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Essential Services Commission

Functional separation in the Victorian water industry

16 September 2009

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1 Introduction

1.1 The VCEC report

In August 2007 the Victorian Government directed the Victorian Competition and Efficiency Commission (VCEC) to review the Melbourne metropolitan retail water sector. The objectives of VCEC's review were set out in the terms of reference signed by the Treasurer of Victoria, the Hon. Mr. John Lenders MP. VCEC's report was required to include recommendations regarding:

- the best structure to allow for the efficient and least cost provision of Melbourne's water supply upgrades, as well as ongoing safe, reliable and sustainable water and sewerage services to Melbourne

- options to reduce costs of the metropolitan sector whilst maintaining and improving the level of service over time and ensuring it remains innovative and financially viable

- the broad staging and timing of any proposed structural reforms to the metropolitan water sector

- any related improvements to governance and industry structure in the context of the Government's Water Plan and climate change.

In reaching its conclusions, VCEC consulted widely (with water corporations, the Essential Services Commission (ESC) and other stakeholders) and had reference to 80 submissions received from interested parties in response to its draft findings.

In February 2008, VCEC released its final report *Water Ways: Inquiry into Reform of the Metropolitan Retail Water Sector*. This report included 21 recommendations for the government to consider, associated with structural and non-structural reform, future contestability (i.e. competition) and governance arrangements. The Government supported all but one of VCEC's recommendations, which related to setting a three year regulatory period.

Three of VCEC's recommendations that were supported by the Government related directly related to third party access and appropriately accounting for the costs of the various component parts of water businesses' operations:

> *Recommendation 4.2*
> *That the Victorian Government introduce a system of accounting ring fencing for the metropolitan retail water sector. The sector should report on their water distribution, wastewater collection and retail costs. The Essential Services Commission should develop a methodology for implementing accounting ring fencing, audit the information provided and publish the information as part of its ongoing monitoring role for the Victorian water sector.*

> *Recommendation 5.6*
> *That the Government develop an access regime for water and wastewater infrastructure services.*

> *Recommendation 5.7*
> *That the access regime that is established give responsibility to the Essential Services Commission to develop the access pricing methodology, having regard to the legislative objectives of a state based access regime.*

VCEC considered that recommendation 4.2 could take place within six to 12 months of the release of the report, whilst the third party access regime could be introduced within 12 to 18 months.

1.2 The ESC's third party access review

1.2.1 Background

On 19 November 2008, the Minister for Finance, WorkCover and the Transport Accident Commission, the Hon. Mr. Tim Holding MP, wrote to the ESC directing it to undertake an inquiry into the development of a state-based access regime for water and sewerage infrastructure services, including the access pricing methodology for the Victorian water industry. The terms of reference for the report referred to VCEC recommendations 4.2, 5.6 and 5.7 (above) and set out a detailed scope for the ESC to refer to. The Government's terms of reference (and other documents related to the review) can be accessed via the ESC's website (http://www.esc.vic.gov.au).

The ESC commenced its review of third party access with an issues paper released in February 2009, followed by its draft report published in June 2009, which had reference to, amongst other things, any submissions received in response to the issues paper. The ESC's draft report commented on a number of aspects of a third party regime and included 35 draft recommendations for consideration by the Government and other interested parties.

1.2.2 Ring fencing and functional separation

Chapter 7 of the ESC's draft report discussed ring fencing[1] and functional separation.[2] The ESC proposed that it would develop ring fencing guidelines, in consultation with the businesses, as part of its overall implementation process. In addition to accounting ring fencing, the ESC concluded that there would be value in functionally separating those services/assets which are likely to be the subject of access requests.

To this end, the ESC considered that natural monopoly infrastructure services should be separated from potentially competitive services. Natural monopoly infrastructure would include water storage and water and sewerage distribution and be incorporated into an 'infrastructure operator' business unit. Potentially competitive functions such as water sourcing, sewerage treatment and retail functions would be in a business unit separate to the infrastructure operator (an 'other services' business unit) and purchase services from the infrastructure operator where necessary.

The ESC's draft report contemplated 'physical separation' of the two (or more) business units, such that each business unit had "separate staffing, separate operational support systems and information management systems, and limits on information exchanges between the infrastructure operator unit and the other units." The ESC was of the view that functional separation was appropriate for metropolitan Melbourne businesses and for some regional businesses where access requests were likely, such as Coliban Water and Central Highlands Water, which operate the Goldfields Superpipe.

The ESC also noted that ring fencing would still be required within a functionally separated business where a given business unit may operate more than one asset that could be open to an access request.

1.2.3 Businesses' submissions

The Victorian Water Industry Association (VicWater), the peak industry body for Victorian water businesses, prepared a submission on behalf of the businesses, in which it 'strongly opposed' the ESC's recommendation to begin implementing functional separation within six months. VicWater argued that functional separation, particularly the 'physical' separation nominated in the ESC's draft report, would be a costly exercise with no guarantee that a significant number of access requests would be received. VicWater instead proposed that accounting ring fencing should be implemented as a first step and this would provide a clearer picture of how costs were allocated between business units.

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[1] Which the ESC defined as 'The process of providing separate accounts for certain functions within a business.'
[2] Which the ESC defined as 'Where certain functions or activities of the business are operated as if they were independent of the rest of the business.'

The metropolitan water businesses expanded on VicWater's submission in their own separate responses to the ESC's draft report. South East Water argued that operational separation was 'an onerous and costly requirement' and would require significant changes to business systems and processes. It also believed that accounting ring fencing could meet the ESC's stated objective of achieving greater transparency of the costs incurred in providing water and sewerage services.

Although it is not our intention to summarise all of the businesses' submissions, it is worth summarising the metropolitan Melbourne businesses' responses, as these are the businesses most likely to be part of a functional separation regime. City West Water asserted that the concept of functional separation was contrary to VCEC's recommendations on shared services and again cited the 'extremely costly' (City West Water cited a potential cost in the 'tens of millions of dollars') and time consuming processes required to functionally separate. City West Water noted that the service level agreements that would govern the relationship between business units would require between 12 and 18 months lead-time and could be achieved only with detailed guidance from the ESC.

Yarra Valley Water contended that the 'business case for operational separation has not yet been made' and that the benefits of such a scheme were uncertain, whereas the costs were likely to be significant. Yarra Valley Water cited the example of Scottish Water, which was allowed $26 million in capital expenditure and $38 million in operating expenditure to establish a standalone retail entity during the 2006 to 2010 regulatory period.[3] Yarra Valley Water believed that the 'retail-minus' approach, whereby the regulated retail price is used as a basis for determining the access price, could 'obviate the need' for functional separation and would be less costly and more practical than implementing a separation regime.

Melbourne Water commented that accounting ring fencing was more appropriate than functional separation if the ESC requires greater clarity and transparency regarding the cost of service provision. Melbourne Water noted that should it require to functionally separate, this would likely necessitate a change in its business structure. Melbourne Water considered that its existing structure was the most efficient structure for its business and, therefore, any change to this structure would detract from the synergies and efficiencies it currently experiences.

1.3 Scope of this report

In response to the water businesses' views on functional separation, and to inform its final third party access paper more generally, the ESC has engaged Deloitte to prepare a desktop analysis of the processes and timelines required to introduce functional separation in the Victorian water industry. The ESC has asked that the report be based on a theoretical water business with attributes analogous to the metropolitan Melbourne retail businesses. Deloitte was asked to:

- identify which services should fall into the Infrastructure Operator business unit and which are more appropriately categorised as either Other Services or Corporate Services

- discuss the transfer pricing implications for establishing standalone business units within the same organisation, including the transactions required between the separate entities

- set out the steps and activities that would need to be undertaken by a theoretical water business to give effect to the functional separation

- estimate the timelines within which the water businesses could reasonably be expected to functionally separate.

It is important to note that our review is of a desktop nature only and has not involved consultation with the water businesses. Actual processes and timelines will be dependent on matters including:

- the nature of the IT and financial systems currently in place

- the current internal organisational structure of the businesses

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[3] Scottish Water's revenue is approximately GBP1 billion per annum, around five times that of Yarra Valley Water, although the costs required to functionally separate are not likely to be exactly proportional to the size of the business. This is because many similar activities will have to be undertaken, regardless of scale.

- existing physical working arrangements

- the resources available to undertake functional separation

- the final form of functional separation adopted.

Further, our report has been prepared concurrently with the ESC's preparation of its final third party access paper and has been informed by discussions with the ESC regarding its views on functional separation. A key element of the ESC's position is that functional separation should be implemented in a staged approach, commencing with the government's response to the third party access paper, and if endorsed by the government, the development of an accounting ring fencing regime which would precede further investigation of a functional separation regime.

2 Functional separation defined

2.1 Features of functional separation

2.1.1 Separation options

There are various degrees of separation which may be implemented in regulated industries. Professor Martin Cave, in his public submission on the roll-out of Telstra's (then) proposed National Broadband Network, summarised these options, which are reproduced in Box 1. Professor Cave also led the UK Government's investigation into competition in the UK water sector, which recommended legal separation of the majority of the UK water businesses.

Box 2.1. Separation terminology

Table 1 contains a specification of separation options varying from accounting separation underneath a 'ladder' of options which extends to full ownership separation at the top.

