

Application by Services Sydney for Declaration of Sewage Transmission and Interconnection Services Provided by Sydney Water

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1. Executive summary

1.1 Scope of Sydney Water response

1. This application ("**Application**") lodged by Services Sydney Pty Limited ("**Services Sydney**") for declaration of the "Transmission Service" and "Interconnection Service" is the first application for access to waste water infrastructure under Part IIIA of the *Trade Practices Act* 1974 (Cth) ("**TPA**"). Sydney Water Corporation ("**Sydney Water**") is the service provider of the services identified in the Application and responds to the Application as service provider by examining the Application against the criteria set out in section 44G of the TPA.
2. The NSW Government is responsible for policy development and regulatory standards in the area of water management and in this submission Sydney Water does not seek to articulate a particular policy outcome. In addition, the NSW Government has a process for evaluating private sector involvement in Government projects which are detailed in the Working With Government Guidelines. The underlying merit of the Services Sydney proposal is a matter of policy for the NSW Government to determine and is not an issue on which Sydney Water expresses any view.
3. From Sydney Water's perspective, efficient management of the water cycle in order to provide safe, environmentally sound and best value water services to Sydney is crucial. Sydney Water is keen to facilitate developments which, consistent with NSW Government policy, bring such benefits to the community.
4. Sydney Water supports in-principle the 'pro-competitive' policies under the National Competition Policy Framework and in particular the provisions relating to third party access to appropriate nationally significant infrastructure facilities. However, they must be applied in a way that recognises the circumstances of each industry.

1.2 What is sought in the Application?

5. Whilst there are some similarities between the network of sewerage pipes that serve the Sydney region and the gas reticulation networks that serve the region, there are also some key differences which have particular implications in considering third party use of the services for which declaration is sought.
6. One feature of waste water collection and transport systems, that make them different from other pipe transport systems, is that the inputs from customers vary, not simply in terms of volumes, but also in terms of the characteristics of what is put into those systems. The characteristics of gas to be put into a pipeline are strictly specified. On the other hand, the characteristics of waste water produced by domestic customers are very different from those

produced by trade customers yet waste from both sources becomes intermingled in the pipe system. When waste water is extracted from a trunk line, it represents an average of the waste characteristics from the different sources. There is no correlation between waste from any particular customer and the waste water which may be extracted at a particular point on the network.

7. This is a problem which appears to be recognised internationally. It is an issue which has been the subject of debate but, from its investigations, Sydney Water has not discovered any waste water system which has divided functionally between collection and transportation in the way proposed by Services Sydney. This appears to be recognition of the problems identified above.¹
8. The way in which Sydney Water currently operates, and the regulatory system which applies to water and waste water management, allows people, like Services Sydney, to take that average load flow waste, treat it and dispose of it as they wish to, subject to complying with any applicable laws and regulations. This is the process known in the industry as sewer mining. The price for sewer mining is regulated by the Independent Pricing and Regulatory Tribunal of New South Wales ("**IPART**"), which grants free access for extraction of effluent from Sydney Water's sewerage system prior to treatment, other than the capital costs of providing access. Sydney Water facilitates a range of sewer mining projects under this framework and is keen to encourage water recycling projects where it is safe, environmentally sound and consistent with good management of water demand issues to do so.
9. For the reasons given in section 11, benefits which may arise from alternate treatment no declaration application of the type currently under consideration needs to be made to achieve sewer mining.
10. By this Application, Services Sydney wants, in addition to taking the average waste load sewerage from the main trunk network, to negotiate with waste producers (ie: customers) to acquire their waste at the boundary trap and then use the transport services of Sydney Water to take it from the customers' boundary trap to a point along the main trunk sewer where an average load of waste, equal to the relevant customer's volumes, would be taken. Services Sydney then proposes to treat it as it would if it had sought simply to pursue sewer mining.

1.3 Critical issues in the Application

11. For declaration to be granted, the Council must, amongst other things, be satisfied that:

¹ Internationally the area where functional separation sometimes occurs is in the treatment and disposal. This currently occurs in New South Wales under the sewer mining mechanisms described later in this submission.

- (i) the transport of sewage is in a separate market from the Sewage Collection Market as defined in the Application;
 - (ii) doing what is proposed will achieve a greater level of competition than can be achieved through the current sewer mining processes; and
 - (iii) the costs that would necessarily be borne in establishing the mechanism to enable the system necessary for the Services Sydney proposal to operate as proposed would be outweighed by the benefits which can be achieved.
12. The Application does not establish these things and, in Sydney Water's submission, there is no basis upon which the Council could be satisfied as to these matters. Sydney Water's examination of the Application against the criteria set out in section 44G of the TPA demonstrates that, at least, criteria (a) regarding the promotion of competition and criteria (f) regarding the demonstrated public interest of declaring the services are not satisfied.²
13. To show that the transport of sewage is in a separate market from the Sewage Collection Market, it must be possible to develop a commercial interface between the transport service and the customer collection activity. In other words, it must be possible to set a meaningful price for the exchange. A meaningful price would exist where the arrangements between Sydney Water and Services Sydney allowed the different acts of collection and transport to be coordinated and the costs of providing the service to be covered. If it is not possible to set such a price, then from a commercial and economic perspective, the activities are part of an integrated whole and cannot be separated.
14. Hence, it is not possible to determine a price for the transport services that Services Sydney seeks other than in a purely arbitrary way,³ because the end product bears no resemblance to the input product. A price which is set in a purely arbitrary way does not achieve the objects which price setting are designed to achieve.
15. Sewerage services are declared to be Government monopoly services under the *Independent Pricing and Regulatory Tribunal (Water, Sewerage and Drainage) Order No. 18* and accordingly are regulated by IPART. IPART's regulatory mechanisms, which include the review of Sydney Water's Operating Licence, in addition to its specific price setting roles, ensure that there is a fair and reasonable basis set by Sydney Water for total sewerage charges

² For reasons detailed later in this submission it is, in fact, Sydney Water's submission that none of criteria (a), (c), (e) or (f) are satisfied.

³ For example: by simply dividing the total number of customers by the total level of costs.

to customers and for sewer mining if parties, like Services Sydney, wish to establish alternate treatment and disposal. Therefore, unlike many industries, in which declaration has arisen, Sydney Water has no ability to exercise any market power which it may have as a result of its ownership of the reticulation network.

16. There is, therefore, already a mechanism, with regulated prices, by which Services Sydney could achieve the treatment and disposal outcomes which it seeks. There is no promotion of competition or public benefit arising from structuring the arrangements in the way suggested by Services Sydney.
17. The current system also forms part of a broader system of management of the water cycle, from collection of rain water, provision of drinking water and removal, treatment and disposal of waste water. That system performs well and has been endorsed by a range of organisations. It delivers to customers a commercial solution which represents good value for the substantial investment which has been made and it is a system, which has, through the course of environmental monitoring over a period of 10 years, been established not to have adverse environmental impacts.

1.4 Summary of assessment against criteria

No relevant service

18. The Application seeks declaration of two services on the basis that there is one facility which is described as "the Sydney Sewage Reticulation Network" and which is said to provide the Transmission Service and Interconnection Service. What the Application describes as "the Sydney Sewage Reticulation Network" is not an integrated network. The services for which declaration is sought are in fact provided by three separate networks of reticulation systems which are operationally separate and geographically distinct from one another, being the North Head Reticulation Network, the Bondi Reticulation Network and the Malabar Reticulation Network, each of which leads to separate and distinct treatment plants with different characteristics.
19. Given the nature of the infrastructure involved, the Application should have sought declaration of three separate "Transmission Services" and three separate "Interconnection Services" each specific to the relevant reticulation networks. As currently framed, neither of the services for which declaration are sought can be properly described as services within the meaning of Part IIIA because the facility said to provide them is not one facility.

Uneconomical to develop another facility (criterion (b))

20. Even when analysed as six separate services and three separate facilities, it would be uneconomical to develop alternate infrastructure to provide the relevant services.

Promotion of competition (criterion (a))

21. Declaration of the relevant services would not promote competition in any Sewage Collection Market (as defined in the Application) because:
- (i) there is no market for the provision of transportation services which exists separate from the Sewage Collection Market as transportation is not economically separable from the bundle of services which make up the Sewage Collection Market;
 - (ii) If the Council considers that transportation can physically and economically be separated from that bundle, declaration of the "Transmission Service" and the "Interconnection Service" will nonetheless not promote competition in any Sewage Collection Market.

National significance (criterion (c))

22. When examined as three separate facilities it is unlikely that any of the Sydney Water reticulation networks satisfy the national significance test.

Health and Safety (criterion (d))

23. Sydney Water considers that access to the "Transmission Service" and the "Interconnection Service" could be provided without undue risk to health and safety. However, approvals would need to be obtained and there may be some changes required to relevant health and safety regulations. This is a matter for the NSW Government and not an issue for Sydney Water.

Effective access regime (criterion (e))

24. The IPART regulatory regime does not constitute an access regime for access to the "Transmission Service" but does provide an access regime for the "Interconnection Service". IPART's regulation of "Interconnection Service" is in the form of pricing controls over the service of 'sewer mining' provided by Sydney Water. Sewer mining involves the extraction of sewage from Sydney Water's sewers prior to treatment. By definition, sewer mining requires interconnection with Sydney Water's sewers.

Public interest (criterion (f))

25. Declaration of the relevant services is contrary to the public interest because:
- (i) the heterogeneity of waste means that the most efficient structure is vertical integration of the collection and transport functions and significant efficiencies would be lost by declaration;

- (ii) any promotion of competition which is said to result from a third party providing alternative treatment and disposal services is available through sewer mining without the need for declaration;
- (iii) the costs of regulation are substantial in this case, particularly given the costs involved in unbundling pricing and the costs of measuring flows on an individual customer basis;
- (iv) the price of the total sewerage service and of sewer mining is regulated through a process in which interested parties have an opportunity to participate, thus constraining any market power which may otherwise exist; and
- (v) there are significant cost, risk allocation and liability issues associated with functional separation of collection and transport.

26. In essence, Sydney Water believes that the criteria for declaration set out in section 44G of the TPA have not been met. The collection of waste water does not lend itself to an access model in the way envisaged by the Application. Significant community costs would be incurred by declaring the “Transmission” and “Interconnection” services, particularly in light of the current arrangements for the private sector to engage in additional recycling including through sewer mining at a price set by IPART. Specifically, Sydney Water stands ready to make its waste flow available for treatment and disposal via sewer mining as regulated by IPART or determined by the NSW Government.

Structure of this Submission

27. This submission is divided into the following sections:

- Section 1 - Executive summary
- Section 2 - Relevant information on Sydney Water Corporation
- Section 3 - The Service and the Facility
- Section 4 - The Criteria
- Section 5 - Criterion (b) - Economic to develop another facility
- Section 6 - Criterion (a) - No separate market
- Section 7 - Criterion (a) - Promotion of competition
- Section 8 - Criterion (c) - National significance
- Section 9 - Criterion (d) - Health and safety

Section 10 - Criterion (e) - No effective access regime
Section 11 - Criterion (f) - Public interest
Section 12- Duration of Declaration

2. Sydney Water Corporation – The Regulatory Framework

2.1 The Constituting Legislation

28. Sydney Water is a statutory corporation established under the *Sydney Water Act 1994 (NSW)* ("**Sydney Water Act**") with objectives which, amongst other things, require it to:
- (i) operate at least as efficiently as any comparable businesses; and
 - (ii) exhibit a sense of social responsibility by having regard to the interests of the community in which it operates; and
 - (iii) protect the environment by conducting its operations in compliance with the principles of ecologically sustainable development contained in section 6 (2) of the *Protection of the Environment Administration Act 1991 (NSW)* ("**POEA Act**"); and
 - (iv) protect public health by supplying safe drinking water to its customers and other members of the public in compliance with the requirements of any operating licence.⁴
29. The regulatory environment provides a high level of control over the activities of Sydney Water which is consistent with the nature of the activities it carries out and the implications of those activities for environmental, public health and safety matters.
30. Section 12 of the *Sydney Water Act* provides that an Operating Licence can be issued to regulate the manner in which Sydney Water provides, constructs, operates, manages or maintains systems or services for any or all of:
- (i) storing or supplying water;
 - (ii) providing sewerage services;
 - (iii) providing stormwater drainage systems;
 - (iv) disposing of waste water.
31. Sydney Water's Operating Licence requires Sydney Water to provide the services specified in the Operating Licence within metropolitan Sydney, Illawarra and the Blue Mountains as that is the geographic scope of the Operating Licence.

⁴ *Sydney Water Act* - Section 21

32. The Operating Licence places numerous terms and conditions on Sydney Water in providing the various services and systems. There are penalties payable under section 19 of the *Sydney Water Act* for contravention of the Operating Licence.
33. Pursuant to clause 10 of the Operating Licence, there is an annual independent audit of Sydney Water's Operating Licence commissioned by the Independent Pricing and Regulatory Tribunal ("**IPART**").
34. Section 55 of the *Sydney Water Act* establishes the Customer Contract, which sets out the relationship between Sydney Water and its customers. IPART makes recommendations to Government about the terms and conditions of the Customer Contract when it is reviewed as a schedule to Sydney Water's Operating Licence. The Customer Contract is created by statute and its terms and conditions are required by section 54 of the *Sydney Water Act* to be set out in the Operating Licence. An owner of land that is lawfully connected to a sewer main owned by Sydney Water is taken to have entered into the Customer Contract for the provision of sewerage services to the land.⁵ Sydney Water is permitted to impose fees or charges for or in connection with sewerage services provided by Sydney Water.⁶ Variation of the terms and conditions of the Customer Contract (other than variations to fees and charges or other matter subject to an IPART determination) is subject to the Governor's approval. Variation to fees and charges is subject to IPART approval.⁷

2.2 Other legislation relevant to the operations of Sydney Water

35. In addition to the strict regulatory parameters imposed by the *Sydney Water Act*, the Operating Licence and the Customer Contract, the services supplied by Sydney Water are regulated specifically by a number of Acts and regulations, including⁸:
- (i) *State Owned Corporations Act 1989 (NSW)* ("**SOC Act**");
 - (ii) *Independent Pricing and Regulatory Tribunal Act 1992 (NSW)* ("**IPART Act**");
 - (iii) *Protection of the Environment Operations Act 1997 (NSW)* ("**POEO Act**");
 - (iv) *Public Health Act 1991 (NSW)* ("**Public Health Act**");
 - (v) *Environmental Planning and Assessment Act 1979 (NSW)* ("**EPA Act**");

⁵ *Sydney Water Act* - section 55.

⁶ *Sydney Water Act* - section 60.

⁷ *Sydney Water Act* - section 59.

⁸ Other regulatory restrictions on Sydney Water relating to health and safety are described in section 9.3 of this submission.

(vi) *Heritage Act 1977 (NSW)* ("**Heritage Act**").

