

Further issues raised by the National Competition Council arising from Services Sydney's application for access to Sydney Water's sewerage network

1. One facility or three?

Issue 1.1

- *In its Application, Services Sydney defines the relevant facility as the Sydney Sewage Reticulation Network, which comprises the sewers that service the North Head, Malabar and Bondi sewage treatment plants. Services Sydney submits that there is a degree of physical interconnection between the North Head, Malabar and Bondi systems and refers to the Coogee diversion as an example. The National Competition Council ("NCC") has requested further details of the extent of interconnection between those systems.*

Sydney Water response 1.1

There is no physical or operational interconnection between the North Head, Malabar or Bondi systems. Services Sydney's submission on the NCC's Issues Paper ("**NCC Issues Paper**") states:

While there is not currently substantial physical interconnection between the sewers servicing the major coastal sewage treatment plants, the history of the development of these sewers demonstrates that they have become increasingly physically interconnected over many years to cater for population growth by extension, addition of sub-mains, new trunk mains and pumping stations.

For example, within the SWSOOS there have been a number of diversions and interconnections to link sewers such as the Coogee Diversion to SWOOS 1 Trunk Main Sewer in 1930, the North Georges River sub-mains (NGRS) and the Main Western Carrier (MWC) merging at Arncliffe and currently, the new sub-main connecting the Cecil Park and Daydream Carriers to Liverpool sewage treatment plant, the NGRS and ultimately to the SWSOOS 1 & 2 Trunk Main Sewers. There are also numerous examples of how the NSOOS and BOOS have become increasingly physically interconnected over time.

It is factually incorrect to say that there has been or is increasing physical interconnection between the three separate Bondi, Malabar and North Head systems. Each site from which sewage is collected belongs to one sewer catchment only. No site is connected to multiple catchments.

Coogee has never been part of the Bondi system. The reference to the Coogee Diversion is a reference to a diversion which was made to capture the flow from the Coogee outfall and divert it to the Malabar system. Coogee is not, and never has been, integrated into or connected with the Bondi system.

Issue 1.2

- *Sydney Water refers to a "systems operator" managing the entire Sydney network (paragraph 83 of Sydney Water's submission to the NCC dated 8 June 2004 ("**Sydney Water Submission**")). The NCC has requested further details on the role of such a systems operator.*
- *The NCC has also asked Sydney Water to reconcile this reference to a "systems operator" managing the entire network with Sydney Water's statements (at paragraph 42 of the Sydney Water Submission) about the lack of physical and operational integration between the three systems ?*

Sydney Water response 1.2

Each of the Bondi, Malabar and North Head systems is physically distinct and separately and independently operated. Each has a separate Sewage Treatment System ("STS") licence.

For each of the North Head, Bondi and Malabar reticulation networks there is a separate system operator who is responsible for the management of one of those systems. Each of those persons is individually responsible for the operation of each individual system and they do not work together to operate the systems as an integrated whole.

The statement on page 7 of Services Sydney's submission on the NCC Issues Paper that, "*From a practical perspective, the set of assets that make up the Sydney Sewage Reticulation Network do form part of a single operation network/facility*" is not factually correct. As described in the Sydney Water submission and clarified in this note, they are operationally separate and distinct and are managed in that way.

At paragraph 83 of the Sydney Water Submission, there is reference to the term "system operator". That is a reference to the fact that the three individual systems operators report, in an administrative sense, to one person. That person has administrative responsibility for those and other individuals but that is a management and administrative responsibility. That person is not responsible for assessing the inputs from each system operator, nor combining those to operate the system as a whole.

From an administrative perspective, Sydney Water seeks to streamline its processes as much as possible, in a similar way to any large organisation. However, there is no overall systems integration which treats or considers the three distinct networks as part of one system.

Services Sydney asserts that the "*sewers are all fully integrated and coordinated in terms of staffing, operation and maintenance, billing, common products, treatment levels and wastewater strategies for the major ocean plants*"¹. This is not a correct factual statement. As described in the previous paragraph Sydney Water does have strategies for billing and staffing which are common across the whole of the Sydney Water wastewater operation² but each system is run individually with different staff and each has a separate STS licence with the Department of Environment and Conservation. There is significant variation between the characteristics of the sewage in each system.