Table 1. Separation Options

6	Ownership or structural separation
5	Legal separation (separate legal entities under the same ownership)
4	Functional separation with localised incentives and/or separate governance arrangements
3	Functional or operational separation
2	Virtual separation
1	Creation of a wholesale division
0	Accounting separation

Accounting separation entails identification of the cost elements in supply of retail and wholesale products. Common network elements are separately identified. Some versions of accounting separation may require separate profit and loss statements and balance sheets for the separate entities.

This can be accompanied by the creation of a special wholesale (or otherwise named) unit, with a dedicated management (1 in Table 1). This will be responsible at a managerial level for the production and supply of the relevant products, but with no guarantee, at this degree of separation, of non-discrimination between affiliated and competitive access seekers.

Virtual separation (2) is the modus operandi of many telecommunications incumbents at present, given the obligations for non-discrimination imposed on them. The key issue here is the actual and perceived feasibility of achieving full equivalence of treatment of affiliated and unaffiliated downstream or upstream organisations in such circumstances.

The next step up (3) involves functional or operational separation, which requires reworking of underlying business practices and not just changes at the transaction boundary, as with virtual separation. The aim is to segregate particular assets and other inputs within a separate unit, which then trades using non discriminating processes with both internal and external customers in way that can be verified transparently.

(continued next page)

> **Box 2.1 (continued). Separation terminology**
>
> A higher level of functional separation (4) involves incentives for senior managers in the separated entity, and/or separate governance arrangements. A further escalation of measures in a similar vein would require the creation of a divisional board with non-executive directors independent of the group, or of a special scrutiny regime to enforce separation. This could take the further form of legal separation (5), a regime in which a separate board is created and separate statutory accounts are filed - all designed to emphasise and support the independence of the separated entity.
>
> The final option (6) requires separate ownership of the separated assets. The cleanest situation arises where there is complete separation. This is the definition of separation in the studies reviewed by Lafontaine and Slade and by Joskow cited above*. But there are other possibilities. One which is germane to the present situation in Australia as a result of the G9 proposal, is for there to be overlapping ownership on both sides of the separating wall. Thus, under the G9 proposal, some parties may be partial owners of the network activity and also participate on their own account of the downstream activity, and which others may only participate in downstream. This is a hybrid in which the adverse effects of integration may be concealed by the formal appearance of separation.
>
> (Source: Cave 2008)
>
> * Cave cited Lafontaine and Slade's 2007 *Vertical integration and firm boundaries: the evidence* and Joskow's 2006 *Vertical Integration* in the body of his submission.

2.1.2 Functional separation

As indicated above, functional separation is the requirement to split certain assets (including people) such that there is an arms-length relationship between business units offering different services. In the case of water businesses and other regulated businesses, the European Regulators Group (ERG) noted:

> One common misunderstanding is that functional separation consists in the separation of an operator's wholesale business units from its retail business units. In fact, **the underlying logic of functional separation is to include in the separate business entity only the narrow sub-set of infrastructure assets which cannot feasibly(or economically) be replicated, and to encourage competitors to build their own infrastructure where this is feasible**. (ERG 2007)

In the context of a water business analogous to one of the Melbourne retailers, the sub-set of infrastructure assets which cannot be feasibly or economically replicated is the distribution network. The other functions or services provided by the water businesses can, theoretically, be replicated by another party.

Functional separation can take a number of forms, of various levels complexity. Doyle (2008) identified six key elements of functional separation:

1. separation of functions
2. separation of brand
3. separation of employees
4. separation of information
5. financial separation
6. transparency requirements and compliance.

Separation of functions is the process of establishing different business units, which may or may not be required to be identified as a distinct brand. In the water sector, this branding exercise may only be considered necessary in the event that the government decides to introduce retail competition in the

future, which would avoid confusion amongst stakeholders as to which brand/business provides which service.

The separation of employees and information typically requires that employees in one business unit are not allowed to access the work areas of another business unit and information exchange between business units should be limited and closely regulated (internally). Employees may be required to sign confidentiality agreements regarding the information they are able to access. IT systems will need to be re-designed to limit access to personnel outside a given business unit. In some cases, incentive schemes are re-designed to reflect the performance of the individual business units rather than the whole entity.

Financial separation involves the creation of separate budgets and other financial targets. Each business unit may have to open its own bank account and rely on its own cash balance to meet expenditure obligations. One of the main issues with financial separation is the fact that many investment decisions will still need to be made at Board (i.e. organisational) level and this limits the financial independence of a functionally separated business unit.

Once these five levels of functional separation are implemented, a process needs to be implemented that monitors each business unit's compliance with functional separation rules, policies and procedures. This can either be built into an existing internal audit function or be a stand alone report prepared by or on behalf of the regulator (who could make such a report publicly available).

The features of a functional separation regime which could be practically implemented in the Victorian water industry are discussed in the following chapter.

2.2 Objectives of functional separation

A key objective of functional separation is to ensure that, in a vertically-integrated operator, upstream (often monopoly) business units have a commercial incentive to treat all downstream customers fairly, rather than discriminating in favour of their own downstream customer(s). We note, however, that functional separation is also likely to create inefficiencies or duplication of costs. Any functional separation regime needs to ensure that, to the extent possible, these and other costs are outweighed by the benefits of functional separation.

In the context of the Victorian water industry, the benefits of functional separation include:

- providing a clear and transparent method for identifying the costs associated with the provision of monopoly and competitive services, which will facilitate access pricing

- eliminating or substantially reducing cross subsidies between business units which may distort access prices

- promoting competition in downstream markets and providing opportunities for innovation (both new products and new services)

- providing a catalyst for the management of water businesses to consider how their organisation should operate most efficiently in an industry with a functioning third party access regime.

2.3 Functional separation in practice

BT Openreach

One of the best known examples of functional separation is British Telecom's network access provider Openreach, which in January 2006 was functionally separated from other BT business units in response to a request from the UK telecommunications regulator Ofcom. Openreach is on a scale far larger than any of the Victorian water businesses (annual revenues of around GBP5 billion), and the key features of Openreach's functional separation were:

- a fully separated entity with its own workforce, including its own CEO and corporate teams (finance, HR etc)

- physical separation through being located in a separate premises

- the provision of 'full equivalence' – i.e. the providing the same products, quality, price, terms and conditions etc., to both its BT customers and other customers

- the establishment of an Equality of Access Board, comprised of both executive directors of BT and independent external members, which is responsible for overseeing Openreach's compliance with BT's functional separation undertakings

- separate operational management information systems

- establishing 'Chinese Walls' to prevent exchange of information between Openreach and other parts of BT.[4]

Although not all elements of Openreach's functional separation would be necessary in the Victorian water industry, a number of elements would likely be adopted. Some of these can be seen in the context of the Victorian Rail Access Arrangements.

Victorian rail access regime

Victorian rail operators who are defined as 'access providers' under the *Rail Corporations Act 1996* (essentially those operators who own or operate natural monopoly rail infrastructure) are subject to a functional separation regime as set out in the ESC's Ring Fencing Rules (Annexure B of the ESC's December 2005 *Commission Instruments Paper*, available on the ESC's website). A rail access provider is required to maintain a single business unit for its access activities and related access activities which is organisationally and functionally separate from its other business units.

Features of the separation regime in the rail sector include:

- the existence of 'shared services staff', who are defined as "staff involved only in corporate administrative functions or services, human resources, accounting, corporate finance, information technology support or information technology support services" and executive level officers to whom all staff report either directly or indirectly

- the establishment of separate work areas which prevent staff from one business unit entering the work area of another business unit (exceptions being shared services staff)

- separate workforces (except shared services staff) meaning that a staff member from one business unit may not be involved in the conduct of another business unit

- IT access controls, although not necessarily separate IT systems

- the ability for the access provider business unit to provide services to another business unit, but only when to do so is more cost effective than the other business unit undertaking the service itself or engaging another entity to provide the service. The service must also be the subject of a written and executed agreement between the two parties and must be undertaken on an 'arm's length' basis

- the access provider being required to provide equivalent information to all other parties, when requested and required under the law or the regulatory regime

- the requirement for the access provider to establish and maintain policies, procedures and systems that demonstrate how it will comply with the ESC's Ring Fencing Rules.

The Victorian rail functional separation framework would appear to be quite relevant to a potential functional separation regime in the Victorian water sector and the ESC could leverage its experience in establishing the rail arrangements when developing a functional separation framework in the water industry.

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[4] Doyle (2008) provides an excellent overview of the BT Openreach model.

3 Functional separation models

3.1 Potential model alternatives

As already indicated, functional separation can be applied in a number of ways. For an organisation and market large enough to warrant it, there is the Openreach model, whereby the business unit establishes its own brand, workforce, CEO and so on. Such an approach is unlikely to be desirable in the Victorian water sector, due to the level of additional cost required.

Deloitte prepared three proposed functional models for consideration by the ESC to inform the selection the preferred end state model. These models not only draw on our knowledge of the functions and organisational structure within the Melbourne metropolitan water businesses but also utilises one of Deloitte's best practice tools, IndustryPrint.

IndustryPrint is a proprietary business process modelling tool created and maintained by Deloitte and contains a repository of best practice processes for core and support business functions based on industry and functional best practice. The repository contains IndustryPrints for a range of specific industry sectors and for the purposes of this project we have referenced the IndustryPrint specific to utilities.

Use of the Utilities IndustryPrint has allowed us to cross-check the typical business functions of a utilities organisation with our knowledge of the Melbourne metropolitan water businesses to provide confidence that all essential functions have been included. This will require further investigation if functional separation is selected as the appropriate option and as more detail of the specific businesses becomes available.

