring program is weak and needs to go beyond 'liaison' with DEC and DPI.	
6. If not, what further response is needed to address the issue? See point 2, above.	
Panel Recommendation **Amend as advised.** **Proposed monitoring program commitments need to be strengthened and framed in terms of obligations and requirements. The program should be linked to necessary actions and the relevant regulatory frameworks (DEC, DPI and others).**	

Section 10 – Operation of the Delivery Infrastructure

Sydney Water Paragraph Number – 10.3.1 ***What happens if the pipes under Botany Bay start leaking?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The issue is framed appropriately.	
2. Does Sydney Water's response adequately address the issue? The response directly addresses the issue.	
3. What justification is made for Sydney Water's response? The response outlines accepted leak prevention and rectification procedures.	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is regarded as adequate.	
6. If not, what further response is needed to address the issue? N/a	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 10.3.2 ***What works will remain at Kyeemagh and what impact will this have on traffic and access?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The issue is framed appropriately.	
2. Does Sydney Water's response adequately address the issue? The response directly addresses the issue.	
3. What justification is made for Sydney Water's response? N/a	

4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is regarded as adequate.	
6. If not, what further response is needed to address the issue? N/a	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 10.3.3 ***Will the pipes rust because of the high levels of salt in desalinated water?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The issue is appropriately framed.	
2. Does Sydney Water's response adequately address the issue? The response directly addresses the issue.	
3. What justification is made for Sydney Water's response? Low TDS levels in treated water.	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is regarded as adequate.	
6. If not, what further response is needed to address the issue? N/a	
Panel Recommendation **Accept.**	

Appendix B – Matters relating to the need for and alternatives to desalination

Sydney Water PPR – Appendix B ***Matters Relating to the Need For and Alternatives to Desalination.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Many submissions questioned the relative merit of desalination *in comparison with* other water supply arrangements for Sydney. It is appropriate that the PPR responds broadly to the issues raised by the community.	
2. Does Sydney Water's response adequately address the issue? Appendix B addresses an array of water supply schemes, some of which may be regarded as options (such as Welcome Reef Dam) and some of which form a part of the SWC water supply portfolio (such as water efficiency schemes and water recycling for non-potable purposes). This is a significant opportunity to: • Explain that SWC has a portfolio approach, and demonstrate its merit; and • To clarify how the desalination scheme might add value to the portfolio as a part of the contingency plan. Both the above aspects gain a mention in Appendix B, but are buried in ten pages of description that would be hard-going for people unfamiliar with the issues. A particular difficulty is that there is no clear distinction between *options* and *portfolio* inclusions. And there is no consolidated enunciation of Sydney Water's comprehensive water supply portfolio.	
3. What justification is made for Sydney Water's response? This Appendix is not the place for justification. However, it is notable that a comparison of costs is made between Desalination and Indirect Potable Reuse (IPR). This comparison looses impact because Desalination is defined and sized, but there is no definition of the IPR project: its size, sewage source, or delivery point to the bulk water system. The reader has no way of assessing whether a like-with-like comparison has been made. Moreover, a weak defence of rejection of IPR is provided: "To introduce recycled water directly into the drinking water supply would not only require health studies to confirm its safety, but also major public education to communicate the safety of this concept." This statement is left hanging, as if health studies and an education program present an impassable barrier to IPR. Both would certainly be major issues if it was planned to re-entrain treated sewage into local reservoirs. But most of the submissions and comments call for treated sewage to be transported to the headwaters of Warragamba. Such a scheme would resemble the European experience with successive drawing and discharge at various river locations.	

4. What evidence is used to back Sydney Water's claims? No evidence is provided to demonstrate the relative cost-effectiveness of the community's (apparently) preferred scheme.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient. The response does not represent a serious analysis of the proposals made in a large number of submissions from both community members and important stakeholders.	
6. If not, what further response is needed to address the issue? A serious analysis of suggestions should be presented and a more convincing case should be made for the SWC portfolio approach and this should be included as an important part of the PPR.	
Panel Recommendation **Further elaboration, as outlined above.**	

C Minutes of Panel Meeting with Sydney Water Corporation – 18 April 2006

Independent Panel for the Kurnell Desalination Plant and Associated Infrastructure
Meeting with Representatives of Sydney Water Corporation
Informal Meeting Notes

Date: Tuesday, 18 April 2006

Time: 2:30pm – 4:30pm

Venue: SWC Office, Boardroom, First Floor, 115-123 Bathurst St, Sydney

Participants:

Prof Rolf Prince (Panel Chair)	prince@chem.eng.usyd.edu.au
Mr Tony Wright (Panel Member)	tony.wright@wrightstrategy.com
Dr Gary Cox (Panel Member)	gary@elton.com.au
Mr Chris Wilson (DoP)	chris.wilson@planning.nsw.gov.au
Mr Scott Jeffries (DoP)	scott.jeffries@planning.nsw.gov.au
Mr David Waddell (GHD)	dwaddell@ghd.com.au
Mr Murray Johnson (SWC)	murray.johnson@sydneywater.com.au
Ms Judi Hansen (SWC)	judi.hansen@sydneywater.com.au
Ms Kaia Hodge (SWC)	kaia.hodge@sydneywater.com.au
Mr Ian Payne (SWC)	ian.payne@sydneywater.com.au
Mr Steven Baxter (SWC)	steve.baxter@sydneywater.com.au
Mrs Paula Poon (Panel Secretariat)	paula.poon@planning.nsw.gov.au

Meeting Notes

Purpose of the Meeting

- To clarify the panel's comments on SWC's draft PPR (previously circulated).
- Following this meeting, the panel expected to receive a revised PPR from SWC.

Panel's Terms of Reference

- The Panel clarified its interpretation of the TOR, particularly the first TOR that the Panel is to ensure that all issues raised by the community and stakeholders in submissions to the publicly exhibited EAR are adequately addressed and responded to by SWC.

Questions on Panel's comments on SWC's PPR

- SWC had no argument with most of the Panel's comments, except that it is a little uncomfortable with the terms "inadequate" and "insufficient". It pointed out that the application is for a concept approval which is different from project approval and the assessment process should not lose sight of the purpose of the application.
- SWC broadly grouped its concerns under the following headings:
  - Pipeline crossing Botany Bay,
  - Greenhouse gases,
  - Energy issue,
  - Potential impacts of the distribution network,
  - Site selection,
  - Regional context – REP,
  - Additional information and DEC sign off,
  - Operation cost on household bill, safety net.

1. *Bay Crossing (6.3.11)*

- SWC advised that since its draft PPR, staff had met with DPI to clarify a few issues that DPI raised in its submission. Statement of Commitment Nos 20 and 21 have now included consultation with DPI. Also the draft PPR has been revised to reflect the outcome of the meeting with DPI.
- The Panel encouraged SWC to meet with agencies that expressed concerns in their submissions to resolve issues, particularly the DPI and DEC. Their concerns are in the public domain. If DPI has responded positively at the meeting, SWC should secure and place DPI's responses on record to ensure transparency of the process.
- The Panel expressed the view that an analysis of both micro tunnelling and pipeline in the revised PPR is required. If the pipeline is SWC's preferred option, it should be confirmed as the community needs to know what the options are, which is the preferred option and any analysis to justify the preferred option. These should be included in the revised PPR. It should also be clearly stated that the application is for concept approval which proposes a range of solutions, notwithstanding there is a preferred option. When project approval is sought, the details may change.
- SWC sought clarification as to the panel's expectation of the scope and content of the Bulk Water Management Plan and the intent and purposes of further consultation on the Plan.
- The Panel advised that it referred to the Bulk Water Infrastructure Plan and whether it should form part of the approval depends on the content of the revised PPR.

2. Greenhouse Gas (7.3.4)

- SWC took the Panel's comments on board regarding the implications of the Government decision that 100% of the plant's electric power be supplied from renewable energy.
- The Panel expressed the view that more details and explanations are warranted to ensure public understanding of the issues, uncertainties, future proofing and what is currently available.

3. Energy Use (7.3.2)

- This is part of the greenhouse gas issue.
- Should explain why power may be interrupted in short notice and the positive effects of such interruption.

4. Potential Impacts of Distribution Network

- Terrestrial ecology (6.3.3)
  - The Panel is concerned that the distribution network has not been determined; hence not much impact analysis has been carried out. When SWC has determined the route, it would advise the community. This approach may be satisfactory for a variety of issues, but not for the protection of ecology.
  - The Department of Planning advised that project approval for distribution network is yet to be sought. Anyway, DEC would require management plan for threatened species and constraint mapping, etc. The Panel considered this should be clearly stated in the revised PPR.
- Noise (6.3.1 & 6.3.2)
  - The Panel considered there is a need for some statements in the revised PPR in terms of noise levels to be met.
- Alternative site (4.3.1 to 4.3.3)
  - The Panel considered more details on site selection and alternative sites should be included as such information is readily available in SWC's feasibility study.
  - Department of Planning pointed out that when the Minister determined the proposal as critical infrastructure, the location has been determined at the time. However, it agreed

that more information on how the site was selected would be of assistance to the public.

- Additional DEC sign-off
  - SWC sought clarification as to whether there is any requirement for additional DEC sign-off and preparation of management plans that would be required prior to Ministerial approval. Department of Planning advised that approval would come from the Minister. Certain management plans such as the sea-grass management plan may be required prior to Ministerial approval. The routine/standard management plans such as erosion and sedimentation control plan would not fall within such category.

5. Site and Regional Context (4.3.18)

- The Panel's comment did not imply the REP applies to the project. But given the concerns raised in public submissions, the panel considered there is justification to include reasons why variance from the REP.
- The Department of Planning agreed.

6. Safety Net (7.3.17)

- SWC sought clarification as to what extent the issue of how the operation cost will impact on household bills need to be addressed; projected consumer price increases should be stated as percentages, as well as dollar figures. SWC as a corporation has a charter to provide a social safety net. The Panel considered this should be clearly stated in the revised PPR as well as any increases should be sensitive to the market.
- The Panel also suggested reference be made to the Metro Plan in terms of population increase, demand on water and insurance for water supply, etc.

7. Cost of Project and Cost of Construction (4.5.1)

- SWC pointed out that any price increase will have to go through due process. The Panel advised that this should be clearly indicated in the revised PPR.

8. Floodprone Land (6.3.8)

- SWC advised that it has amended the Statement of Commitment to consult relevant council(s) and authorities. Further that its design would avoid flood prone land.
- The Panel pointed out that Statement of Commitment No 39 addresses the plant site itself, not other areas. Also it refers to stormwater issues only. It is not sure whether the statement also covers construction phase. In certain areas, a large pipeline could cause flooding by itself. The Panel considered the issue could be addressed in a revised Statement of Commitment, not necessarily a management plan.

Outstanding Issues

- The Panel would forward the 4 outstanding issues to SWC within a week.

Next Steps

- SWC agreed to submit their revised PPR to DoP and the Panel on or before 12 May.
- The Panel Report to the Minister will be prepared in three sections in line with the Panel's TOR The first section will address the first TOR and is expected to be completed following receipt of SWC's revised PPR.
- The second and third sections will address the other two TORs. These will be prepared following receipt of the Director-General's Draft Environmental Assessment Report. It is expected that the Department will prepare its Final Environmental Assessment Report following receipt of the revised PPR and the Panel's Report to the Minister.

Abbreviation				
	SWC	Sydney Water Corporation	DoP	Department of Planning
	TOR	Terms of Reference	PPR	Preferred Project Report
	EAR	Environmental Assessment Report	DPI	Department of Primary Industries
	DEC	Department of Environment & Conservation		

D Letter to Sutherland Shire Council – 27 April 2006

THE UNIVERSITY OF SYDNEY

DEPARTMENT OF CHEMICAL ENGINEERING
NSW 2006, AUSTRALIA

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27.4.2006.

Mr J W Rayner
General Manager
Sutherland Shire Council

Dear Mr Rayner

In reply to your letters of 20 February and 18 April to me as Chair, Independent Panel, the Kurnell Desalination Project, I would first offer my apologies that there had been no earlier reply to the February letter – I was under the impression that that had been done.

You will be aware of the Panel's Terms of Reference, which have been publicised widely:

"The Minister has specified that the terms of reference for the panel will be:

1. to ensure that all issues raised by the community and stakeholders in submissions to the publicly exhibited Environmental Assessment Report prepared by Sydney Water are adequately addressed and responded to by Sydney Water.
2. to monitor other forms of community input (other than direct written submissions), issue compilation and assessment, so as to ensure all relevant matters are adequately addressed by the Department in its advice to the Minister.
3. to ensure that issues raised in community and stakeholder submissions and Sydney Water responses thereto are adequately addressed and included in the Department of Planning assessment of the proposal and in the Department's advice to the Minister."

Our duties then relate to the submissions to that EAR. We are not in a position to discuss these with other than Sydney Water and the Department of Planning, as our Terms do not include any basis for hearings.

Be assured that we have necessarily and carefully noted your submissions, as required by the Terms of Reference. I would add that issues regarding compliance by Sydney Water with legislation and the Director General's requirements will be specifically addressed in the Director General's report to the Minister.

Yours sincerely

R G H Prince
Chair, Independent Panel, the Kurnell Desalination Project.

E Submission to Sydney Water Corporation – 1 May 2006

Independent Panel

Major Project: Kurnell Desalination Plant and Associated Infrastructure

Supplementary Submission on Sydney Water Corporation's Preferred Project Report (Final Draft – March 2006)

1 May 2006

Panel Members:

Emeritus Professor Rolf Prince
Mr Tony Wright
Dr Gary Cox

Section 1 – Introduction

General Comments on Text

There are significant misunderstandings in the community regarding the precise implications of the NSW Premier's announcement of 8 February 2006 – *Securing Sydney's Long Term Water Supply.* The Panel is concerned that the PPR should clarify the Premier's announcement in the context of the Progress Report on the Metropolitan Water Plan February 2006.

Specifically:

1.1 General
Reword references to the Premier's announcement to exactly follow the wording in the Premier's Press Release. Consider inserting the relevant extracts from the Press Release in a text box.

1.1.4 The project will only be implemented as a drought contingency
Ditto above comments.

1.3.1 Overview (last paragraph on page 4)
"This will be subject to the applicable environmental approval process."
Given there is wide public concern around approval processes, detail what these processes will be – cite relevant provisions of the EPA Act.

1.4.5 The commitment to reduce greenhouse gas emissions has changed…
Again, use the Premier's wording -
"Concerns raised about the high energy use of a desalination plant will be addressed by powering it with 100% renewable energy – meaning no net greenhouse gas emissions."

Review of the Metropolitan Water Plan and Progress Report on the Metropolitan Water Plan

These two documents are critical for understanding the role of the desalination plant in the wider planning context for water in Metropolitan Sydney. The Panel suggests that more space be given to explaining these two documents (and how they relate to and build on the 2004 Metro Water Plan) and how they inform NSW Government policy on a range of water supply options. The current Government policy position should then be detailed in the context of the policy framework.