2. Market delineation - Heterogeneity of effluent:

Issue 2.1

- *The Sydney Water Submission states that Sydney Water cannot envisage any practicable operational or commercial arrangements that would allow a competing provider of a retail sewage collection service to establish market relationships with final customers that would bear any reference to the physical product that is able to be delivered from the customer's boundary trap via Sydney Water's transport network to Services Sydney's treatment plant (paragraph 87 of the Sydney Water Submission). Has this issue been addressed anywhere else in the world?*

Sydney Water response 2.1

While Sydney Water has not conducted any detailed investigation of this issue, it is not aware of anywhere where the issue has been addressed and a solution achieved. As set out in the Sydney Water Submission (paragraph 85), the diversity in the nature of the service is quite different from circumstances that have been encountered in establishing competition in dependent markets that share gas or electricity

¹ Services Sydney submission on NCC Issues Paper, page 7

² These are not confined to the three networks described by Services Sydney.

transportation networks, where each customer essentially receives a product of identical quality (eg, the calorific value of gas, or the voltage at which electricity is supplied).

Paragraph 4.7 of Services Sydney's submission on the NCC Issues Paper refers to the "common carriage" arrangements in the United Kingdom (UK). However, so far as Sydney Water is aware, the "common carriage" arrangements have not addressed the issue.

The "common carriage" reforms mean that companies risk infringing the *Competition Act 1998 (UK)* if they refuse access to their facilities without objective justification, or if they offer access on unreasonable terms. Sydney Water understands that the UK water regulator, OFWAT, is encouraging water companies to implement access codes, which should:

- contain enough information to enable prospective entrants to assess the viability of their common carriage proposals;
- explain the application process; and
- provide a framework for negotiation between the parties.

To this end, a Guidance was issued in 2002³ in respect of access codes for common carriage. However, the Guidance refers to common carriage of water, not wastewater. It states:

"the Guidance refers only to common carriage of water. Much of it would also apply to common carriage of wastewater, although we are not aware of any instance of this. We will give further thought to providing guidance on common carriage for wastewater, though we do not see a need for it at the moment. If companies are approached for common carriage for sewerage, they must treat it in the same way as an application for water common carriage."

Furthermore, in a consultation paper published back in 2000,⁴ the idea of common carriage for sewage was canvassed:

"Consideration should be given not just to the common carriage of water, but also to common sewerage arrangements. A number of the issues outlined above are also relevant to the common carriage of sewage (such as allocating costs across the network). But there is a variety of additional issues surrounding the common carriage of wastewater which may prove harder to resolve. For example, it is difficult to control and monitor exactly what customers discharge into a sewerage system and there are issues about mixing waste of different quality. Another consideration is how to ensure that each company extracts the appropriate volume and strength of waste products for treatment from a sewerage system that is being used for common carriage."

To Sydney Water's knowledge, these issues have not yet been resolved in the UK.

3. Market delineation – commercial interface costs

Issue 3.1

- *The Sydney Water submission provides details of the transaction costs involved in the separate provision of transmission and collection services. The NCC considers that many of the costs referred to in the Sydney Water Submission seem to be social costs, rather than costs specific to a firm. Given that criterion (a) (whether declaration promote competition in a market other than the market in which the services are provided) is concerned with the economies of joint*

³ OFWAT, *Access Codes For Common Carriage*, March 2002.

⁴ OFWAT, *Competition in the Water Industry in England and Wales*, Consultation Paper, 2000. (extract from paragraph 7.26).

production (or joint consumption), it seems appropriate to consider the costs only borne by the firm. Social costs are for consideration under criterion (f) (whether declaration is contrary to the public interest).

Sydney Water response 3.1

Sydney Water agrees that in considering economies of joint production and joint consumption, calculations are typically based on private costs⁵. The literature typically refers to external costs by definition: costs other than private costs. However, Sydney Water submits that the costs that it identifies in section 6.4 of the Sydney Water Submission are either entirely private costs or, to the extent that Sydney Water relies on those costs, they are the private costs associated with that item.