The three models were:

Model A: a functionally separated organisation where all resources (including people, systems and assets) directly involved in the provision of certain services (infrastructure [monopoly] services or other [competitive] services) are located in separate business units, with an additional 'corporate' or 'shared services' business unit providing services to each of the other business units. The costs of this 'corporate' business unit are allocated to the other business units on the basis of various accounting/allocation rules as defined in service level agreements.

Model B: 'strong' functional separation, whereby the services to be separated have completed separate workforces, assets, physical locations, etc. Under this model, each business unit would be required to have its own IT infrastructure, human resources division, corporate services, etc. Costs are most clearly demarcated in this model as there are few shared costs to be allocated to each business unit.

Model C: Similar to Model A, in that there are some services that are deemed to be 'shared' between the business units, however in this model, the resources for those shared services are 'housed' in (and paid for by) the business unit that is most appropriate for the particular service. To the extent that these resources need to be accessed by other business units, there are contracts or service level agreements put in place which set out the terms on which the resources can be used (including charges between business units).

Represented visually, the models, at a high level, would be structured something like the below.

Figure 3.1 Functional separation options

MODEL A

Board and Managing Director

Infrastructure Op	Corporate	Other
Operations	Finance	Customer Service
Maintenance	HR	Billing
Asset management	IT	
Planning	Legal	

SLA ← → SLA

MODEL B

Board and Managing Director

Infrastructure Op	Other
Operations	Customer Service
Maintenance	Billing
Asset management	Finance
Treatment	HR
Finance	IT
HR	Legal
IT	
Legal	

MODEL C

Board and Managing Director

Infrastructure Op	Other
Operations	Customer Service
Maintenance	Billing
Asset management	
Treatment	
Finance	
HR	
IT	
Legal	

SLA

3.2 Discussion

Model B

It is useful to begin the discussion of the various models with Model B, which is the model that is most commonly referred to in the functional separation literature. The ESC identified this model as one of the potential functional separation options in its draft third party access paper. Model B has the advantage that, from a competitive neutrality viewpoint, there can be no question of cross-subsidisation or shared resources that other competitors may not enjoy. The standalone costs of providing each of the monopoly (Infrastructure Operator) service and the competitive (Other) services are clearly defined and the charges recovered by the Infrastructure Operator from the Other Services business unit would simply be the total expenditure incurred by the Infrastructure Operator, plus an appropriate return on/of its assets. Model B therefore promotes many of outcomes sought under functional separation such as eliminating information asymmetry, ensuring there is no internal preference, encouraging equivalent service quality etc.

The major disadvantage of Model B is the cost and effort required to implement it and the duplication of costs involved in its operation. The formation of two completely distinct operating business units, each with its own finance, human resources, IT systems etc, together with the physical separation that would likely be required under such a model, mean that Model B is clearly the 'high-cost' option out of the three.

Models A and C

Features of Models A and C

If Model B is likely to be too costly to implement, then a decision must be made about what to do with those resources (staff and systems) which could be considered as being able to provide those 'shared services' as contemplated under the ESC's Ring Fencing Rules in the rail sector. Under Model A, these resources form part of a third business unit, referred to as 'Corporate Services'. Staff in 'Corporate Services' provide services to the other two business units according to service level agreements (or similar) which outline the services that will be provided, the constraints on using or sharing information and the agreed cost of providing the services.

Under Model C, there are similar arrangements in place, however the 'shared services' resources are a component of one of the existing business units (e.g the Infrastructure Operator, which in this case will be the largest business unit. Shared services could also be split amongst the two business units).

Under both Model A and Model C, the business unit that is engaging the services of a shared services employee (or other resource) is invoiced by the business unit that is providing the service. Determining and charging the price for these services is referred to as 'transfer pricing'. Consider Model A, where there is a 'Corporate Services' business unit which includes an IT department. As an example, the cost of running the IT department annually is $1 million and this cost needs to be recovered by the water business through the water business's tariffs. The water business will need to determine a manner in which the cost of providing IT services to the employees in the other business unit (and its own business unit).

In such a scenario, the 'Corporate Services' business unit will have a formal service level agreement (SLA) with the other two business units about how it will recover its costs. This may be calculated based on the assumed amount of time spent during a year on each business unit. If the IT department typically spends 60 per cent of its resources on the Other Services business unit. In this example, the Other Services business unit would be issued with an invoice for $600,000 (60 per cent of $1 million) which it would pay to 'Corporate Services'. Therefore, Corporate Services would have the underlying expense, which is offset by (internal) revenue from 'Other Services'. 'Other Services' meanwhile has a $600,000 expense on its books relating to IT and this is recovered through retail prices charged to customers.

Advantages and disadvantages

Model A has the advantage over Model C in that the transfer pricing that could occur in Model A is slightly more transparent than Model C. In Model C, there may be an incentive for the business unit which 'houses' the shared staff to inflate the costs of providing services to the other business unit to receive revenue that more than offsets its expense. Under Model A, there is no such incentive: as long as the 'Corporate Services' business unit is indifferent to how its expenditure is recovered and from whom. Model C also has an inherent risk that the contracting business unit may use information gained from the business unit it is contracting to, in contravention of functional separation policies.

One attribute of Model A is that such a model is a relatively light handed form of functional separation. Compared to Model B, it retains a higher number of opportunities for information asymmetry (though fewer than Model C) and relies on accounting or allocation rules to determine how the costs for shared services should be borne between the other business units. Model A also has twice the number of transfer pricing transactions, because the shared services are invoiced to both business units, whereas under Model C, there is only one invoice (from, say, the Infrastructure Operator to Other Services).

3.3 Conclusion

After considering the relative merits of each model, the ESC has asked Deloitte to undertake further analysis of Model A. The ESC considered that Model A was the most likely to achieve the objectives described in section 2.2 (transparency of costs, assisting potential future retail competition etc) whilst reducing the costs and timelines required to implement the regime.

4 Analysis of selected model

4.1 Overview of 'Model A'

4.1.1 'Model A' structure

Retail/distribution model

As noted in Chapter 3, the ESC advised Deloitte to investigate, in detail, the processes and timelines that would likely be necessary to adopt a functional separation model based on 'Model A', the key features of which are:

- the establishment of an 'Infrastructure Operator' business unit for services related to monopoly infrastructure

- a separate 'Other Services' business unit for services that could be opened to competition and are not related to monopoly infrastructure

- a 'Corporate Services' business unit, comprising those services that are most appropriate to 'share' across the other two business units, such as Finance, IT, Human Resources, etc.

Figure 4.1 on the following page depicts how a hypothetical retail/distribution water business may be functionally separated under such a model. The functional separation structure is colour coded as follows:

- the Infrastructure Operator and Other Services business units have sub-units presented in a bold, solid line box

- functions (presented in separate boxes) with a solid border are considered as distinctly belonging to either the Infrastructure Operator or the Other Services business unit

- functions with a dashed-line border are those functions that are required under both the Infrastructure Operator and the Other Services business unit, however are split into two teams which comprise staff belonging to only one business unit (i.e. the regulation function in the Infrastructure Operator would be carried out by staff who only work on regulatory matters for that business unit and would not share team members with the regulation team in the Other Services business unit)

- Corporate Services which provide services (under an SLA) to the other business units have a faint dotted line border.

Other water businesses

The retail/distribution model presented in Figure 4.1 does not strictly apply to the majority of the water businesses in Victoria. Many regional water businesses also operate water storage and wastewater treatment and disposal facilities. Appendix A contains a functional separation model for a fully integrated 'regional urban' style water business.

Figure 4.1 Example of a functionally separated distribution/retail water business

Infrastructure Operator

Asset Planning	Growth Planning	Research and Development
	Strategy	Asset Management Planning
	Water Conservation	Strategic Procurement

| Asset Creation | Asset Design | Asset Creation |
| | Major Projects | |

Asset Management	Network Operations	Network Maintenance
	Water Quality	Treatment
	Meter Reading	

| IO Customer Relations & Service | Customer call centre (faults) | New Connections |
| | Marketing and Communications | |

| IO Business Management | Regulation | Procurement |
| | Reporting | |

Corporate Services

- Finance
- IT Services
- Human Resources
- Legal and Risk
- Corporate Procurement

Other Services

| Other Services Planning | Strategy |

OS Customer Relations & Service	Customer Billing	Customer Service (customer facing)
	Customer call centre (accounts)	Relationship Management (large customers)
	Marketing and Communications	Water Conservation

| OS Business Management | Regulation | Reporting |

4.2 Description of business units

This section provides an overview of the activities which are undertaken by each business unit.

4.2.1 Infrastructure Operator business unit

The largest business unit within the water business would be the Infrastructure Operator. The Infrastructure Operator includes all assets, processes and staff whose direct costs can be attributed to the provision of monopoly infrastructure services.

It is important to note that we are not proposing that the sub-units (Asset Planning, Asset Creation, etc) act autonomously or that they require transfer pricing between sub-units. Rather, the sub-units are presented as a logical way to represent the functions performed by the Infrastructure Operator and the types of teams that would sit beneath each sub-unit.

Further, Figure 4.1 provides only one example of the many possible structures within business units and is intended to provide an indication of the kinds of services likely to be undertaken by each business unit. Each water business would be expected to structure its business units in a way that would achieve the highest level of business efficiency.

