ADSTEAM MARINE LIMITED

Submission to the

Productivity Commission
Inquiry Into The Economic Regulation Of Harbour Towage And Related Services

PART A – MAIN SUBMISSION

April 2002

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EXECUTIVE SUMMARY

Adsteam Marine Limited is Australia's largest harbour towage operator and the only participant in this industry subject to price regulation.

The present inquiry by the Productivity Commission into the economic regulation of harbour towage and related services is welcomed by Adsteam as an opportunity to reform the industry, and in particular to create a more competitive environment in which towage operators and their customers can enjoy cost savings and improved levels of service.

The key propositions put forward by Adsteam in this submission are that:

1. Prices Surveillance

The regulation of Adsteam's towage charges in Melbourne, Port Botany, Port Jackson, Newcastle, Brisbane, Adelaide and Fremantle is neither justified nor effective. It constitutes a cost to and a restriction on Adsteam's business – and ultimately on the businesses of ship operators.

Removal of this regulation is consistent with encouraging greater competition and improved efficiency in the supply of harbour towage and related services.

Relevant issues include:

a) Towage price increases in the declared ports have been notified and implemented by Adsteam, notwithstanding ACCC opposition;

b) Nevertheless, the overall invoiced price of towage has on average decreased during the last ten years (in both declared and non-declared ports) because of reduced tug usage, the introduction of volume discounts and other factors;

c) The price notification process has proven costly for Adsteam, both in financial terms and in commercial and competitive terms; and

d) There are other more important reform issues on which to focus administrative resources (see point 3 below).

2. Exclusive Towage Licences

Exclusive towage contracts or licences between port authorities and towage operators also restrict competition as they put market-place decisions into the hands of centralised service providers, whose commercial interests conflict with the interests of other service providers and service users.

Such contracts are based on the erroneous belief that towage services markets are not contestable because of high barriers to entry. The contestability of towage markets in Australia and elsewhere has been demonstrated on numerous occasions, the most recent being the imminent entry of a new competitor in the Port of Melbourne.

Relevant issues include that exclusive towage contracts can:

a) Increase barriers to entry, as recognised in previous Commission studies and elsewhere;

b) Limit competition in the sense that not all potential market entrants will be in a position to respond to a tender at the same time;

c) Remove choice from customers (ship operators) and constitute a “one size fits all” product;

d) Place greater power and responsibility in the hands of port authorities in a way that is inconsistent with the “landlord” philosophy of most Australian ports;

e) Provide port authorities with incentives to force down towage prices at the expense of towage operators and potentially port users; and

f) Raise issues under the *Trade Practices Act* 1974 (in particular, sections 45, 46 and 47 of the Act) which to Adsteam’s knowledge have not been fully analysed.

3. The Need For Reform

The involvement of port authorities and pilots in determining key aspects of the towage services required by ship operators should be restricted to non-economic issues as it represents a distortion to the operation of market forces. These and other concerns create a need for reform in the following areas:

- *Reform Area 1* – reform of the regulatory framework within which port services, and in particular towage services are provided;

- *Reform Area 2* – reform of towage guidelines as purely risk management devices, not commercial regulation;

- *Reform Area 3* – appropriate compensation for the salvage and emergency services capabilities maintained by towage operators; and

- *Reform Area 4* – greater uniformity in state and federal regulations applying to towage operators in relation to tug manning levels, crew and qualifications and other issues.

INTRODUCTION

Adsteam Marine Limited ("Adsteam")[1] is an Australian company listed on the Australian stock exchange.

Adsteam's business, the beginnings of which can be traced back to 1875, has grown to become the largest independent towage operation in the world, with over 1,800 employees and over 156 harbour tugs and 40 workboats spread throughout Australia, the USA, the UK, New Zealand, Papua New Guinea and Fiji.