One of the categories of costs identified is "*regulatory costs, transition and ongoing costs including the costs of determining the basis on which it is appropriate to price transportation services separately from sewage collection services, the costs involved in moving to a system of costing different in kind from that used to date and considering whether any move away from postage stamp pricing is necessary or desirable*". This is a category of costs which involves both private and social costs. Private costs insofar as Sydney Water would incur such costs in the separate provision of the relevant services; and social costs insofar as there would be costs, not borne by Sydney Water, which would be incurred in establishing a system which would enable the pricing and separate provision of the relevant services.

Otherwise the costs identified are costs which would be described as private costs. If this is not clear from the way in which the categories of costs have been described in the Sydney Water Submission, the NCC should interpret the categories of costs in this way. For example, the reference to "*costs of measuring and monitoring inflows*" is intended to be a reference to the costs which Sydney Water would incur in measuring and monitoring inflows in order to enable the services to be separately provided and priced. Similarly, the capital and operating costs of engineering works required at the points of interconnection are those costs which would be incurred by Sydney Water in setting up those physical mechanisms necessary for interconnection.

Issue 3.2

- *Transportation and retail services are provided by different service providers in other network industries. Other than the heterogeneity of effluent point, is there anything about the wastewater industry that makes it different in this respect?*

Sydney Water response 3.2

Whether it is efficient for transportation and retail services to be provided separately in any given industry is something which must be analysed with respect to the costs and benefits which arise from separate provision in each industry. There is no necessary or logical consequence that if separate provision is welfare enhancing in one industry it will be so in another industry. In the context of the wastewater industry such a cost benefit analysis must be undertaken and for the reasons detailed in the Sydney Water Submission, the evidence suggests that separate provision is not efficient in this industry even apart from the heterogeneity issues.

In addition, it should be noted that there is an active debate in some industries where transport and retailing services are separately provided as to whether, in light of the experience which has occurred, such separation is efficient. There are significant risks in inferring from the existence of such separation

⁵ Social costs are the sum of the costs of an activity to society at large, taking into account not only the cost to the individual, household, firm or government undertaking the activity ("**private costs**") but also the costs to all other members of society ("**external costs**"). Social costs are therefore the real costs to society of having a good or service produced, which are generally greater than the private costs incorporated by the producer in formulating its supply curve and, thus, the market price.

that it is efficient to adopt such separation in a different industry with different characteristics and different cost structures.

Issue 3.3

- *What (if any) cost savings would Sydney Water have as a result of having different entities provide the transmission services and the collection service?*

Sydney Water response 3.3

Any costs savings would be minimal. Sydney Water's costs are dominated by the costs of the various network systems and the variable component of costs which would be saved through not processing certain volumes of waste are small.

4. Contestability of the collection market

Issue 4.1

- *The Sydney Water Submission uses the Hypothetical New Entrant Test ("HNET") approach to determine whether or not current pricing allows Sydney Water to earn monopoly profits. However, IPART uses a different approach to determining prices. The NCC has requested Sydney Water to provide further details of the HNET approach and compare that approach to the IPART approach.*

Sydney Water response 4.1

The HNET approach uses the Depreciated Optimised Replacement Costs ("**DORC**") methodology. IPART uses the Optimised Deprivation Valuation ("**ODV**") methodology.

HNET Approach

The HNET defines the price at which an efficient new entrant into a market can recover its full economic costs. Under the HNET, achieved returns (on assets valued at DORC) above a company's weighted average cost of capital are a prima facie indicator of monopoly profits, while returns below the HNET level are, by definition, less than those required for entry into a market to be viable.

DORC values assets at the replacement cost of an "optimised" asset, less accumulated depreciation. An "optimised" asset is one that most efficiently produces a specified level of product. The effects of inefficiencies such as excess capacity, duplication, redundancy and poor location are removed from the valuation. (Source: *Productivity Commission - Cost Recovery by Government Agencies*, 2001, page H7) The depreciation element adjusts the replacement cost so as to derive a value for second hand assets (which incur the costs of earlier replacement when those assets reach the end of their useful life) that would make a new entrant indifferent between acquiring existing assets, and rebuilding the system from scratch.

It is widely recognised – including by both the NCC and by the Australian Competition and Consumer Commission - that DORC represents the best estimate of the value that would attach to assets in a competitive market environment.

The estimated DORC value of Sydney Water's sewerage service assets is \$10.7 billion.