The **Asset Planning** sub-unit is responsible for a range of functions, such as planning for growth, research and development, asset management planning etc. The **Asset Creation** sub-unit is responsible for the asset design and creation once the asset planning sub-unit has identified which assets to build and when. Once the assets are in place, the **Asset Management** sub-unit is responsible for the day to day operations and maintenance of the network of assets.

There are two teams within the Infrastructure Operator business unit which are not directly related to planning, creation or management of the natural monopoly infrastructure. The **Customer Relations and Service** sub-unit handles network fault enquiries (through a dedicated call centre) and is the contact point for customers wishing to connect to the network where infrastructure does not currently exist (akin to the circumstances covered by the ESC's new customer contributions). This sub-unit would also house the Infrastructure Operator's marketing and communications team. The final sub-unit is the **Business Management** team, which is comprised of a reporting team which would develop and provide reports required by the regulator or other stakeholders.

Unregulated services

We also note that some water businesses may provide some unregulated services using staff who are predominately employed in the provision of regulated Infrastructure Operator services. An example of this is where a water business may contract its maintenance staff to other organisations.

The question when such an activity occurs is whether or not the unregulated activity should be separated from the Infrastructure Operator and reside in the Other Services business unit. The alternative is to retain the resources connected with the unregulated service within the Infrastructure Operator, but introduce accounting ring fencing rules to identify the costs and revenues associated with the service. This is an issue that will need to be addressed by the ESC and stakeholders, however for the purposes of our analysis, we have assumed that these resources are retained in the Infrastructure Operator, but are ring fenced from the regulated monopoly services provided.

4.2.2 Other Services business unit

The services provided by the water business to external customers which are not directly related to monopoly infrastructure are grouped in the Other Services business unit. For a hypothetical retail/distribution water business, the main service offered under its Other Services business unit is its retail function.

A water business's retail function typically involves the 'customer facing' component of the water service. In this regard, the main retail services involve customer billing, customer enquiries about accounts (service fault enquiries are the responsibility of the Infrastructure Operator), managing large customer relationships and other customer service functions. These are all functions that are not

dependent on natural monopoly infrastructure and competition for the provision of these services could, in theory, achieve better outcomes for end-use customers and promote innovation. These services would be conducted from within the business unit's **Customer Relations and Service** sub-unit.

An example of the potential for innovation relates to metering. It makes more economic sense for the cost of installing, maintaining and reading standard meters (i.e. meters that are currently in operation and simply record the total volume of water used over time) to be borne by the Infrastructure Operator. This would obviate the need for customers to purchase new (standard) meters when they switched retailers (or to transfer ownership to the new retailer) and there would be economies of scale for an Infrastructure Operator maintaining and reading all of the meters in its distribution zone.

However, a retailer wishing to seek an advantage over its competitors may choose to offer its customers 'premium' meters, such as the 'smart meters' currently being developed and rolled-out in the energy sector. Such meters, which may provide the customers with in-house usage and accrued cost information, or which can be read remotely, may attract customers willing to pay a premium for this added service. In this instance, the responsibility for 'premium' meters would reside with the retailer, although there is nothing stopping it from engaging the services of a third party (including the Infrastructure Operator) to assist it to install, maintain and gather information from the meters. The development of this and other strategies for attracting customers, improving service and other corporate strategies is envisaged to be the responsibility of a separate **Planning** sub-unit.

Sitting within another **Business Management** sub-unit are teams focused on regulation and reporting. In the short to medium term, retail prices will be regulated by the ESC and therefore Other Services will need to have its own regulation team. It will also have several reporting requirements (to the ESC, DSE, other regulators such as the Department of Human Services, to the Ombudsman, to other water industry bodies etc) that will likely require reporting on retail outcomes.

4.2.3 Corporate Services business unit

As discussed in Chapter 4, the Corporate Services business unit is only a feature of Model A. The advantages of a separate Corporate Services business unit are the retention of economies of scale, and greater transparency in the cost of these services.

The over-arching 'corporate' functions that would reside in the Corporate Services business unit are:

- finance

- human resources

- IT

- legal and risk

- corporate procurement.

The resources in these teams would provide their services to the other business units and would charge these services according to contracts or service level agreements to be developed between the business units.

4.2.4 Teams providing similar services

The teams denoted by the black text boxes Figure 4.1 provide similar functions, however they are discrete teams within each business unit and do not interact with each other. Examples of the types of functions each team in either the Infrastructure Operator or Other Services business unit would fulfil are presented below, although this is not an exhaustive list.

Table 4.1 Types of work for similar teams in each business unit

Team	Infrastructure Operator	Other services
Communications	Notification of planned interruptions Explanation for unplanned interruptions Other asset-related news (e.g. new recycled water TP/pipeline) Performance results (number of interruptions, mins off supply etc)	1:1 customer service information Billing arrangements (including instalment/hardship arrangements) New services available (e.g. recycled water) Performance results (call centre-related) Unregulated services
Water conservation	OWOF or CRSWS obligations Other government-mandated programs Leakage control programs Water restrictions (excl. on customer bills)	Water restriction information on customer bills Commercial customer water management plans
Strategy	Asset-related strategy Water resources strategy (incl. liaising with MW) Regulatory strategy	Customer/market growth strategy New services

Water conservation

We consider it likely that the responsibility for undertaking water conservation measures will be the subject of a relatively significant degree of comment. For example, on first glance water conservation activities may be considered an entirely retail function – it is the retailer after all that has the relationship with the end user, to whom restrictions and other water conservations efforts are targeted.

When allocating workstreams between business units, we have applied a slightly different test – based on the premise that functional separation may ultimately facilitate competition in the future. In a scenario where a privately owned retail competitor seeks to enter the market, the incumbent, government owned retailer would be at a competitive disadvantage if it was obliged to contribute to a government water conservation program (an example could be the 'Target 155' campaign) and the new market entrant was not. In such a scenario, it is more appropriate that government mandated expenditure is incurred by the Infrastructure Operator and then passed onto all retailers in the form of the Infrastructure Operator charge.

There is another way in which the costs of government mandated programs on water conservation could be borne. A State-owned Water Grid Manager (WGM), or Bulk Water Manager (for example, a business like Melbourne Water), could be given the responsibility to implement (and pay for) these programs. The costs incurred by a WGM, would however, eventually be passed onto end-use customers, as the WGM would include these costs in charges that retailers must pay to it for the water.

4.2.5 Inter-business unit relationships and transfer pricing

There are a number of elements in Model A that would require relationships between the business units to be clearly defined, including transfer pricing arrangements, in a formal agreement such .as a service level agreement (SLA). An SLA would need to define, amongst other things:

- the service being provided
- the standard of service expected
- transfer pricing and billing/payment arrangements

- review arrangements (including modification and termination clauses)

- dispute resolution arrangements

- information exchange arrangements.

Relationships and SLAs between Corporate Services and other business units

Any work performed by Corporate Services on behalf of the other business units will be subject to an SLA. Separate agreements will need to be developed for the provision of finance, human resources, IT services etc. Because each team within Corporate Services is likely to interact with the other business units for different reasons, at different times, a single agreement between Corporate Services and the other business units is unlikely to be sufficient.

Key areas where SLAs will be required include:

- payroll services

- legal advice

- preparation of management and financial accounts by the finance team

- preparation of reports, such as Board reports and Annual Reports

- recruitment, training and other services undertaken by human resources

- IT support, procurement and strategy advice

- procurement of general office supplies

- assistance with internal audit functions

- risk management, disaster recovery and business continuity planning

- assistance with regulatory matters (to the extent that this cannot be fully achieved by the business unit's own regulatory staff).

Further investigation of the precise systems and organisational workflows within a business are likely to identify more areas of interaction between Corporate Services and the other business units. Once all of areas that require transfer pricing have been identified, the basis on which the transfer prices will be set will need to be agreed upon, entered into service level agreements or contracts and potentially linked to finance or other IT systems.

In addition to transfer pricing, Board and Managing Director costs will need to be allocated (based on allocation rules) between the business units.

Transfer pricing between the Infrastructure Operator and Other Services units

The transfer pricing between Corporate Services and the other business units are only one kind of transfer pricing required. Further transfer pricing requirements exist between the two 'external service related' business units.

Infrastructure charges

The Infrastructure Operator will provide services to downstream customers (such as retailers) via the infrastructure which is required to deliver water to the end-use customer. Therefore, the majority of the Infrastructure Operator's costs must be recovered through downstream customers (assuming that a regulatory cost recovery pricing principle exists). The Infrastructure Operator will invoice the retailer (or retailers) for the cost of providing the service and then the retailer (in the Other Services business unit of a functionally separated entity) will pass through the infrastructure charges to its customers as part of its regular customer billing.

The SLA between the Infrastructure Operator and the Other Services business unit will need to address a number of issues caused by the relationship between the two parties and the end user. The major element of the SLA will be the agreement on the calculation of the transfer price between the

two business units for the Infrastructure Operator's services. However, the SLA will also need to address:

- risk sharing arrangements, such as in the instance of non-payment of customer bills. For instance, the Other Services business unit may pay the Infrastructure Operator in full, but then relies on end-use customers to reimburse it for this expense. Therefore, the Other Services business unit assumes all the revenue risk if customers do not pay, unless an alternative arrangement is agreed to between the two business units that is reflected in the monthly infrastructure charge

- penalties payable under guaranteed service level (GSL) schemes. If the GSL payment relates to the infrastructure service, the retailer should not be expected to fund the GSL penalty itself, but would likely be the party responsible for paying the customer (because the retailers has the relationship with the customer). Therefore arrangements will need to be made for the Infrastructure Operator to fund infrastructure-related GSL payments (say, through a credit to the monthly infrastructure charge)

- payment terms. Retailers typically bill their customers quarterly, in arrears. If the Infrastructure Operator invoices the Other Services business unit on different terms (for instance, monthly, in advance), the Other Services business unit may wish to include a working capital allowance, or some other arrangement to address revenue/expenditure timing differences

- legal liability for any losses caused as the result of one party's actions. In the current environment, this may not be a major issue because even a functionally separated business is still the one legal entity, however in an environment of full retail competition, legal liability would be an important feature of the SLA between the business units

- connection and disconnection arrangements, including planned interruptions initiated by the Infrastructure Operator and retail disconnection.