Section 2 – The Assessment Process

Sydney Water Paragraph Number - 2.3.1. ***Concern over the classification of the project as Critical Infrastructure under Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act).***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? It would be helpful to the reader to insert a new paragraph 2 describing what is meant in general by the term 'critical infrastructure'. The explanation could also usefully place the critical infrastructure classification in the context of the Metropolitan Water Plan.	
3. What justification is made for Sydney Water's response? Legislation.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes, but see point 2.	
6. If not, what further response is needed to address the issue? See point 2.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number - 2.3.2. ***There is inadequate detail provided in the Environmental Assessment and an EIS should have been prepared which incorporated a 'do nothing option'.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Legislation.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue? Suggest delete: "without being diverted by secondary considerations".	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number - 2.3.3. ***The Environmental Assessment does not assess or compare alternative methods of water supply.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Again, needs the context of NSW Government's Metropolitan Water Plan.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 2.3.4. ***Environmental Assessment assesses the easy impacts and ignores the key impacts.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Procedures for Part 3A assessment and the Director-General's Requirements.	
4. What evidence is used to back Sydney Water's claims? Process as described, including the Planning Focus Meeting.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue? The response could refer to the Panel's role in the process (cross-reference 3.4.1).	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 2.3.5. ***Environmental Assessment does not compare economic and environmental costs or advantages of disadvantages of alternatives.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Framed in terms of Director-General's requirements.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes. Subject to comments made in the Panel's 7 April Submission to SWC under 4.3.1 and 4.3.3 (re site selection).	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 2.3.6. ***Environmental Assessment is designed to support the project.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? No.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? Mitigation and monitoring processes.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? No.	
6. If not, what further response is needed to address the issue? The response does not fully answer the question. The response needs to be framed with respect to the legislation, in particular the meaning and scope of 'environmental assessment' under Section 75F of the EP&A Act. Note role of Minister for the Environment. The response could refer to the Panel's role in the process (cross-reference 3.4.1).	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 2.3.7. ***Concern that the impacts identified in the Environmental Assessment are not supported by an independent authority.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Process and procedure currently applying under legislation.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue? It may be helpful to note the role of the Independent Panel and cross-reference 3.4.1 of the PPR. Also, the White and Campbell Report (Review of the Metropolitan Water Plan) may have some relevancy here.	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 2.3.8. ***Concern about the adequacy of the requirements set down by the Director General of Planning.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Role of the Planning Focus Meeting in drafting the Director-General's requirements.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue? It would be helpful to list the participants in the Planning Focus Meeting.	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 2.3.9. ***Concern that the Environmental Assessment is based on a concept rather than a defined project.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? Legislation.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? No.	
6. If not, what further response is needed to address the issue? Need to briefly describe subsequent project approval processes under the EP&A Act. Cross-reference to Section 11 of the PPR is required.	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 2.3.10. ***Concern that the draft Statement of Commitments lack detail and certainty.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes. But should highlight that the EAR/PPR process leads to refinement of the SOCs, as is the case here.	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? See comments under point 2.	
6. If not, what further response is needed to address the issue? See comments under point 2. Issues relating to specific SOCs have been dealt with in our response to Sections 4-10 of the PPR (dated 7 April 2006).	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 2.3.11. ***Concern about the identification of Kurnell peninsula as a terrorism target.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Critical Infrastructure Protection Strategies co-ordinated by the Department of Energy Utilities and Sustainability.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 2.3.12. ***Concern that the Director-General's requirements are not answered in the Environmental Assessment with respect to greenhouse offset options.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? **Refer to Panel's response to PPR Sections 7.3.2 and 7.3.4 (7 April 2006).**	
2. Does Sydney Water's response adequately address the issue?	
3. What justification is made for Sydney Water's response?	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*?	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Amend as per advice on PPR Sections 7.3.2 and 7.3.4.**	

Sydney Water Paragraph Number – 2.3.13. ***Concern about the accuracy of the Environmental Assessment given short time period to finalise it after the release of the Director General's requirements.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Details surrounding production of D-G requirements – key issue is that the formally issued requirements were consistent with the draft released in August 2005.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 2.3.14. ***Concern that the Environmental Assessment contains insufficient detail on the 'standard measures' to be implemented to manage 'other issues'.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Risk analysis in Tables 6.8, 7.9, 8.2.	
4. What evidence is used to back Sydney Water's claims? This relates to transposing the risk analysis and 'standard measures' into the SOCs.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.** **Note that the Panel's comments on specific SOCs and their adequacy are contained in the Panel's 7 April Submission relating to PPR Section 4-10.**	

Sydney Water Paragraph Number – 2.3.15. ***Concern about the Threatened Species Amendments to the EP&A Act.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. **See Panel response to PPR Section 4.3.9 and 7.3.19.**	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Relationship of the '8 Part Test' and 'Assessment of Significance' to legislative requirements.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept. But, see Panel response to PPR Section 4.3.9 and 7.3.19.**	

Sydney Water Paragraph Number – 2.3.16. ***Why the project was not referred to the Commonwealth Department of Environment and Heritage under the Environment Protection and Biodiversity Conservation Act 1999.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. **See Panel response to PPR Section 4.3.14.**	
2. Does Sydney Water's response adequately address the issue? **See Panel response to PPR Section 4.3.14.**	
3. What justification is made for Sydney Water's response? Referral to and decision by Commonwealth Department of Environment and Heritage.	
4. What evidence is used to back Sydney Water's claims? **See Panel response to PPR Section 4.3.14.**	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? **See Panel response to PPR Section 4.3.14.**	
6. If not, what further response is needed to address the issue? **See Panel response to PPR Section 4.3.14.**	
Panel Recommendation **Amend as advised in PPR Section 4.3.14.**	

Section 3 – The Consultation Process

Sydney Water Paragraph Number – 3.4.1. ***The consultation process.*** ***Some submissions expressed concern that although information was provided, actual consultation did not occur.*** ***Some submissions questioned the value of consultation, because the plant seemed to be a 'fait accompli'.*** ***Some submissions were concerned that the only opportunity for consultation was in response to the Environmental Assessment and that there was no an opportunity to comment on the actual need for a desalination plant; and*** ***Some submissions expressed concern about the timing of the consultation process and the exhibition period aligned with the peak summer holiday season.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes; however, it is the view of the Panel that each of the sub-issues should be addressed separately in order to provide a clear unambiguous response.	
2. Does Sydney Water's response adequately address the issue? See point 1.	
3. What justification is made for Sydney Water's response? The distinction between legislative requirements for public consultation under Part 3A and consultation not mandated but conducted by SWC. On the issue of engaging the public on whether a desalination plant should be built (as opposed to alternatives), it is a matter of SWC policy whether to indicate that public consultation did not occur as part of the process of producing the 2004 Metropolitan Water Plan.	
4. What evidence is used to back Sydney Water's claims? It would be useful to clearly differentiate the consultation activities that were conducted by SWC but not mandated under Part 3A. First paragraph page 37 should be broadened to detail the full scope of the Minister's power – i.e. SOCs, conditions of consent, and additional environmental assessments.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The responses to these issues need to be dealt with more fully, as outlined.	
6. If not, what further response is needed to address the issue? **Regarding the Panel's Terms of Reference, these should be stated in full as per the Minister's announcement and not paraphrased as on p.37 of the PPR.**	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 3.4.2. ***The original online submission form favoured a positive response.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Action to withdraw the form taken.	
4. What evidence is used to back Sydney Water's claims? As above.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes. May be useful to include the date when the form was withdrawn.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 3.4.3. ***Interest in future consultation for the project.*** ***Some submissions questioned whether consultation would be conducted later in the process, particularly during the pre-construction period.*** ***Other submissions asked about the consultation process following project implementation.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? More detail is required to explicitly address what is meant by terms such as "Sydney Water will work with the community". The response needs to outline procedures for community consultation more explicitly. The response as it stands focuses on general principles rather than specific procedures (other than notification).	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? See point 2.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? No.	
6. If not, what further response is needed to address the issue? **More detail as outlined above. Also, see Panel response to 4.3.4 (a & b) and 7.3.18.**	
Panel Recommendation **Amend as advised.**	

Sydney Water Paragraph Number – 3.4.4 ***The timeliness of responses to issues raised.*** ***Some submissions expressed concern about not having received an answer to an issue raised in the consultation period.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? The purpose of PPR in the process is stated.	
4. What evidence is used to back Sydney Water's claims? Reference to extended consultation period.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue? The response could refer to the Panel's role in the process (cross-reference 3.4.1).	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 3.4.5. ***Cost of the consultation process.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Comparison of consultation costs with total project cost.	
4. What evidence is used to back Sydney Water's claims? Consultation cost figure provided.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Section 11 – The Preferred Project

General Comments on Text

It would be very worthwhile explaining to a non-technical audience the difference between Concept Plan Approval and Project Approval.

There are some significant ambiguities surrounding the pipeline across Botany Bay. These need to be resolved in the final draft.

Specific Comments

11.1.1 – Concept Plan approval
Identify more clearly the change in dot point two. (Presumably the volume carried).

11.1.2 – Project approval
Some text is needed to indicate that the three components which are outlined in detail (desalination plant, intakes and outlets, and delivery infrastructure) are the components for which project approval is sought.

The PPR should clarify resolution of the cross-bay project issues related to Project Approval (see Panel comments on Sydney Water Paragraph Numbers 6.3.2, 6.3.4, 6.3.5, and 6.3.11, particularly in relation to submissions by DEC and DPI).

11.1.2 – Desalination Plant
Suggested change to dot point 4 to read “be powered from the electricity grid using 100% renewable energy”.

11.1.2 – Intakes and Outlets
See Panel comments on Sydney Water Paragraph 6.3.15.

11.1.2 – Delivery Infrastructure
This section implies a decision has been made on the type of pipeline being contemplated. Clarification is sought on this issue (see above comments).

Section 12 – Statement of Commitments

The Panel's comments on the SOCs have already been dealt with in the Submission to Sydney Water dated 7 April 2006.

Amendments for clarity

SOC 47 should be amended to be consistent with SOC10 – i.e. reference to the La Perouse Local Aboriginal Land Council should replace "relevant Local Aboriginal Land Councils".

SOC 70 should be reworded for clarity and to avoid negatives: "Project Approval from the Minister for Planning will be sought prior to construction of tunnels though urban areas".

Director-General's Requirements

Director-General's Requirements – Consultation Requirements

The final PPR should include the outcomes of subsequent meetings that may have occurred since the publication of the draft PPR with the agencies specifically listed in the DG Requirements. These are:

- Commonwealth Department of Environment and Heritage;
- NSW Department of Environment and Conservation;
- NSW Department of Primary Industries.

Where relevant, any further consultation with Sutherland Shire Council and the local community should be reported.

F Letter to Sydney Water Corporation – 12 May 2006

David Evans
Managing Director
Sydney Water
Bathurst Street
Sydney 2000.

12 May 2006

Report of the Independent Panel - Kurnell Desalination Plant and Associated Infrastructure Regarding the Final Draft March 2006 – Preferred Project Report on Sydney's Desalination Project

Dear David

I refer to our letter dated 7 April 2006 regarding our comments and views on Sections 4 to 10 and Appendix B of the PPR. The letter outlined a number of further matters we considered might require the Panel's comments. We submitted a supplementary submission to you on 2 May 2006.

We have further reviewed the public submissions (from both community and stakeholders) to the publicly exhibited Environmental Assessment Report as well as other forms of community input. We have no further comments to make on the Preferred Project Report Final Draft – March 2006.

We will address any further matters directly to the Department of Planning in accordance with the terms of reference for the Panel specified by the Minister for Planning on 29 November 2005.

Regards

Dr Gary Cox
Member, Independent Panel

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G Letter to NSW Department of Planning – 1 June 2006

Chris Wilson
A/Deputy Director-General
NSW Government Department of Planning
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SYDNEY NSW 2001
chris.wilson@dipnr.nsw.gov.au

1st June 2006

Report of the Independent Panel - Kurnell Desalination Plant and Associated Infrastructure Regarding the Final Report May 2006 – Preferred Project Report on Sydney's Desalination Project

Dear Chris

I refer to the latest version of Sydney Water Corporation's Preferred Project Report on Sydney's Desalination Project (dated May 2006; Ref: FINAL PPR 25 MAY 2006).

As we stated in our submission to Sydney Water (7 April 2006, p. 51), the Panel judged concerns about greenhouse gas emissions to be one of the most significant issues in the public submissions. In our submission, we outlined our recommendations regarding this issue in the light of the Premier's announcement of 8 February 2006 that the desalination plant, should it be constructed, will be operated using "100% renewable energy – meaning no net greenhouse gas emissions".

On Monday 8 May, the Premier launched the 2006 Metropolitan Water Plan. This Plan sets out how the NSW Government will provide a secure supply of water that can meet the needs of Sydney both in this drought and in the long term. The Plan clearly sets out the context for Sydney's desalination plant with regard to security of supply. The key paragraph states (p. 92):

> However, construction of a desalination plant is not required to deliver security of supply: it is sufficient that the Government has the capacity to construct and operate a plant within a relatively short lead time.

Regarding the potential impacts of a desalination plant should it be built and operated, the 2006 Metropolitan Water Plan states (p. 93):

> In the unlikely event that it becomes necessary to construct a desalination plant, measures will be put in place to manage the plant's impacts. Key among these are energy use and associated greenhouse gas emissions.
>
> …reverse osmosis remains an energy-intensive way to produce drinking water, and it is therefore important to manage the greenhouse impacts associated with using desalination technology.
>
> Nonetheless, the Government has decided that greenhouse gas emissions associated with powering the desalination plant will be completely offset so that the plant has no net greenhouse impact (see further below).

These statements in the Plan are clearly in accord with the Premier's announcement of 8 February 2006. The Plan proceeds to outline the principle on which the 100% renewable energy commitment will be made (p. 94):

> In the event that construction of a desalination plant becomes necessary, the Government has planned that the desalination plant will be powered using 100% renewable energy.
>
> This does not mean that 'green electrons' will be delivered direct to the plant – this would be problematic, since renewable energy sources such as wind power are intermittent, while a desalination plant requires a constant supply of power. However, as with the voluntary Green Power scheme, an equivalent amount of renewable energy will be generated to match the amount of grid electricity used by the plant. The effect will be that the plant will have no net greenhouse impact.
>
> This commitment will be given effect via the conditions of consent for the desalination project imposed by the Minister for Planning.

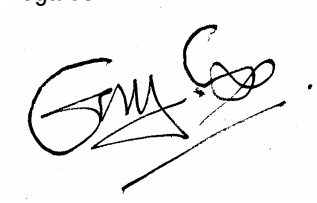
The 2006 Metropolitan Water Plan unambiguously states the route by which the Premier's renewable energy commitment will be delivered should the desalination plant proceed.

The Panel is concerned that having read the latest, and presumably, final draft of Sydney Water's PPR this Government policy commitment is not mentioned and seems not to have been incorporated into the document in any way. Public concerns regarding greenhouse gas emissions are addressed in the PPR on pages 110 to 113. The text is silent on the 2006 Metropolitan Water Plan commitment, referred to above. Moreover, the content of the response simply reiterates the greenhouse abatement options in outline as contained in the report of the multi-agency Greenhouse Reduction Plan Working Group, prepared prior to the Premier's 8 February 2006 announcement. The response in the PPR is focused on abatement through a variety of means, including carbon sequestration and the use of "green benefits", and by inference, Renewable Energy Certificates (PPR, p.113). In conclusion, the response appears inconsistent with the 2006 Metropolitan Water Plan.