36. Sydney Water is also required to comply with the terms and conditions of various licences. Breach of those licence conditions in some circumstances is a strict liability offence and limited defences apply. These licence conditions and the circumstances in which Sydney Water may be held to be criminally liable, for a breach of those conditions as a result of an act or omission of another person (such as a third party access seeker), are discussed in greater detail in Appendix D and sections 9 and 11 of this submission.
37. It is not proposed in this submission to undertake a detailed review of all the applicable legislation. At Appendix A, a summary of the scope of key legislation concerning the provision of sewerage services by Sydney Water is provided. Otherwise where legislation is applicable to a particular criterion, it is considered in detail against that criterion and in Appendices B, C and D.

3. The Service and the Facility

3.1 The terms used in the Application

38. The Application seeks declaration of two services:

- (i) the "Transmission Service", which is described in the Application as being "a service for the transmission of sewage via Sydney Water's Sydney Sewage Reticulation Network from the Customer Collection Points to the Interconnection Points"⁹; and
- (a) the "Interconnection Service" which is described in the Application as being "a service for the connection of new trunk main sewers owned and operated by Services Sydney to the existing Sydney Sewage Reticulation Network at the Interconnection Points."¹⁰

39. The Application seeks declaration on the basis that there is one facility which it describes as "the Sydney Sewage Reticulation Network" and which is said to provide the Transmission Service and Interconnection Service. What the Application describes as "the Sydney Sewage Reticulation Network" does not reflect the operational or commercial circumstances faced by Sydney Water. The greater Sydney area is in fact served by twenty seven operationally distinct reticulation systems and thirty-one sewage treatment plants. The Application covers three separate networks, each of which is operationally separate and geographically distinct from each other, being the *North Head Reticulation Network*, the *Bondi Reticulation Network* and the *Malabar Reticulation Network*. Each of these networks is linked to a treatment plant, each of which is also operationally separate and geographically distinct.

40. The Transmission Service and the Interconnection Service as defined in the Application do not involve the use of the entirety of the reticulation networks which make up the "Sydney Sewage Reticulation Network". Rather, they involve use of three facilities, being the three separate reticulation networks referred to in paragraph 39 above. The Application is therefore flawed, in that there is not one facility providing the two services of which declaration is sought. Under regulation 6A of the *Trade Practices Regulations 1974 (Cth)* an application must be made "in respect of a particular service" and must include certain information, including a description of the service and the facility used to provide the service.

⁹ See Application, p.17. The term "transmission service" is not one which is used in the waste water industry. The term used in the industry is that of transportation and that is the term which Sydney Water will use in this submission, except where specific reference is being made to the terms used in the Application.

¹⁰ Ibid. The term "interconnection service" is not one which is used in the waste water industry. Except in the context of sewer mining, the term used in the industry is that of transportation, and that is the term which Sydney Water will use in this Submission, except where specific reference is being made to the terms used in the Application.

Because of the misdescription of the facility and consequently the service, there is no "service" within the meaning of s44B which is identified and described in the Application for the purposes of regulation 6A.

41. The only way in which the Application can properly be analysed is if it is regarded as an application for declaration of services specific to the relevant individual reticulation networks.
42. The North Head, Bondi and Malabar Reticulation Networks are three separate reticulation networks. Each reticulation network is a distinct facility because:
 - (i) the three systems are not physically connected;
 - (ii) the three systems have different size, population density and wastewater quality condition;
 - (iii) the three systems are each operated independently;
 - (iv) the system hydraulic characteristics are unique to each of the three systems;
 - (v) the New South Wales Department of Environment and Conservation treats these systems as three separate systems with three separate licences;
 - (vi) each system drains geographically and topographically distinct areas;
 - (vii) the ratio of dry to wet weather flows is a distinct characteristic of each network (for example, the Bondi Reticulation Network has a high wet weather/dry weather flow ratio experience compared to the North Head Reticulation Network).
43. The consequence of finding that the three systems are separate facilities is that, in effect, this is an application for declaration of:
 - (i) transportation of sewage from the Customer Collection Points to the Interconnection Points located on the North Head Reticulation Network and interconnection at those points;
 - (ii) transportation of sewage from the Customer Collection Points to the Interconnection Points located on the Bondi Reticulation Network and interconnection at those points;
 - (iii) transportation of sewage from the Customer Collection Points to the Interconnection Points located on the Malabar Reticulation Network and interconnection at those points.

4. The Criteria

44. Six criteria must be satisfied under section 44G of the TPA in order for access to a service to be "declared". Sydney Water addresses these criteria in the order that they are considered in the Council's publication "*The National Access Regime: A Guide to Part IIIA of the Trade Practices Act 1974*".

5. Criterion (b) – that it would be uneconomical for anyone to develop another facility to provide the service

5.1 Summary

45. Sydney Water accepts that this criterion is likely to be satisfied even when it is considered by reference to the three separate facilities. Accordingly, the treatment of this criterion in this submission is relatively brief. It does contain an outline of anticipated demand, capacities of the respective networks and existing throughput levels as this material is likely to be useful to the Council in considering the Application.

5.2 The test

46. The Tribunal has recognised on several occasions that criterion (b) is intended to limit declaration to services provided by a facility that exhibits natural monopoly characteristics – that is, one firm can meet the entire range of relevant demand at a lower cost than two or more firms.¹¹

47. In the *Sydney Airport* decision, the Tribunal said that the term "uneconomical" should be construed in a social cost-benefit sense, rather than in terms of private or commercial interests:

*"The Tribunal considers... that the uneconomical to develop test should be construed in terms of the associated costs and benefits for society as a whole."*¹²

48. This test has been endorsed by the Tribunal in subsequent decisions and consistently applied by the Council.¹³

49. To determine whether it is uneconomical to develop another facility one asks whether, for the likely range of reasonably foreseeable demand for the services, it would be more efficient, in terms of costs and benefits to the community as a whole for one facility to provide those services rather than more than one.¹⁴

¹¹ *Review of Freight Handling Services at Sydney International Airport* (2000) ATPR 41-745 ("**Sydney Airport**") at para 82; *Duke Eastern Gas Pipelines Pty Ltd* (2001) 162 FLR 1; (2001) ATPR 41-821 ("**Duke EGP**").

¹² *Ibid.*

¹³ *Op. cit.* at paras 204 and 205.

¹⁴ See, for example, *Duke Eastern Gas Pipelines Pty Ltd* (2001) 162 FLR 1; (2001) ATPR 41-821

5.3 Analysis

50. The services for which declaration has been sought are separate Transmission and Interconnection Services. As set out in section 3.1 above, these services are provided by three separate geographically defined reticulation networks. For the purpose of determining whether it is uneconomical to develop another facility, Sydney Water considers that the facilities at issue are the North Head Reticulation Network, the Bondi Reticulation Network and the Malabar Reticulation Network.
51. To determine whether it would be more efficient for a service to be provided by one facility rather than two or more, it is necessary to examine demand for each of the services, and the capacity of each of the existing facilities. It is not in dispute that it would be extremely costly¹⁵ to build new facilities to provide the relevant services. Given this, it is clear that, if existing (or potential) capacity is sufficient to meet reasonably foreseeable demand for the service provided by each of the three facilities, then it would be inefficient for a potential third party to duplicate the existing facilities. In the present case the costs include not only the financial expense but also the issues arising from any such development being carried out over both publicly and privately held land and the issues involved in undertaking any such activity.¹⁶
52. The likely range of reasonably foreseeable demand for the sewage transportation services should be considered over an appropriate time frame, say, fifteen years.
53. Sewerage services are consumed jointly with urban water supply services and, in Sydney Water's experience, around 70% of water supplied to customers will be returned to the sewerage system. The key factors that influence water demand in the Sydney area, according to IPART, include population growth, the weather (both rainfall and temperature), and the adoption of water saving technologies and practices by customers.¹⁷ According to IPART, the level of water demand has remained fairly constant at around 600 gegalitres (GL) per annum since 1976, despite significant population growth in Sydney over this period. In part, this reflects efforts to reduce water demand, which have been encouraged by Sydney Water.

¹⁵ The application by Services Sydney states at p23 that the "Sydney Sewage Reticulation Network" would require capital expenditure of approximately \$15 billion to replace. Sydney Water considers that this is an over-estimate (see paragraph 65) below. However, nothing turns on this difference for the purpose of assessing this criterion.

¹⁶ Sydney Water has statutory power to access land for the purposes of carrying out the activities required of it under its Operating Licence - see Appendix C.

¹⁷ IPART determination 4, "Sydney Water: Prices of Water Supply, Wastewater and Stormwater Services, From 1 July 2003 to 30 June 2005." ("**IPART Determination for 2003-05**"), p37.

54. Demand for sewage transportation services needs to be considered both in terms of dry weather and wet weather. In wet weather, all sewerage systems suffer a degree of rainwater ingress,¹⁸ which is an intrinsic feature of a largely non-pressurised liquid transportation network. Rainwater ingress can be many times the dry weather flow volume.
55. Existing sewage throughput levels (average dry-weather flows) for each of the facilities are as follows: North Head Reticulation Network; 313 ML/day; Bondi Reticulation Network; 130 ML/day and Malabar Reticulation Network; 480 ML/day.
56. Population growth can play a significant role in determining the level of demand for sewage transportation services. The current populations served by the three networks are: North Head Reticulation Network; 1,115,231; Bondi Reticulation Network, 261,132; and Malabar Reticulation Network, 1,492,493. Population growth in the areas served by the facilities over the next fifteen years is expected to average approximately 10%. Given that IPART and Sydney Water continue to encourage customers' adoption of water saving technologies and practices, the level of demand for sewerage services is not expected to increase at the same rate as growth in population. As a conservative estimate, however, Sydney Water might assume that demand will increase by 0-10% over existing throughput levels, over the next fifteen years. Using this estimate, the likely range of reasonably foreseeable demand (average dry-weather flows) for the sewage transportation services, over the next fifteen years, are as follows: North Head Reticulation Network, 313 – 344 ML/day; Bondi Reticulation Network, 130 – 143 ML/day; and Malabar Reticulation Network, 480 – 528 ML/day, for a combined total of 923 – 1015 ML/day.¹⁹
57. Sydney Water's own system planning looks even further ahead than this. Sydney Water's forecast dry weather flow in 2031 is: North Head Reticulation Network: 400 ML/day; Bondi Reticulation Network: 160 ML/day; Malabar Reticulation Network: 550 ML/day; to give a combined total average flow of 1110 ML/day.
58. The sewerage system has to meet a number of capacity-related requirements. The capacity must be sufficient to ensure that the system does not overflow in dry weather. Dry weather capacity is also determined by the depth at which maintenance work can be carried out, ie, the need, in some instances, to physically access large sewers for ongoing maintenance and repairs. Minimum average flows need to be such that the depth of flow within the sewer will still permit access by workers.

¹⁸ Wet weather flows enter the system primarily via cracks, faults and illegal connections.

¹⁹ Sydney Water total: 1195 – 1255 ML/day.

59. Sewage reticulation networks must also be designed to manage wet weather flows. The difference between dry and wet weather flows varies greatly across Sydney Water's sewerage reticulation systems. Overall, wet weather flows represent about 10% of the yearly average flow.
60. The potential volume of storm water flows that may enter the sewerage system in extreme wet weather is such that it is not economically viable to design the sewerage system to fully contain such flows. This must be taken into account when considering the capacity of the sewerage system. Even though the sewerage system has the capacity to transport several times the dry weather flows, overflows will still occur from the system when capacity is exceeded in wet weather. The frequency of overflows in these coastal systems is currently 150 – 250 events per ten years.
61. For the North Head Reticulation Network system, the peak Wet Weather Flow ("WWF") that can be conveyed to the sewage treatment plant is 1400 ML/day (approximately four and a half times the dry weather flow). For the Bondi Reticulation Network, the peak WWF that can be conveyed to the sewage treatment plant is 700 ML/day (over five times the dry weather flow) while, for the Malabar Reticulation Network, the peak WWF that can be conveyed to the sewage treatment plant is 1350 ML/day (almost three times the dry weather flow). All the sewage treatment plants have adequate hydraulic and treatment capacity (with proposed reliability improvements) to cater for these flows.
62. Sydney Water has planned for the flow forecasts outlined above. The current programme of works includes relatively minor upgrades to areas of the networks likely to experience high demand growth. Sydney Water is confident that the capacity of the sewerage reticulation system will be sufficient to meet anticipated dry-weather demand over the next twenty to thirty years.²⁰
63. The Applications set out an estimated replacement cost of all the assets comprising the Sydney Sewerage Reticulation Network at \$15 billion. Sydney Water estimates that the depreciated optimised replacement cost for each of the facilities is as follows:
- (i) \$2,243.6 million for the North Head Reticulation Network;
 - (ii) \$260.5 million for the Bondi Reticulation Network; and

²⁰ Wet weather performance targets have not yet been agreed with the regulator.

(iii) \$2,878.8 million for the Malabar Reticulation Network.²¹

64. These are, however, depreciated values and the development cost of new facilities would be significantly greater. The undepreciated cost of developing new facilities to provide the services provided by these three facilities would be in the order of \$7.0 billion.²²

5.4 Conclusion

65. The capacity of each of the three facilities is sufficient to meet reasonably foreseeable demand for the Services in each case, for the next fifteen years. Further, it would cost in the order of \$7 billion to build a new facility to provide those services. In addition, there would be significant community costs associated with the physical works necessary to carry out the development of alternate facilities. Such construction would amount to a duplication of the existing facilities, with no material benefit. Thus, it would be more efficient, in terms of costs and benefits to the community as a whole, for the existing facility to provide these services.

66. Sydney Water concludes that it would be uneconomical for anyone to develop another facility to provide the transportation service currently provided by any of the three existing networks.

²¹ The total depreciated optimised replacement cost for all Sydney Water's sewer main assets is \$9.171 billion (\$11.4 billion on an undepreciated basis).

²² Source: Sydney Water data "*Fixed Assets - Sewer Mains, 1 July 2003*" (NB: this figure represents the cost of sewers only. It does not account for the cost of pumping stations, or compensation of landholders).

6. Criterion (a) – No separate market

6.1 Summary

67. There is no market for either the Transmission Service or the Interconnection Service separate and distinct from the Sewage Collection Market as described in the Application.

6.2 Market Delineation

68. The Council must be satisfied that declaration of the relevant services will promote competition in a market ("dependent market") which is separate and distinct from the market in which those services are provided ("primary market").

69. Services Sydney does not identify any primary market in which the services themselves are provided. It identifies as the relevant dependent market a *Sewage Collection Market* in which *sewage collection services* comprise:

- (i) the collection of sewage from the customer premises (at the boundary trap);
- (ii) transportation of the sewage from the customer's premises;
- (iii) treatment of the sewage to whatever environmental standard is required; and
- (iv) disposal of the treated sewage and solids.²³

70. The Transmission Service and the Interconnection Service are said to be necessary inputs to the Sewage Collection Market.²⁴ However, no analysis is provided to support the assertion that the primary market is separate and distinct from the Sewage Collection Market, being the dependent market identified in the Application. Whilst it is not necessary to determine with precision the boundaries of the primary market, there must be sufficient clarity as to that market for the Council to be satisfied that it is separate from the Sewage Collection Market.