The *Default Use of System Agreements* that have been approved by the ESC for the Victorian electricity industry provide a useful benchmark for the issues that would need to be addressed in the SLA between the Infrastructure Operator and the Other Services business unit. These agreements are available on the ESC's website.

Other charges

In addition to infrastructure charges, there may be requirements for agreements between the parties in relation to:

- any meter reading services undertaken on behalf of the Other Services business unit by the Infrastructure Operator

- new customer connections (liaising between the business units to provide the infrastructure to service new developments)

- potential interaction between the two customer call centres (see below).

It is likely that both the Infrastructure Operator and Other Services will require a customer call centre. The Infrastructure Operator call centre would have its own phone number for customers to call regarding service faults, whilst the Other Services call centre would receive calls regarding customer account or billing enquiries. This is a similar arrangement to the electricity or gas industry, where fault enquiries are directed to the distribution business and account enquiries are directed to the retailer. The two business units will need to develop arrangements for forwarding calls and accessing information when customer queries are received by the wrong business unit (for example, a customer with an account enquiry who calls the Infrastructure Operator). It is also possible that existing call centres may comprise staff who handle both account and fault enquiries and in the interim, one business unit may provide these services to another, before call centres are physically separated.

5 Implementing Model A

5.1 Overview

This chapter of the report sets out the logical sequence of phases and activities that are required for the implementation of functional separation Model A for a theoretical water business with distribution and retail functions. The activities, responsibilities, dependencies and timings of each phase are outlined in table format to describe the steps to work through to achieve functional separation. The timeline of the key phases are displayed in a high level roadmap along with considerations and outcomes at key points along the separation journey.

The activities and timing relating to each phase have been defined at a high level and will require further development in subsequent pieces of work following agreement and finalisation that functional separation is to be implemented across the water businesses.

No reference has been made to the existing structure of Melbourne water businesses and the activities, interdependencies and timelines discussed in this section are purely based on the end state business Model A.

5.2 Extent of separation

As observed in chapter 3, functional separation can have a number of features that are not necessarily appropriate for the Victorian water industry at this time. For example, the ESC's ring fencing rules for the Victorian rail access regime require that an access provider ensures that employees from one business unit are prevented from entering the work area of another business unit (unless the employees are 'shared services' staff).

The ESC has advised that its current view is that such physical separation is not expected to be a feature of a functional separation regime, at least in the short to medium term. This will significantly reduce the cost and timelines required to implement functional separation. We do consider it worthwhile, however, that to the extent practicable, a functionally separated entity would benefit from having employees from one business unit located in one continuous area of the business's building, separate to (though not necessarily physically separated from) the work area of other business units. We understand that some water businesses may currently implement such an office plan, or something approaching it.

It is also worthwhile noting that some of the water businesses may already have processes or work practices in place that would further reduce the time and effort required to functionally separate. For example, we understand that some water businesses have separate call centres and phone numbers for accounts and faults enquiries and some have implemented SLAs between different areas of the business. Therefore not all businesses will start from 'square one' if they are required to functionally separate.

5.3 Key requirements for functional separation

This section sets out the key phases and high level activities required to implement functional separation reflective of the business structure defined earlier in this report as Model A.

There are five key phases of work that would need to be undertaken to achieve functional separation as outlined in the diagram below. Beneath each phase heading is an overview of the key activities to be undertaken in that phase and these are detailed further in section 5.4.

Figure 5.1 Key functional separation phases

Theoretical functional separation model detailed design & gap analysis	Define separation leadership, strategy & approach	Initiate separation	Plan separation	Execute separation
• Identify & confirm assumptions of Model A • Undertake detailed design of end state theoretical water business model • Undertake gap analysis between current state and end state • Identify key risks	• Define & agree separation leadership roles • Define separation strategy & approach	• Establish separation program (infrastructure & resources) • Develop separation requirements & blueprints • Commence organisation re-design • Commence development of workforce plans	• Develop separation program plan • Organisation re-design • Develop workforce plans • Change management planning • Develop workplans • Develop Separation & Services Agreements • Develop Day 1 checklist	• Manage separation execution • Execute organisation design • Execute workforce plans • Manage change readiness • Execute workplans • Execute Separation & Services Agreements • Execute Day 1 checklist

When undertaking a business separation or re-organisation there are four key areas that need to be considered in terms of impacts or changes. These four areas are:

- Structure: e.g. business model design and organisation structure
- People: e.g. resource number and allocation, capabilities, capacity
- Processes: e.g. policies and procedures, information flows, contracts
- Technology: e.g. systems, applications, data, access, interfaces.

Considering the four key areas outlined above in the context of Model A, we have identified a number of issues that may result from functional separation of a theoretical water business. These are outlined in the table below.

Table 5.1 Key issues

Key separation area	Relevant functional area	Outline of issue
Structure		
Functionally separate business model	All	Functional separation of a water business into monopoly (Infrastructure Operator) and the non-monopoly (Other Services) functions will result in a number of internal people, process and system changes and / or duplications which are likely to lead to a lengthy and complex separation program. External factors such as ring fencing guidance from the ESC and other regulatory reporting requirements that will need to be achieved under functional separation add a layer to this complexity.
Accounting separation (ring fencing)	Infrastructure Operator & Other Services	We understand that the ESC is planning on implementing accounting ring fencing prior to deciding whether to proceed with functional separation. The ESC will need to develop ring fencing guidelines in consultation with the water businesses and where required, businesses will have to restructure their financial and accounting systems to reflect the new accounting ring fencing regime.

Key separation area	Relevant functional area	Outline of issue
Regulatory considerations	Infrastructure Operator & Other Services	There are likely to be a range of regulatory considerations that the ESC will need to provide guidance on and businesses will have to adapt to. This includes potential changes to the regulatory accounts, establishment of ring fencing rules, how regulatory staff are structured within the business, etc.
Asset separation	Infrastructure Operator & Other Services	Separation or allocation of assets between the business units will add a layer of complexity when it comes to regulatory reporting and accounting and tax considerations. The ESC will need to provide guidance on the manner in which it expects the RAB to be allocated between monopoly and non-monopoly business units.
Board & Executive	All	Careful consideration will need to be given to governance arrangements in relation to management of the new business structure. Key decisions such as the potential splitting of the executive team to form separate executive teams for each business unit and how these will meet with and report to the Board in a way that protects confidentiality will need to be addressed.
People		
Shared services	Corporate services	A number of considerations will need to be given to the protocols and controls relating to the shared corporate services staff to protect information confidentiality whilst allowing staff members access to the information and systems they require. This will require development of protocols to manage the behaviours of these staff.
Staff allocation	Infrastructure Operator & Other Services	Current staff capabilities will need to be assessed to ensure that staff allocation to functional areas is effective from a skills perspective and that employment terms and conditions are favourable to staff. Consideration will need to be given to changes required to employment contracts (including KPIs etc) and also to managing restrictions around the interfaces between business units from a physical and information perspective.
Process		
Customer Information & Systems	Infrastructure Operator: Customer Service Other services: Customer Service	There is likely to be increased complexity around new connections i.e. initial contact made with the Infrastructure Operator and then account and billing needs to be established through Other Services
Accounting & reporting	Infrastructure Operator & Other Services	Although functional separation will improve transparency around pricing and accounting for assets and services, a degree of accounting ring fencing will still apply in certain business units that will be managed through rules and policies. This will need to be considered in relation to transparency and clarity around accounting and reporting of this to relevant external bodies.
Audit of compliance with functional	Corporate Services: Legal &	Consideration will need to be given to development and establishment of appropriate internal systems to be put in place to

Key separation area	Relevant functional area	Outline of issue
separation requirements	Risk	assess compliance with the functional separation requirements and the interface with external audit processes and any complications that may arise as a result of functional separation and accounting ring fencing within business units.
Technology		
Customer Information & Systems	Infrastructure Operator: Customer Service Other services: Customer Service	Functional separation of the customer service function into the two business units will present complications in relation to, for example data restrictions and/ or sharing of Customer Relationship Management systems, billing systems (property charges & water allocation charges will need to be separated)
Duplication of call centres	Infrastructure Operator: Customer Service Other services: Customer Service	It is likely to be a requirement of functional separation that call centres will need to be duplicated to separate those calls relating to Infrastructure Operator services and those relating to Other Services. This requirement will be necessary should a third party 'other services' operator enter the market unless some contractual arrangement can be made regarding use of common call centre facilities with information and access controls. We note, however that to the extent that water businesses have already implemented separate phone numbers or call centres for account and fault enquiries, this will reduce the time and cost required during functional separation.
Duplication of IT systems and applications	Infrastructure Operator & Other Services: cross-functional area	Requirement for the duplication of IT systems is a key consideration and complication for functional separation. The ESC view at this stage is that they would like IT controls to be put in place to manage information access and flow but that the same system is used.
Access to information	Infrastructure Operator & Other Services: cross-functional area	Should a third party 'other services' operator enter the market they will need to have their own IT systems and the interface with the Infrastructure Operator will need to be very carefully managed both to allow for appropriate information provision but for controls around security also.