There are considerable risks both to Sydney Water and the Government should this inconsistency remain. The Panel suggests, consistent with our Terms of Reference 1 and 3, that the Department request that Sydney Water rectify this anomaly prior to public release of the PPR. The main issue we identified in the March 2006 Draft PPR remains unaddressed in the latest PPR. That is the lack of any plan for the progressive uptake of renewable energy.

We will address any further matters directly to the Department in due course, in accordance with the Terms of Reference for the Panel specified by the Minister for Planning on 29 November 2005.

Regards



Dr Gary Cox
Member, Independent Panel

H Submission to NSW Department of Planning – 9 June 2006

Chris Wilson
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NSW Government Department of Planning
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SYDNEY NSW 2001
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9th June 2006

Report of the Independent Panel - Kurnell Desalination Plant and Associated Infrastructure Regarding the Final Report May 2006 – Preferred Project Report on Sydney's Desalination Project

Dear Chris

I refer to the latest version of Sydney Water Corporation's Preferred Project Report on Sydney's Desalination Project (dated May 2006; Ref: FINAL PPR 25 MAY 2006).

The Panel has had time to consider Sydney Water's revisions to the PPR and we have identified a number of outstanding issues that relate to fulfilling our Terms of Reference. The main issues are:

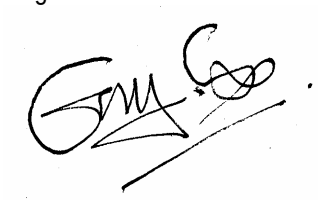
- The PPR's incomplete response to greenhouse gas issues. The policy issues have been covered in our letter to you dated 1st June 2006. We note the Director-General's Requirements which state: 'Where greenhouse gas offsets are proposed, appropriate details of each offset option must be included in the Environmental Assessment, including implementation measures for each offset option'. Given the quantum of renewable energy proposed (representing around 60% of Australian installed capacity), more detail is required on this issue. As you are fully aware, the Government's policy position on this issue has substantially changed since the EA, thus requiring a complete revision of the material presented in the original EA. See our comments in the attached report under PPR Paragraph 7.3.4 (pages 73-74). A much better understanding of the impact of the plant on the renewable energy market needs to be demonstrated to satisfy the concerns outlined in the public submissions. It may be desirable to explicitly specify a role for the NSW Greenhouse Office and the NSW Department of Energy, Utilities and Sustainability in preparation of the Greenhouse Reduction Plan.
- A Community Liaison Plan is mentioned in PPR Section 3, relating to the Consultation Process. This initiative is welcomed in the light of the many public submissions relating to local impacts and local consultation. However, this initiative is not included in the Statement of Commitments. We recommend that a Community Liaison Plan be included as part of SOC67. See our comments in the attached report under PPR Paragraphs 3.4.3 (page 20), 4.3.4 (page 26), and 7.3.18 (page 90). It may be desirable to have this Plan submitted to the Department of Planning.
- In a number of SOCs, there remains loose language such as 'as far as practicable' and 'generally in line with'. The use of this type of language was referred to in many of the public submissions. It is a matter of concern that such language remains in SOCs relating to noise and vehicle movements, both of which have the potential to impact on local communities. The relevant sections in our attached report refer to PPR Paragraphs 4.3.7 (page 30 – SOC31), 4.3.17 (page 40 – SOC34 and SOC35), 4.3.19 (page 42 – SOC34 and SOC55), 7.3.14 (page 85 – SOC33c), and 7.3.15 (page 86 – SOC39).

- Most of the impact management and monitoring plans referred to in the Statement of Commitments require submission to the Department of Planning. However, a number do not include this requirement. These are: the Conservation Area Management Plan (SOC6), the Contaminated Social and Acid Sulphate Soil Management Plan (SOC41), and the Marine and Estuarine Monitoring Program (SOC13). Consideration should be given as to whether these would benefit from submission to the Department.
- It is noted that SWC have not included statements from Energy Australia or Transgrid regarding energy supply and transmission issues. This was an issue raised in a number of public submissions, notably from adjoining residents. See our comments in the attached report under PPR Paragraph 7.3.3 (page 72). Similarly, the issue of power blackouts could be incorporated into SOC64.
- Finally, the description of the preferred project in Section 11 continues to omit the qualification that the plant be powered using 100% renewable energy. See our comments in the attached report under PPR Paragraph 11.1.2 (page 118).

Please refer to our detailed comments contained in the attached report. The format follows the two reports submitted to Sydney Water by the Independent Panel on 7 April 2006 and 1 May 2006.

We will be in touch in due course to discuss the progress of the Panel and the steps required to produce our report to the Minister for Planning.

Regards



Dr Gary Cox
Member, Independent Panel

Independent Panel

Major Project: Kurnell Desalination Plant and Associated Infrastructure

Submission to the NSW Department of Planning on Sydney Water Corporation's Preferred Project Report (Final Draft – 25 May 2006)

9 June 2006

Panel Members:

Emeritus Professor Rolf Prince
Mr Tony Wright
Dr Gary Cox

Section 1 – Introduction

General Comments on Text

There are significant misunderstandings in the community regarding the precise implications of the NSW Premier's announcement of 8 February 2006 – *Securing Sydney's Long Term Water Supply*. The Panel is concerned that the PPR should clarify the Premier's announcement in the context of the Progress Report on the Metropolitan Water Plan February 2006.

Panel recommendation met.

Specifically:

1.1 General
Reword references to the Premier's announcement to exactly follow the wording in the Premier's Press Release. Consider inserting the relevant extracts from the Press Release in a text box.
Panel recommendation not met.

1.1.4 The project will only be implemented as a drought contingency
Ditto above comments.
Panel recommendation met.

1.3.1 Overview (last paragraph on page 4)
"This will be subject to the applicable environmental approval process."
Given there is wide public concern around approval processes, detail what these processes will be – cite relevant provisions of the EPA Act.
Panel recommendation not met.

1.4.5 The commitment to reduce greenhouse gas emissions has changed…
Again, use the Premier's wording -
"Concerns raised about the high energy use of a desalination plant will be addressed by powering it with 100% renewable energy – meaning no net greenhouse gas emissions."
Panel recommendation met.

Review of the Metropolitan Water Plan and Progress Report on the Metropolitan Water Plan

These two documents are critical for understanding the role of the desalination plant in the wider planning context for water in Metropolitan Sydney. The Panel suggests that more space be given to explaining these two documents (and how they relate to and build on the 2004 Metro Water Plan) and how they inform NSW Government policy on a range of water supply options. The current Government policy position should then be detailed in the context of the policy framework.
Panel recommendation met.

Section 2 – The Assessment Process

Sydney Water Paragraph Number - 2.3.1. ***Concern over the classification of the project as Critical Infrastructure under Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act).***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? It would be helpful to the reader to insert a new paragraph 2 describing what is meant in general by the term 'critical infrastructure'. The explanation could also usefully place the critical infrastructure classification in the context of the Metropolitan Water Plan.	
3. What justification is made for Sydney Water's response? Legislation.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes, but see point 2.	
6. If not, what further response is needed to address the issue? See point 2.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number - 2.3.2. ***There is inadequate detail provided in the Environmental Assessment and an EIS should have been prepared which incorporated a 'do nothing option'.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Legislation.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue? Suggest delete: "without being diverted by secondary considerations".	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number - 2.3.3. ***The Environmental Assessment does not assess or compare alternative methods of water supply.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Again, needs the context of NSW Government's Metropolitan Water Plan.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 2.3.4. ***Environmental Assessment assesses the easy impacts and ignores the key impacts.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Procedures for Part 3A assessment and the Director-General's Requirements.	
4. What evidence is used to back Sydney Water's claims? Process as described, including the Planning Focus Meeting.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue? The response could refer to the Panel's role in the process (cross-reference 3.4.1).	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 2.3.5. ***Environmental Assessment does not compare economic and environmental costs or advantages of disadvantages of alternatives.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Framed in terms of Director-General's requirements.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes. Subject to comments made in the Panel's 7 April Submission to SWC under 4.3.1 and 4.3.3 (re site selection).	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 2.3.6. ***Environmental Assessment is designed to support the project.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? No.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? Mitigation and monitoring processes.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? No.	
6. If not, what further response is needed to address the issue? The response does not fully answer the question. The response needs to be framed with respect to the legislation, in particular the meaning and scope of 'environmental assessment' under Section 75F of the EP&A Act. Note role of Minister for the Environment. The response could refer to the Panel's role in the process (cross-reference 3.4.1).	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 2.3.7. ***Concern that the impacts identified in the Environmental Assessment are not supported by an independent authority.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Process and procedure currently applying under legislation.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue? It may be helpful to note the role of the Independent Panel and cross-reference 3.4.1 of the PPR. Also, the White and Campbell Report (Review of the Metropolitan Water Plan) may have some relevancy here ***– not cited.***	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 2.3.8. ***Concern about the adequacy of the requirements set down by the Director General of Planning.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Role of the Planning Focus Meeting in drafting the Director-General's requirements.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue? It would be helpful to list the participants in the Planning Focus Meeting. ***Panel recommendation met.***	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 2.3.9. ***Concern that the Environmental Assessment is based on a concept rather than a defined project.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? Legislation.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? No.	
6. If not, what further response is needed to address the issue? Need to briefly describe subsequent project approval processes under the EP&A Act. Cross-reference to Section 11 of the PPR is required.	
Panel Recommendation **Amend as advised.** ***Panel recommendation partly met. Section 11 not cross-referenced.***	

Sydney Water Paragraph Number – 2.3.10. ***Concern that the draft Statement of Commitments lack detail and certainty.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes. But should highlight that the EAR/PPR process leads to refinement of the SOCs, as is the case here.	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? See comments under point 2.	
6. If not, what further response is needed to address the issue? See comments under point 2. Issues relating to specific SOCs have been dealt with in our response to Sections 4-10 of the PPR (dated 7 April 2006).	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 2.3.11. ***Concern about the identification of Kurnell peninsula as a terrorism target.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Critical Infrastructure Protection Strategies co-ordinated by the Department of Energy Utilities and Sustainability.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 2.3.12. ***Concern that the Director-General's requirements are not answered in the Environmental Assessment with respect to greenhouse offset options.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? **Refer to Panel's response to PPR Sections 7.3.2 and 7.3.4 (7 April 2006).**	
2. Does Sydney Water's response adequately address the issue?	
3. What justification is made for Sydney Water's response?	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*?	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Amend as per advice on PPR Sections 7.3.2 and 7.3.4.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 2.3.13. ***Concern about the accuracy of the Environmental Assessment given short time period to finalise it after the release of the Director General's requirements.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Details surrounding production of D-G requirements – key issue is that the formally issued requirements were consistent with the draft released in August 2005.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 2.3.14. ***Concern that the Environmental Assessment contains insufficient detail on the 'standard measures' to be implemented to manage 'other issues'.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Risk analysis in Tables 6.8, 7.9, 8.2.	
4. What evidence is used to back Sydney Water's claims? This relates to transposing the risk analysis and 'standard measures' into the SOCs.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.** **Note that the Panel's comments on specific SOCs and their adequacy are contained in the Panel's 7 April Submission relating to PPR Section 4-10.**	

Sydney Water Paragraph Number – 2.3.15. ***Concern about the Threatened Species Amendments to the EP&A Act.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. **See Panel response to PPR Section 4.3.9 and 7.3.19.**	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Relationship of the '8 Part Test' and 'Assessment of Significance' to legislative requirements.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept. But, see Panel response to PPR Section 4.3.9 and 7.3.19.**	

Sydney Water Paragraph Number – 2.3.16. ***Why the project was not referred to the Commonwealth Department of Environment and Heritage under the Environment Protection and Biodiversity Conservation Act 1999.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. **See Panel response to PPR Section 4.3.14.**	
2. Does Sydney Water's response adequately address the issue? **See Panel response to PPR Section 4.3.14.**	
3. What justification is made for Sydney Water's response? Referral to and decision by Commonwealth Department of Environment and Heritage.	
4. What evidence is used to back Sydney Water's claims? **See Panel response to PPR Section 4.3.14.**	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? **See Panel response to PPR Section 4.3.14.**	
6. If not, what further response is needed to address the issue? **See Panel response to PPR Section 4.3.14.**	
Panel Recommendation **Amend as advised in PPR Section 4.3.14.** ***Panel recommendation met.***	

Section 3 – The Consultation Process

Sydney Water Paragraph Number – 3.4.1. ***The consultation process.*** ***Some submissions expressed concern that although information was provided, actual consultation did not occur.*** ***Some submissions questioned the value of consultation, because the plant seemed to be a 'fait accompli'.*** ***Some submissions were concerned that the only opportunity for consultation was in response to the Environmental Assessment and that there was no an opportunity to comment on the actual need for a desalination plant; and*** ***Some submissions expressed concern about the timing of the consultation process and the exhibition period aligned with the peak summer holiday season.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes; however, it is the view of the Panel that each of the sub-issues should be addressed separately in order to provide a clear unambiguous response.	
2. Does Sydney Water's response adequately address the issue? See point 1.	
3. What justification is made for Sydney Water's response? The distinction between legislative requirements for public consultation under Part 3A and consultation not mandated but conducted by SWC. On the issue of engaging the public on whether a desalination plant should be built (as opposed to alternatives), it is a matter of SWC policy whether to indicate that public consultation did not occur as part of the process of producing the 2004 Metropolitan Water Plan.	
4. What evidence is used to back Sydney Water's claims? It would be useful to clearly differentiate the consultation activities that were conducted by SWC but not mandated under Part 3A. First paragraph page 37 should be broadened to detail the full scope of the Minister's power – i.e. SOCs, conditions of consent, and additional environmental assessments.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The responses to these issues need to be dealt with more fully, as outlined.	
6. If not, what further response is needed to address the issue? **Regarding the Panel's Terms of Reference, these should be stated in full as per the Minister's announcement and not paraphrased as on p.37 of the PPR.**	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 3.4.2. ***The original online submission form favoured a positive response.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Action to withdraw the form taken.	
4. What evidence is used to back Sydney Water's claims? As above.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes. May be useful to include the date when the form was withdrawn. ***Panel recommendation met.***	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 3.4.3. ***Interest in future consultation for the project.*** ***Some submissions questioned whether consultation would be conducted later in the process, particularly during the pre-construction period.*** ***Other submissions asked about the consultation process following project implementation.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? More detail is required to explicitly address what is meant by terms such as "Sydney Water will work with the community". The response needs to outline procedures for community consultation more explicitly. The response as it stands focuses on general principles rather than specific procedures (other than notification).	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? See point 2.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? No.	
6. If not, what further response is needed to address the issue? **More detail as outlined above. Also, see Panel response to 4.3.4 (a & b) and 7.3.18.**	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.*** ***As noted elsewhere (4.3.4; 7.3.18), the commitment to a Community Liaison Plan is not referred to in SWC's Statement of Commitments. It is the Panel's view that this should be included as an additional SOC or included under SOC67.***	