71. Services Sydney's argument that there is a separate market appears to rest on the fact that Services Sydney is a potential acquirer of the Transmission Service and the Interconnection Service. That is not the basis for determining market delineation. From the description of the Transmission Services and Interconnection Services as necessary inputs to the Sewage Collection Market,²⁵ it appears that Services Sydney is contending that the markets involve distinct products and are functionally separate.

²³ Application pp 4-5.

²⁴ Ibid p.20.

²⁵ Application, p.20

72. The issue of when it is appropriate to identify potential transactions in delineating market boundaries was addressed in the following way by Maureen Brunt in her article "Market Definition Issues in Australian and New Zealand Trade Practices Litigation".²⁶ She put the matter in the following way:

"Competition proceeds through actual and potential substitution by buyers and sellers. But just what potential transactions are pertinent? I here address the treatment of vertical integration.

The easy version of this question we take first. How should 'captive' outputs or input be treated in relation to traded outputs or inputs? The answer is straight forward: they should be included as part of the market, for their very existence acts as a constraint upon participants' freedom of action. This is to suppose two functional levels (production and distribution, for example) whose activities are largely coordinated by market transactions.

But what if there should be no 'trade or traffic' whatsoever? Can there be a relevant market?"

73. Dr Brunt then addresses the decision of the High Court of Australia in *Queensland Wire Industries Pty Ltd v Broken Proprietary Company Limited*.²⁷ Dr Brunt quotes from the judgments of Deane and Dawson JJ in which Deane J referred to a market existing where there "exists a demand for (and the potential for competition between traders in) such goods at that level"²⁸ and Dawson J referred to circumstances in which there was a "product for exchange".²⁹ Dr Brunt went on to say:

"No doubt in each case the 'existence of a demand' or of a 'product for exchange' must be understood as being at an economic price. For an economist would say that, as a factual matter, it is conceivable that there is no market for Y-bar. The market is the network of actual and potential transactions between buyers and sellers of goods or services which are, or could be close substitutes. Under what circumstance, we may ask, would the potential for transactions not exist? Answer: When there are such efficiencies of vertical integration, as between Y-bar and star pickets, that market co-ordination between buyers and sellers is superseded by in-

²⁶ (1990) 18 ABLR 85 at 119

²⁷ 167 CLR 177; 83 ALR 577.

²⁸ At 588.

²⁹ At 591.

house co-ordination. There would, in such a case, be no functional split to create market transactions between stages of production.

To illustrate, it makes no sense to distinguish between smelting, refining and rolling (into slabs or blooms) in the steel industry. As is well known, an integrated steel works secures great economies from continuous processing. The potential for market transactions at prices which would cover opportunity costs occurs after the primary rolling (or continuous casting) processes have taken place."

74. Therefore for two activities to be in separate markets it must be possible, at reasonable cost, to develop a commercial interface between them.³⁰ In the present case, it is not possible to establish an economically feasible commercial interface between collection and transport because of the heterogeneous nature of the product and the transaction costs which would arise if separate provision were to occur. In its Application, Services Sydney says that it "proposes to charge a collection fee and to pass through a transmission fee for Sydney Water transmission charges. It is anticipated that the transmission fee could be determined by IPART or, in the event of a dispute, the ACCC under Part IIIA of the TPA."³¹ Later in the Application, Services Sydney says it will "seek to ensure that transmission charges are fixed on a per customer basis".³² Sydney Water assumes what is intended by this is that the transmission charge for all customers is uniform. If so, transmission charges bear no relationship to the cost of providing the service and Part IIIA of the TPA would not support such an approach to pricing.
75. An alternate pricing approach suggested by Services Sydney is to use volume based charging with water consumption as a proxy for water discharge.³³ How that proxy is to work and whether it is different for different categories of customers is not clear.

In the Application Services Sydney does not describe how it proposes to set customer collection charges.

³⁰ "An *interface* is a pre-established way to resolve potential conflicts between interacting parts of a design. It is like a treaty between two or more sub-elements." Baldwin & Clark Design Rules (2000): The MIT Press; Volume 1 at 73.

³¹ Application p.15.

³² Ibid p.16.

³³ Application p. 16.

6.3 Heterogeneity of product makes pricing not feasible

76. Sewage collection involves the receiving of wastewater of varying pollution load (or strength) from a diverse range of customers. The range of entities to which Sydney Water provides such services includes domestic households, commercial premises (offices, etc) with relatively light pollution loads, those with notable waste discharge needs – such as food outlets – through to large industrial concerns with significant trade waste requirements.
77. Sydney Water has established customer relationships and charging arrangements that reflect this diversity of need. Sewage discharged from domestic households, for example, tends to be of relatively uniform pollution load and, given that the cost of distinguishing either sewage volume or pollution load on an individual household basis are likely to outweigh any benefits in terms of treatment costs avoided through altered discharge behaviour, Sydney Water charges a fixed fee per household for the total sewerage service.
78. However, the situation is quite different for non-household customers. Each non-household customer is effectively classified by Sydney Water according to the impact its pollution load is likely to impose on its treatment requirements and disposal facilities, and a schedule of tariffs is determined accordingly. For example, a restaurant pays relatively more for a given volume of waste discharged (using water taken as a proxy for sewage volume discharged) than would a CBD office block.
79. The charging basis for those customers with the most significant sewage treatment and disposal requirements is further refined by means of a trade waste charging regime. Trade waste customers are subject to special tariffs that determine a total charge according to both the volume of waste discharged – measured directly, rather than on the basis of water taken - and its pollution load as determined by regular sampling and testing of waste discharged. Charges for the pollution load element of trade waste further distinguish different biological and chemical parameters of effluent, in order to assess the ease or difficulty of its treatment.
80. Relative to standard domestic strength sewage, some trade waste customers, such as a large drinks producer, may have trade waste that is relatively easy to treat. Others, such as abattoirs or industrial processing facilities, may discharge waste with very high pollution load and, accordingly, pay a much higher charge per unit of volume. Some substances are prohibited from discharge into the sewerage system.
81. Notwithstanding these diverse customer needs and the commercial arrangements that have been established to meet them, a fundamental property of the sewage transport function is that all such waste is mixed together and transported in one system. If an alternative sewage collection service were to be offered to individual customers, it is simply not practicable to provide a transport service that can distinguish the relevant pollution load for any sub-set of

customers. What is taken away from customers cannot be divided when the effluent reaches the point of interconnection and so cannot be handed-over to an alternative service provider.

82. Services Sydney cannot therefore take and treat the precise product which it obtains from any individual customer or from any particular group of customers. The only product which Services Sydney can receive is a volume of effluent having the average load characteristics of the North Head, Bondi or Malabar Reticulation Network, as the case may be.
83. The characteristics of the load are important for the monitoring of the collection and transportation system as a whole because some substances cannot be discharged into the system and because, in managing issues such as overflows with various environmental, health and safety considerations, the system operator must know the characteristics of the input to the system. It currently does this through its control of collection and transportation and through its agreements with trade waste customers. These are described in detail in Appendix C.
84. Services Sydney has not proposed any mechanism to address this issue and has implicitly described sewage as a homogeneous product.³⁴
85. The diversity in the nature of the service that is provided to different customers is quite different from circumstances that have been encountered in establishing competition in dependent markets that share gas or electricity transportation networks, where each customer essentially receives a product of identical quality (eg, the calorific value of gas, or the voltage³⁵ at which electricity is supplied).
86. Sydney Water submits that the diversity of the service the Application suggests is to be provided, in combination with the uniformity imposed by the transport network presents a fundamental problem for developing a competing sewage collection service operating over a common carriage network in the manner proposed in the Application. It is inevitable that any competing provider of a retail sewage collection service would develop a mix of customers that was different from the average across each relevant facility – indeed, the end-customer base is different across each of the facilities that are the subject of Services Sydney's application.
87. Sydney Water cannot envisage any practicable operational or commercial arrangements that would allow Services Sydney – or any other competing provider of a retail sewage collection

³⁴ Application at p.20.

³⁵ It is acknowledged that electricity supply does vary by voltage level. However, this is essentially made possible by connecting at a different point in the network hierarchy, and is not analogous to the diversity of need in a sewerage service.

services – 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.

88. Without such arrangements, however, Sydney Water would inevitably be subject to cherry picking of its customer base. For example, Services Sydney would likely find itself able to offer 'discounted prices' to those customers with the most-difficult-to-treat waste, on the basis that its actual treatment process would only need to deal with average strength effluent. What may appear to be competition to Sydney Water would in fact amount to little more than arbitrage³⁶, facilitated by the physical limitations of a common carriage network.
89. Services Sydney has not addressed this issue, yet it goes to the heart of the contention that a dependent market exists separate from any primary market. If an economically meaningful price cannot be set, or cannot be set at a level at which the benefits arising from doing so exceed the costs, then the rationale for breaking a vertically integrated chain does not exist.³⁷
90. In the present case, the available material would suggest that the efficient industry structure is for integration of collection and transportation and that the costs involved in separating those functions would not be offset by any benefits arising from doing so.

6.4 Costs arising in separate provision of the services

91. These costs may be categorised as follows:
- (i) costs of measuring and monitoring inflows;
 - (ii) capital and operating costs of engineering works required at the points of interconnection (see paragraphs 94 - 98);
 - (iii) capital and operating costs of the Services Sydney proposed Sewer Main Interconnector (see paragraphs 99 - 102);
 - (iv) commercial/retail transition costs and ongoing costs (see paragraphs 103 - 112);
 - (v) 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

³⁶ Trading merely in order to profit from a price discrepancy.

³⁷ The problems of monitoring and measurement are discussed in the article by Yoram Barzel, "Measurement Cost and the Organisation of Markets", (1982) XXV Journal of Law and Economics 27 see esp. 39-42.

different in kind from that used to date and considering whether any move away from postage stamp pricing is necessary or desirable (see paragraphs 113 - 117);

- (vi) the impact on the existing sewage treatment plants of reduced sewage flows (see paragraphs 118 - 125).

92. Each of these categories is examined below. It should be noted that the ultimate costs cannot be fixed accurately, given existing information, since they will depend on such variables as the exact location of the points of interconnection, the exact length of the sewer main interconnector, and the volume of sewage diverted from Sydney Water's system. Accordingly, a range estimate is provided for each cost where possible.

Transaction costs: Measuring and monitoring inflows

93. The current monitoring mechanisms do not address this need. Sydney Water has some monitoring capabilities for trade waste customers with whom it has a trade waste agreement but otherwise these mechanisms would be difficult to implement and costly. Because of the lack of clarity in the Application as to how Services Sydney intends to address this issue, Sydney water is not in a position to comment on any specific proposal put. From Sydney Water's perspective for the reasons outlined in paragraphs 76 to 90, it cannot envisage an efficient system to facilitate what is proposed.

Transaction Costs: Capital and operating costs of engineering works required at the points of interconnection

94. Providing competing firms with access to any of the three reticulation networks would require modification of the existing network at significant cost to provide connection between the third party's pipeline and Sydney Water's sewer main. Each point of interconnection would require a connecting chamber, a connection to the sewer, weirs and valves to control the flow of sewage, pumping machinery to provide necessary flows, and a gauging station to measure the volume of waste water flowing through.

95. The initial costs associated with these engineering works vary markedly depending on the required flow rate, the capacity of the pipeline and the location of the point of interconnection. An interconnection point located in rock, for example, will incur much greater costs than a point of interconnection located in sand or clay. Sydney Water broadly estimates that the cost of providing each interconnection point range from \$5m to \$50m.

96. Following the initial set-up costs, each point of interconnection would incur ongoing operating and maintenance costs associated with managing sewage flows. These costs are likely to include:

- (i) operating costs and maintenance of pumping machinery at each point of interconnection;
- (ii) operating costs and maintenance of the gauging station at each point of interconnection.

97. The estimated cost of operating gauging stations is \$10,000 per annum. Pumping machinery operating costs are likely to be approximately \$40,000 per annum, giving total operating costs of approximately \$50,000 per annum, per point of interconnection.

98. Assuming there are three interconnection points, ie, one for each reticulation network, the total capital costs associated with connecting a third party's pipeline to the three existing networks would therefore range from \$15m to \$150m, with ongoing operating and maintenance costs of approximately \$150,000 per annum.

Transaction costs: Sewer Main Interconnector

99. Constructing a new pipeline to connect the existing reticulation networks to Services Sydney's proposed new treatment plant would require significant initial construction costs. Estimates of the likely cost include:

- (i) excavation of tunnels. These costs vary greatly depending on capacity, length and route of tunnel, the nature of land (eg, sand or rock), whether the land is utilised for residential/commercial purposes, and so on;
- (ii) additional costs for a pipeline that crosses the bottom of or passes underneath Sydney harbour;
- (iii) cost of materials, which vary depending on the location of the pipeline;
- (iv) laying of pipes in tunnels;
- (v) construction of pumping stations; and
- (vi) costs of compensating property owners where their property rights are affected by the development of the new pipeline.

100. Each of these costs will vary with the number of people served by the relevant access seeker. For a third party to provide services to customers currently connected to the North Head Reticulation Network and customers connected to one (or both) of the other networks from the same treatment plant, prima facie, a pipeline would have to be built underneath the harbour. Assuming the treatment plant is to the south of Sydney, servicing customers on the North Shore would therefore require a significant increase in costs.

101. Sydney Water estimates the total cost of construction at up to \$150 million (for a pipeline serving approximately 2,500,000 people, from North Head, running below Sydney Harbour and underneath heavily built-up suburbs).
102. The proposed new pipeline would also incur costs associated with operating and maintaining the tunnels and pumping stations. Again, the requirement for an underwater pipeline (if feasible) would significantly increase the costs associated with operating and maintaining that pipeline. Sydney Water estimates operating costs at up to \$3 million, to maintain a network capable of serving 2.5 million people.³⁸

Transaction costs: Commercial / retail transition costs and ongoing costs

103. Significant costs would be incurred in implementing arrangements to support the development of the commercial and retail relationships necessary to underpin retail competition in the Sewage Collection Market. These costs extend well beyond that of a billing system capable of separating water from sewerage services and allowing customers to pick and choose between the two. Significant costs would be incurred in the transition to a competitive retail market, including interim arrangements for customer protection, arrangements for the transfer of customers, and the redesign of billing systems.
104. Estimates of the costs associated with introducing retail competition can be drawn from the energy industry, where a comparable process of change from a single service provider to multiple providers has already taken place.³⁹ At the outset of the introduction of competition into the electricity industry, IPART noted there was significant uncertainty as to the costs involved in introducing full retail competition.⁴⁰ These costs were assumed to include:
- (i) retail interface costs;
 - (ii) retail systems costs;
 - (iii) project management costs; and
 - (iv) operating expenditure associated with transfers.