IPART Approach

In its 2003 determination (*Sydney Water: Prices of Water Supply, Wastewater and Stormwater Services from 1 July 2003 to 30 June 2005*) ("**2003 Determination**"), IPART stated that it calculated the appropriate return on assets by reference to the regulatory asset base that it established in its 2000 review of Sydney Water's prices (IPART rolled this forward into the 2003 - 2005 regulatory period by adding an allowance for prudent capital expenditure, and accounting for inflation, depreciation and asset disposal).

In IPART's 2000 determination (*Sydney Water: Prices of Water Supply, Sewerage and Drainage Services, Medium-term Price Path from 1 October 2000*) ("**2000 Determination**") it used the ODV approach in calculating the value of Sydney Water's asset base. ODV is measured by the lesser of DORC and the economic value of the asset, where the economic value is the greater of the net present value of the future revenue stream generated by the asset (minus cash operating costs) and the fair market value (the value the assets could be sold for in the open market). IPART, in its 2000 Determination, refers to "net present value" as "recoverable amount" and refers to "fair market value" as "net realisable value".

IPART decided that the ODV regulatory asset base for the entire water and sewerage service was the net present value of the assets' future revenue stream (which was greater than the fair market value but less than the DORC). This was calculated as \$5.4 billion for 1999/2000. In 2003, after adjusting the 2000 figure, IPART calculated Sydney Water's regulatory asset base at \$7.216 billion. IPART determinations do not allocate this asset base as between Sydney Water's sewerage assets and its other assets. In other words, on IPART's ODV basis the sewerage assets must be valued at less than \$7.216 billion. The estimated value of the sewerage component of Sydney Water's regulatory asset base is \$4.7 billion.

In the present case, Sydney Water's revenue has historically been held to a lower level than a competitive situation would allow. This low revenue has resulted, through IPART's valuation method, in a regulatory asset valuation that is much less than the capital costs that would be faced by a hypothetical new entrant seeking to provide either the entire sewerage service or any of its elements.

IPART calculated the WACC (real, pre-tax) range on this valuation of the regulatory asset base to be between 5.2% and 6.7%. In 2003/04, IPART expects the return on the regulatory asset base to be 5.9%. This is a lower rate than would be expected for a service provider facing competition. That Sydney Water's current rate of return is relatively low has been acknowledged by IPART, for whom an important rationale is that Sydney Water "*operates in a low-risk environment*"⁶. An important determinant of this low-risk environment is the absence of competition in wastewater markets.

Issue 4.2

- *IPART has found that cost savings can be made by Sydney Water. Services Sydney refers to this finding in its application in support of its submission that current prices are above competitive levels. The NCC has asked Sydney Water to comment on IPART's finding and its significance for the Services Sydney Application.*

Sydney Water response 4.2

IPART made findings that increased efficiencies were available for the corporate costs and the customer support areas and on this basis allowed recovery only at what it regarded as efficient cost levels. Two issues should be noted in response to this. First, Sydney Water is striving to achieve efficiencies in this area of its operations. Secondly, in the context of the Services Sydney application, there is no direct correlation in relation to the areas for efficiency improvement and the areas specific to the application.

These increased efficiencies are not significant when compared to the cost of capital.

5. Sewer mining:

Issue 5.1

- *Does the current mechanism under which sewer mining is regulated provide for any enforceable right of access or dispute resolution mechanism? Aside from price, no other terms and conditions of access are regulated. On what basis would Sydney Water refuse access to sewer mine and has it ever done so?*

⁶ 2003 Determination, page 22

Sydney Water response 5.1

There is no statutory provision which expressly requires Sydney Water to provide third parties with access to "sewer mining" or which provides a mechanism to resolve disputes concerning the terms and conditions of access to "sewer mining".

However, both Sydney Water and IPART consider "sewer mining" to be a government monopoly service which is subject to price regulation by IPART and which Sydney Water is required to provide.

The *Sydney Water Act* requires Sydney Water's Operating Licence to include terms or conditions under which the Corporation is required (relevantly):

1. to provide, construct, operate, manage and maintain efficient, co-ordinated and commercially viable systems and services for supplying water, providing sewerage services and disposing of wastewater; and
2. to ensure that the systems and services meet the quality and performance standards specified in the operating licence in relation to water quality, service interruptions, pricing and other matters determined by the Governor and set out in the operating licence.