Sydney Water Paragraph Number – 3.4.4 ***The timeliness of responses to issues raised.*** ***Some submissions expressed concern about not having received an answer to an issue raised in the consultation period.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? The purpose of PPR in the process is stated.	
4. What evidence is used to back Sydney Water's claims? Reference to extended consultation period.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue? The response could refer to the Panel's role in the process (cross-reference 3.4.1).	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 3.4.5. ***Cost of the consultation process.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Comparison of consultation costs with total project cost.	
4. What evidence is used to back Sydney Water's claims? Consultation cost figure provided.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Section 4 – Construction of the Plant at Kurnell

Sydney Water Paragraph Number 4.3.1 ***Concern about siting the desalination plant at Kurnell. It was claimed that the decision to locate the desalination plant at Kurnell is flawed.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. The issue concerns the methods used to select the Kurnell site out of a range of options (including a site at Malabar).	
2. Does Sydney Water's response adequately address the issue? The PPR needs to provide more detail relating to site selection and cross-reference the relevant section in the EA.	
3. What justification is made for Sydney Water's response? The justification is both procedural and substantive. The site selection decision is based on consideration of 6 key site attributes.	
4. What evidence is used to back Sydney Water's claims? Minimal.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate response if the above matters are included in the PPR and the reasoning behind the decision is made clearer.	
6. If not, what further response is needed to address the issue? As for 5.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number 4.3.2 ***Concern about another heavy industry at Kurnell.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The framing of the question has not been scoped properly. The concerns around heavy industry relate to the cumulative impacts of other developments and not zoning per se.	
2. Does Sydney Water's response adequately address the issue? No. More detailed is required to back the claim.	
3. What justification is made for Sydney Water's response? The sole justification is based on the current zoning by Sutherland Council. The response confuses permissible uses with potential impacts and cumulative impacts. The latter have not been addressed in the response.	
4. What evidence is used to back Sydney Water's claims? Minimal.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient.	
6. If not, what further response is needed to address the issue? The PPR needs to demonstrate an understanding of the range of concerns about heavy industry in this location and also demonstrate a fuller appreciation of cumulative impacts. These needs to be address in detail. Given that some of these concerns are dealt with further in the PPR, cross-referencing these later sections is warranted. The response should refer to the potential impacts of operation which are dealt with elsewhere in the PPR, for instance 7.3.16.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number 4.3.3 ***Concern that other sites such as the White Bay Power Station provide better options for siting the plant.*** ***Some submissions indicated that there are alternative locations for a desalination plant that are preferable to Kurnell. These include White Bay Power Station, Malabar, and the Shoalhaven area.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The issue has been framed correctly.	
2. Does Sydney Water's response adequately address the issue? The response is adequate but more detail is needed. Cross-referencing the EA and subsidiary documentation is necessary. The response needs to explicitly address the submitters' views about the benefits or superiority of the alternate sites.	
3. What justification is made for Sydney Water's response? The justifications provided are in summary form only. Some reference to the comparative costs of these alternatives would assist in understanding the site selection process as would comparative presentation of the other attributes (for examples, distance from residences).	
4. What evidence is used to back Sydney Water's claims? Minimal.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate response if the above matters are included in the PPR. Also cross-reference response to 4.3.1.	
6. If not, what further response is needed to address the issue? As for 5.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 4.3.4 ***Concern regarding impacts on the community.*** ***Potential impacts of disruption on the Kurnell community during the construction period have not been assessed.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? No. There are specific concerns from the written public submissions on the social impacts of construction. The affected communities are the Kurnell residents and the primary school and child care centre. Their issues need to be properly framed and answered directly.	
2. Does Sydney Water's response adequately address the issue? The "community" is treated generically in this response. The PPR needs to demonstrate that the various 'interested and affected parties' in the local community are accurately identified and their concerns fully understood; for example, the functioning of the school during the construction period should be addressed here, including the impact on children's health and safety and learning performance (referred to in submission from NSW Health).	
3. What justification is made for Sydney Water's response? Minimal.	
4. What evidence is used to back Sydney Water's claims? Minimal.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is inadequate and insufficient.	
6. If not, what further response is needed to address the issue? The response needs to directly answer issues in the relevant submissions – in particular, the Wilkins Public School P&C Association (508). In addition, the SOC should include a commitment to establish a local community 'people & place' working group to act as a communication vehicle between the potentially affected local Kurnell community and SWC during both construction and operation phases. This section should reference good practice in this matter of community consultation and community engagement during construction phases of large projects.	
Panel Recommendation **Amend as advised.** ***Panel recommendation partly met. A "Community Liaison Plan" (which could include the Community Working Group mentioned above) is mentioned on page 34 of the revised PPR but this is not incorporated into a Statement of Commitment (refer to SOC67).***	

Sydney Water Paragraph Number – 4.3.4 ***Concern regarding impacts on the community.*** ***Protocols must exist to notify stakeholders of relevant activities and any incidents should they occur.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. The key issue is the notification protocols and communications around construction impacts.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is inadequate and insufficient. (Note that the cross-references in this section appear to be incorrectly numbered.)	
6. If not, what further response is needed to address the issue? The protocol is a critical component of the community consultation and feedback in the construction phase of the project. It is an essential tool to avoid, minimise and mitigate impacts. Much more detail and specificity must be provided. It would be useful if standard procedural documentation were included in an appendix to the PPR. An example of how Sydney Water typically conducts these exercises would greatly assist public understanding and ease concerns.	
Panel Recommendation **Amend as advised.** ***Panel recommendation partly met. Standard documentation has not been included. Refer to SOC67.***	

Sydney Water Paragraph Number – 4.3.5 ***Concern that the Kurnell peninsula is the aerial gateway to Sydney and the desalination plant will create another blight on the landscape.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The issue includes visual impact of the plant from both land and air. The view from the air (presumably, from passenger aircraft) is not explicitly addressed by the PPR.	
2. Does Sydney Water's response adequately address the issue? The response is very limited and general.	
3. What justification is made for Sydney Water's response? None made.	
4. What evidence is used to back Sydney Water's claims? No evidence used. For instance, no examples of industrial plants and warehouses that minimise visual impact have been presented.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? This is not a major impact issue; however, the response remains inadequate and insufficient.	
6. If not, what further response is needed to address the issue? More detail as to the types of visual treatments that could be used to minimise the impact – including impact from passenger aircraft.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number –4.3.6 ***Concern that construction activities will generate dust that may impact on air quality.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? It is accepted that dust management is a standard component of many construction projects; however, the methods of dust suppression have not been fully explained.	
4. What evidence is used to back Sydney Water's claims? None.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient response.	
6. If not, what further response is needed to address the issue? SOC36 should be framed to comply with a Department of Planning standard or normal condition for the scale of construction proposed. Refer also to our response under 6.3.18.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 4.3.7 ***Concern that construction activities will impact on the acoustic environment and amenity of the surrounding area.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? None. It is not clear what the comments about noise from Sydney Airport and the Caltex operation are meant to imply about the proponent's own responsibilities regarding noise generation during construction.	
4. What evidence is used to back Sydney Water's claims? None.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient response.	
6. If not, what further response is needed to address the issue? SOC 31 provides detail on the noise control measures proposed. These should be consistent with the DEC submission (607). The Panel is concerned at the repeated use of the phrase 'as far as practicable' in this SOC. In practice, this clause, if transposed into a condition of consent, could potentially nullify the effect of the condition. Given that noise is one of the most significant community issues with construction projects, this should be avoided. Further, the Panel does not understand why a limit of 'greater than 26 weeks' should be applied. This SOC should be reframed to include the requirement for the preparation of a Construction Noise Management Plan. (Refer to Panel response to 6.1.3 – points 5 and 6).	
Panel Recommendation **Amend as advised.** ***Panel recommendation partly met. The Panel is concerned at the repeated use of the phrase 'as far as practicable' in SOC31. The Panel does not understand why a limit of 'greater than 26 weeks' should be applied. This is an important issues as it directly affects local residents and schools.***	

Sydney Water Paragraph Number – 4.3.8 ***Concern regarding traffic noise.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? **See Panel response to 6.3.2.**	
2. Does Sydney Water's response adequately address the issue?	
3. What justification is made for Sydney Water's response?	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*?	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **See Panel response to 6.3.2.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 4.3.9 ***Concern regarding potential impacts on terrestrial ecology.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes. Observations made in the Holt submission (606, p.4) regarding the unauthorised removal of vegetation and disturbance of the bat colony need to be addressed in the management plan.	
3. What justification is made for Sydney Water's response? Based primarily on the Terrestrial Ecology Assessment (Appendix 4 of EA). The comment from some public submissions that previous survey data is not presented has not been addressed by the PPR.	
4. What evidence is used to back Sydney Water's claims? As above.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and but insufficient response in terms of the SOCs.	
6. If not, what further response is needed to address the issue? The SOCs need to address DEC's requirements for detailed management plans and provide more detail on the proposed habitat corridor linking the Commonwealth Conservation Area with the Botany Bay National Park. A SOC should be framed to deal with the extension to the habitat corridor. Also, SOCs 3 to 6 should stipulate 'to DEC requirements'	
Panel Recommendation **Amend as advised.** ***Panel recommendation partly met. DEC not mentioned in SOC3. Conservation Area Management Plan to be submitted to DoP (SOC6).***	

Sydney Water Paragraph Number – 4.3.10 ***Concern that construction activities will disturb the land surface and erosion may lead to stormwater from the site impacting on water quality in sensitive downstream environments such as Quibray Bay and the Towra Point RAMSAR wetland.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? **See Panel response to 6.3.4.**	
2. Does Sydney Water's response adequately address the issue?	
3. What justification is made for Sydney Water's response?	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*?	
6. If not, what further response is needed to address the issue? **See Panel response to 6.3.4.** Also, include in SOC 8 – 'to DEC requirements'.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met. Stormwater and Groundwater Management Plan to be submitted to DoP (SOC8).***	

Sydney Water Paragraph Number – 4.3.11 ***Concern regarding site contamination.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? A site audit statement and contaminated land assessments on Lot 102 and Lot 101 respectively, were obtained by SWC prior to purchase.	
4. What evidence is used to back Sydney Water's claims? It is noted that the above statements have not been made publicly available (ie not included in either the EA or PPR).	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is adequate but not sufficient.	
6. If not, what further response is needed to address the issue? The PPR should address the situation where unexpected contaminants are discovered on site during excavation or construction. The response to this situation as presented in the EA (p.9.4) is very vague. What procedures will be adopted in this situation? This will presumably be to DEC requirements. The SOC should be appropriately amended, including referencing relevant guidelines.	
Panel Recommendation **Amend as advised.** ***Panel recommendation partly met. Construction Spoil Management Plan to be submitted to DoP (SOC27). DoP not referenced in SOC41 (Contaminated Soil and Acid Sulphate Soil Management Plan). It is the Panel's view that this Plan be submitted to the Department of Planning.***	

Sydney Water Paragraph Number – 4.3.12 ***The preferred option for spoil management has not been clearly defined.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? It does not provide any further information than that contained in the EA.	
3. What justification is made for Sydney Water's response? A detailed response is stated as forthcoming once a detailed design is completed.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? SOC 27 adopts recommended practice as contained in the DEC submission. However, no clear management plan has been given at this stage beyond this statement of principles. The response does not represent a 'clearly defined spoil management plan'. SOC 27 should be extended to include a requirement to prepare a Spoil Management Plan. See also Panel's response to 6.3.10.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 4.3.13 ***Concern regarding impacts on the indigenous heritage of the Kurnell peninsula.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes – in SOC 46 and 47.	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient, but see not under 6 below.	
6. If not, what further response is needed to address the issue? The issue of how previously unidentified Aboriginal objects may be discovered during construction is very unclear. It is probable that non-specialists would not recognise certain Aboriginal objects if indeed they were disturbed during construction. SOC 47 needs to address this issue with advice from DEC. See also Panel's response to 6.3.7.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 4.3.14 ***Concern regarding impacts on the non-indigenous heritage significance of the Kurnell peninsula.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. It is noted that this was a concern in a significant number of submissions, including local residents of Kurnell and more widely, Sutherland Shire. **See Panel response to 6.3.7.**	
2. Does Sydney Water's response adequately address the issue? Not completely	
3. What justification is made for Sydney Water's response? Mainly justified via the referral to the Commonwealth Department of Environment and Heritage.	
4. What evidence is used to back Sydney Water's claims? The advice/response re the referral on the matter from the Commonwealth Minister for Environment and Heritage should be included in the final PPR.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate but not sufficient.	
6. If not, what further response is needed to address the issue? Include relevant correspondence in PPR as indicated under point 4. **See Panel response to 6.3.7.**	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 4.3.15 ***Concern regarding the potential for stormwater from the site to impact on water quality in downstream environments.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? Reference to Landcom guidance (2004).	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient. Amendments to SOC 5 and 7 are noted.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 4.3.16 ***Concern regarding changes to the groundwater regime.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Addressed in part.	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Response is incomplete and insufficient.	
6. If not, what further response is needed to address the issue? SOC 3(d) regarding 'sufficient area for effective stormwater controls' needs a clearer justification and demonstration of how such area will be quantified.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 4.3.17 ***Concern regarding impacts on the local transport network.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. A number of submissions, including local residents, the school, adjoining landowners and council, mentioned traffic impacts during construction.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? None.	
4. What evidence is used to back Sydney Water's claims? None.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient. There is insufficient analysis/evidence in the EA and PPR to make any reasonable judgement on this issue. SOC 34 and SOC 35 are adequate re safety and access. However, terms like 'practicable' and 'feasible' should be avoided.	
6. If not, what further response is needed to address the issue? The PPR should reference a traffic study detailing possible construction scenarios and likely or possible traffic routes. In the absence of such analysis, only vague and unquantified statements can be made on this issue. See also the Panel response to 6.3.10.	
Panel Recommendation **Amend as advised.** ***Panel recommendation partly met. SOC 34 and SOC 35 continue to use terms like 'practicable' and 'feasible'.***	

Sydney Water Paragraph Number – 4.3.18 ***Site and its regional context.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? No. The PPR does not fully explain its understanding of this issue.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? None.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient.	
6. If not, what further response is needed to address the issue? SWC need to review the submissions where this matter is referred to and address any relevant matters in the REP.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 4.3.19 ***Concern regarding hazards and risks.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient but see comment under 6.	
6. If not, what further response is needed to address the issue? SOC 34, SOC 52 and SOC 55 adequately address these issues; however, terms such as 'as far as practicable' and 'generally in line with' should be avoided/removed.	
Panel Recommendation **Amend as advised.** ***Panel recommendation not met. SOC34 and SOC55 still retain permissive wordings: 'as far as practicable' and 'generally in line with'.***	