5.4 High level separation activities and timeframes

Given the desktop nature of our analysis, we have taken the approach of outlining the key general set of activities/steps that need to be undertaken for each of the functional areas to undertake functional separation and transition to Model A. This follows the five phases outlined in Section 5.3.

For each of the five phases the following information is outlined:

- objectives of the phase
- key activities/steps
- responsible party
- interdependencies (internal: within separation program, external: outside separation program)

- estimated timeframe[5]

It is envisaged that phase 1will be undertaken by the ESC or a consultant prior to any separation programs or activities being initiated within the water businesses themselves. This sequencing is recommended as phase 1 will further investigate the functional separation concept and develop a more granular and detailed set of activities, dependencies and timings following on from this desktop assessment to ensure the concept is valid and to provide the baseline and requirements on which to initiate specific activities within the individual water businesses.

Table 5.2 Phase 1 activities required

Phase 1 Key milestone	Theoretical functional separation model detailed design & gap analysis Cost benefit analysis of functional separation and decision made as to if to proceed with concept. Governing principles/requirements of separation across water businesses defined.
Objectives	To validate assumptions made to date relating to the theoretical functional separation model design (model A) against the final ESC separation requirements. To understand in detail the implications and required changes for a water business (gap analysis) in implementing functional separation and the key risks associated with separation. To map out at a high level the key milestones for functional separation implementation across the water businesses.
Key Activities/Steps	• Consider the assumptions made to date through previous inquiries, reports and assessments in relation to functional separation principles and requirements and validate these in relation to the final separation requirements issued by the ESC. • Define the 'as-is' or 'current state' business model that will form the basis for undertaking the Phase 1 investigations. This may be a specific Melbourne metropolitan water business current business model or it may be a defined theoretical model approved by the ESC for the purposes of undertaking this assessment. This will define the current business unit structure and functional areas and organisation structure and will be supported by relevant processes and technology information. • Undertake the detailed design of the 'end-state' functional separation model for a theoretical water business. This is expected to build on Model A defined earlier in this report and will add further detail to the functional areas and organisation structure and also the processes and technology required to supports this new business model. • Undertake a gap analysis between the theoretical (or other defined) current state model and end state theoretical model and identify the key functional changes required to move from current state to end state (structure, people, process, technology) • Identify key risks & issues of separation • Develop a high level separation roadmap for the functional separation across water businesses. This will build on the roadmap presented in this report but will contain more detail and be presented as key activities and timings per functional area and will highlight key interdependencies between activities that drive the

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[5] The timeframes are estimates only due to the desktop nature of this study. The estimated timings per phase factor in the need to balance separation with other changes that may be happening in parallel across the business and also has consideration for any consultation and approval timeframes relating to external parties e.g. the ESC, legal practitioners if required and the regulator.

	sequencing of functional separation activities.
Responsible party	Essential Services Commission (or appointed consultant)
Interdependencies	• ESC confirmation/direction to proceed with further detailed investigations into functional separation of water businesses • Detailed current state business model information from Melbourne metropolitan water businesses (functional area breakdown and people, process and technology information) • Access to other Melbourne metropolitan water business information as required
Estimated timeframe	6 months

Phase 2 to Phase 5 below defines the activities to be undertaken within each of the water businesses following final ESC approval that functional separation is to be implemented.

Table 5.3 Phase 2 activities required

Phase 2 Key Milestone	Define separation leadership, strategy & approach Business functional separation strategy established and leadership team appointed
Objectives	To revise governance arrangements and to define and appoint the leadership team for the separation programs and the support infrastructure and resources. To define the separation strategy for the water business based on the ESC requirements and legal, regulatory & statutory requirements and the approach that will be taken to implement this.
Key Activities/Steps	• Define the separation program resource requirements from a leadership and support perspective including program resource structure and key capabilities (e.g. decision making capacity, technical knowledge, functional leads, Project Management office (PMO), communications & change management etc). • Determine the executive group split between the new business units to create a structure that protects information sharing and confidentiality. • Define the governance arrangements and terms of reference relating to new executive structure e.g. duplicate executive meetings and minutes etc. • Select and appoint the program leadership resources to champion and drive the separation program. • Select and appoint interim business unit General Managers with appropriate capabilities and capacity to deliver the separation program. • Develop and agree the detail of the separation strategy based on the outcomes and recommendations of related reports and investigations and also legal, regulatory and statutory requirements. • Develop and agree the approach to be taken to the separation program. • Define physical location approach to be followed
Responsible party	Water business management/executive Separation program leadership team
Interdependencies	Internal:

	• Water business HR External: • ESC separation requirements • Outputs of Phase 1 • Legal, regulatory & statutory requirements • Consultation with external parties e.g. ESC, other regulators, legal practitioners etc
Estimated timeframe	3 months

Table 5.4 Phase 3 activities required

Phase 3 Key milestone	Initiate separation Functional separation program established and high level business requirements and changes defined
Objectives	To establish the separation program in line with that defined in Phase 2 to create an appropriate structure in terms of resources and tools to deliver the program. To clearly define the separation requirements and blueprints for each functional area to ensure all key considerations are captured ready to develop the separation plan. To commence workforce planning activities through investigation and definition of the changes to the workforce that will result from functional separation.

Key Activities/Steps	• Establish separation program (infrastructure & resources) to support leadership in delivery of program:
	
	    o Functional teams created
	
	    o PMO established (resources & infrastructure)
	
	    o Develop communications/change management strategy & plan
	
	• Develop separation requirements, performance metrics and associated costs for the business based on the outputs of Phase 1, the ESC separation requirements, legal, regulatory and statutory requirements. This will need to consider aspects such as rules or protocols to divide the asset values between the Infrastructure Operator and the Other Services business unit to allow for appropriate regulatory reporting.
	
	• Using the business level separation requirements, develop separation requirements for each functional area based on the outputs of Phase 1 and the ESC separation requirements
	
	• At a business level, based on the separation requirements, commence activities in the four key areas including:
	
	    o Structure: Commence detailed organisation re-design
	
	    o People: Undertake shared and standalone resources mapping to define those resources that will sit in defined business units and those that will be shared/perform services for both units
	
	    o Process: Commence process mapping for new organisation including technology processes, accounting processes e.g. transfer pricing and HR processes e.g. payroll, benefits etc
	
	    o Technology: Commence assessment of system requirements (e.g.

	duplication, separation, access controls, information flow etc)
	
	• Utilising the functional area separation requirements develop separation blueprints for each functional area including:
	
	    o Assumptions
	
	    o Guiding principles (align with the overall functional separation strategy)
	
	    o Functional-level capabilities
	
	    o Key metrics or critical success factors
	
	    o Operating framework
	
	    o Functional Day 1 requirements[6]
	
	    o Functional end-state vision
	
	    o Functional separation approach (align with the overall separation approach)
	
	    o Functional separation roadmap
	
	    o Functional separation dependencies
	
	    o Costs associated with separation
	
	• Potential separation failure points, obstacles, and risks should be considered in developing the separation blueprints including:
	
	    o Organization and resources
	
	    o Business processes
	
	    o IT applications and infrastructure
	
	    o Third-party providers
	
	    o Shared services
	
	• Commence development of workforce plans for each functional area to identify the capability requirements for each new business unit and assess if these capabilities currently exist in the organisation or if recruitment or redeployment is necessary. Also asses and commence planning for how staff will be transitioned to the new structure. Useful considerations for developing these plans include:
	
	    o The functional end state business model and organisation structure
	
	    o Required changes to business units or positions as a result of the separation
	
	    o Changes to the customer base and service portfolio
	
	    o Changes to operational or financial drivers
	
	    o Methods of offering employees positions
	
	    o Degree of change pre and post Day 1 to the organization structure, employment contracts, compensation, etc

Responsible party	Separation program leadership team Business unit General Managers & teams HR

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[6] Day 1 represents the first day of the execution phase (Phase 5) when transition to the new business unit structure and functional separation commences.