Adsteam's 2001 Annual Report, which is available at www.adsteam.com.au, provides further background to the operations and recent achievements of the company. These include:

- The continuation of Adsteam's tug usage and efficiency initiatives;
- The maintenance of the highest possible performance indicators as assessed by the Bureau of Transport and Regional Economics;
- Continuous improvements in service quality, including a high satisfaction rating in a recent survey of port users in Fremantle;
- Continued participation in emergency service programs in ports around Australia, and a number of successful ocean marine salvage operations;
- Reductions in crews from four to three on some tugs and substantially improved industry work practices through co-operative action; and
- The acquisition of the Howard Smith Towage assets, which was cleared by the Australian Competition and Consumer Commission ("ACCC") and which has created further efficiency enhancing opportunities.

This inquiry

Adsteam is the only towage company subject to prices surveillance under the Prices Surveillance Act 1983 ("the PS Act"). Since 1991, its towage services have been formally declared under the PS Act in Melbourne, Port Botany, Port Jackson, Newcastle, Brisbane, Adelaide and Fremantle.

The continued regulation of towage services in these ports is a key focus of the current Inquiry into Harbour Towage and Related Services ("the Inquiry") being undertaken by the Productivity Commission ("the Commission").

Having regard to historical concerns over a lack of competition in the towage industry and recent structural reforms, including labour market reforms, the Inquiry is to focus on whether declaration of Adsteam's towage services under the PS Act should continue and whether alternative arrangements should be considered, or whether an open market solution is appropriate for this industry.

This submission

This submission is Adsteam's initial response to the Commission's Issues Paper distributed during March 2002. It sets out relevant industry information for the Commission and other interested parties, and it explains why Adsteam considers the existing regulation of its activities to be both costly and unnecessary.

[1] References to Adsteam include references to Adsteam-related entities where appropriate.

It also argues that other forms of regulation – including exclusive towage contracts issued by port authorities – should only be considered a last resort to address perceived problems best addressed by free market competition. In addition, Adsteam identifies a number of areas where industry and regulatory reforms are needed.

Previous reports and studies have made erroneous assumptions about the Australian towage industry, some of which have perpetuated anti-competitive practices and imposed significant regulatory costs on Adsteam and others. Adsteam hopes that the Inquiry will permit better informed discussion and result in recommendations against the discriminatory and restrictive arrangements that presently exist.

Adsteam believes that there is sufficient evidence based on how the industry works and recent activities by new market entrants – including a new competitor in Melbourne whose tugs are anticipated to arrive in the port later this month – to demonstrate that workable competition can and should be allowed to determine pricing and service quality issues independently of third party interference.

Key issues

Today, Adsteam is not free to determine how best to service its customers (ship operators) nor are ship operators free to encourage Adsteam to adapt its business to suit their specific requirements.

Instead, both buyer and seller are subject to the costs of pricing regulation; to the decisions of pilots regarding the number and size of tugs required to assist a particular ship; and, to port authorities that stipulate towage service and in some instances pricing requirements - and who have the power to control the number and identity of towage operators in their ports.

These market distortions do not apply to towage and ship operators in other countries - or at least not to the same extent or in the same way that they do to Adsteam and its customers in Australia.

In support of its submission that these restrictions should be either formally revoked or discontinued, Adsteam has identified the following key issues:

a) Towage services constitute a form of risk management where damage to property and the environment, as well as the prevention of life-threatening situations, are major issues. No-one can afford sub-standard towage services in any port in Australia;

b) Towage efficiency is important in reducing ship delays, which can cost tens of thousands of dollars a day. This is another critical element of a quality towage service and an area where Adsteam is a leading service provider based on international comparisons;

c) Adsteam has proven its performance in both of the above areas by its effectiveness in dealing with every towage and emergency situation, and in maintaining high levels of customer satisfaction;

d) Towage is not a significant cost when compared with its value in preventing major accidents, or the quantum of other port service charges or the value of cargo. Towage can costs as little as $0.27 per tonne of refined oil, $0.50 per tonne of grain and $0.32 per tonne of coal;

e) Safety, efficiency and related considerations (such as competition between ports) have led port authorities – and harbour pilots – to set what they consider to be appropriate levels of towage service (and sometimes an appropriate price) and to direct ship operators and towage operators to comply with their determinations;