(See *Sydney Water Act*, section 14(1)(a)).

There is no dispute resolution mechanism which applies to disputes concerning access for sewer mining purposes.

Sydney Water has not and would not deny access to the sewer mining service. Conditions could be applied to quantity, location and physical access to sewer to minimize siltation and corrosion of sewers and odour generation.

Issue 5.2

- *What commercial incentive is there to sewer mine given that treatment charges collected from customers remain with Sydney Water?*

Sydney Water response 5.2

The motivation for sewer mining does not derive principally from providing a more efficient or different sewage treatment service. Rather, it comes from the alternative uses to which that wastewater may be put (alternative, that is, to straightforward disposal to receiving waters). Such alternatives may include any industrial, commercial, agricultural or household uses that require water of less than potable quality.

While some form of treatment is likely to be required before water that has been mined from sewers can be put to one of these alternative uses, the commercial motivation arises from any difference between the cost of the necessary treatment and the value of that recycled water in its alternative application.

It is correct that the price of water mined from sewers does not involve any formal rebate on account of the "treatment charge" that is still being collected by Sydney Water. This is partly because the extent of that treatment charge for a particular customer is the subject of considerable uncertainty. Also, partly due to the industry intending to sewer mine having no relationship to the average residential customer. As far as Sydney Water is aware, no analysis has been undertaken of either the costs or avoided costs of sewer mining or of the resultant issue of whether a fully developed, cost-based price for such a service would be greater or less than the current price of zero.

More importantly, the commercial incentive to sewer mine is principally driven by:

- the price of the principal substitute for the supply of non-potable water (ie potable water); and
- the cost of any separate treatment process that may be required, net of any rebate that may be obtainable on account of the avoided costs of Sydney Water's standard treatment service.

This combination of parameters is subject to significant distortion when set against the criteria of a hypothetical new entrant price. As explained in the response to Issue 4.1, the current prices for both water and wastewater services provided by Sydney Water are well below those required to attract entry. Sewer-mining will therefore be less attractive than would otherwise be the case because:

- the cost of any separate treatment process is dictated by new entrant levels; whereas
- the value of any charges collected from customers remaining with Sydney Water would be well below new entrant levels; and
- the cost of the main competing alternative is also well below new entrant levels.

Therefore, it is not possible to establish the impact of these various distortions on the incentives for sewer mining although, clearly, it is not appropriate to consider the effect of any individual component independently of all others.

Issue 5.3

- *Potential sewer mining projects (other than SOPA) are referred to in the Sydney Water Submission. Can further details be provided?*

Sydney Water response 5.3

There have been about 10 requests for flow information for locations near golf courses but none have yet proceeded beyond this stage. These projects are still in the planning phase.

On 1 July 2004, the NSW Government introduced BASIX into the development approval system to make sure homes use less water and energy. The requirements for a BASIX Certificate with development proposals will be introduced in stages from that date. BASIX is a planning tool designed by the Department of Infrastructure Planning and Natural Resources in association with other government agencies, local government and utilities to assess the water and energy efficiency of new residential developments. BASIX is intended to reduce water consumption by 40% and energy consumption by 20% in all houses. In order to achieve the 40% water reduction, grey water reuse, rainwater tanks and dual reticulation (recycled water or water re-use) will be incorporated. Accordingly, Sydney Water anticipates that the new BASIX requirements are likely to generate more requests for sewer mining as developers seek ways to reduce their water consumption.

Issue 5.4

- *What is the historical context to sewer mining? How did IPART come to regulate price? Is the practice industry recognised elsewhere in the world?*

Sydney Water response 5.4

IPART considers that sewer mining is a "sewerage service" which constitutes a government monopoly service and which is subject to price regulation by IPART under section 11 of the IPART Act.

IPART came to regulate the price of sewer mining through the inclusion of sewer mining as a government monopoly service. In Determination No. 6, 17 June 1996, *Sydney Water Corporation Prices of Water Supply, Sewerage and Drainage Services Medium term price path from 1 July 1996 ("1996 Determination")*, IPART stated:

"The Tribunal intends to introduce a new charge for "sewer mining" (i.e. extraction of wastewater prior to any treatment). This will require Tribunal declaration of the relevant service and resolution of issues such as access to Sydney Water's sewer main."