Interdependencies	Internal:
	• Management/executive team to agree business separation requirements
	• Business unit teams (will require workshop participation/consultation between teams to understand dependencies and risks)
	• HR (workforce planning)
	External:
	• ESC separation requirements
	• Outputs of Phase 1
	• Legal, regulatory & statutory requirements
	• Consultation with external parties e.g. ESC, regulator, legal practitioners etc
Estimated timeframe	6 months

Table 5.5 Phase 4 activities required

Phase 4	Plan separation
Key milestone	**Detailed requirements for functional separation identified**
Objectives	To define the separation program plan to guide and drive the execution of the functional separation and create detailed workplans and budgets for each functional and cross-functional team.
	To develop a workforce plan to transition staff to new business model and functional structure.
	To define the processes and activities that will support the changes to be made.
	Review the accounting ring fencing rules and policies established prior to Phase 1 to ensure legal, regulatory and statutory requirements are met.
	To develop the Master Services Agreement (MSA), the Transition Services Agreement (TSA) and Service Level Agreements (SLAs) to manage interactions between functions through the separation phase and the services from Day 1 onwards.
	To manage communications both internally and externally on the progress of the separation program and changes that will result from its implementation.
Key Activities/Steps	• Document the separation program plan drawing on the outputs from Phase 3
	• Develop separation workplans for the functional areas setting out the key activities (e.g. process changes, functional area organisation changes etc), timelines, milestones, responsibilities, dependencies, resources for the separation implementation.
	• Complete workforce plans
	• Develop workforce communication plans to keep staff updated with progress. This may take the form of regular newsletters, briefings, intranet site, etc.
	• Develop Day 1 checklists and detailed processes to manage separation execution/implementation
	• Develop accounting rules and policies to support the move to the new functional structure and within functional areas (i.e. ring fencing)
	• Develop system to record breaches of compliance with functional separation

	policies, contracts, etc[7].
	• Develop the MSA to set out the terms and conditions of the functional separation, including the following:
	o Assets and liabilities to be transferred/split
	o Date for Day one
	o Conditions of the separation
	o How various operations functions will be separated
	• Develop a TSA with business unit General Managers:
	o Identify people/processes/systems that will require support of either Corporate Services or the other business unit (Infrastructure Operator or Other Services) (e.g. payroll, HR, IT, customer connections, billing etc) through the transition to functional separation
	o Negotiate terms of TSA between business units, specify service level agreements (SLAs) for post transition (i.e. operation in new functionally separated model), duration of support, cost for support and payment terms and duration and level of service commitment
	o Determine requirements and terms for data transfer and transitional use of shared facilities
	o Terms for use of shared systems and access restrictions around these (e.g. IT systems) during transition
	o Develop deployment plan for all systems and execute (including data transfer) during transition
	• Develop service level agreements, (SLAs), describing the standards of services to be performed (for example, data centre hosting) by business units and / or functional areas to support other business units and / or functional areas post transition in fully operational functionally separated business model:
	o Determine the elements that will be included in each service level agreement (e.g. description of specific services to be provided, servers and instances for information technology-related services, providers and receivers of services, cost elements)
	o Determine the service factors
	o Determine how to modify and terminate the SLAs
	o Determine how SLA related issues will be resolved
	o Define payment terms
	o Define service metrics and parameters for the SLA
	o Define penalties or incentives for SLA performance levels
Responsible party	Separation program leadership team
	Business unit General Managers & teams
	Legal
	HR

[7] It is envisaged that this will be monitored through the internal audit or ESC audits. The internal audit is most likely the most cost effective whilst giving the regulator comfort that the policies, procedures etc are being followed.

	Finance
	Communications
Interdependencies	Internal:
	• Finance (accounting rules)
	• Business units and sub-units (to discuss workplan dependencies and also SLA, TSA and MSA requirements)
	• Outputs of Phase 3
	External:
	• Legal: accounting rules & development of TSAs and MSAs
	• Consultation with external parties e.g. ESC, regulator, legal practitioners etc
Estimated timeframe	6 months

Table 5.6 Phase 5 activities required

Phase 5 Key milestone	Execute separation Functional separation commences and is implemented
Objectives	To execute the separation program according to the plan developed in Phase 4 to move from the current state business model to the end state business model of functional separation. To manage the changes associated with the transition in a controlled and effective manner to minimise impact to business operations and staff. To implement a robust and acceptable (from an ESC requirements and legal/regulatory perspective) business model.
Key Activities/Steps	• Execute the separation program plan and manage risks, issues, interdependencies, reporting etc • Execute Day 1 checklist • Execute the organisation re-design to re-structure the business to move from current state to end state business model (Model A) including revised governance arrangements • Execute the workforce plans to manage staff transition • Execute physical re-structure of staff • Execute deployment plan for all systems (including data transfer, data controls) • Execute updates to finance and billing systems • Execute changes to IT systems and applications to support new structure • Implement TSAs • Implement SLAs • Execute change management and communications activities • Monitor execution of separation program
Responsible party	Separation program leadership team Business unit General Managers & teams

	HR
	Communications
Interdependencies	Internal: • Business unit interaction to execute their functional separation workplans effectively and to manage risks, issues and interdependencies • HR to manage staff transition across functional areas External: • Consultation with external parties e.g. ESC, regulator, legal practitioners etc
Estimated timeframe	12 months

5.5 Separation outcomes

As this study has been undertaken as a desktop exercise there are limitations to the amount of detail that can be provided in relation to the exact outcomes of the processes outlined in the five key phases discussed. In the previous sections we have therefore focused on the types of investigations/reviews that will need to take place to determine the exact workings of a functional separation model.

However, once these investigations and processes are complete, there are a number of outcomes that we consider will likely need to be incorporated a functionally separated business. These are presented in the below table.

Table 5.7 Anticipated outcomes of the five phases of functional separation

Business Unit	Functional area	Outcome
Management	Board	• Board reporting will need to be changed to report along business unit lines
Corporate Services	Finance	• Individual bank accounts for each business unit will need to be created to promote financial autonomy and ensure each business unit's revenue covers its expenditure • Intra-company transactions will need to be eliminated in management accounts, which will require a change to finance systems and potential training for finance staff Businesses chart of accounts will need to be amended to create new accounts support inter-business unit transactions • Each business unit's finance system will need to be linked to other relevant systems to calculate and invoice charges between the business units • Finance systems may have to change to reflect an anticipated change in the Regulatory Accounting Code (prepared by the ESC) which will likely seek to identify transfer pricing transactions
Corporate Services	HR and Payroll	• Salaries for each business unit will need to be paid out of distinct bank accounts • New employment contracts will be required for staff employed by new business units (including consideration for payment terms and bonus allocation, KPIs etc) • Training for new roles in new business unit structure to be developed

		• New staff policies and protocols regarding use of IT systems, information sharing and control, physical access to other business units, staff transfer protocols etc will need to be designed • New physical location of teams identified and communicated to staff

Corporate Services	IT	• Create new business units within the IT architecture and ensure the system and applications are appropriate to support this and interfaces are managed e.g.:
		
		    o HR/payroll systems
		
		    o Customer Relationship Management (CRM) systems
		
		    o Procurement systems
		
		    o Project management systems for initiatives specific to each business unit
		
		    o Reporting systems
		
		• Updated finance and billing systems to support the new business unit structure and the interfaces between these to manage charge calculations etc
		
		• Updated IT policies and protocols to support new business unit systems and applications

Corporate Services	Legal & Risk	• Establish SLAs to manage provision of services between business units • Update audit policies and tax policies to support business unit separation • Establish a system to record breaches of compliance with functional separation policies, contracts, etc. This could either be achieved within existing internal audit functions or through an ESC audit (likely to be more cost-effective if built into existing internal audit) • Potential changes to legislative instruments, i.e. Water Act, Water Industry Act
All	Regulatory and reporting	• Ring fencing rules and other functional separation guidance to be prepared by the ESC • Potential changes to Statement of Obligations or WIRO • Internal regulatory systems re-developed to align with business units • Additional regulatory staff required • Approval of functional separation policies, procedures etc (as per rail access regime) • Reporting arrangements (e.g. ESC, DSE, DTF, NWC, EPA etc)
All	All	• Established two way SLA's between all Corporate Services functions and the Infrastructure Operator and Other Services business units (e.g. Finance and the Infrastructure Operator, Finance and Other Services, HR and the Infrastructure Operator, HR and Other Services etc)
Infrastructure Operator &	Infrastructure charge	• Established two way SLA between the Infrastructure Operator and Other Services regarding the infrastructure charge and other

Other Services		associated provisions
Infrastructure Operator & Other Services	Meter Reading, Customer Billing	• Established two way SLA between Meter reading (Infrastructure Operator) and customer billing (Other Services)
Infrastructure Operator & Other Services	New connections, Customer billing	• Established two way SLA between New connections (Infrastructure Operator) and customer billing (Other Services)
Infrastructure Operator & Other Services	Fault call centre, Account call centre	• Established two way SLA between Fault call centre (Infrastructure Operator) and account call centre (Other Services) (e.g. for when calls are mis-directed)
Infrastructure Operator & Other Services	Asset Management and Customer Relations & Service	• Established two way SLA between Customer Relations & Service (Other Services) to Asset Management (Infrastructure Operator) (e.g. for queries from large customers relating to assurance of infrastructure maintenance) • IT systems to support use of CRM system and access controls and restrictions to protect confidential information
Infrastructure Operator & Other Services	Marketing & Communications	• Clear marketing and communications for customers and contractors / suppliers regarding new business unit structure, functions, operations and services and the relationship between business units • Intranet site to keep staff updated on progress/key activities

6 Roadmap to functional separation

The high level roadmap (refer to the following page) sets out the separation timeframes, outcomes and some of the key considerations (as discussed in Section 5.2) for functional separation of a theoretical water business. This draws and follows on from the information relating to activities, responsibilities and interdependencies is represented in the tables in the previous Section 5.3.

The timelines included in the roadmap reflect our understanding that the ESC plans to introduce accounting ring fencing prior to the investigation of a functional separation regime. The ESC has advised that it anticipates accounting ring fencing to be in place around mid 2011. We consider it reasonable that Phase 1 of the functional separation program, which involves a cost-benefit analysis of functional separation, could be completed by the end of the current regulatory period, one element of which would be consideration of the effectiveness of the accounting ring fencing regime.

Should the cost-benefit analysis indicate that functional separation would be the preferable approach, Phases 2 to 5 could be completed during the regulatory period commencing 1 July 2013. Whilst we consider that Phase 2 should be able to be completed relatively quickly, we anticipate that Phases 3 to 5 (particularly Phase 5) are likely to be more accurately defined once Phases 1 and 2 are complete.