Sydney Water Paragraph Number – 4.3.20 ***Waste should be managed in accordance with relevant guidelines***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Reference to EPA Guideline.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient response.	
6. If not, what further response is needed to address the issue? See Panel comments on 6.3.16.	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 4.3.21 ***Substances of economic value may be able to be recovered from the seawater concentrate.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Financial viability in the light of low levels of concentrated minerals (1.5 to 2.0 times).	
4. What evidence is used to back Sydney Water's claims? Little evidence but this is sufficient given that it is a commercial issue not primarily one of impact assessment.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 4.5.1 ***Unspecified concern about the cost of the project and the costs of construction.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? A straightforward analysis is presented of implications for the consumer of full cost recovery under the two scenarios using IPART assumptions.	
4. What evidence is used to back Sydney Water's claims? Basic cost data.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient.	
6. If not, what further response is needed to address the issue? The response should address how SWC will deal with possible cost overruns. The argument presented is tautologous and implies that cost overruns will simply be dealt with in terms of the IPART process; the outcome being that consumers will pay more for water. The response to this issue should be carefully reconsidered.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 4.5.2 ***Concern about impacts on property values.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. The concern clearly refers to concerns in the Kurnell community rather that more broadly.	
2. Does Sydney Water's response adequately address the issue? Very inadequate.	
3. What justification is made for Sydney Water's response? None.	
4. What evidence is used to back Sydney Water's claims? None.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient.	
6. If not, what further response is needed to address the issue? This is a poor response to a genuine issue of community concern. The comments made in the PPR are dismissive and unsubstantiated. The PPR should decide what level of evidence and analysis is required and demonstrate clearly their case that local property values will not be affected by the construction and operation of the plant. The analysis should consider both options (125ML/ady and 500ML/day separately). Furthermore, the analysis needs to be independent and authoritative.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Section 5 – Construction of Intake and Outlet

Sydney Water Paragraph Number – 5.3.1 ***Concern that construction of the intakes and outlets will generate noise underwater.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes, these noise concerns all relate to effect on whales	
2. Does Sydney Water's response adequately address the issue? Impact on whales treated specifically in 5.3.5. No other aspects require comment.	
3. What justification is made for Sydney Water's response?	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 5.3.2 ***Concern that construction may impact on groundwater levels and this may impact on terrestrial ecology.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? **See Panel response to 4.3.16 and 6.3.10.**	
2. Does Sydney Water's response adequately address the issue?	
3. What justification is made for Sydney Water's response?	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue? **See Panel response to 4.3.16 and 6.3.10.**	
Panel Recommendation **Accept.** ***Amendments noted.***	

Sydney Water Paragraph Number – 5.3.3 ***Concern that the preferred option for spoil management has not been clearly defined.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? **See Panel response to 4.3.12 and 6.3.10.**	
2. Does Sydney Water's response adequately address the issue?	
3. What justification is made for Sydney Water's response?	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Sutherland's [P577] quantity calculations need checking, and if necessary answering.	
6. If not, what further response is needed to address the issue? **See Panel response to 4.3.12 and 6.3.10.**	
Panel Recommendation **Accept. *Amendments noted.***	

Sydney Water Paragraph Number – 5.3.4 ***The desalination plant is offensive to the heritage/indigenous interests of the Sutherland Shire, Sydney and Australia.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? **Refer to Panel responses to 4.3.13 and 4.3.14.** Summarises the general tenor of the relevant submissions for land issues. Shipwrecks are the only sea issue.	
2. Does Sydney Water's response adequately address the issue?	
3. What justification is made for Sydney Water's response? We note that shipwrecks have been checked, and will be checked further. SOC 46(b) covers the necessary aspects.	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue? **Refer to Panel responses to 4.3.13 and 4.3.14.**	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 5.3.5 ***Concern about impacts on whales.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes	
2. Does Sydney Water's response adequately address the issue? Yes, based on the Ecology Lab Report (EA Appendix 3). Response in the PPR should reference and include relevant extracts of this report.	
3. What justification is made for Sydney Water's response? Covers Kerr [P505] as far as needed, also Coastal Councils [P518] A more specific reply to Harris [P532] might be considered.	
4. What evidence is used to back Sydney Water's claims? This is provided in the Ecology Lab Report.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Generally an adequate response given SOC 19, but insufficient.	
6. If not, what further response is needed to address the issue? The response should provide more detail from the Ecology Lab report. It should explain the effect of SOC 19 in some detail. In addition, the outcomes of the stakeholder meeting with the Cape Solander Research Team (25 January 2006) should be explicitly included and fully explained.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 5.3.6 ***Concern that the Environmental Assessment did not justify the intake and outlet locations in terms of alternative locations.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes	
2. Does Sydney Water's response adequately address the issue? The "sand bed v. rocky reef" issue, while treated, should be separately analysed and discussed. This would allow meeting more directly relevant comments from Coastal Councils [P518], Sutherland [P577] and DPI [616]. The DPI suggestion of co-disposal with deep ocean outfalls should be specifically addressed. A direct response to this issue is further warranted due to the fact that it was specifically raised at the Planning Focus Meeting (Comments from NSW DPI) held on 15 August 2005.	
3. What justification is made for Sydney Water's response? Based on the EA, detailed and effectively summarised.	
4. What evidence is used to back Sydney Water's claims? Work underlying the EA report.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient.	
6. If not, what further response is needed to address the issue? The response should deal with 'near field' impacts on marine ecology in more depth.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 5.3.7 ***Waste should be managed in accordance with relevant guidelines.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? **Refer to Panel response to 4.3.20 and 6.3.16.** Yes	
2. Does Sydney Water's response adequately address the issue? Suggest some brief listing here of the general types of wastes relevant, and a response more framed in terms of these.	
3. What justification is made for Sydney Water's response?	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Subject to comment above.	
6. If not, what further response is needed to address the issue? **Refer to Panel response to 4.3.20 and 6.3.16.**	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Section 6 – Construction of Delivery Infrastructure

Sydney Water Paragraph Number – 6.3.1 ***Construction noise impacts.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The PPR has captured the community concern that the EA provides no indication of the likely **location**, **duration**, or **level** of noise impacts.	
2. Does Sydney Water's response adequately address the issue? SWC explains that the noise impacts (duration and level) will depend on selected construction methodology. Locations are implicitly clarified. At SOC 31 SWC outlines how noise goals will be established prior to construction "in line with" the *Environmental Noise Control Manual* (EPA 1994) "…for activities at work sites operating for a period greater than 26 weeks…background LA90 noise level is not exceeded by more than 5dB(A) at any residence or other noise sensitive receiver". A road traffic noise objective will be applied "…in line with the *Environmental Criteria for Road Traffic Noise* (EPA 1999)". Where noise objectives cannot be achieved, reasonable and feasible noise mitigation measures are proposed. Activities such as sheet piling and blasting are mentioned as examples.	
3. What justification is made for Sydney Water's response? The choice of delivery technology has not yet been made; options include tunnel or pipeline(s). At page 67 it is stated that pipeline construction may involve trenchless technologies such as micro tunnelling and Horizontal Directional Drilling.	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The approach to noise management has taken account of DEC advice. However, DEC goes further and justifiably calls for a comprehensive Construction Noise Management Plan. DEC recommends that any blasting is controlled to limits in ANZEC 1990 *Technical Basis for Guidelines to Minimise Annoyance due to Blasting.* The PPR is unclear about why it is not feasible to provide any indication of the level and duration of noise impacts associated with alternative construction methodologies. With the time pressure now eased, it ought to be possible to engage in more definitive project planning.	

6. If not, what further response is needed to address the issue? Preparation of comprehensive Construction Noise Management Plan in consultation with stakeholders and indicating key noise locations together with likely noise levels and durations.	
Panel Recommendation **Amend as advised. Preparation of this plan should be made an explicit point in SOC 31.** ***Panel recommendation met – SOC 31.***	

Sydney Water Paragraph Number – 6.3.2 ***Concern that noise generated by additional vehicle movements during the construction phase.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Issue framing is correct but not complete; it does not capture the concern that there is no indication of noise impacts (as per 6.3.1) and no opportunity for public input.	
2. Does Sydney Water's response adequately address the issue? SWC explains that a traffic noise assessment will be conducted when the route for delivery infrastructure is selected. Noise goals will be established "in line with the Environmental Criteria for Road Traffic Noise (EPA 1999) as far as practicable". Given that the originally proposed pipeline to Miranda/Caringbah has now been deleted from the project, it would seem feasible to provide an indication of traffic noise impact levels at other broad delivery infrastructure locations. This may allay concerns expressed by stakeholders. In respect of spoil transport, traffic management measures are proposed, including restrictions on routes and times, on the basis of consultation with local communities.	
3. What justification is made for Sydney Water's response? Essentially that the issue requires input by the selected contractor.	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Moderately adequate: the contractor does need to be involved in noise assessments and consultation. However, conscious of the large number of spoil transport movements involved with this project, DEC "…recommends the proponent develops and implements a comprehensive and detailed Road Traffic Noise Management Plan". DEC also notes, in respect of Road Traffic Noise: "…the proponent must ensure that all reasonable and feasible measures are adopted to reduce noise impacts including best practice and innovative management approaches."	

6. If not, what further response is needed to address the issue? Road traffic noise impacts should be determined and a comprehensive Road Traffic Noise Management Plan should be developed in consultation with stakeholders.	
Panel Recommendation **The DEC recommendations should be implemented as per 6 above. Preparation of this plan should be made an explicit point in SOC 31.** ***Panel recommendation met – SOC 34.***	

Sydney Water Paragraph Number – 6.3.3 ***Concern that impact of construction on terrestrial ecology.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The key issues are captured: ecological constraints are poorly known in respect of proposed routes; no assessment, as yet, of impacts on terrestrial ecology along the distribution routes, which are yet to be determined.	
2. Does Sydney Water's response adequately address the issue? SOC 26 outlines a set of actions to avoid/minimise impacts on terrestrial ecology to be undertaken during the design phase. This includes detailed ecological assessments as part of the selection of a preferred route. DEC's request for management plans to address threatened species and biodiversity conservation is not specifically addressed, though it could possibly be comprehended by SOC 26.	
3. What justification is made for Sydney Water's response? The broad justification that the distribution routes have not yet been determined.	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Reasonable response given the undefined distribution plan. However, given the Government's decision not to proceed at this time, it ought to be possible to develop a distribution management plan that includes selection of distribution routes that minimise terrestrial impacts. Following Concept Approval, SWC propose to select final distribution routes and seek Project Approval. Communities along the affected route would then be "informed".	
6. If not, what further response is needed to address the issue? SWC's focus here is on community disturbance and disruption impacts. It is not clear what level of scrutiny is proposed to ensure that terrestrial ecology is not compromised.	

Panel Recommendation **The planned distribution infrastructure scheme should be subjected to DEC assessment for impacts on terrestrial ecology prior to Project Approval. This should be explicitly stated in SOC 26.** ***Panel recommendation met – SOC 26.***	

Sydney Water Paragraph Number – 6.3.4 ***Concern regarding impacts on water quality due to erosion and sedimentation.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The issue is appropriately framed in respect of sedimentation and erosion from work sites. However, a number of submissions express concern about the prospect of sediments in the water column adjacent to the proposed Botany Bay dredging activities. This would compromise aquaculture and oyster cultivation in the immediate vicinity.	
2. Does Sydney Water's response adequately address the issue? SOC 38 addresses adequately the terrestrial erosion and sedimentation issues, citing SWC's experience in erosion control. The PPR does not demonstrate how this experience would be transferred to contract arrangements. SOC 20 includes a single-sentence statement that dredging activities will be carried out to prevent sediment deposition over seagrass beds. A desired outcome of no significant or irreversible impacts from dredging is also given. This response is regarded as unconvincing because it is unclear how the outcome would be achieved, despite SWC's request for Project Approval.. This is especially important because DEC requires that sediment controls are installed to ensure that ANZECC 2000 water quality criteria are met. DPI also express strong concern about silt and sediment impacts on seagrasses, recreational fishing, oyster farming, and (most importantly) on the sea cage aquaculture venture off Silver Beach.	
3. What justification is made for Sydney Water's response? N/a	
4. What evidence is used to back Sydney Water's claims? None, other than experience related to terrestrial runoff issues; no evidence is provided in relation to how the aquatic ecology impacts from dredging would be handled.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? A great more must be done to strengthen the response to reach regulators' requirements, not to mention other stakeholders' concerns.	

6. If not, what further response is needed to address the issue? More information is required in the PPR to demonstrate that the proponent understands the potential impacts and has an intention to ensure that the sub-contractors engaged by the prime contractor are able to mitigate the ecology impacts. SOC 20 should be modified to undertake preparation of a robust plan for sediment control in the event that pipeline is selected as the preferred scheme for bay crossing. This plan should be assessed by DPI prior to Project Approval of the bay crossing.	
Panel Recommendation **The PPR should be strengthened as outlined at 6 above. See also Panel response to Issue 6.3.11 which deals with analysis of options for bay crossing.** ***Panel recommendation met – SOC 20.***	

Sydney Water Paragraph Number – 6.3.5 ***Concern about contamination.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Two sets of issues have been raised in submissions: impacts of contaminated soils along the land-based pipeline; and disturbance of contaminated sediments during dredging for the cross-bay pipeline, particularly near the mouth of the Cooks River. SWC has captured these issues.	
2. Does Sydney Water's response adequately address the issue? Section 6.3.5 of the PPR says that SOC 41 "…indicates that water quality will be monitored during construction of the pipeline across Botany Bay". Further appropriately precautionary undertakings are made in 6.3.2. However, these specific and important undertakings have not been carried through to SOC 41. Rather, they are covered at SOC 22.	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The potential for broad-scale sediment contamination to force closure of Botany Bay to recreational fishing and oyster cultivation is a valid concern (raised by DPI and other stakeholders) that does not seem to have been adequately covered in the Statement of Commitments, save for a water quality monitoring program.	

6. If not, what further response is needed to address the issue? Inclusion of the issues noted at point 2 above as undertakings in SOC 41 so that they are not overlooked.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met – SOC 41.***	

Sydney Water Paragraph Number – 6.3.6 ***Calculation of spoil volumes.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? SWC explains that the bulking factor was already included in the base calculation.	
3. What justification is made for Sydney Water's response? N/a	
4. What evidence is used to back Sydney Water's claims? The assertion is made that a bulking factor of 1.6 has been used.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 6.3.7 ***Concern about indigenous and non-indigenous heritage along the route of the delivery infrastructure.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? SWC has recognised the potential heritage issues associated with as yet unspecified pipeline routes.	
2. Does Sydney Water's response adequately address the issue? SOCs 46, 47, 48 outline a comprehensive scheme to manage impacts on cultural heritage values.	
3. What justification is made for Sydney Water's response? N/a	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate.	
6. If not, what further response is needed to address the issue? It would be helpful to undertake broad Cultural Heritage studies prior to optimal route and site selection, rather than "…once final delivery route option is chosen…" (SOC 46). The decide and defend strategy is flawed.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met – SOC 46.***	

Sydney Water Paragraph Number – 6.3.8 ***Concern that the route for the delivery infrastructure will pass through flood prone land.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes, a large diameter pipeline constructed through flood prone land could alter the behaviour of existing flood mitigation works. Section 6.3.8 specifically refers to above-ground structures.	
2. Does Sydney Water's response adequately address the issue? SWC recognises the issue and proposes, in SOC 39 to design effective stormwater management measures – for the desalination plant site. It is not clear that this commitment refers also to: (a) the delivery infrastructure; and (b) that it is meant to cover both the construction period and the ongoing issue of stormwater management.	