These costs are discussed in turn below.

³⁸ These are planning level estimates of capital and operating costs of a pipeline and pumping station. The operating cost is assumed to be 2% of the capital cost.

³⁹ It should be noted that any such assessment leaves to one side the issue of the differential nature of the sewage product.

⁴⁰ IPART, *Regulated Retail Prices for Electricity to 2004*, December 2000.

Retail Interface Costs

105. Retail competition requires the establishment and operation of a centralised interface to coordinate the transfer of customers. The role of a centralised interface would include:
- Informing a retailer that a customer is switching to another retailer;
 - Initiating transfers if a customer wishes to return to its standard supplier; and
 - Informing a standard supplier it is required to provide services to a customer as a 'retailer of last resort'.⁴¹

Retail Systems Costs

106. Each retailer would incur costs associated with providing retailing services above and beyond the standard costs. These include:
- advertising and promotions to attract and retain customers;
 - billing systems to allow non-standard billing; and
 - alliances with other utilities and service providers.

Project Management Costs

107. Project management costs are those costs incurred as a consequence of "participating in processes to develop the systems and policies required to introduce [competition], such as national forums and working groups".⁴² In its review of these costs for incumbent retailers in the NSW electricity supply industry, IPART limited regulated retailers to recovering the costs associated with "non-discretionary" participation in such working groups or forums. Given that retail competition in the water sector has not previously been contemplated in Australia, and the concentration in the number of parties likely to be affected, these costs are likely to be high for Sydney Water. In other words, Sydney Water could not expect to benefit from the participation of other incumbent water service suppliers in the same manner that electricity retailers were able to.

⁴¹ A retailer of last resort is a retailer that is legally obliged to provide a service to a customer. In electricity, retailers of last resort were based on the geographic location of a customer.

⁴² IPART, *Regulated Retail Prices for Electricity to 2004*, December 2000, p.56.

Operating Expenditure Associated with Transfers

108. Retailers will incur costs associated with customer transfers in addition to those outlined under retail interface costs. These include managing the customer database, preparing final bills for customers transferring to another retailer and setting up new accounts for new customers. These costs will vary with the number of customers switching between retailers.
109. In its December 2000 review of this issue for electricity retailers, IPART estimated retail contestability costs of \$5 per customer per annum, with the provision for revising that figure at a mid-term review when more information was available on the true cost of introducing competition. During the mid-term review, a consultant was employed to provide an estimate of the contestability costs of each retailer, which were incorporated into the total allowable operating costs. These retailer-specific contestability costs were not given explicitly. However, total operating costs increased by \$5 per customer, indicating that the contestability allowance was roughly correct.
110. Applying retail contestability costs of \$5 per person per annum in the present case results in additional costs of \$7.5m per year (based on 1.5 million households).
111. In addition to these costs, there would be a number of other requirements before a third party could enter the retail Sewage Collection Market. Sydney Water's billing system would require a significant overhaul to enable the provision of detailed customer information, including identifying customers on a geographic basis, separating out the existing charge into transmission and treatment and disposal, and separating out the water charge from the wastewater charges. Sydney Water estimates that the cost of designing and implementing the required system is likely to be in the tens of millions of dollars.
112. Transactions costs would also be imposed on Sydney Water since it would be required to undertake negotiations with third parties for access arrangements and related contractual undertakings. Sydney Water estimates this cost to be in the range of \$1 million.

Transaction costs: Regulatory and legal costs transition and ongoing additional costs

113. To allow for the introduction of competition may require amendment to the existing regulatory system and would involve ongoing regulatory costs for at least two retailers. Sydney Water notes that such regime change is a matter for the NSW Government. Under the current regime, any new competitor would need to obtain licences, statements and certificates from a variety of local and state government departments in order to operate a sewerage network and treatment plant.
114. Some of the costs involved in redesigning and implementing a new regulatory regime to cater for more than one retailer include:

- (i) costs associated with the development and consultation processes required to implement a new regime. The various authorities, councils, utilities and community groups with whom such consultation would be likely to be required are set out in Appendix B;
- (ii) customer protection arrangements such as:
 - (i) a regulatory review process leading to the drafting of default tariffs⁴³ for small business and residential customers;
 - (ii) development of marketing code of conduct;
 - (iii) development of rules on customer transfer;
 - (iv) development of retail licences;
 - (v) revision of system performance standards; and
 - (vi) customer education/awareness-raising;
- (iii) environmental impact statements for each significant capital investment, at an estimated cost of \$250,000-\$10 million, depending on the complexity of the task. Usually 1 to 2% of the total cost of the project is incurred in satisfying environmental requirements. Potential competitors may have to submit environmental impact statements for all works undertaken.⁴⁴

115. In addition to the one-off costs incurred in allowing access to a third party, ongoing regulatory costs are likely to include:

- (i) quality monitoring at any new competing treatment plants. Sydney Water estimates costs in the order of \$300,000 per annum based on the Rouse Hill plant, which treats water to a tertiary level and recycles used water. Pathogen monitoring makes the treatment of sewage to a high level quite expensive compared to the \$55,000 to \$60,000 typically spent at other treatment plants. These costs do not include within-plant process monitoring but are simply those costs incurred under environmental (licence) monitoring.

⁴³ Default supplier arrangements and associated tariffs are likely to be required to address circumstances where, say, due to a customer's payment record, neither party may be willing to provide a sewage service to that customer in a competitive retail market environment.

⁴⁴ Unless they can apply for SEPP 4 exemption.

- (ii) additional costs would be incurred to ensure compliance with access arrangements, regulating additional firms and monitoring market development and changes in prices.

116. These estimates demonstrate that significant costs would be incurred if the sewerage market was separated into transmission and retail. They strongly suggest that vertical integration is an efficient functional structure for the sewage industry and it is not economically viable to move to a differentiated structure.
117. The significant level of transactions costs would appear to be so great as to prevent separate provision of the transport service from being economically viable. That is, the services exhibit such great "economies of joint consumption or joint production that dictate the services must be performed within the same economic entity", and within the same functional market. It follows that there can be no market for transportation services that is separate and distinct from the retail market for sewage collection services.

Impact on existing sewage treatment plans of reduced sewage flows

118. Given that flows to one or more of Sydney Water's sewage treatment plants must be reduced as a consequence of competition in sewage treatment, it is necessary to examine any costs that might arise in consequence.
119. The consequences would depend on the extent of the reduction of flows to each individual treatment plant (ie each of the three ocean outfall plants). It is estimated that there would be no additional costs to Sydney Water as a consequence of reduced flows up until the point where flows were reduced to approximately 40% of current average dry weather flow levels at any of these facilities.
120. The most significant consequence of a reduced rate of flow is the effect on the ocean outfall facility used for disposal of treated effluent. The ocean outfalls are designed to discharge effluent well away from the coast and achieve high levels of dilution. This ensures minimum environmental impact in the vicinity of the outfall diffusers (the network of nozzles that discharge the effluent at the end of the outfall) and minimises any potential impact on Sydney's beaches.
121. The outfalls and diffusers are designed to enable a wide range of flows to be discharged without seawater being able to enter the outfall. However if flows drop below 40% of current levels, it would be necessary to shut a number of the nozzles to prevent the ingress of seawater. If seawater enters the outfall, then the hydraulic performance and the capacity of the outfall would be severely compromised. The outfall would no longer have adequate capacity to manage wet weather flows.

122. If Sydney Water was left with residual dry weather flows of less than 40% of the current dry weather flows, but was required to take the bulk of wet weather flows, then this capacity problem would require the construction of new outfalls to dispose of excess wet weather flows. This in turn would require either new deepwater outfalls or the upgrade of the existing plants, to allow for the higher level of treatment required for discharge of treated effluent into shallow coastal waters. Such a scheme would involve capital costs of several hundred million for new outfalls, in addition to capital costs of the order of \$ 500 million for the upgrade of the facilities to enable discharge of higher quality effluent near the shoreline. Higher treatment levels would incur additional operating costs arising out of the added power and chemical requirements.⁴⁵
123. This raises issues for the Application. If a competitor were to take less than 60% of the flows, then the cost associated with reduced sewage flows would likely be small. If, however, a competitor were to take greater than 60% of the flows from any one treatment and disposal facility, then the reduction in sewage flows would effectively prevent that plant and outfall from operating, unless very large costs were incurred.⁴⁶ The impact of a competitor on Sydney Water's ocean outfalls would, therefore, depend on where the competition was concentrated. If the competitor took 50% of flows, the impact in terms of reduced flows would be negligible if this reduction was distributed evenly over the three outfalls. The impact would, however, be significant if the reduction was concentrated on one outfall system.
124. The Application states that Services Sydney intends to develop infrastructure capable of processing 100% of the sewage currently processed by the three ocean outfall systems in question (923 megalitres (ML) per day, in dry weather), and that its retail sewage collection services business would be economically viable with a take-up of 50% of retail customers currently connected to the sewerage system owned and operated by Sydney Water.⁴⁷ Consider the situation where a hypothetical third party's plant competed for sewage business in the area served by the Malabar Reticulation Network and the Bondi Reticulation Network.

⁴⁵ This is based on Pollution Reduction Option Reports and other studies done between 1997 and 1999. As part of its development of Waterplan 21 Sydney Water undertook a number of major studies to assess the costs associated with upgrading the major coastal treatment plants to different levels (ie to full primary, secondary and tertiary). These studies were undertaken by internationally recognised wastewater consultants. For North Head by *Montgomery Watson*, and for Bondi and Malabar STPs by a consortium of Camp Dresser McKee and Sinclair Knight Merz.

⁴⁶ Or unless competing service providers could be required to take wet weather flows as well as dry weather flows.

⁴⁷ Application, p17.

If this hypothetical third party took 50% of flows of the three networks (461.5 ML per day),⁴⁸ this would cause a reduction in flow to both the Sydney Water Malabar and Bondi plants of over 75%.⁴⁹ This is well over the 60% threshold, which implies that very large costs would need to be incurred by both these plants if they were to remain viable.⁵⁰

125. If a competitor takes dry weather flows between zero and 60% of current flows from any or all of the major coastal sewage treatment plants, there will not be a commensurate reduction in Sydney water's operating costs. Equipment will still need to be maintained to manage peak wet weather flows and will continue to operate within a high wear environment. Environmental controls, such as odour scrubbing will need to be maintained at current levels. Administrative and licence reporting requirements will be largely unaffected. The major saving for Sydney Water would be in terms of reduced biosolids processing and transportation costs, and reduced pumping (energy costs).

6.5 Services are not economically separable

126. The analysis in sections 6.4 and 6.5 demonstrates that separation of sewage collection services from the transport function is not economically viable. Such separation does not lead to benefits not currently available through other mechanisms. There is a real doubt about the practicality of any mechanism to establish the transactions necessary to develop relevant market boundaries and the costs in doing so are great and significantly outweigh any countervailing benefit. This reflects the fact that vertical integration is likely to be an efficient functional structure for the sewage industry.
127. Sydney Water believes that there is no market for the provision of transportation services which exists separate from the Sewage Collection Market. Transportation is not economically separable from the bundle of services which are said to make up the Sewage Collection Market, that is, collection, transportation, treatment and disposal.
128. In effect, the analysis above is an application of the economic separability limb of the test the Council has used repeatedly in determining whether markets are functionally distinct. That test has two limbs that must be satisfied. First, does a provider of sewage transportation services use assets sufficiently specific and distinct to that activity such that the assets cannot readily be used to provide the sewage collection service (that is, are the assets economically

⁴⁸ 50% of 923 ML per day is 461.5 ML per day. NB: this is a conservative (small) figure, given that Services Sydney mentions 50% of retail customers currently connected to the sewerage system owned and operated by Sydney Water, and this figure is based only on the flows to the three ocean outfall systems in question: the "SSRN".

⁴⁹ The combined sewage flow processed by the Malabar and Bondi plants currently is 610 ML per day.

⁵⁰ In fact, it might well be more efficient in this situation to shut down both plants.

distinct)? Secondly, are the transaction costs in providing the services separately so great that separate provision is not economically viable (that is, are the assets economically separable)?

129. The first limb (the specialised assets limb) is met in this case. However, the second limb (the economic separability limb) of the test is not met.

130. This approach has also been taken by the Tribunal when, in considering market delineation, it has examined whether there were "economies of joint consumption or joint production that dictate the services must be performed within the same economic entity."⁵¹

⁵¹ Sydney Airport, at para 97.

7. Criterion (a) - No promotion of competition

7.1 Summary

131. As discussed in section 6, it is not possible to separate the vertically integrated provision of collection and transportation to separate collection and transportation components. However, if contrary to Sydney Water's submission, the Council considers that there is a distinct market for sewage collection services which is separate from the primary market (in which the transportation services are provided), declaration of the services will not promote competition in that dependent market because:

- (i) the regulatory constraints required of Sydney Water prevent it from exercising any market power which it may have in the Sewage Collection Market;
- (ii) there exists no incentive or ability for any third party to profitably enter the Sewage Collection Market for the following reasons:
 - (i) the total sewage service provided by Sydney Water is currently underpriced as a result of IPART regulation such that charges are below the price of an efficient new entrant. This is demonstrated by applying the *hypothetical new entrant test* which asks what is the maximum price an incumbent could charge if there was a credible threat of entry; and
 - (ii) the regulatory approvals and processes required to enable a person to provide Sewage Collection Services make profitable new entry unlikely;
- (iii) there is no reasonable prospect of any plant being developed within the relevant timeframe which would deliver the benefits which the Application asserts will arise as a result of declaration. In examining the future with declaration, it must be reasonably foreseeable that a plant will be built that will lead to a reduction in the price for sewage collection services and the plant will deliver an environmentally superior solution. This is not a question of the financial viability of a particular proponent but a forward looking assessment of the market conditions;
- (iv) the Application does not establish any causal link between the alleged price reduction and/or quality enhancement and declaration of the relevant services; and
- (v) if there are three separate dependent markets for sewage collection services defined by the geography of each reticulation network, each of the considerations above continues to be relevant and so there will be no promotion of competition under this dependent market definition.

7.2 The test

132. The test for whether declaration of a service will promote competition in a dependent market examines the future with and without declaration. Competition is promoted either by reduced price offerings or by quality enhancements.
133. Services Sydney puts forward two bases relevant to promotion of competition. First that it will "win substantial customers through competitive pricing" in circumstances in which it contends that Sydney Water's prices are "above competitive levels". Secondly, that its treatment and disposal method is "environmentally superior".