Once the decision is made to implement a functional separation regime, the ESC, government and water businesses may wish to consider the formation of an overall Steering Committee and several working parties to facilitate the transition to functional separation.

It is important to note that the level of detail in the roadmap reflects the desktop nature of this study and further work will be required in subsequent phases to expand on this and further develop the detail and the timeframes of the roadmap.

Figure 6.1 Functional Separation Roadmap

Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Review of ring fencing and cost/benefit of functional sep'n. **Before Jul 2013**	Confirm teams and strategy **3 mths**	Initiate separation planning **6 mths**	Plan separation with detailed requirements **6 mths**	Execute separation (implement SLAs, new systems, transition staff etc) **12 mths**

Accounting ring fencing commences **Mid 2011**

OUTCOMES

Phase 1
- Undertake a review of the existing ring fencing arrangements
- Determine costs and benefits of functional separation, including detailed model design, risks, gaps and and tasks required to functionally separate businesses
- Decision made to functionally separate or retain existing model
- If proceeding with functional separation, develop a high level separation roadmap across all water businesses

Phase 2
- Defined separation requirements across business units and functional areas
- Identified risks and interdependencies
- Separation blueprints for each functional area covering capabilities, assumptions, key metrics, separation approach, costs etc
- Workforce planning activities underway to manage staff changes

Phase 3
- Separation execution plan documented
- Intra-business unit charges / pricing arrangements defined
- Accounting policies and rules defined
- MSA, TSAs & SLAs developed
- Day 1 checklists developed ready for execution
- Workforce planning complete

Phase 4
- Changed governance structure & board reporting
- Updates to accounts to separate business units financially
- IT systems created for new business units
- MSA, TSAs and SLAs put into practice
- Updates to legal, audit and tax structures and processes

Phase 5
- Additional changes across functions (particularly shared services e.g. IT, Finance, HR) as required to support functional requirements and address new requirements identified through transition
- System in place to record breaches of compliance with functional separation policies, contracts
- Separated business units and functional areas

CONSIDERATIONS

Phase 1
- Degree of physical and systems separation required
- Water businesses strategic objectives relating to functional separation
- Adequacy of revised governance arrangements
- Capabilities required for business unit and functional lead roles

Phase 2
- Asset split between IO & OS
- Compliance with ESC separation requirements
- Complications relating to management of functional area interfaces
- Complications relating to potential duplication of systems e.g. call centres, IT systems and applications etc
- Staff changes e.g. capabilities, training, recruitment, shared resources, allocation to a business unit etc

Phase 3
- System linkage / interface requirements e.g. to manage charges and costs between business units
- Complications relating to provision of services between IO and OS business units to be managed through TSAs & SLAs
- Compliance with regulatory requirements re: accounting
- Behavioural changes required to effect separation

Phase 4
- Behavioural changes required to effect governance & overall separation
- Adequacy of accounting rules to achieve ESC requirements
- Degree of separation /duplication of IT systems
- Behavioural changes through transition
- Compliance with legal, regulatory and taxation requirements
- Management of issues associated with transition

Phase 5
- Additional functional requirements likely to be identified through transition to functional separation
- Perception of rigour of audit process to measure compliance
- Adequacy of physical separation arrangements
- Adequacy of IT controls
- Monitoring and management of separation issues and interfaces between business units and functions

Appendix A

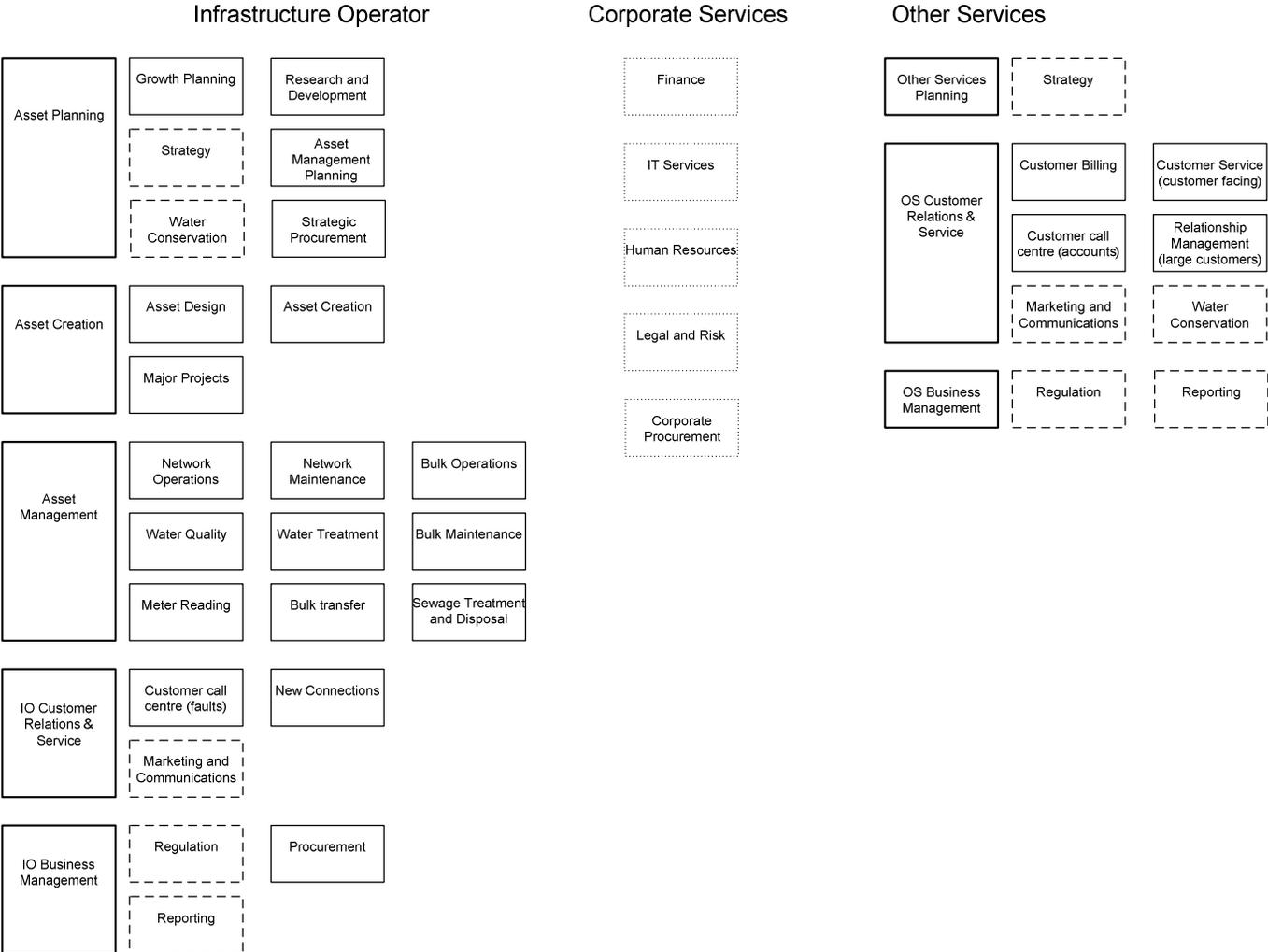## Models for other water businesses

The following page depicts how a fully integrated water supply/sewerage treatment business would be structured under functional separation. In general, the functional structure of a regional business would not vary significantly under whatever model is adopted. The main requirement is the addition (or removal) of individual teams within sub-units. The Infrastructure Operator, 'Other Services' and 'Corporate Services' framework remains the same. That is, we have not assumed that the addition of, say, a water storage function to Model A would require a separate business unit to the existing (distribution) Infrastructure Operator. Although a case for the creation of a new business unit could be made, incorporating all infrastructure services in the one business unit will assist to keep the costs of functional separation as low as possible.

We note, however, that some future access seekers are only likely to require access to discrete components of a water businesses' infrastructure. That is, an access seeker may not require access to a business's water storage, but may require access to its distribution infrastructure. To facilitate such an eventuality, where a business unit comprises assets that could be the subject of separate access requests, they should implement accounting ring fencing to separately identify the costs of operating the assets.

The functional structure has the same colour coding as Figure 4.1 (see section 4.1.1).

The ESC has advised that the structure of Melbourne Water would be the subject of a separate investigation. Melbourne Water is somewhat unique in that it not only has its bulk water and sewerage functions, but it also provides drainage and waterways services, which may influence how business units are established.

Fully integrated water supply/sewerage treatment business

Infrastructure Operator

Asset Planning	Growth Planning	Research and Development
	Strategy	Asset Management Planning
	Water Conservation	Strategic Procurement

Asset Creation	Asset Design	Asset Creation
	Major Projects	

Asset Management	Network Operations	Network Maintenance	Bulk Operations
	Water Quality	Water Treatment	Bulk Maintenance
	Meter Reading	Bulk transfer	Sewage Treatment and Disposal

IO Customer Relations & Service	Customer call centre (faults)	New Connections
	Marketing and Communications	

IO Business Management	Regulation	Procurement
	Reporting	

Corporate Services

- Finance
- IT Services
- Human Resources
- Legal and Risk
- Corporate Procurement

Other Services

Other Services Planning	Strategy

OS Customer Relations & Service	Customer Billing	Customer Service (customer facing)
	Customer call centre (accounts)	Relationship Management (large customers)
	Marketing and Communications	Water Conservation

OS Business Management	Regulation	Reporting

Appendix B

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