3. What justification is made for Sydney Water's response? N/a	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is unclear.	
6. If not, what further response is needed to address the issue? SOC 39 should be amended to clarify the scope of the *Desired Outcome* and ensure a comprehensive *Action* plan.	
Panel Recommendation **Amend as advised.** ***Panel recommendations met – SOC 39.***	

Sydney Water Paragraph Number – 6.3.9 ***Concern that construction activities have the potential to impact on water quality in adjoining water bodies.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Note the response to 6.3.5 is considered to cover this issue.	
2. Does Sydney Water's response adequately address the issue?	
3. What justification is made for Sydney Water's response?	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? N/a.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 6.3.10 ***Concern that spoil management and traffic impacts. (Note wording is as per PPR)***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The issues of concern relate principally to traffic disruption due to spoil transport. SWC has captured this concern.	
2. Does Sydney Water's response adequately address the issue? SWC's analysis in the PPR demonstrates the level of service impact at four intersections on Captain Cook Drive would decline only minimal impact during both AM and PM peak periods.	
3. What justification is made for Sydney Water's response? The analysis is based on the maximum rates at which tunnel boring machines can operate, with one TBM, or two operating simultaneously, yielding 200 or 400 (non-articulated vehicle) daily movements respectively. The assumption is made that most of the excavated material would be accepted at the Holt Land Rehabilitation site on Captain Cook Drive, or at the Kurnell Landfill.	
4. What evidence is used to back Sydney Water's claims? Tabulation of expected intersection performance is provided.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is considered adequate. However, the assertion is made at Section 6.3.10 of the PPR that the assessment is based on maximum tunnelling, including the scenario of a tunnel under Botany Bay. However, Table 9.1 of the EA indicates spoil volumes for locations that include the Botany Bay "Pipeline". This apparently conflicting information should be resolved.	
6. If not, what further response is needed to address the issue? It is not the role of the Panel to check calculations or assumptions.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met – Section 6.3.10.***	

Sydney Water Paragraph Number – 6.3.11 ***Concern about the impact of constructing a pipeline on the floor of Botany Bay.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The central issues relate to protection of seagrass habitats and possible impacts from the proposed pipeline on commercial and recreational activities. These issues are captured in the PPR.	
2. Does Sydney Water's response adequately address the issue? SWC dismisses tunnelling beneath the bay on the basis of risks and excessive construction time. Microtunnelling and Horizontal Directional Drilling (HDD) are reviewed in the PPR but not endorsed (though not dismissed). It is apparent that the cross-bay construction method has not yet been decided yet this is fundamental to the project and SWC seeks Project Approval for this component. SOC 20 outlines mitigation actions including finding an optimal route, preventing sediment deposition, and seagrass replanting and/or offsets. The SOC aims for no significant or irreversible impacts on oyster leases or aquaculture – in consultation with DPI. No boundary conditions are included.	
3. What justification is made for Sydney Water's response? The report provides no justification for favouring dredging and pipeline for distribution across the bay over microtunnelling/HDD. DPI expresses concern about potential seagrass impacts and cautions that few attempts at replanting have been successful. The PPR acknowledges the limited success in transplanting seagrass in Botany Bay and commits to minimise impacts. DPI "requests" that alternative methods for crossing Botany Bay and land-based methods be investigated in detail and costed. The agency sets out stringent requirements, including a bond, "…should the other delivery options be justifiably eliminated". DEC expresses similar concerns, and stipulates that "…the proponent should compare and contrast water delivery options in terms of costs, risks, and potential impacts on the environment". Such an analysis has apparently not been undertaken.	
4. What evidence is used to back Sydney Water's claims? No evidence is provided for the implicit choice of dredging/pipelaying, other than a citation of risks associated with microtunnelling/HDD put forward without clear rationale. No comparative analysis is presented.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? SWC may not fully appreciate the environmental risks and expense associated with the dredging/pipeline option for delivering treated water into the distribution system. The response is inadequate for such a key issue at this PPR stage, especially as Project Approval is sought for this component. See also Panel response to Issue 6.3.4.	

6. If not, what further response is needed to address the issue? A serious, objective assessment of alternative schemes for transferring treated water to the distribution system is needed as a basis of the PPR and for Project Approval. This should be in sufficient detail to: • Clarify all boundary conditions, including sediment deposition, noise levels, etc, so that parameters so that the basis on which approval is granted is fully transparent; • Inform the community in a transparent way of SWC's analysis of options, and intent and undertakings in respect of this crucial project component. The PPR should be amended to provide an undertaking that a bulk water distribution plan will be prepared based on rigorous analysis of alternative bay crossing schemes.	
Panel Recommendation **The Government decision on the status of the Desalination Project provides time for a full evaluation of alternative schemes for bulk transfer of treated water across Botany Bay to the reticulation system. The PPR needs to be strengthened as outlined at 6 above.** **The request for Planning Approval for this part of the project should be withdrawn pending preparation of a clear management plan for bulk distribution of desalinated water that can be subjected to public scrutiny.** ***Panel recommendation met – Section 6.3.11.***	

Sydney Water Paragraph Number – 6.3.12 ***Concern that private property could be damaged during construction.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? SWC recognises the concern and has framed the issue appropriately.	
2. Does Sydney Water's response adequately address the issue? Yes. The response goes to prevention or mitigation of damage as well as rectification, where necessary.	
3. What justification is made for Sydney Water's response? N/a	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is adequate.	

6. If not, what further response is needed to address the issue? N/a	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 6.3.13 ***Concern that the location of the distribution infrastructure is yet to be resolved.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. There is a level of frustration expressed in some submissions that the distribution infrastructure routes should have been included in the EA.	
2. Does Sydney Water's response adequately address the issue? The response at 6.3.13 explains that the preferred routes will be selected after Concept Approval. An assessment of the routes would be included in the subsequent submission for Project Approval. At SOC 67 SWC advises that Councils, stakeholder groups and the community will be consulted.	
3. What justification is made for Sydney Water's response? Not explained other than by a statement that additional investigations will inform the decision.	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is considered adequate.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept subject to responses on 6.3.3, 6.3.7, 6.3.8, 6.3.11.** ***Panel recommendation met – withdrawal of request for Project Approval.***	

Sydney Water Paragraph Number – 6.3.14 ***Will pipelines be laid under houses at Kurnell?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? SWC has captured the general concern.	
2. Does Sydney Water's response adequately address the issue? Yes. SWC explains that pipelines will not be laid under houses.	
3. What justification is made for Sydney Water's response? SWC advises in the PPR that pipelines will be laid under street pavement and other public places.	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate.	
6. If not, what further response is needed to address the issue? N/a	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 6.3.15 ***What public scrutiny will be available for tunnelling approvals?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? SWC reflects accurately the concern expressed in some submissions that construction of infrastructure delivery tunnels will be undertaken without the opportunity for further scrutiny.	
2. Does Sydney Water's response adequately address the issue? SWC's response at SOC 69 and SOC 70 advises that tunnels under urban areas will be the subject of a detailed "Tunnel Impacts Investigation Report" and that: '…no substantial construction of tunnels through urban areas will be undertaken without prior Project Approval by the Minister for Planning.". No undertaking for public scrutiny is given in either nominated SOC. However, at Section 11.1.2 of the PPR, SWC is in fact seeking Project Approval for the intake connecting tunnel, the outlet connecting tunnel and the cross-bay infrastructure. It would appear that, if Project Approval is granted at this stage, then no further opportunity for scrutiny will be available, and no further approvals are necessary.	

3. What justification is made for Sydney Water's response? No justification is provided.	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is inadequate because it does not clearly respond to the question that SWC has itself framed: Will public scrutiny be available for tunnel approvals?	
6. If not, what further response is needed to address the issue? SWC should withdraw its proposal for Project Approval of tunnelling. SOC 69 and SOC 70 should be amended accordingly and should provide an undertaking in regard to public scrutiny of tunnel plans and local consultation on local impacts.	
Panel Recommendation **Tunnel plans and any reports, including the proposed Tunnel Impacts Investigation Report should be exhibited for public comment prior to Project Approval being sought.** **Regular consultation arrangements should be undertaken during tunnelling.** ***Panel Recommendation met – SOC 69, 70 – in respect of all tunnels under urban areas. Only the proposed intake and outlet connecting tunnels would not be subject to further public scrutiny as Project Approval is being sought and these tunnels would not pass under urban areas.***	

Sydney Water Paragraph Number – 6.3.16 ***Waste management in accordance with relevant guidelines.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The issue framing summarises lengthy comments by DEC in particular.	
2. Does Sydney Water's response adequately address the issue? DEC calls for a "Waste Management Plan" and this need is noted in PPR 6.3.16. SOC 57 calls for procedures for classification and management of waste materials. Although the details differ, the intent to ensure sound management is accepted.	
3. What justification is made for Sydney Water's response? N/a	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	

6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 6.3.17 ***Construction impacts on public open space and cycle paths.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The issue is appropriately framed.	
2. Does Sydney Water's response adequately address the issue? SWC directly addresses the issue at SOC 35.	
3. What justification is made for Sydney Water's response? N/a	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is regarded as adequate.	
6. If not, what further response is needed to address the issue? N/a	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 6.3.18 ***Concern about air quality impacts during construction.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The issue is appropriately framed.	
2. Does Sydney Water's response adequately address the issue? SWC directly addresses the issue at SOC 36.	
3. What justification is made for Sydney Water's response? N/a	

4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is regarded as adequate.	
6. If not, what further response is needed to address the issue? N/a	
Panel Recommendation **Accept.**	

Section 7 – Operation of the Plant

This section is poorly structured and needs a complete review prior to publication. In particular the sections on energy use and greenhouse gases are confused and mixed up. **The section on greenhouse gases remains unresolved and is not aligned with the Metropolitan Water Plan 2006.**

Sydney Water Paragraph Number – 7.3.1 ***Thermal processes should be preferred to a reverse osmosis process.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Quantum of energy used for thermal process is three times that of reverse osmosis.	
4. What evidence is used to back Sydney Water's claims? Sufficient, including discussion in EA.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 7.3.2 ***Concern about energy use.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Incomplete. This section lists a number of specific issues raised in submissions a, eg use of solar power. However, the general point of overall energy consumption (regardless of source has not been addressed). 221 submissions (on SWC count) raised the broader issue. According to Sydney Water's EI Compliance Report 2005, total energy consumption in 2004-5-05 was 425GWh. The plant would consume between 225GWh and 900GWh per annum. This issue has not been addressed.	
2. Does Sydney Water's response adequately address the issue? The PPR adequately addresses the solar and nuclear questions but fails to address the main question about quantum of energy consumed. SWC response should include the fact that the power supply to the plant is able to be interrupted due to the nature of the industrial process.	
3. What justification is made for Sydney Water's response? Solar and nuclear issues appropriately justified. Energy consumption is merely stated (repeated from the EA).	
4. What evidence is used to back Sydney Water's claims? Basic calculation for the solar issue. None relating to the broad concern about energy use.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient.	
6. If not, what further response is needed to address the issue? The proposed energy consumption of the plant under any configuration would radically alter SWC's Energy Performance Targets. The broad issue of energy consumption has not been addressed in the PPR and is not placed in any policy context, whether Government or the corporation's own Environment Policy and EI Compliance regime. This is a significant omission given the number of public submissions that expressed concern about energy consumption.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 7.3.3 ***Concerns about capacity of the electricity network.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? A simple statement is made that 'Sydney Water has been advised that there is sufficient capacity in the electricity generation and distribution system'.	
4. What evidence is used to back Sydney Water's claims? None.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient response.	
6. If not, what further response is needed to address the issue? SWC needs to provide documentary evidence by way of letters or statements from Energy Australia and Transgrid to back up the claim in the EA **(Not provided).** Such evidence is normal practice to include in EIS reports and there is no good reason not to include these here. This is particularly warranted due to the genuine concerns from local residents and business about the adequacy and continuity of power supply in Kurnell Peninsula. The issue of power blackouts needs to be placed in a suitably worded SOC **(New SOC64).**	
Panel Recommendation **Amend as advised.** ***Panel recommendation partly met. It would improve the PPR's credibility to include the documentary evidence highlighted in point 6, above.***	

Sydney Water Paragraph Number – 7.3.4 ***Concern about Greenhouse gas emissions.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? No. This was one of the major issues in the public submissions (450 submissions on SWC count) and the other forms of community input during the exhibition period. The Government announcement of 8 February 2006 was after the close of the exhibition period. Given the significance of the issue, the PPR needs to revisit the GHG issue in the light of the Government announcement.	
2. Does Sydney Water's response adequately address the issue? No. Give the level of detailed comment provided in many of the public submissions, the response by Sydney Water in the PPR is inadequate. The response to the greenhouse issues needs to be much more detailed. This level of response should be consistent with commitments made in Sydney Water's Environment Policy and their obligations to act as good corporate citizens.	
3. What justification is made for Sydney Water's response? None. Sydney Water's response merely reiterates the Government's announcement on the Metropolitan Water Plan of 8 February 2006.	
4. What evidence is used to back Sydney Water's claims? No evidence is used to back the claim. Indeed, a great deal of background analysis has been excluded from the PPR though subject of multi-agency Greenhouse Reduction Plan Working Group. The material and analysis in the report of the working group is of high quality but surprisingly has not been drawn on in the PPR. The PPR provides misleading evidence. This must be addressed, verified and corrected. The statement in the PPR that there is 'currently enough renewable energy through packages such as Green Power to power a 500ML/day plant' (p.95) is at variance with the statement in the EA that a 500ML/day plant would require 'almost triple the amount of current Green Power supply' (p.6.12).	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Highly inadequate and highly insufficient. Sydney Water's response must demonstrate how the Government's policy will be implemented should the project proceed. The response should reference the Progress Report on the Metropolitan Water Plan, the NSW Greenhouse Policy and the detailed work of the Greenhouse Reductions Plan Working Group. Should the policy need to be implemented in stages, a timetable should be provided that indicates key milestones and actions.	