7.3 Regulatory constraints on Sydney Water prevent it from using any market power

134. The Application asserts that Sydney Water has both the ability and incentive to exercise market power through refusing access to its facilities to adversely affect competition in the Sewage Collection Market⁵².
135. Whether competition is promoted by declaration depends on whether the service provider has power in the primary market which it could use to adversely affect competition in the dependent market⁵³.
136. The effect of the legislative and regulatory provisions which determine the price and other standards for the total sewage service prevents the exercise of any market power Sydney Water may have to adversely affect competition in the Sewage Collection Market. Due to those provisions, Sydney Water does not have any ability to increase price or reduce service quality.
137. The Application asserts that "*current prices would appear to be above competitive levels*"⁵⁴. Sydney Water submits that this statement is incorrect. Indeed, Sydney Water's services are currently underpriced, as demonstrated in section 7.4 below.
138. In any event, the fees and charges which Services Sydney may impose for the provision of that service are set by IPART. A description of the current fees and charges set by IPART is set out in section 7.4 of this submission.

⁵² Application, p. 20.

⁵³ Duke EGP, para 116.

⁵⁴ Application p.22.

139. IPART is required to make its determinations in accordance with the provisions of the IPART Act. In particular, under that Act, IPART is required to consider the matters set out in section 15 of the IPART Act in making any determination. Those matters (relevantly) include:
- (a) protection of consumers from abuse of monopoly power;
 - (b) improved efficiency in supply of services; and
 - (c) need to promote competition.
140. IPART states that it has taken those matters into account in each of its determinations of the prices of water supply, wastewater and stormwater services⁵⁵.

7.4 No incentive or ability for a third party to profitably enter the Sewage Collection Market

141. As set out earlier, IPART regulates Sydney Water's prices, including the price for the provision of sewerage services. Declaration of the sewage transport service would require the current integrated wastewater tariff to be "unbundled", to determine a separate charge for use of the sewage reticulation system. This prospect of such unbundling highlights a number of matters that cast doubt on the likelihood that competition could be promoted in the Sewage Collection Market.
142. In Sydney Water's opinion, the current integrated sewerage tariff, as determined by IPART, does not reflect the full extent of the costs that would be faced by a new entrant providing retail sewage collection services. This limits the incentive for entry into the Sewage Collection Market, as defined by Services Sydney.
143. Sydney Water's preliminary analysis shows that for competition to be promoted in the Sewage Collection Market (assuming this was feasible), the current integrated wastewater tariff would need to be unbundled in a deliberately "pro-competitive" manner – essentially by instituting a "cross-subsidy" from transport to the other functional components of the Sewage Collection Market. Such an approach would not be consistent with the pricing principles in Part IIIA of the TPA.

⁵⁵See: IPART Determination for 2003-05, p.60; IPART, Determination No. 8, 2000, *Sydney Water Corporation Prices of Water Supply, Sewerage and Drainage Services Medium term price path from 1 October 2000*, 12 September 2000, page 62; IPART Determination No. 3, 1998, *Sydney Water Corporation Prices of Water Supply, Sewerage and Drainage Services Medium term price path from 1 July 1998*, June 1998, p12; IPART, Determination No. 6, 1996, *Sydney Water Corporation Prices of Water Supply, Sewerage and Drainage Services Medium term price path from 1 July 1996*, 17 June 1996, p.8.

Underpricing due to IPART regulatory regime

144. Sydney Water's current integrated sewerage tariff, as determined by IPART, does not reflect the full extent of the costs that would be faced by a new entrant providing retail sewage collection services.
145. IPART last determined wastewater prices for Sydney Water in 2003. The average annual price per household for wastewater services in 2003 - 2004 was \$338.54.⁵⁶ In 2004 - 2005, this rises with inflation to \$346.66. IPART anticipated a return⁵⁷ of 5.9%⁵⁸ on Sydney Water's Regulatory Asset Base ("**RAB**"), the value of which (for the sewerage service alone) is calculated by IPART to be approximately \$4.7 billion.⁵⁹
146. IPART's valuation of the regulatory asset base for the sewerage service (\$4.7 billion), is significantly lower than the valuation of those assets were Sydney Water operating in a competitive market environment, ie, their *optimised depreciated replacement cost*⁶⁰ ("**ODRC**"), which is \$10.7 billion. It is widely recognised – including by both the Council and by the Australian Competition and Consumer Commission - that optimised depreciated replacement cost represents the best estimate of the value that would attach to assets in a competitive market environment. ODRC represents the capital cost that faced by a hypothetical new entrant into the market choosing to buy second hand assets (and incurring the cost of earlier replacement when those assets reach the end of their useful life) as compared with the cost of rebuilding a system from scratch.
147. The *hypothetical new entrant test* ("**HNET**") is the correct standard by which to test prices (and the associated question of asset value), because it defines the point at which entry into a market can be profitable. Under the HNET, achieved returns (on assets valued at ODRC) 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. The Council has previously endorsed the use of HNET to value assets in its assessment of applications under the coverage provisions of the Natural

⁵⁶ IPART determination for 2003-05, p.28. In 04-05, and value is $338.5 \times (1 + \text{inflation})$, or \$348.70.

⁵⁷ Rate of return on capital is given by the real pre-tax Weighted Average Cost of Capital (WACC).

⁵⁸ IPART expects ROR on combined RAB (for water and sewerage assets) to be 5.9% in 2003/04 and 5.6% in 2004/05. IPART Determination for 2003-05, p.22.

⁵⁹ The RAB was derived under the optimised deprival value methodology: see IPART, Determination No. 8, 2000, *Sydney Water Corporation Prices of Water Supply, Sewerage and Drainage Services Medium term price path from 1 October 2000*, 12 September 2000.

Gas Pipelines Access Code, which applies essentially the same criteria as the Part IIIA of the TPA.⁶¹

148. IPART's most recent price determination provides for Sydney Water to earn an expected return of 5.9% on its regulatory asset base.⁶² In other words, the total price that Sydney Water can charge to provide sewerage services is currently set such that:

- (i) it is expected to earn a rate of return (5.9%); and
- (ii) its return is in any case based on an asset value (\$4.7 billion) of around half the capital costs that would be faced by a hypothetical new entrant in the sewerage services market.

149. To deliver a 7.0% return on capital on the ODRC value of Sydney Water's sewerage assets (\$10.7 billion, and a return of capital (depreciation) consistent with this valuation, would require an 88% increase in Sydney Water's annual revenue from the wastewater sector. This amounts to an increase in the annual average wastewater charge for households of \$299 per annum, over and above the 2004 - 2005 charge of \$346.66.

150. Further, this analysis does not take into account the cost of providing a distinct retailing service for the sewerage component of what is presently a combined water and wastewater retail service. Information developed in the course of regulatory proceedings in the electricity sector suggest that the operating costs for providing a utility retailing service are around \$65 per customer per year⁶³, even after taking account of the fact that related retailing services are also being provided by the same entity. Adding this amount to the estimate derived above implies a total annual average sewerage services charge for households of \$702 per annum, compared to the 2004 - 2005 charge, \$346.66.

151. In sum, the wastewater service currently operated by Sydney Water is seriously underpriced, by reference to the HNET.

152. If a competing firm wished to enter the Sewage Collection Market, it would need to buy sewerage transport services from Sydney Water. The price for that service would be determined, ultimately, through arbitration by the ACCC. In setting that price, the ACCC is

⁶¹ "Moomba to Sydney Pipeline System: Revocation Applications Under the National Gas Code", NCC Final Recommendations, November 2002, p199, para 7.396

⁶² Sydney Water's return (WACC) falls within a range of real pre-tax WACC of 5.2% - 6.7% earned by all metropolitan water agencies). Appendix 7 (p66) of IPART report.

⁶³ This estimate is based on data from the retail electricity sector. Source: IPART "Review of regulated retail prices for electricity to 2007, Draft Report and Draft Determination", p10.

guided by Part IIIA, section 44X(1)(a) of the *Trade Practices Act*, which requires it to take into account "the legitimate business interests of the provider, and the provider's interest in the facility" in making a determination.

153. Although it remains to be tested, this criterion appears to imply that the provider of the facility (Sydney Water) must be allowed to make a reasonable commercial return on its assets. Given the current underpricing of the total sewage service, however, a commercial return cannot be made without an increase in the prices paid by consumers for the total sewage service. 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"⁶⁴. Clearly this low-risk environment derives from the absence of competition in wastewater markets.

154. The existing underpricing of sewerage services suggests, prima facie, that there is no opportunity for profitable entry by any competing firm into the Sewage Collection Market, as defined. It follows that no third party could reasonably expect entry into the market to be viable, and so declaration would not promote competition.

7.5 Regulatory provisions make new entry unlikely/non-viable

155. As set out in section 1, currently, Sydney Water provides sewerage services to customers and charges customers for those services pursuant to the *Sydney Water Act*, Customer Contract, Operating Licence and IPART determinations.

156. The *Water Management Act 2000 (NSW)* ("**Water Management Act**") also establishes a regime to facilitate the operations of minor water supply authorities who supply water and sewage services. This Act is discussed in further detail in Appendix C.

157. The Application asserts that there are no regulatory restrictions prohibiting Services Sydney from providing sewage collection services⁶⁵. However, Sydney Water notes that the *Sydney Water Act*, IPART regime and *Water Management Act* do not contain any provisions which expressly permit a commercial third party to:

- (a) provide those services within an area of operations of an existing holder of an Operating Licence or of a public water authority, as that term is defined in the *Water Management Act*; or

⁶⁴ IPART determination, "Sydney Water: Prices of Water Supply, Wastewater and Stormwater Services, From 1 July 2003 to 30 June 2005", p22

⁶⁵ Application, p.17.

- (b) charge customers for the provision of sewage collection services; or
- (c) enter land and perform the range of functions associated with the provision of sewerage services.

Any legislative amendments necessary to provide a third party with these rights and powers are a matter for the NSW Government to determine.

- 158. Sydney Water submits that without legislative amendment, a third party would require a large number of approvals, permissions and licences from a range of different government bodies to permit it to engage in each of the activities which comprise the sewage collection service.
- 159. The approvals, permissions and licences that a third party would require are set out in Appendix C. There is no suggestion in the Application that these issues have been considered by Services Sydney nor how these issues would be addressed. In particular, there is no suggestion that such approvals, permissions and licences are likely to be obtained within a reasonable time period, assuming the services are declared.
- 160. Whilst it may be said that declaration is but the first stage in the process of obtaining access to a particular service, the Council must nonetheless be satisfied that access to those services would promote competition. If it cannot be established that there is any reasonable likelihood of the proposal being developed by Services Sydney or another third party in the relevant time frame because, for example, of legislative changes or approvals which would be required, the Council cannot be so satisfied. This does not seek to say that declaration must be the last link in the chain but there must at least be material before the Council from which it can properly conclude that the developments said to give rise to a promotion of competition are reasonably likely to occur.

7.6 No reasonable prospect of a new treatment and disposal plant in the reasonably foreseeable future

- 161. For the Council to be satisfied that declaration would promote competition, it must be satisfied that the proposal put forward in the Application will occur within the relevant timeframe for assessing promotion of competition. In other words, one must examine on a forward looking basis the likely conditions in the relevant market if declaration is made, compared with the likely conditions if declaration is not made. Clearly this criterion does not require there to be an actual demand for the service at the time declaration is sought in order to establish that there will be a promotion of competition. However, in an application such as the present one, it must be established that, within the relevant timeframe, there will be development of the type contemplated so as to lead to the requisite promotion of competition.

162. There is nothing in the Application or in any other material of which Sydney Water is aware, which would enable the Council to safely conclude that there is a reasonable likelihood of the development proposed by Services Sydney proceeding within the relevant timeframe.

7.7 No causal links between alleged price reduction / quality enhancement and declaration

163. For the reasons given in section 11, benefits which may arise from alternate treatment and disposal technology are currently available through sewer mining. Declaration does not lead to any advantages not currently available.

7.8 Conclusion

164. Declaration of the relevant services would not promote competition in any Sewage Collection Market (as defined in the Application) because:
- (a) there is no market for the provision of transportation services which exists separate from the Sewage Collection Market as transportation is not economically separable from the bundle of services which make up the Sewage Collection Market;
 - (b) if the Council considers that transportation can physically and economically be separated from that bundle, declaration of the "Transmission Service" and the "Interconnection Service" will not promote competition in any of these Sewage Collection Markets.

8. Criterion (c) – that the facility is of national significance

165. The application seeks declaration of services provided by three separate facilities. The Council must be satisfied that each of these facilities is of national significance.
166. When examined as three separate facilities it is unlikely that any of the Sydney Water reticulation networks satisfy the national significance test.
167. There are three ways in which a facility may be of national significance:
- (i) its size;
 - (ii) its important to constitutional trade or commerce;
 - (iii) its important to the national economy.
168. In the present case, it is only on the basis of size that the three separate facilities may fall within this criterion. The Council has indicated that physical capacity and throughput of goods and services using the facility are relevant considerations in considering whether it is of national significance. Given the limited geographic scope of each of the three networks, serving distinct population groupings within particular regions of Sydney, whilst significant to Sydney, they could not be said to be of national significance.

9. Criterion (d) – that access to the service can be provided without undue risk to human health or safety

9.1 Summary

169. Sydney Water considers that access to the Transmission Service and the Interconnection Service could be provided without undue risk to health and safety provided sufficient flow is left in its system to ensure full operational functionality. The current sewer mining regime demonstrates that access to the Interconnection Service is currently provided without undue risk to human health and safety. However, there are significant regulatory issues in the way in which access to the Transmission Service could be provided without undue risk to human health and safety and there are likely to be significant costs in addressing these regulatory issues.

9.2 The test

170. The Council cannot recommend that a service be declared unless it is satisfied that access to this service can be provided without undue risk to human health or safety.

171. The tests to be applied to determine whether access to the transportation and interconnection services can be provided without undue risk to health and safety involves two questions as follows:

- (i) can the existing regulatory regime (which contains health and safety requirements which are relevant to the provision of the service to be declared), be amended to apply to an access seeker so as to ensure that no undue risk to human health or safety arises if access is provided? and
- (ii) can any additional risks to human health or safety caused by the provision of access be addressed by enforceable terms and conditions of access?⁶⁶

172. The collection, transportation, treatment and disposal of sewage creates significant public health issues which need to be managed and regulated. Sydney Water's provision of sewerage services is regulated by a health and safety regime which contains a significant number of laws, instruments and guidelines.⁶⁷

⁶⁶ Sydney Airport, at para 214.

⁶⁷ Sydney Water's supply of drinking water is subject to additional stringent health and safety requirements. However, these are not addressed in this submission.