In 1997, the following services of Sydney Water were declared as Government monopoly services under the *Independent Pricing and Regulatory Tribunal (Water, Sewerage and Drainage Services) Order 1997 ("Order")*:

1. water supply services,
2. sewerage services,
3. stormwater drainage services,
4. trade waste services
5. services supplied in connection with the provision or upgrading of water supply and sewerage facilities for new developments and, if required, drainage facilities for such developments
6. ancillary and miscellaneous customer services for which no alternative supply exists and which relate to the supply of services of a kind referred to in paragraphs (a) to (e),
7. other water supply, sewerage and drainage services for which no alternative supply exists.

IPART refers to sewer mining as a sewerage service "*under paragraph (b) of the Order*".⁷ Sewer mining is therefore a government monopoly service..

As set out in section 10 of the Sydney Water Submission, under section 11 of the *Independent Pricing and Regulatory Tribunal Act*, IPART is permitted to undertake investigations on the pricing of sewer mining.

There is evidence that sewer mining takes place on an ad-hoc basis in other Australian jurisdictions: A document entitled "*Water Recycling Scenarios for Melbourne*" prepared by the Department of Sustainability and Environment and Melbourne Water, City West Water, South-East Water and Yarra Valley Water in September 2003) notes that:

"Sewer mining to date has only been applicable in situations where there is a severe shortage of water. A project supported by the governments smart water fund is about to trial a non-biological process with the potential to break through the current unit price by about 30%. Recent demonstrations of sewer mining have been conducted at the Domain and Albert Park... The water industry is investigating sewer mining opportunities to irrigate golf courses, sporting fields and industry in Kooyong and Yarra Bend and are pursuing many favourable opportunities such as the scheme at Albert Park.

Within 12 months through the completion of existing proposed schemes, the water industry will be in a position to more accurately determine the costs and benefits of sewer mining opportunities."

Internet searches reveal the following:

- (a) In the ACT, at Southall Park, wastewater is extracted from a sewer and treated to a high-quality for irrigation use.
- (b) Cranbourne Sewer Mining Facility near Melbourne has been in operation since 1974. The average daily flow is 1,300kL.
- (c) The South Australian State Government has worked with the Salisbury City Council on well published sewer mining projects.
- (d) Flemington Racecourse in Melbourne uses a sewer mining process.

⁷ 2003 Determination, Schedule 2

6. National significance

Issue 6.1

- *Please provide details of the length of each of the three systems, throughput, asset value etc*

Sydney Water response 6.1

The lengths of each of the three systems are as follows:

- North Head Reticulation Network: 6,083 km;
- Bondi Reticulation Network: 762 km;
- Malabar Reticulation Network: 7,154 km.

Existing sewage throughput levels (average dry-weather flows) for each of the three systems are as follows:

- North Head Reticulation Network: 313 ML/day;
- Bondi Reticulation Network: 130 ML/day;
- Malabar Reticulation Network: 480 ML/day;

This gives a combined total average flow of 923 ML/day.

Information on the depreciated optimised replacement cost is at paragraph 63 of the Sydney Water Submission.

7. Costs and benefits of declaration

Issue 7.1

- *What (if any) cost savings would Sydney Water have as a result of treating a lower quantity of effluent as a result of competition?*

Sydney Water response 7.1

In wastewater operations the capital costs far outweigh the operational costs. Depending on how much lower the quantity of effluent is, the cost saving is potentially insignificant. Cost savings would arise from reduced electricity and chemical requirements, which represent approximately 10% of the operating costs of a treatment plant, and from the reduced quantity of biosolids which Sydney Water would be required to remove and dispose of. Operating a treatment plant has inherent costs regardless of the quantity of effluent treated at that plant. Services Sydney states in its submission on the NCC Issues Paper that it does not predict a large change in the volume of flow going to Sydney Water's treatment plants. Based on this and the costs of constructing a competitor's infrastructure, any cost reductions due to reduced flow are likely to be insignificant.