6. If not, what further response is needed to address the issue? Stipitate the key principles in assessing renewable energy options: • Must represent new 'additional' renewable power and not crowd out existing green energy consumers; • Must be genuine renewable energy – ie no operating GHG emissions (some GHG is released in construction of plant and equipment for renewable energy); • Transparent and auditable processes (link to EI Compliance); • Understood by the general public. Sydney Water needs to completely revise this section of the PPR and clearly address its own environmental reporting requirements (eg Objective 8). Renewable energy cannot be directly purchased by any consumer, whether wholesale, commercial or residential. (The exception would be renewable energy supplied 'over-the-fence' from say an adjacent wind farm.) Renewable energy is currently purchased through 'abstract' means, such as Green Power. Though the Green Power scheme is understood in principle by many consumers, there are significant complexities about how it currently operates and its future operating environment. Issue of market availability of Green Power and any other renewable options must be addressed. This issue of how to source renewable energy is side-stepped in the PPR. Given the strength of opinion from the public submissions, this issue must be discussed in the PPR. Sydney Water needs to provide detail on how renewable energy will be sourced for this project. There are complex issues about delivery and market conditions that were raised in submissions (and by the Greenhouse Reductions Group) but have not been referred to in any way in the PPR. SOC 2 needs to be strengthened and made much clearer. The first sentence of the SOC is highly ambiguous: – What is meant by 'effectively' powered (does this means offsets will be permitted?); – The 'no net greenhouse impact' needs to be referenced to an accounting framework, which should be either the State of NSW or Australia; as it stands, the clause has no meaning.	
Panel Recommendation **It is the view of the Panel that SWC is highly exposed on this issue and significant effort should be made to address this issue more directly.** **A further SOC should be framed that addresses the principles around which SWC will source renewable energy. These should be 'future proofed' as far as possible in order to be relevant for future market and regulatory conditions. This SOC should directly address the issues discussed in this response and those highlighted in the Greenhouse Reductions Group Report.** **Amend as advised.** ***Panel recommendation not met. Main policy issue is contained in the letter to DoP (Chris Wilson) from the Panel, dated 1 June 2006. Other issues:*** ***(i) SOC2 needs to be timed to occur "During design (before construction commences)" to enable integration with energy recovery/energy efficiency measures.*** ***(ii) Discussion of issue does not address the future increase in demand for Green Power and potential crowding out of future Green Power consumers. The installed capacity figures for Green Power need to be referenced – presumably to the URS Green Power Compliance Audit Report 2004 (2005 report pending).***	

Sydney Water Paragraph Number – 7.3.4 ***Energy recover devices should be mandatory, not optional***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Reference to the EA and a general claim that energy recovery devices have reduced consumption in similar plants by 40%.	
4. What evidence is used to back Sydney Water's claims? Provided in EA.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient. SOC 1 provides that energy recovery be mandatory. This SOC could be strengthened with a minimum target recovery rate specified.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Amend as advised.** ***Panel recommendation not met. Target energy recovery rate has not been specified. Note that timing should read "During design (before construction commences). There may be value in an Integrated Energy Management Plan as a SOC (addressing energy efficiency, energy recovery and renewable energy).***	

Sydney Water Paragraph Number – 7.3.5 ***Concerns about the general degradation of Kurnell.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes, though the response is fairly brief.	
3. What justification is made for Sydney Water's response? The current industrial zoning, the 'clean' nature of the industry (re immediate pollutants), and the conservation and landscaping commitments given.	
4. What evidence is used to back Sydney Water's claims? As above.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient. But could cross-reference the applicable SOCs that address the issue.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 7.3.6 ***Concern about the water quality produced by the plant.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. A number of specific issues are covered by this response.	
2. Does Sydney Water's response adequately address the issue? Generally, yes.	
3. What justification is made for Sydney Water's response? Adherence to NSW Health requirements and Australian Drinking Water Guidelines.	
4. What evidence is used to back Sydney Water's claims? Greater detail could have been provided in the EA about this issue in the form of an appendix. (This is not strictly an EA issue as it relates to product security but it is an important public concern nonetheless.) The matter was not addressed in the submission by NSW Health. The ADWG was not included in the EA nor any detailed discussion about how water quality is tested.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient, though more detail would address public concerns more fully.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Amend as advised.** ***Panel recommendation not met. No changes made to revised PPR.***	

Sydney Water Paragraph Number – 7.3.7 ***Concern about the visual impact of the plant.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? **Refer to Panel response to 4.3.5.** Yes.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? None.	
4. What evidence is used to back Sydney Water's claims? None.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient.	
6. If not, what further response is needed to address the issue? **Refer to Panel response to 4.3.5.** The response is vague and general. An adequate response should detail specific design options and principles that will inform the final design of the plant. Examples of existing plants would assist the explanation. SOC 50 and SOC 51 require strengthening.	
Panel Recommendation **Amend as advised.** ***Panel recommendation partly met. No changes made to SOC50 and SOC51.***	

Sydney Water Paragraph Number – 7.3.8 ***The benefit of producing 500ML/day has not been presented. Why not a greater volume?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? The general Government policy response as stated in the Metro Water Plan is provided. This is sufficient justification.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 7.3.9 ***Hazards and risks, such as the need to evacuate Kurnell if there is an incident at Caltex.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? Minimal.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient.	
6. If not, what further response is needed to address the issue? This issue should be expressed in a SOC.	
Panel Recommendation **Amend as advised.** ***Panel recommendation partly met. Limited detail provided.***	

Sydney Water Paragraph Number – 7.3.10 ***Concern about chemical use and storages on-site.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Contractors will be required to adhere to requirements in the SOCs.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient. SOC 53 and SOC 54 are appropriate conditions.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 7.3.11 ***What is the impact from chemicals used to preserve the membranes?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? A 40% solution of sodium bisulfite is stated.	
4. What evidence is used to back Sydney Water's claims? Response is specific.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 7.3.12 ***The reverse osmosis process is not adequately described.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Reference to the EA.	
4. What evidence is used to back Sydney Water's claims? N/a. But literature is referred to – this could be explicitly referenced.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Amend as advised.** ***Panel recommendation partly met. Literature not referenced.***	

Sydney Water Paragraph Number – 7.3.13 ***Concern about operational noise.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Noise assessment and modelling.	
4. What evidence is used to back Sydney Water's claims? Evidence has been provided by SWC's noise consultants, Heggie Associates.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient. SOC 33 details the monitoring process adequately. Note comments on issue 4.3.7 relating to construction noise.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 7.3.14 ***Concern about traffic noise.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Analysis is basic but adequate.	
4. What evidence is used to back Sydney Water's claims? Based on the 500GL/plant which is the correct base for 'worst-case'.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate but insufficient, due to absence of relevant SOC.	
6. If not, what further response is needed to address the issue? The commitment to limit truck movements to daytime hours should be expressed in a SOC.	
Panel Recommendation **Amend as advised.** ***Panel recommendation partly met. Reference to "where possible" relating to permissible hours for heavy vehicle movements should be removed (SOC33c).***	

Sydney Water Paragraph Number – 7.3.15 ***Concern that stormwater runoff from the site may impact on water quality in Quibray Bay.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? Consideration in EA.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient, but some strengthening of SOCs required. SOC 7 should state 'to DEC requirements'; SOC 39 needs to specify who are the 'relevant authorities'.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Amend as advised.** ***Panel recommendation partly met. In SOC39, words "generally in line with" should be removed. "Relevant guidelines" and "relevant authorities" should be specified in SOC39.***	

Sydney Water Paragraph Number – 7.3.16 ***Concern about air emissions generated by the plant.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? No on site emissions due to the technology used.	
4. What evidence is used to back Sydney Water's claims? N/a. The question relates to the previous operating scenario of using 50% non-renewable energy.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 7.3.16 ***Concern about odours generated by the plant.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Marine debris is identified as a potential source of odour.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate but insufficient in terms of the SOC.	
6. If not, what further response is needed to address the issue? This SOC must specify a monitoring mechanism and process.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 7.3.17 ***Concern about the operational costs of the project.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? No.	
3. What justification is made for Sydney Water's response? Average annual cost increases to consumers based on IPART assumptions.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient.	
6. If not, what further response is needed to address the issue? A fuller response is warranted. This should include some indication of proportional increases in household bill, not just the average dollar values. Also, some indication of ranges of increases should be given. Importantly, price increases to vulnerable groups such as low income households and pensions should be provided.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 7.3.18 ***Notifying the community.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Current operating procedures are highlighted but not specified in detail.	
4. What evidence is used to back Sydney Water's claims? It would be useful to indicate where these policies and procedures can be viewed.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient. But see recommendation under issue 4.3.4 regarding the immediately affected community.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Amend as advised.** ***Panel recommendation partly met. A "Community Liaison Plan" (which could include the Community Working Group mentioned in our comments on 4.3.4) is mentioned on page 34 of the revised PPR but this is not incorporated into a Statement of Commitment (refer to SOC67).***	

Sydney Water Paragraph Number – 7.3.19 ***Concern about flora and fauna.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? All these issues are dealt with in other areas of the PPR.	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? See issue 4.3.10; 4.3.9.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 7.3.20 ***The Kurnell peninsula is the aerial gateway to Sydney and the desalination plant will create another blight on the landscape.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? **See Panel response to 4.3.5.**	
2. Does Sydney Water's response adequately address the issue?	
3. What justification is made for Sydney Water's response?	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? N/a.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Amend as advised. See Panel response to 4.3.5.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 7.3.21 ***Concern regarding the lack of detail on the operational regime for the plant.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Current methods for plant operation adequately handle the conditions described.	
4. What evidence is used to back Sydney Water's claims? Brief but sufficient explanation of operation procedures.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 7.3.22 ***Waste should be managed in accordance with relevant guidelines.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? **Refer to Panel response to 4.3.20, 5.3.7 and 6.3.16.** Yes.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Relevant guideline is cited.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient, including SOC 57.	
6. If not, what further response is needed to address the issue? **Refer to Panel response to 4.3.20, 5.3.7 and 6.3.16.**	
Panel Recommendation **Accept.**	

Section 8 – Operation of the Intake

Sydney Water Paragraph Number – 8.3.1 ***Concern about intake water quality.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes	
2. Does Sydney Water's response adequately address the issue? Very adequate with respect to DOOs [the dilutions expected by the Water Research Laboratory report might be quoted]; other discharges; and algae. Sutherland's [P577] concerns about radioisotopes from ANSTO in the Cronulla STP discharge might be addressed directly, quantitatively, based on Section 5.2 of the Water Research Laboratory Report. A final comment might be added, that there will be no danger to health from harmful organisms.	
3. What justification is made for Sydney Water's response? Water Research Laboratory modelling	
4. What evidence is used to back Sydney Water's claims? Water Research Laboratory modelling	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Generally yes, but see 2 above.	
6. If not, what further response is needed to address the issue? As for 2 above.	
Panel Recommendation **Accept.** ***Amendments noted to SOC 17.***	

Sydney Water Paragraph Number – 8.3.2 ***Impacts on aquatic ecology due to impingement and entrainment of biota.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes	
2. Does Sydney Water's response adequately address the issue? Yes, in that a range of potentially effective technologies are described, and the pilot modelling to be instituted.	
3. What justification is made for Sydney Water's response? Ecology Lab Report, technology information.	
4. What evidence is used to back Sydney Water's claims? Ecology Lab Report, technology information.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes, in the light of what could reasonably have been done in the timeframe for the EA, and what is proposed to be still done.	
6. If not, what further response is needed to address the issue? Suggest putting into SOC 16 that monitoring results and intake type selection and design will be discussed with bodies such as DPI, and submitted to DEC for approval.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 8.3.3 ***What chemicals will be used to clean the intake pipes?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Yes	
3. What justification is made for Sydney Water's response? Simple process, for which there is extensive experience.	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue? Perhaps add comment on the lines that the proposed treatment is similar to swimming pool maintenance.	
Panel Recommendation **Accept.** ***Amendments noted.***	

Sydney Water Paragraph Number – 8.3.4 ***Exclusion zones.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes	
2. Does Sydney Water's response adequately address the issue? Yes	
3. What justification is made for Sydney Water's response? Based on clear requirements and regulations.	
4. What evidence is used to back Sydney Water's claims?	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue? See also the Panel response to 9.3.3, general comment 2, suggesting a plan of the outlet zone. An enlarged, dimensioned and appropriately detailed part of PPR Figure 5.2 would answer questions on both inlet and outlet zones.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met.***	

Section 9 – Operation of the Outlet

Sydney Water Paragraph Number – 9.3.1 ***What effect will the discharge structures and discharge of seawater concentrate have on fishing?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue?	
3. What justification is made for Sydney Water's response? The area potentially denied is only the "mixing" area, which is very small compared to that locally available to fishing.	
4. What evidence is used to back Sydney Water's claims? Modelling by the Water Research Laboratory (Appendix A2 of EA) defines the mixing zone; but see Panel comments regarding the definition under 9.3.3. Water Research Laboratory modelling and Ecology Lab Report (Appendix A3 of EA) do not expect any significant impact on fishing outside the zone.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 9.3.2 ***What effect will discharge of seawater concentrate have on recreational use of the area in the vicinity of the outlet?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes, again many submissions make this reference.	
2. Does Sydney Water's response adequately address the issue?	
3. What justification is made for Sydney Water's response? The area potentially denied is only the "mixing" area, which is very small compared to that locally available for recreational activities, and is not suitable for many of them.	
4. What evidence is used to back Sydney Water's claims? Modelling by Water Research Laboratory defines the mixing zone (but see comments re the definition under Panel response to 9.3.3).	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 9.3.3

Concern regarding impacts on marine ecology due to discharge of seawater concentrate.

General comment about this issues

The issues here concern potential problems inside the mixing zone. We comment:

1. The zone is stated as extending 50m–75m from the outlet. We suggest an explicit statement of what this is based on: is it based on the Water Research Laboratory estimate of reaching the 1 ppt excess limit at 22.6 m for a 500 Ml plant, times a "safety factor" of 2–3; or is that an allowance for high currents? Is the distance measured at right angles to the proposed line of three risers at 25m intervals? A simple plan of risers and zone, also noting the distance to the shore, would assist appreciation of the SWC arguments. That should also resolve questions regarding the size of the zone posed in Sutherland Council [P577].

As for the inlet, the possible range of outlet locations should also be shown.

2. Is the SWC position that conditions inside the mixing zone are not, cannot be guaranteed to be acceptable to all forms of plant and animal life; but as the zone is very small relative to the Kurnell shoreline the impact will be negligible? If so, it may be best stated at the outset.

An enlarged, dimensioned and appropriately detailed part of PPR Figure 5.2 (p.58) would answer questions on both inlet and outlet zones.

Panel recommendations substantially met.

Sydney Water Paragraph Number – 9.3.3

Concern regarding impacts on marine ecology due to discharge of seawater concentrate.