9.3 The current health and safety regime

173. Protecting public health is one of Sydney Water's principal objectives. This is reflected in the *Sydney Water Act*:

- (i) Under section 21 of the *Sydney Water Act*, Sydney Water has a principal objective of "*protect(ing) public health by supplying safe drinking water to its customers and other members of the public in compliance with the requirements of any operating licence*".
- (ii) Under section 22(1) Sydney Water has the "*special objective*" of "*reduce(ing) risks to human health*".
- (iii) Section 23 requires Sydney Water to adopt targets to reduce the emission from its sewage treatment plants of a large number of hazardous substances as identified in Schedule 10.
- (iv) Under section 35 of the *Sydney Water Act*, Sydney Water must maintain a Memorandum of Understanding with each of the Water Administration Ministerial Corporation, NSW Health and the Environmental Protection Authority for the term of Sydney Water's operating licence.

174. The Memorandum of Understanding with NSW Health dated 11 November 1997 (as amended on 21 November 2000) impacts on Sydney Water's provision of sewerage services as follows:

- (i) Clause 7.10 requires Sydney Water to review with NSW Health its strategies for the comprehensive management of public health issues no less frequently than every 5 years, or whenever changes occur that substantially alter the basis of the existing strategies. Strategies to be submitted for review include its waste water disposal and reuse strategy.
- (ii) Clause 7.13 permits staff of NSW Health to enter Sydney Water's premises including facilities performing water supply, wastewater reticulation, treatment and disposal systems and wastewater reclamation and reuse systems for the purposes of carrying out any inspections or viewing any records which NSW Health reasonably requires to make informed judgements regarding matters relating to the protection of public health.
- (iii) Clause 10 requires Sydney Water to immediately report to NSW Health any information or event within its drinking water supply system, or within its waste

water reclamation and reuse and wastewater reticulation, treatment and disposal operations which may have significant implications for public health.

175. Sydney Water's Operating Licence imposes additional public health requirements on Sydney Water.
- (i) Under clause 6.6, Sydney Water must meet the environmental water quality requirements for any discharges or water releases required by licences issued to it by the EPA or the Department of Land and Water Conservation.
 - (ii) Under clause 6.7, other grades of water supplied by Sydney Water must be supplied according to relevant guidelines and requirements prescribed by EPA, NSW Health, the Department of Land and Water Conservation, the Department of Agriculture, other relevant government agencies and NSW Recycled Water *Co-ordination* Committee.
 - (iii) Under clause 7.4, Sydney Water must keep records of the nature of incidents of discontinuity, low pressure and sewerage overflows occurring each year.
176. The Interconnection Service is, in effect, the right to connect to Sydney Water's sewers at particular points for the purpose of extracting effluent at those points. This service is currently provided by Sydney Water in the form of sewer mining, at a price set by IPART and subject to compliance with applicable laws and regulations. This is discussed in further detail in sections 10 and 11 of this submission. A number of sewer mining projects have been facilitated by Sydney Water. These projects demonstrate that access to the Interconnection Service can be, and is currently, provided without undue risk to human health and safety.
177. However, significant changes would need to be made to the regime described above to ensure that no undue risk to human health or safety arises if third parties were to be granted access to the Transmission Service.
178. Sydney Water accepts that it may be possible to impose contractual obligations on a third party access seeker to act in a manner which complies with the statutory obligations and licence conditions with which Sydney Water is required to comply. However, to the extent that an act or omission of a third party results in a breach of the criminal liability provisions of Sydney Water's EPA licences, Sydney Water would be unable to contractually pass on any aspect of such liability to that third party. Details of those provisions are set out in Appendix D.
179. The imposition of criminal liability on a person in circumstances where that liability arises as a result of another person's act or omission is contrary to public policy. It may therefore be necessary for the relevant health and safety legislation to be amended to impose these

obligations directly on any third party who obtains access to the Transmission Service and Interconnection Service. Such legislative amendment is a matter for the NSW Government.

180. Under the existing regulatory regime, a person who obtained access to those services would also require government approval and a range of specific regulatory approvals, to ensure that their proposed provision of services did not raise health and safety concerns, before they were permitted to provide sewage collection services. Any access regime would need to explicitly recognize the need for a “safe operating” cap on draw down to preserve Sydney Water’s operational capacity.

181. There would be significant costs in implementing such legislative and regulatory change and in obtaining the necessary regulatory approvals. These costs are analysed in detail in examining the economic viability of separate provision of the services which are sought⁶⁸ and in the analysis of the public interest.⁶⁹

9.4 Conclusion

182. Sydney Water considers that access to the Transmission Service and Interconnection Service could be provided without undue risk to human health and safety provided its operational needs for minimum flows are recognized and guaranteed. Sydney Water considers that the existing regime could be amended to apply to an access seeker so as to ensure that no undue risk to health and safety would arise if access to the Transmission Service is provided. Any such amendment is a matter for the NSW Government. However, Sydney Water notes that there are likely to be significant costs associated with such amendment.

⁶⁸ See section 6.4; 7.4 of this submission.

⁶⁹ See section 11.5 of this submission.

10. Criterion (e) – that access to the service is not already the subject of an effective access regime

10.1 Summary

183. To declare the Transmission Service or the Interconnection Service, the Council must be satisfied that access to each service is not already the subject of an effective access regime.

184. Sydney Water does not consider that the IPART regulatory regime constitutes an effective access regime for access to the Transmission Service.

185. Sydney Water considers that it is arguable that the IPART regulatory regime does provide an effective access regime for the Interconnection Service.

10.2 IPART regime

186. The Application contends that the IPART regulation of Sydney Water's sewage collection service charges do not satisfy the principles set out in clause 6(4) of the Competition Principles Agreement and has not been declared an effective access regime.

187. The Council must be satisfied that access to each of the relevant services is not already the subject of an effective access regime.

188. Sydney Water agrees that the IPART regulatory regime:

- (i) has not been declared an effective access regime;
- (ii) does not include a right to negotiate access to the Transmission Service; and
- (iii) does not include enforcement procedures requiring Sydney Water to provide access to the Transmission Service.

189. Interconnection services are, however, regulated by IPART.

190. This regulation is in the form of pricing controls over the service of "sewer mining" provided by Sydney Water. Sewer mining involves the extraction of sewage from Sydney Water's sewers prior to treatment. By definition, sewer mining requires interconnection with Sydney Water's sewer.

191. The Application does not consider whether IPART's regulation of sewer mining constitutes an effective access regime for the purposes of criterion (e).

10.3 Regulation of sewer mining

192. The price regulation of sewer mining by IPART is as follows:

- (i) The price of sewer mining has been regulated by IPART since its 2000 Determination (see below) as a "sewerage service".
- (ii) In its June 1996 Determination,⁷⁰ IPART stated its *intention* to introduce a new charge for sewer mining. IPART determined the initial price to be the higher of zero or cost until the reuse market increased to 20% of total water use market. By "cost" IPART was referring to connection/contractual costs imposed on Sydney Water in a sewer mining activity undertaken by another party.⁷¹ The capital costs of providing access to the sewer for extractive services are likely to be limited to the costs of connection.
- (iii) In its 2000 Determination,⁷² IPART removed the 20% requirement, and introduced regulation of sewer mining. IPART stated that "the maximum charge that may be levied by (Sydney Water) for the extraction of wastewater from its sewerage system prior to treatment is zero. (Sydney Water) may charge for the cost of supplying additional services to enable wastewater extraction on an on cost basis."
- (iv) In its 2003 Determination,⁷³ IPART clarified that Sydney Water may recover the capital costs involved in granting access to its sewer, but may not charge for extracting effluent:

"8.1 *The maximum price that may be levied by (Sydney Water) for providing access to the sewer for extractive purposes is the capital costs of providing the access, for the period 1 July 2003 to 30 June 2004 and 1 July 2004 and 30 June 2005.*

8.2 *The maximum price that may be levied by (Sydney Water) for extracting effluent from the sewer is zero, for the period 1 July 2003 to 30 June 2004 and 1 July 2004 and 30 June 2005."*

⁷⁰ IPART, Determination No. 6, 1996, *Sydney Water Corporation Prices of Water Supply, Sewerage and Drainage Services Medium term price path from 1 July 1996*, 17 June 1996.

⁷¹ IPART Determination No. 3, 1998, *Sydney Water Corporation Prices of Water Supply, Sewerage and Drainage Services Medium term price path from 1 July 1998*, June 1998, p.31.

⁷² IPART, Determination No. 8, 2000, *Sydney Water Corporation Prices of Water Supply, Sewerage and Drainage Services Medium term price path from 1 October 2000*, 12 September 2000.

⁷³ IPART, Determination No. 4, 2003, *Sydney Water Corporation Prices of Water Supply, Sewerage and Drainage Services 1 July 2003 to 30 June 2005*, May 2003.

193. The IPART determination means that any person may interconnect with Sydney Water's sewer and divert sewage to their chosen location, without having to pay Sydney Water (except for capital costs incurred by Sydney Water in enabling connection).
194. Sydney Water is not aware of any other access regime that mandates an access price of zero (excluding the access provider's capital costs in enabling connection). Such a price is well below Sydney Water's costs of providing access.
195. The existing IPART regulation of interconnection to Sydney Water's sewer therefore enables an access seeker, at no expense (other than capital costs), the ability to interconnect with Sydney Water's sewer and divert sewage from the interconnection points to its own premises or treatment plant, where it can use the sewage as it wishes, so long as it obtains all necessary approvals and consents.
196. The IPART regime does not specify the terms and conditions of access that will apply. Such terms and conditions would need to be agreed by commercial negotiation with Sydney Water. However, Sydney Water, in negotiating such terms and conditions, would need to act consistently with its objectives, as set out in section 21 of the *Sydney Water Act*:

(a) to be a successful business and, to this end:

(i) to operate at least as efficiently as any comparable businesses, and

(ii) to maximise the net worth of the State's investment in the Corporation, and

(iii) to exhibit a sense of social responsibility by having regard to the interests of the community in which it operates, and

(b) to protect the environment by conducting its operations in compliance with the principles of ecologically sustainable development contained in section 6 (2) of the Protection of the Environment Administration Act 1991 , and

(c) to protect public health by supplying safe drinking water to its customers and other members of the public in compliance with the requirements of any operating licence.

197. The effect of IPART's "zero price" determination is that interconnection to the Malabar Reticulation Network, the Bondi Reticulation Network and the North Head Reticulation Network as envisaged by Services Sydney, is already possible under the existing regulatory framework. Indeed, due to the "zero price" determination, there would be a significant commercial incentive for third parties to apply to interconnect to the Sydney Water sewers

under the existing IPART framework, rather than to apply for access to Interconnection Service under Part IIIA.

10.4 Sewer mining: recent experience

198. Sydney Water has entered into a sewer mining agreement in relation to the Sydney Olympic Park.
199. Sydney Water has also received commercial sewer mining proposals from technology companies who propose to take and treat the sewage and use the water for irrigation purposes.
200. Sydney Water is presently putting in place processes and agreements to facilitate these sewer mining proposals.

10.5 Conclusion

201. Sydney Water does not consider that the IPART regulatory regime constitutes an effective access regime for access to the Transmission Service.
202. However, the IPART regulatory regime enables a third party to extract effluent from Sydney Water's sewers at a zero price (excluding the capital costs of connection). The IPART regime therefore does provide an access regime for the Interconnection Service.

11. Criterion (f) – that access (or increased access) to the service would not be contrary to the public interest

11.1 Summary

203. Even if all of the other criteria are satisfied, the Council must also be satisfied that declaration will not be contrary to the public interest. This criterion does not require a positive finding that declaration is in the public interest but rather operates from a presumption that satisfaction of the other criteria, will tend to suggest that it is in the public interest for declaration to occur. However, the presumption is a rebuttable one.

204. Services Sydney makes a positive assertion that declaration will be in the public interest. In Sydney Water's submission there is no basis to say that there is a net public benefit arising from declaration of the Transmission Service and the Interconnection Service. To the contrary, in Sydney Water's view, declaration would be contrary to the public interest for the following reasons:

- (i) the heterogeneity of waste means that the most efficient structure is vertical integration of the collection and transport functions and significant efficiencies would be lost by declaration;
- (ii) any promotion of competition which is said to result from a third party providing alternative treatment and disposal services is available through sewer mining without the need for declaration;
- (iii) the costs of regulation are substantial in this case, particularly given the costs involved in unbundling pricing and the costs of measuring flows on an individual customer basis;
- (iv) the price of the total sewage service and of sewer mining is regulated through a process in which interested parties have an opportunity to participate, thus constraining any market power which may otherwise exist; and
- (v) there are significant cost, risk allocation and liability issues associated with functional separation of collection and transport.

11.2 Factors relevant to the public interest

205. The public interest imports a wide range of factors for consideration in the context of any particular access application. Apart from economic efficiency, which is a key public interest consideration⁷⁴, other relevant factors in the context of this application include:

- (i) ecologically sustainable development;
- (ii) social welfare and equity considerations;
- (iii) government legislation and policies relating to matters such as occupational health and safety, industrial relations and access and equity.

206. Ultimately assessing the public interest involves assessing the benefits which may be derived from declaration against the costs incurred in and consequent upon doing so.

11.3 Loss of efficiencies

207. Efficiencies in the sewerage supply chain come from joint consumption of sewerage services with urban water supply services and from the heterogeneous nature of sewage from customers. As is detailed in section 6.3, because there is a common carriage system with one provider of the collection and transportation services, efficient cost allocation can be achieved recognising, for different categories of customers, the relevant proportion of costs borne by the waste produced by them. The detailed reasoning is not repeated here but the Council is referred to the matters raised in section 6.3.

11.4 No benefits result that are not available without declaration

208. The Application contends that declaration will result in a reduction in the price of sewage collection services and an environmentally superior sewage collection service.

209. Sydney Water submits that neither of these benefits are likely to flow from declaration.

210. For the reasons set out in detail in section 6, given the current regulatory pricing which applies to sewerage services, even if it is possible to establish the relevant customer relationships, declaration is unlikely to result in the provision of sewage collection services by a third party at a price which is lower than the price currently charged by Sydney Water for those services under the IPART regime. To the extent that may occur it would only be possible because of cherry picking of customers with high levels of waste contaminants in circumstances where the third party had only to treat average load waste. This would lead to distorted pricing signals

⁷⁴ National Competition Council, *"Guide to Part IIIA Part B"*, December 2002 at p111.

where price bears no relationship to the costs involved in the provision of the service to the relevant customer and could lead to cross-subsidisation by domestic users of trade waste customers.

211. To the extent that the Application relies on environmental benefits from the particular method of treatment and disposal, such benefits are not causally related to declaration. They derive from the treatment and disposal functions which are currently able to be achieved by Services Sydney through the sewer mining mechanisms which are available. Sydney Water encourages the use of sewer mining and effective recycling where it is cost effective and in the community interest as it improves demand management of water supply and is consistent with good environmental management practices.