Issue 7.2

- *What would be the magnitude of cost of addressing the problem of ingress of sea water if flows drop below 40% of current levels identified at paragraph 124 of the Sydney Water Submission?*

Sydney Water response 7.2

Sydney Water does not see an easy way of increasing the pressure of lower flows discharging from the deep ocean outfalls. As two of the systems (North Head and Malabar) are gravity fed, the required

changes to these systems would be substantial. If lower flows were to ensue, then the ocean ingress problem is best addressed by treating both wet and dry weather flows and progressively abandoning the ocean outfalls as ingress reduces their capacity. Sydney Water does not have any estimates of the magnitude of costs associated with abandoning ocean outfalls.

Issue 7.3

- *A significant number of submissions have been received in support of the environmental benefits purported to arise from Services Sydney's proposal. Will the process of competition (as opposed to Services Sydney's proposal in particular) necessarily lead to positive environmental outcomes through for example, new entrants being more likely to treat effluent in a greener way because of cost reasons or to attract market share?*

Sydney Water response 7.3

Competition will not, of itself, necessarily lead to environmental benefits.

The environmental outcomes in relation to wastewater treatment in the Sydney region are determined by the Department of Environment and Conservation, which acts on behalf of the community to determine the environmental performance that is expected from Sydney Water's wastewater assets and reflects these in its Environment Protection Licence conditions. These conditions might relate to the leakage and or overflows from the system of pipes and pumps (i.e. the sewerage reticulation network) or the level of treatment at sewage treatment plants prior to the discharge of effluent to the environment, or other issues such as odour control etc. These conditions in the system licences establish the prioritisation of environmental benefits, as well as the levels of performance to be achieved.

Any environmental benefits arising from Services Sydney's proposal would be determined by the terms and conditions of the Environmental Protection Licence that would need to be issued to it. This process does not involve 'competition' in the conventional sense of the term but, rather, an administrative decision-making process that takes into account a very wide range of financial and non-financial considerations.

8. Other dependent markets

Issue 8.1

- *Very little information has been provided in respect of the treated wastewater services market and the bio-solids treatment and disposal market.*
- *Please consider the declaration criteria in respect of these dependent markets.*

Sydney Water response 8.1

Sydney Water has treated the application as it has been presented by Services Sydney.

To the extent that there are other markets such as those identified by the NCC, Sydney Water submits that any promotion of competition in those markets would not come from declaration because there is currently scope for entry into those markets through the process of sewer mining.

As the NCC is aware, the maximum charge which may be levied by Sydney Water for the extraction of wastewater from its sewerage system prior to treatment is zero. Sydney Water is not aware of submissions being made to IPART that this should in fact occur on a negative cost basis but, in principle, such an argument would seem to be available.

9. Overseas experience

Issue 9.1

- *There is no discussion in the Sydney Water Submission of any competitive sewage services provision models used overseas. Please discuss any relevant overseas competitive sewage services provision models.*

Sydney Water response 9.1

See Sydney Water's response to Issue 2.1 (above). Sydney Water has not conducted any research of international sewerage service provision models but limited web-searches and interviews of Sydney Water technical staff have not uncovered any international instances of competitive sewage provision.

10. Terminology

Issue 10.1

- *The Sydney Water Submission uses the term “transportation” as commonly used in the industry. What does this term include - transportation in the pipes only? Or also interconnection?*

Sydney Water response 10.1

In the wastewater industry the term transportation is generally used to describe the movement of sewage via the system of small pipes, big pipes, pumping stations, weirs, syphons etc from the point of sewage generation to the point of treatment and disposal.

Interconnection is the piece of infrastructure required to enable the transfer of sewage that has been transported part of the way along Sydney Water's infrastructure to be transported to wherever the third party wants to treat/dispose reuse etc. A transport service of the type contemplated by Services Sydney's proposal cannot exist without an interconnection point, however, interconnection has a separate function, for example, in sewer mining.

Issue 10.2

- *Are the definitions of the North Head Reticulation Network, Bondi Reticulation Network and Malabar Reticulation Network used in the Sydney Water Submission synonymous with the NSOOS, BOOS and SWSOOS as used in Services Sydney's application respectively?*

Sydney Water response 10.2

On one reading of the way in which the terms the NSOOS, the BOOS and the SWSOOS are defined in Services Sydney's application, they are defined to include the treatment plants attached to the relevant reticulation networks. The purpose of using a separate definition was to make it clear that when Sydney Water was using those terms it was not incorporating the treatment plants within the defined terms.