Sub-issue Impact on marine ecology

1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes, many submissions come down to this.	
2. Does Sydney Water's response adequately address the issue? A reasonably comprehensive statement	
3. What justification is made for Sydney Water's response? Based principally on the Ecology Lab Report, EA Appendix A3, which might be cited more directly.	
4. What evidence is used to back Sydney Water's claims? Detailed in the Ecology Lab Report	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue? Reference to our general comment (2).	
Panel Recommendation **Accept, subject to comments above.** ***Panel recommendation met.***	

Sydney Water Paragraph Number – 9.3.3 ***Concern regarding impacts on marine ecology due to discharge of seawater concentrate.*** ***Sub-issue Avoiding discharge on ecologically significant areas***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes.	
2. Does Sydney Water's response adequately address the issue? Adequate	
3. What justification is made for Sydney Water's response? Based principally on the Ecology Lab Report, which might again be cited more directly. Also Water Research Laboratory modelling with respect to Boat Harbour	
4. What evidence is used to back Sydney Water's claims? Detailed in the Water Research Laboratory and Ecology Lab Reports.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Yes, as further investigation of potential threatened species danger is now possible	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.** ***Amendments noted.***	

Sydney Water Paragraph Number – 9.3.3 ***Concern regarding impacts on marine ecology due to discharge of seawater concentrate.*** ***Sub-topic Will there be acute toxic materials in the zone?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Specific DEC question	
2. Does Sydney Water's response adequately address the issue? Qualified by statement of further review and monitoring in the pilot program, set out in SOC13, for which there is now time.	
3. What justification is made for Sydney Water's response? Ecology Lab assessment, based on discharges listed in EA Table 7.4, that no such effects are expected.	
4. What evidence is used to back Sydney Water's claims? As in Ecology Lab Report, to be supported by further work, referred to in (2) above.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient, within limits indicated.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.** ***Amendments noted (including SOCs 12 and 13).***	

Sydney Water Paragraph Number – 9.3.3 ***Concern regarding impacts on marine ecology due to discharge of seawater concentrate.*** ***Sub-topic Salinity tolerances assessment deficient***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. A number of submissions suggest this.	
2. Does Sydney Water's response adequately address the issue? In direct terms.	
3. What justification is made for Sydney Water's response? Waters outside the mixing zone are within ANZECC limits.	
4. What evidence is used to back Sydney Water's claims? Water Research Laboratory modelling, Ecology Lab assessments.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue? SWC intends extensive further investigations, as per SOC 12, 13, covering the expressed concerns, and for which there is now time to do that in the pilot program.	
Panel Recommendation **Accept, subject to the undertakings in SOC 12 and 13.** ***Panel recommendation met. Greatly expanded, very satisfactory.***	

Sydney Water Paragraph Number – 9.3.3 ***Concern regarding impacts on marine ecology due to discharge of seawater concentrate.*** ***Sub-topic Actions if discharges kill marine life***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Presumably refers to life outside mixing zone. This needs to be clarified.	
2. Does Sydney Water's response adequately address the issue? Both types of action proposed are feasible, the first, increasing discharge velocities, decreasing the mixing zone at increased pumping costs.	
3. What justification is made for Sydney Water's response? Modelling, analysis of chemistry of the concentrate. Reference Ecology Lab Report.	
4. What evidence is used to back Sydney Water's claims? As for (3)	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.** ***Amendments noted.***	

Sydney Water Paragraph Number – 9.3.3 ***Concern regarding impacts on marine ecology due to discharge of seawater concentrate.*** ***Sub-topics Impact on whales of mixing zone salinity, bubbles and noise***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. Specifically raised in submissions.	
2. Does Sydney Water's response adequately address the issue? Appropriate direct statements.	
3. What justification is made for Sydney Water's response? Ecology Lab Report and specific literature reference.	
4. What evidence is used to back Sydney Water's claims? Limited literature review, but considered sufficient.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 9.3.3 ***Concern regarding impacts on marine ecology due to discharge of seawater concentrate.*** ***Sub-issue Concern that mixing zone conditions may lead to undesirable or nuisance aquatic life.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. Encapsulates a concern expressed by DEC and others.	
2. Does Sydney Water's response adequately address the issue? Yes, In terms of what can be said now. Pilot plant monitoring is to be undertaken, which will clarify matters.	
3. What justification is made for Sydney Water's response? Ecology Lab report, that algal blooms unlikely, and no other obvious threats seen.	
4. What evidence is used to back Sydney Water's claims? In Ecology Lab Report.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.** ***Amendments noted.***	

Sydney Water Paragraph Number – 9.3.4 ***Concern regarding the impact of seawater concentrate on sea water quality.*** This issue is discussed in terms of the questions and recommendations of DEC, which appear to cover all relevant matters raised in the other public submissions.

Sydney Water Paragraph Number – 9.3.4 ***Concern regarding the impact of seawater concentrate on sea water quality.*** ***Sub-issue Attaining ANZECC criteria beyond mixing zone. Concern about possible irreversibility of zone inputs.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. Direct DEC statement.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Modelling results, Table 7.4 show the ANZECC limits will be met, for the specified materials.	
4. What evidence is used to back Sydney Water's claims? Water Research Laboratory and Ecology Lab Reports.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? It is stated that reversibility of mixing zone inputs cannot at this time be guaranteed, but that pilot monitoring will look for irreversible effects.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept, subject to further monitoring.** ***Panel recommendation met. Note new Table 9.1. (Summary of Marine and Estuarine Monitoring Program). Question whether "consultation with DEC and DPI" should also include "submission to DoP" in SOC13.***	

Sydney Water Paragraph Number – 9.3.4 ***Concern regarding the impact of seawater concentrate on sea water quality.*** ***Sub-issue Plumes hugging the bottom***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes, DEC question.	
2. Does Sydney Water's response adequately address the issue? Yes.	
3. What justification is made for Sydney Water's response? Water Research Laboratory modelling, conservative prediction.	
4. What evidence is used to back Sydney Water's claims? As in (3) above.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 9.3.4 ***Concern regarding the impact of seawater concentrate on sea water quality.*** ***Sub-issue Chemicals to be used in the process.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes, DEC question.	
2. Does Sydney Water's response adequately address the issue? Yes, in Table 7.1, in terms of present knowledge.	
3. What justification is made for Sydney Water's response? As for (2)	
4. What evidence is used to back Sydney Water's claims? As for (2)	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Can and would be revised, extended during the pilot program. Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 9.3.4 ***Concern regarding the impact of seawater concentrate on sea water quality.*** ***Sub-issue Avoiding sedimentation of solids; settlement of ferric hydroxide and other backwash materials***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes, DEC question.	
2. Does Sydney Water's response adequately address the issue? It is well discussed in the EA. As the question of the eventual fate of the ferric hydroxide in particular has been raised in several submissions, the detailed response here, including the mitigation measures already set out in section 7.2.3, which could be adopted if pilot operation showed the need, is appropriate.	
3. What justification is made for Sydney Water's response? In EA.	
4. What evidence is used to back Sydney Water's claims? In EA.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 9.3.4 ***Concern regarding the impact of seawater concentrate on sea water quality.*** ***Sub-issues In mixing zone no bio-accumulation; no re-entrainment; no harmful deposits; no floating debris, etc; no colour or other problematic effects.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes, DEC question.	
2. Does Sydney Water's response adequately address the issue? Yes, straightforward, direct answers; can be checked by pilot monitoring.	
3. What justification is made for Sydney Water's response? Plant discharge assessments.	
4. What evidence is used to back Sydney Water's claims? As above.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Adequate and sufficient.	
6. If not, what further response is needed to address the issue?	
Panel Recommendation **Accept.** ***Note amendments to SOCs 12, 14 and added 15.***	

Sydney Water Paragraph Number – 9.3.5 ***Concern that there are deficiencies in the modelling report. Specifics considered:*** ***1: Insufficient data on currents, etc;*** ***2: Eddy current in Bate Bay;*** ***3: Quality Control;*** ***4: Dense plume prediction limitations;*** ***5: Near field [mixing zone] under-represented.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes. The specifics above summarise appropriately concerns raised in the submissions.	
2. Does Sydney Water's response adequately address the issues? (2) and (3) have factual replies. (1): Generally adequate; although the results of recent current metering, said to be in the PPR, could not be found. The Water Research Laboratory report does have results for an observed, [but limited] range of currents, which might be referred to specifically. (4), (5): The implications of the present limits to predicting dense plume behaviour, and the meaning of the word "conservative" appear to have been misunderstood in several submissions (which in this case refers to more quiescent conditions). It might help to put the explanation, here divided between the two sections, together, and perhaps support it with a couple of diagrams. In regard to (5), see also the "General" comment (1) at the start of 9.3.3. Overall, reference might be made to the success [in terms of verification by Beachwatch] of the extensive Deepwater Outfall modelling, an effective base for Water Research Laboratory for the present work.	
3. What justification is made for Sydney Water's response? The Water Research Laboratory report.	
4. What evidence is used to back Sydney Water's claims? As above.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Subject to comments under point 2.	
6. If not, what further response is needed to address the issue? Detailed under point 2.	
Panel Recommendation **Amend as advised.** ***Panel recommendation met. Note point 2(4) now well explained.***	

Sydney Water Paragraph Number – 9.3.6 ***Consideration of diffuser technology.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes, as raised in submissions.	
2. Does Sydney Water's response adequately address the issue? Some clarification, extension should be considered. Specifically, it is not clear whether different nozzle designs, and different parameters, such as discharge angle and fluid velocity, can or will be tested during the pilot program.	
3. What justification is made for Sydney Water's response? Statement of intent.	
4. What evidence is used to back Sydney Water's claims? No claim made.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? See point 2 above.	
6. If not, what further response is needed to address the issue? See point 2 above.	
Panel Recommendation **Amend as advised.** ***Panel recommendation partly met. Accept as sufficient – answers Panel issues indirectly.***	

Sydney Water Paragraph Number – 9.3.7 ***Concern over the proposed monitoring programs.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Yes: the program is critically important, and its implementation is an essential part of many of the SWC responses in this PPR.	
2. Does Sydney Water's response adequately address the issue? Deferment of full scale plant construction may allow a more extended and deeper program than originally envisaged: if that is so, it should be indicated in SOC 13. It is noted that the program will be developed in discussion with DEC and DPI. We recommend that the consequences of the outcomes of the program for full scale plant design and operation be also discussed with and approved by DEC and DPI. SOC 13 should be extended to cover this.	
3. What justification is made for Sydney Water's response? N/a.	
4. What evidence is used to back Sydney Water's claims? N/a.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? See point 2, above. The current proposed monitoring program is weak and needs to go beyond 'liaison' with DEC and DPI.	
6. If not, what further response is needed to address the issue? See point 2, above.	
Panel Recommendation **Amend as advised.** **Proposed monitoring program commitments need to be strengthened and framed in terms of obligations and requirements. The program should be linked to necessary actions and the relevant regulatory frameworks (DEC, DPI and others).** ***Panel recommendation met. Note new Table 9.1. (Summary of Marine and Estuarine Monitoring Program).***	

Section 10 – Operation of the Delivery Infrastructure

Sydney Water Paragraph Number – 10.3.1 ***What happens if the pipes under Botany Bay start leaking?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The issue is framed appropriately.	
2. Does Sydney Water's response adequately address the issue? The response directly addresses the issue.	
3. What justification is made for Sydney Water's response? The response outlines accepted leak prevention and rectification procedures.	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is regarded as adequate.	
6. If not, what further response is needed to address the issue? N/a	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 10.3.2 ***What works will remain at Kyeemagh and what impact will this have on traffic and access?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The issue is framed appropriately.	
2. Does Sydney Water's response adequately address the issue? The response directly addresses the issue.	
3. What justification is made for Sydney Water's response? N/a	

4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is regarded as adequate.	
6. If not, what further response is needed to address the issue? N/a	
Panel Recommendation **Accept.**	

Sydney Water Paragraph Number – 10.3.3 ***Will the pipes rust because of the high levels of salt in desalinated water?***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? The issue is appropriately framed.	
2. Does Sydney Water's response adequately address the issue? The response directly addresses the issue.	
3. What justification is made for Sydney Water's response? Low TDS levels in treated water.	
4. What evidence is used to back Sydney Water's claims? N/a	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? The response is regarded as adequate.	
6. If not, what further response is needed to address the issue? N/a	
Panel Recommendation **Accept.**	

Section 11 – The Preferred Project

General Comments on Text

It would be very worthwhile explaining to a non-technical audience the difference between Concept Plan Approval and Project Approval.

There are some significant ambiguities surrounding the pipeline across Botany Bay. These need to be resolved in the final draft.

Specific Comments

11.1.1 – Concept Plan approval
Identify more clearly the change in dot point two. (Presumably the volume carried).

11.1.2 – Project approval
Some text is needed to indicate that the three components which are outlined in detail (desalination plant, intakes and outlets, and delivery infrastructure) are the components for which project approval is sought.

The PPR should clarify resolution of the cross-bay project issues related to Project Approval (see Panel comments on Sydney Water Paragraph Numbers 6.3.2, 6.3.4, 6.3.5, and 6.3.11, particularly in relation to submissions by DEC and DPI).

11.1.2 – Desalination Plant
Suggested change to dot point 4 to read “be powered from the electricity grid using 100% renewable energy”.

11.1.2 – Intakes and Outlets
See Panel comments on Sydney Water Paragraph 6.3.15.

11.1.2 – Delivery Infrastructure
This section implies a decision has been made on the type of pipeline being contemplated. Clarification is sought on this issue (see above comments).

Panel recommendations not fully met – No mention in 11.1.2, Desalination Plant, about the plant using 100% renewable energy.

Section 12 – Statement of Commitments

The Panel's comments on the SOCs have already been dealt with in the Submission to Sydney Water dated 7 April 2006.

Amendments for clarity

SOC 47 should be amended to be consistent with SOC10 – i.e. reference to the La Perouse Local Aboriginal Land Council should replace "relevant Local Aboriginal Land Councils".
Panel recommendation not met.

SOC 70 should be reworded for clarity and to avoid negatives: "Project Approval from the Minister for Planning will be sought prior to construction of tunnels though urban areas".
Panel recommendation not met.

Director-General's Requirements

Director-General's Requirements – Consultation Requirements

The final PPR should include the outcomes of subsequent meetings that may have occurred since the publication of the draft PPR with the agencies specifically listed in the DG Requirements. These are:

- Commonwealth Department of Environment and Heritage;
- NSW Department of Environment and Conservation;
- NSW Department of Primary Industries.

Where relevant, any further consultation with Sutherland Shire Council and the local community should be reported.

Panel recommendation not met.

Appendix C – Matters relating to the need for and alternatives to desalination

Sydney Water PPR – Appendix B ***Matters Relating to the Need For and Alternatives to Desalination.***	
1. Has Sydney Water appropriately framed the issue in terms of the public submissions? Many submissions questioned the relative merit of desalination *in comparison with* other water supply arrangements for Sydney. It is appropriate that the PPR responds broadly to the issues raised by the community.	
2. Does Sydney Water's response adequately address the issue? Appendix B addresses an array of water supply schemes, some of which may be regarded as options (such as Welcome Reef Dam) and some of which form a part of the SWC water supply portfolio (such as water efficiency schemes and water recycling for non-potable purposes). This is a significant opportunity to: • Explain that SWC has a portfolio approach, and demonstrate its merit; and • To clarify how the desalination scheme might add value to the portfolio as a part of the contingency plan. Both the above aspects gain a mention in Appendix B, but are buried in ten pages of description that would be hard-going for people unfamiliar with the issues. A particular difficulty is that there is no clear distinction between *options* and *portfolio* inclusions. And there is no consolidated enunciation of Sydney Water's comprehensive water supply portfolio.	
3. What justification is made for Sydney Water's response? This Appendix is not the place for justification. However, it is notable that a comparison of costs is made between Desalination and Indirect Potable Reuse (IPR). This comparison looses impact because Desalination is defined and sized, but there is no definition of the IPR project: its size, sewage source, or delivery point to the bulk water system. The reader has no way of assessing whether a like-with-like comparison has been made. Moreover, a weak defence of rejection of IPR is provided: "To introduce recycled water directly into the drinking water supply would not only require health studies to confirm its safety, but also major public education to communicate the safety of this concept." This statement is left hanging, as if health studies and an education program present an impassable barrier to IPR. Both would certainly be major issues if it was planned to re-entrain treated sewage into local reservoirs. But most of the submissions and comments call for treated sewage to be transported to the headwaters of Warragamba. Such a scheme would resemble the European experience with successive drawing and discharge at various river locations.	

4. What evidence is used to back Sydney Water's claims? No evidence is provided to demonstrate the relative cost-effectiveness of the community's (apparently) preferred scheme.	
5. In the opinion of the Panel, is the response *adequate* and *sufficient*? Inadequate and insufficient. The response does not represent a serious analysis of the proposals made in a large number of submissions from both community members and important stakeholders.	
6. If not, what further response is needed to address the issue? A serious analysis of suggestions should be presented and a more convincing case should be made for the SWC portfolio approach and this should be included as an important part of the PPR.	
Panel Recommendation **Further elaboration, as outlined above.** ***Panel Recommendation met – Appendix C.***	