11.5 The costs of regulation are substantial

212. There are inherent regulatory requirements, costs and inefficiencies associated with declaration⁷⁵. In the present case, the costs of regulation include:

- (i) the costs associated with unbundling the current system. These costs are detailed in section 6.4 of this submission and include:
 - (i) capital and operating costs of engineering works at the interconnection points estimated at \$15m to \$150m for the capital works with ongoing operating and maintenance costs of \$150,000 per annum;
 - (ii) capital and operating costs of the sewer main interconnector⁷⁶ which could cost up to \$150 million with operating costs of up to \$3 million at the scale proposed by Services Sydney;
 - (iii) costs involved in the establishment of retail customer relationships such as individual domestic customer measurement devices and retail systems costs. These costs are particularly difficult to estimate. Sydney Water's best assessment is that they are in the order of tens of millions of dollars. This estimate is consistent with the costs of introducing full retail contestability in gas and electricity; and

⁷⁵ Ibid at p113

⁷⁶ These are costs which would be incurred by Services Sydney but are nonetheless relevant to the Council's consideration of the totality of the costs which would be incurred in enabling development of the project as proposed by Services Sydney.

- (iv) costs involved in the implementation of a systems monitoring or operating role involving interface and co-ordination with third parties.
- (ii) the costs associated with the regulatory processes and approvals, including the health and safety legislation, which would be required to enable a third party to provide sewage collection services. These are detailed in Appendix B;
- (iii) the costs associated with ensuring ongoing environmental protection if sewage collection services are to be provided by third parties; and
- (iv) allocation and management of the risk issues that would arise from Services Sydney seeking, contractually with the customer, to take ownership of the sewage at the customers' boundary trap and then have it transported through Sydney Water's system. Particular difficulties are likely to be encountered with overflows and pollution incidents where there are provisions of Sydney Water's licences which impose criminal liability upon it in circumstances where it may have no contractual relationship with the customers which have given rise to the source of the problem.

11.6 Current regulatory arrangements are in the public interest

213. The current system also forms part of a broader system of management of the water cycle, from collection of rain water, provision of drinking water and removal, treatment and disposal of waste water. That system performs well and has been endorsed by relevant regulators. It delivers to customers a commercial solution which represents good value for the substantial investment which has been made and it is a system, which has, through the course of environmental monitoring over a period of 10 years, been established not to have adverse environmental impacts.
214. The current system ensures that all customers are provided with a sewage collection service on approved terms and conditions at a price which is set by IPART, having regard to the following matters:
- (a) protection of consumers from abuse of monopoly power;
 - (b) improved efficiency in supply of services;
 - (c) need to promote competition; and
 - (d) the protection of the environment.
215. The reticulation of sewerage by Sydney Water is subject to stringent health, safety and environmental standards (both legislative and regulatory) which operate to ensure that sewage is transported from all the boundary trap of all land owners via the relevant reticulation

network to the relevant treatment plant in a manner which minimises any risk to human health and safety or to the environment.

216. For the reasons detailed in section 7.4 of this submission it is unlikely that if declaration were granted, it would be possible for Services Sydney to offer prices for sewage collection services less than those which currently apply or less than those which are likely to apply in the future, having regard to the role of IPART. The only way it appears to Sydney Water that this may occur is if the price for the Transmission and Interconnection Services were set not to reflect the cost of provision of the relevant services but were set on some arbitrary basis to artificially sponsor entry. Such an approach would not be consistent with an application of the pricing principles in Part IIIA and would not be consistent with pricing practices designed to achieve economic efficiency.

217. Sewer mining is regulated by IPART with the price of sewer mining currently set as follows:

- (i) the maximum price that may be levied by Sydney Water for providing access to the sewer for extractive purposes is the capital costs of providing access for the period 1 July 2003 to 30 June 2004 and 1 July 2004 to 30 June 2005;
- (ii) the maximum price that may be levied by the corporation for extracting effluent from the sewer is zero for the period 1 July 2003 to 30 June 2004 and 1 July 2004 to 30 June 2005.⁷⁷

218. The existing regulatory mechanisms therefore ensure that there is no ability for Sydney Water to use any market power which it may have in respect of sewer mining and are set through a transparent process with public consultation.

11.7 Risk Allocation Issues

219. Given the increased levels of contracting which would arise from the proposed functional separation, there are significant risk allocation and liability issues which would arise, for example, how would liability for overflows or spills be addressed? This is particularly significant to the extent that there is strict or criminal liability which attaches as it is not possible at law to assign any criminal liability. The details of these are covered in section 7.5 and Appendices C and D and are not repeated here.

⁷⁷ IPART Determination for 2003-05, Schedule 1, section 8.

11.8 Net impact

220. Sydney Water submits that the declaration of the Transmission Service and Interconnection Service would not be in the public interest. The Application, in substance, contemplates the activity of sewer mining by a third party. Third parties are already entitled to engage in that activity, at a price set by IPART. In those circumstances, the benefits (if any) of declaration of the Transmission Service and the Interconnection Service are not sufficiently superior to the benefits offered by the current system for the provision of sewage collection services in metropolitan Sydney and the management of the water cycle generally to justify the imposition of the significant public costs that would arise as a result of declaration in this case.

12. Duration of Declaration

221. Services Sydney has not specified a period for declaration. Declaration must be for a fixed period. Sydney Water does not consider that it is appropriate for it to specify a particular period.

Appendix A - Key Legislative Provisions regulating waste water

State Owned Corporations Act 1989 (NSW)

1. The **SOC Act** regulates the corporate governance of Sydney Water.

Independent Pricing and Review Tribunal Act 1992 (NSW)

2. The **IPART Act** establishes IPART which, inter alia, has the task with setting maximum fees for declared Government monopoly services. IPART sets the maximum charge Sydney Water can levy on its customers through a process of submissions, public hearings and committee deliberations. That maximum charge is the price Sydney Water must charge its customers (absent Treasury approval to the contrary).
3. The price regulation framework is as follows:
 - (i) Section 11 of the IPART Act provides the Tribunal with a standing reference to conduct investigations and make reports to the Minister on the determination of the pricing for a government monopoly service supplied by a government agency specified in Schedule 1 of the IPART Act.
 - (ii) Sydney Water is listed as a government agency for the purposes of Schedule 1 of the IPART Act. Accordingly, the Tribunal may determine the prices for Sydney Water's monopoly services.
 - (iii) The services of Sydney Water that have been declared as monopoly services under the *Independent Pricing and Regulatory Tribunal (Water, Sewerage and Drainage Services) Order 1997* are:
 - (i) water supply services,
 - (ii) sewerage services,
 - (iii) stormwater drainage services,
 - (iv) trade waste services,
 - (v) 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,
 - (vi) 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),

- (vii) other water supply, sewerage and drainage services for which no alternative supply exists.
- (iv) Under section 15 of the IPART Act, in determining the pricing of these services provided by Sydney Water, IPART must have regard to the following matters (in addition to any other matters that IPART considers relevant):
 - (i) the cost of providing the services concerned,
 - (ii) the protection of consumers from abuses of monopoly power in terms of prices, pricing policies and standard of services,
 - (iii) the appropriate rate of return on public sector assets, including appropriate payment of dividends to the Government for the benefit of the people of New South Wales,
 - (iv) the effect on general price inflation over the medium term,
 - (v) the need for greater efficiency in the supply of services so as to reduce costs for the benefit of consumers and taxpayers,
 - (vi) the need to maintain ecologically sustainable development (within the meaning of section 6 of the POE Act) by appropriate pricing policies that take account of all the feasible options available to protect the environment,
 - (vii) the impact on pricing policies of borrowing, capital and dividend requirements of the government agency concerned and, in particular, the impact of any need to renew or increase relevant assets,
 - (viii) the impact on pricing policies of any arrangements that the government agency concerned has entered into for the exercise of its functions by some other person or body,
 - (ix) the need to promote competition in the supply of the services concerned,
 - (x) considerations of demand management (including levels of demand) and least cost planning,
 - (xi) the social impact of the determinations and recommendations,
 - (xii) standards of quality, reliability and safety of the services concerned (whether those standards are specified by legislation, agreement or otherwise).

- (v) The prices that can be charged by Sydney Water are presently regulated by IPART's *Determination under section 11(1) of the IPART Act 02/31, No 4, 2003*.

Protection of the Environment Operations Act 1997 (NSW)

4. The **PEO Act** regulates Sydney Water's operation of its sewerage systems. Under schedule 1 of the *Protection of the Environment Operations Act 1997*, "sewerage treatment systems"⁷⁸ are "scheduled activities" for the purposes of this Act.
5. Under section 49, Sydney Water is required to obtain a licence from the Environment Protection Authority ("**EPA**") in order to operate its sewerage networks.
6. EPA has a broad discretion as to the nature of the conditions that it attaches to the licences. The EPA uses the licences as a mechanism for obtaining improvements in the environmental performance by Sydney Water.
7. The EPA has prosecuted Sydney Water successfully under the strict liability provisions of this Act. In determining the penalty for such breaches, the Courts are required to consider the practical measure that could have been taken to prevent or control the environmental harm. This has resulted in Sydney Water, in many circumstances, undertaking protective investments even though they are not explicitly required under its Operating Licence.

Protection of the Environment Administration Act 1991 (NSW)

8. Under section 12 of the *Protection of the Environment Administration Act 1991*, the EPA may direct Sydney Water to take action, or cease taking action, to ensure environment protection. "Environment protection" is defined to include anything which furthers the objectives of the EPA as follows:
 - (i) to protect, restore and enhance the quality of the environment in New South Wales, having regard to the need to maintain ecologically sustainable development, and
 - (ii) to reduce the risks to human health and prevent the degradation of the environment, by means such as the following:
 - (i) promoting pollution prevention,

⁷⁸ Defined to include "treatment works, pumping stations, sewerage overflow structures and the reticulation system that have an intended processing capacity of more than 2,500 persons equivalent capacity or 750 kilolitres per day and that involves a discharge or likely discharge of wastes or by-products to land or waters".

- (ii) adopting the principle of reducing to harmless levels the discharge into the air, water or land of substances likely to cause harm to the environment,
- (iii) minimising the creation of waste by the use of appropriate technology,
- (iv) regulating the transportation, collection, treatment, storage and disposal of waste,
- (v) encouraging the reduction of the use of materials, encouraging the re-use and recycling of materials and encouraging material recovery,
- (vi) adopting minimum environmental standards prescribed by complementary Commonwealth and State legislation and advising the Government to prescribe more stringent standards where appropriate,
- (vii) setting mandatory targets for environmental improvement,
- (viii) promoting community involvement in decisions about environmental matters,
- (ix) ensuring the community has access to relevant information about hazardous substances arising from, or stored, used or sold by, any industry or public authority,
- (x) conducting public education and awareness programs about environmental matters.

Public Health Act 1991 (NSW)

9. The *Public Health Act* reposes the responsibility for regulating and overseeing the safety of drinking water in the Minister for Health and named functionaries. The Health Department regulates the addition of fluoride to Sydney's Water supply.
10. Section 10I of the *Public Health Act* gives the Minister power to take action if water constitutes a risk to public health.
11. In particular section 10I applies to water in, or flowing from, any source if the Minister suspects on reasonable grounds that the water constitutes (or is likely to constitute) a risk to public health.
12. In those circumstances, the Minister may take such action and give such directions necessary to restrict or prevent the use of the water and to bring the water to such a condition that it is no longer unfit for human consumption or a risk to public health.

Environmental Planning and Assessment Act 1979 (NSW)

13. The **EPA Act** is a key driver in Sydney Water's investment decision-making. Most *Sydney Water* activities are subject to the Part 5 process, which has the consequence that where an exempt activity has a significant impact on the environment, an Environmental Impact Study must be performed and the approval of the Planning Minister obtained for the activity.

Heritage Act 1977 (NSW)

14. The **Heritage Act** requires some older Sydney Water assets to be maintained at higher cost and preserved rather than abandoned at the end of their useful life.

Appendix B - consultation requirements

1. The following is a non-exhaustive list of the local, state and commonwealth government departments with which a third party would have to liaise were it to lay a pipeline to transport sewage between the North Shore and Botany Bay:
 - (i) Manly City Council;
 - (ii) Randwick City Council;
 - (iii) Waverley Council;
 - (iv) Botany Bay Council;
 - (v) Department of Fisheries;
 - (vi) Department of Environment and Conservation;
 - (vii) National Parks and Wildlife Service;
 - (viii) Department of Infrastructure, Planning and Natural Resources;
 - (ix) Heritage Office;
 - (x) Waterways Authority;
 - (xi) Sydney Ports Authority;
 - (xii) Department of Environment;
 - (xiii) Commonwealth Department of Defence;
 - (xiv) Department of Transport and Regional Services;
 - (xv) Sydney Airport Corporations Limited; and
 - (xvi) Commonwealth Department of Finance and Administration, which owns the Anzac Rifle Range north of the Malabar treatment plant.
2. In addition, to a lay such a pipeline would require consultation with a variety of community groups or mitigating impacts and other utilities to verify the location of gas pipelines and any underground electricity cables.
3. The following is a non-exhaustive list of the legislation with which a third party would have to comply were it to lay a pipeline to transport sewage between the North Shore and Botany Bay:

- (i) *Fisheries Management Act, 1994;*
- (ii) *Threatened Species Conservation Act, 1997;*
- (iii) *National Parks and Wildlife Act, 1974;*
- (iv) *Protection of the Environment Operations Act, 1997;*
- (v) *Rivers and Foreshores Improvement Act, 1948;*
- (vi) *Heritage Act, 1977;* and
- (vii) *Environmental Protection and Biodiversity Conservation Act, 1999.*

4. A third party would also require the approvals and licences set out in Appendix B.

Appendix C - licences and approvals

Operating Licences

1. The *Water Management Act* 2000 establishes a regime to facilitate the operations of minor water management authorities (each a "water supply authority" within the meaning of the *Water Management Act*) who supply water and sewage services. The regime under the *Water Management Act* specifically excludes major water authorities such as Sydney Water, Hunter Water and the Sydney Catchment Authority which are each regulated under their own enabling Acts.
2. A water supply authority has the function of constructing, operating and maintaining "water management works". "Water management work" is specifically defined for the purposes of Chapter 6, Part 2 of the *Water Management Act* to mean "a water supply work, drainage work, **sewage work** or flood work, and includes a work in the nature of a water supply work (being a work that receives water from a water supply work under the control or management of a water supply authority)." (emphasis added). A "sewage work" is defined to mean:

"a work (such as a pump, pipe or channel) that is constructed or used for the purpose of removing sewerage or other waste matter from the land, including a reticulated system of such works, and includes:

 - (a) *all associated pipes, valves, pumps and other equipment, and*
 - (b) *all sewerage treatment or sewerage processing plants and their outfalls and drainage beds, but does not include any work declared by the regulations not to be a sewerage work."*
3. The *Water Management Act* currently provides for the following water supply authorities: those established by the *Water Management Act*, statutory bodies incorporated by other Acts and state owned corporations (see schedule 3). Section 287 permits the Governor to declare additional "statutory bodies" to be water supply authorities. The *Water Management Act* also specifies that employees of water supply authorities are regulated by parts of the *Public Sector Management Act 1988*.
4. Without legislative amendment, a private entity such as Services Sydney could not be declared to be a water supply authority. The benefits to Sydney Services of being declared a water supply authority include:
 - statutory powers to enter land and undertake works (these are discussed below);

- a right to charge for its services⁷⁹; and
 - potentially an "exclusive" licence in its allocated area of operations⁸⁰.
5. There is no indication in the Application as to what Services Sydney intends to do in this regard.

Environmental Licence

6. Under the POEO Act, licences from the Environment Protection Agency (a division of the Department of Environment and Conservation) are required for certain activities. These include the construction and operation of "*sewage treatment systems (including the treatment works, pumping stations, sewage overflow structures and the reticulation system) that have an intended processing capacity of more than 2,500 persons equivalent capacity or 750 kilolitres per day and that involve the discharge or likely discharge of wastes or by-products to land or waters.*"
7. Sydney Water currently holds separate environmental protection licences for each of its sewage reticulation networks and treatment facilities.
8. Services Sydney would need to satisfy very rigorous requirements before it would be issued with a licence by the EPA.
9. Any licence under the POEO Act would need to include the proposed construction and maintenance by Services Sydney of its interconnection reticulation infrastructure comprising:
- (i) pipelines connecting the relevant Sydney Water sewerage reticulation network to the Services Sydney treatment plant; and
 - (ii) any water pipelines it proposes to construct to transmit treated wastewater from the Services Sydney plant to catchment areas.

The reticulation system to be used to transport sewage from a customer's boundary trap to Services Sydney's treatment plant would include those parts of Sydney Water's reticulation system between the customer's boundary trap and the point at which the new Services Sydney

⁷⁹ If Sydney Services were declared to be a water supply authority under the Water Management Act, then section 311(2) would apply. This provision provides that:

"A water supply authority may only levy sewerage service charges on land:

(a) from which sewage is discharged, or

(b) from which, in the opinion of the water supply authority, it is reasonably practicable for sewage to be discharged,

into one of the water supply authority's sewer mains."

⁸⁰ Arguably section 289(4) of the Water Management Act has the effect that in an area of operations the functions of a water supply authority can only be exercised by the relevant water supply authority or a Minister.

pipeline connects with the relevant Sydney Water network. It will not be possible to separate out the sewage destined for Sydney Services plant from that going to Sydney Water's treatment facilities. It is likely that the EPA would require Sydney Water, as owner of the relevant portion of the system to be responsible for the licence of that portion, notwithstanding its use by Services Sydney to transport sewage from Service Sydney's customers to its own treatment facilities. It is unlikely that a dual regime would apply.

Approvals to discharge the treated water

10. The *Water Management Act* creates the following offences:

- (i) it is an offence to construct a "water supply work" without a water supply approval. It is possible that the any infrastructure proposed by Services Sydney to transport treated waste water from its treatment plant for disposal could be a "water supply work" (s343(1)(a)).
- (ii) it is unlawful to carry out a "controlled activity" without a controlled activity approval (s344). The construction of infrastructure to transport treated waste water within the foreshore of a water body and the discharge of the treated water into any such water body would be likely to be controlled activities under the *Water Management Act*.

11. The discharge of treated waste water will also require:

- (i) permission, probably in the POEO Act licence, to discharge treated water into a catchment area - without that permission it could be committing a water pollution offence under the POEO Act;
- (ii) permission from the Sydney Catchment Authority to discharge treated water into the catchment area - s64 of the *Sydney Catchment Management Act 1998* (NSW) contemplates that the Authority can enter into a contract or agreement to permit the discharge.

Sydney Water permission for discharge

12. Section 49(1) of the *Sydney Water Act* provides, "*A person must not discharge any substance into a work owned by the Corporation except with the written agreement of the Corporation.*". Section 49(2) states that this provision does not apply "*to the use of a work by a person in accordance with a customer contract or other contract or arrangement between the Corporation and a person*". Currently, all landowners who are legally connected to Sydney Water's sewers obtain that agreement under the Customer Contract. If a third party provided Sewage Collection Services to some of those landowners in place of Sydney Water,

amendment to this provision would be required. Assuming that the result of such legislative change would be that customers of a third party provider of Sewage Collection Services no longer have in place a customer contract with Sydney Water, customers of Sydney Services whose sewage passes through the Sydney Water's system would need to enter into an agreement with Sydney Water to ensure they are not in breach of section 49.

13. This would cause practical issues for Sydney Water. For example, Sydney Water needs to have some control over the substances that enter into its system. In the normal course, Sydney Water does this by entering into a trade waste agreement with a person discharging industrial wastes into its system. These agreements specifically impose obligations to monitor discharges and provide reports to Sydney Water and prohibit the discharge of certain substances. These agreements have four primary benefits:
- (i) they allow Sydney Water to anticipate and cater for the introduction of certain materials into its sewerage system;
 - (ii) they allow Sydney Water to compel a customer to treat waste before it is discharge to the sewer;
 - (iii) they allow Sydney Water to compel businesses to treat water before it is discharged to the sewer; and
 - (iv) they protect the environment, occupational health and safety and integrity of the treatment process.

The Application does not specify how these issues are to be addressed.

Construction and Maintenance of the Services Sydney Plant and its Interconnecting Reticulation Infrastructure

14. In order to construct and maintain the treatment plant and trunk sewer mains contemplated by Services Sydney, Services Sydney would require the following property rights and planning permissions:

Property Rights - to land

15. Services Sydney would require property rights to access land and take possession of it to construct and maintain works. In particular, it would require:
- (i) a property interest (either freehold, leasehold or licence) over the land on which the Services Sydney plant is to be constructed; and
 - (ii) for its interconnecting reticulation infrastructure, either:

- (i) the consent of every affected holder of an interest in the land to enter the land and take possession of it to install and maintain the works; or
 - (ii) a broad statutory right to undertake those activities.
- 16. Sydney Water has statutory rights under the *Sydney Water Act* 1994 to enter and take possession of land to construct and maintain works and read meters⁸¹. Subject to conditions, Sydney Water also has rights to compulsorily acquire an interest in land and to require the removal of structures which interfere with its works. Other public authorities such as EnergyAustralia and the Road and Traffic Authority have similar powers under their enabling legislation.
- 17. If Sydney Services was declared to be a "water supply authority" under the *Water Management Act* it would be provided with equivalent powers to those that Sydney Water enjoys under the *Sydney Water Act* (see ss 296-9).
- 18. A third party such as Sydney Services could, with legislative amendments, be granted statutory powers to access land and construct works (similar to those enjoyed by Sydney Water). Such amendment is a matter for the NSW Government. Without legislative amendment, Sydney Services would need to seek to obtain appropriate rights by private treaty. This would be time consuming, uncertain and expensive.

Approvals from Authorities - rights to interfere with existing services

- 19. Where the construction of the proposed trunk sewer mains would affect any existing services, specific consents would be required. These include consents from:
 - (i) any affected roads authority to open any road as required by the *Roads Act*;
 - (ii) the owner of any services which may need to be relocated to allow the construction of the pipelines; and
 - (iii) Sydney Water, to connect to the relevant Sydney Water reticulation network.
- 20. Provided that Sydney Water complies with certain notification requirements, it has statutory rights under the *Sydney Water Act* to break-up roads (s42) and alter the position of conduits (eg those operated by electricity, gas or telecommunications) (s43).

⁸¹ *Sydney Water Act* - section 38.

21. If Services Sydney was to be declared to be a water supply authority for the purposes of the *Water Management Act* it would effectively have equivalent powers. Such declaration is a matter for the NSW Government.
22. Division 9 of the *Sydney Water Act* regulates connections to Sydney Water's infrastructure. It establishes a regime for Sydney Water to grant compliance certificates for new water or sewerage infrastructure. Sydney Water may impose requirements for the grant of a compliance certificate to ensure that appropriate technical standards are met and that Sydney Water does not bear the cost of providing additional services. The legal obligation to obtain a compliance certificate is imposed by another approval, for example, a planning consent. Consent authorities are required to notify Sydney Water if they receive a development application which could, among other things, interfere with Sydney Water's works.

Planning Permissions

23. Under Part 4 of the *Environmental Planning and Assessment Act 1979*, the approval of a consent authority is required to undertake "development" where a requirement for development consent is specified in a local environmental planning instrument ("**LEP**"), regional environmental planning policy or State environmental planning policy (collectively environmental planning instruments or "EPIs"). The term "development" is broadly defined and would include both the treatment plant and the installation and operation of the trunk sewer mains proposed by Services Sydney.
24. Sydney Water has the benefit of certain exemptions from the requirement to obtain planning approvals under Part 4 of the EPA Act. Relevantly:
 - (i) in local council areas which adopt the *Environmental Planning and Assessment Model Provisions 1980* ("Model Provisions") it has the benefit of clause 35 and schedule 1 of the Model Provisions. The effect of these provisions is that the relevant LEP (which adopts the relevant portions of the Model Provisions) may not require that development consent be obtained for the "*carrying out by persons carrying on public utility undertakings, being water, sewerage, drainage, electricity or gas undertakings, of any of the following development, being development required for the purpose of their undertakings, that is to say:*
 - (a) *development of any description at or below the surface of the ground,*
...."
25. The term "public utility undertaking" is defined to mean "*any of the following undertakings carried on or permitted or suffered to be carried on by or by authority of any Government Department or under the authority of or in pursuance of any Commonwealth or State Act:*

- (a) *railway, road transport, water transport, air transport, wharf or river undertakings,*
- (b) *undertakings for the supply of water, hydraulic power, electricity or gas or the provision of sewerage or drainage services,*

and a reference to a person carrying on a public utility undertaking shall be construed as including a reference to a council, county council, Government Department, corporation, firm or authority carrying on the undertaking"

- 26. Clause 11 of *State Environmental Planning Policy No. 4* provides, in respect of areas of NSW to which it applies, that if an EPI specifies that the construction of water storage dams or sewage treatment works by or on behalf of a public authority is not prohibited, but may only be carried out with development consent, then that development may be carried out without that consent. The exemption could be seen as extending to works ancillary to any sewage treatment works such as any reticulation infrastructure.
- 27. Where Sydney Water is not required by Part 4 to obtain development consent it has an obligation under Part 5 of the *Planning Act* to ensure that the environmental impact of the activity is properly assessed. In instances where the activity is likely to cause a significant impact on the environment an EIS must be carried out.
- 28. Sydney Services would not, absent statutory intervention, have the benefit of these exemptions. Such statutory intervention is a matter for the NSW Government.
- 29. Accordingly, depending on the requirements in each of the EPIs applicable to the areas in which Services Sydney (or any other third party) proposes to construct the treatment plant and the new sewer mains:
 - (i) the construction of the treatment plant will either be permissible with the consent of the relevant consent authority or it could be prohibited by the relevant EPI. If the plant is prohibited then only the Minister has the power to authorise the works and there are a number of limitations on his powers.
 - (ii) the construction and use of the new sewer mains may require development consent from the relevant consent authority (usually the council); or the works may be prohibited.

Appendix D - strict liability provisions

Breach of Environmental Licence

1. Sydney Water holds various licences under the POEO Act for its sewage treatment facilities. These licences contain numerous conditions including in relation to sewage overflows and pollution incidents. The actions of Services Sydney could cause a breach by Sydney Water of its licence conditions without any fault on the part of Sydney Water.

2. Breach of a licence condition is a strict liability offence and limited defences apply. Section 64 of the POEO Act specifies that it is an offence to breach a licence condition. It provides:

"(1) Offence

*If any condition of a licence is **contravened by any person**, each holder of the licence is guilty of an offence.*

Maximum penalty (except where it is an offence relating exclusively to noise):

- in the case of a corporation—\$250,000 and, in the case of a continuing offence, a further penalty of \$120,000 for each day the offence continues, or*
- in the case of an individual—\$120,000 and, in the case of a continuing offence, a further penalty of \$60,000 for each day the offence continues.*

...

(2) Defence

The holder of a licence is not guilty of an offence against this section if the holder establishes that:

- (a) the contravention of the condition was caused by another person, and*
- (b) that other person was not associated with the holder at the time the condition was contravened, and*
- (c) the holder took all reasonable steps to prevent the contravention of the condition.*

*A person is associated with the holder for the purposes of paragraph (b) (but without limiting any other circumstances of association) if the person is an employee, agent, **licensee**, contractor or sub-contractor of the holder."*

3. Consequently, Sydney Water could be prosecuted for a criminal offence and be exposed to convictions carrying significant fines in the event that Sydney Services caused an overflow or

a pollution incident from any part of the system regulated by an environmental licence held by Sydney Water. For instance, an overflow could occur in that part of the sewerage system used by Services Sydney, an incident could occur at a point of connection or as a result of a backflow from the Services Sydney inter connecting reticulation infrastructure.

Pollution Incidents generally

4. The POEO Act creates various offences in relation to pollution incidents. Many of these provisions could create liability for Sydney Water if acts or omissions of Services Sydney causes an environmental incident. These include:

Leaks and Spills

5. Section 116 provides:

"(1) If a person wilfully or negligently causes any substance to leak, spill or otherwise escape (whether or not from a container) in a manner that harms or is likely to harm the environment:

(a) the person, and

(b) if the person is not the owner of the substance, the owner,

are each guilty of an offence."

6. The term "**owner**" of a substance includes, in relation to a substance that has leaked, spilled or otherwise escaped, the person who was the owner of the substance immediately before it leaked, spilled or otherwise escaped." : see section 115(3).
7. It is arguable that Sydney Water would be the owner of the substance where it passes through Sydney Water's reticulation system even though the leak, spill or other escape occurred downstream from Services Sydney's assets.

Pollution generally

8. Section 257 provides:

"(1) In any proceedings under this Act, the occupier of premises at or from which any pollution occurs is taken to have caused the pollution, unless it is established that:

(a) the pollution was caused by another person, and

(b) the other person was not associated with the occupier at the time the pollution occurred, and

(c) the occupier took all reasonable steps to prevent the pollution.

A person is associated with the occupier for the purposes of paragraph (b) (but without limiting any other circumstances of association) if the person is an employee, agent, licensee, contractor or sub-contractor of the occupier.

(2) Subsection (1) does not prevent proceedings being taken under this Act against the person who actually caused the pollution."

9. Section 258(2) provides that:

"(2) In any proceedings under this Act, the holder of a licence under this Act in respect of any premises at a particular time or period is taken to be the occupier of the premises at that time or during that period"

The term premises is broadly defined to include:

"(a) a building or structure, or

(b) land or a place (whether enclosed or built on or not), or

(c) a mobile plant, vehicle, vessel or aircraft"

10. Sydney Water holds a licence for each of its treatment plants and the associated reticulation systems. Accordingly, there is every likelihood that any pollution occurring from its reticulation infrastructure would be a criminal offence.