f) Such imposed decisions preclude a towage operator from responsibly managing the large fixed-costs that typify their business, and from addressing the reduction in revenue caused by the gradual reduction in tug calls resulting from increasing ship size and the adoption of less tug-reliant ship designs;

g) This leaves towage operators unable to reduce their cost-base and their prices by reducing the size and specification of their tug fleets - and ship operators are forced to pay for services that they neither want nor need – nor even use;

h) Exclusive towage licences in a port restrict new entrants to competing only at licence renewal times – and only then against criteria set by the relevant port authority whose interests do not comport with the interests of other port service providers or users; and

i) A failure to rectify the distortions created by the various activities described above and the formal regulation of Adsteam's prices under the PS Act and in other areas, will result in seriously reduced towage service levels and sustained inefficiencies.

A more complete discussion of these issues is provided in this submission, as is the factual background necessary to understand the complexities involved in reforming the Australian towage industry.

Submission structure

This submission is divided into four main parts and has attached to it a number of appendices as well as reports that Adsteam has commissioned for the purpose of assisting the Commission during the Inquiry.

Part 1 – Industry overview: This part explains fundamental aspects of the Australian towage industry. It identifies and describes what constitutes a towage service, how towage is charged, service quality issues, towage-related services, key industry participants, the ports subject to the PS Act declaration and towage industry developments in the areas of labour reform, industry concentration, technology, shipping trends, towage regulation and new market entrants.

Part 2 – Towage economics: This part provides background to various aspects of the economics of the towage industry generally, and in particular of the towage operations of Adsteam. It covers issues such as cost analysis, the nature of demand for towage services, towage prices, service quality and risk.

Part 3 – Competition issues: This part discusses a range of issues relevant to an economic analysis of the towage industry. It covers the nature of towage markets from a competition law perspective, who may have market power in or in relation to the delivery of towage services, the extent to which towage should be considered a natural monopoly and whether there is a competition problem that needs to be addressed.

Part 4 – Regulatory options: This part considers the reform possibilities that the Commission needs to consider when formulating its policy recommendations. The issues discussed here include whether the current prices declaration of Adsteam's services in the seven declared ports should be continued, whether towage licensing by port authorities is a desirable form of regulation and the regulatory reforms needed to increase the efficiency of the Australian towage industry.

The reports attached to this submission (and set out in Part B – Economic and Industry Reports) are:

- *Harbour Towage in Australia: Competitive Analysis and Regulatory Options*, CoRE Research (Professors Joshua Gans and Stephen King), April 2002;

- *International Benchmarking of Australian Declared Ports: Harbour Towage*, Thompson Clarke Shipping Pty Ltd, April 2002;

- *International Survey of Harbour Towage Arrangements,* Charles River Associates (Asia Pacific) Pty Ltd, April 2002; and

- *Containership Charter Rates – A consideration of Pricing Policy,* Howe Robinson Shipbrokers, March 2002.

Contact

All queries and correspondence regarding this submission (or any of the reports in Part B – Economic and Industry Reports) should be directed to Peter Macmillan by telephone on (03) 9504 5888 or 0417 239 115 or via e-mail at *pmacmillan@adsteam.com.au*

1 INDUSTRY OVERVIEW

Harbour towage and related services are integral to the efficient and safe operation of most Australian ports. Below is an introduction to the practical issues involved in operating a towage business. This includes a description of what towage is, who uses it and which other key industry participants are involved in the delivery of the service.

There is also discussion of the economic aspects of harbour towage and related services. This includes a discussion of the labour reform initiatives undertaken by Adsteam and a range of other critical issues relating to technological change in the industry, shipping trends, regulation and new market entrants.

1.1 What Is Harbour Towage?

Harbour towage is the service of providing tugs to assist ships manoeuvre into, within and out of ports. Without towage, many ocean-going ships would be unable to manoeuvre themselves with the precision required when approaching a wharf, leaving a berth safely or transiting port navigational channels.

Harbour towage is to be distinguished from towage services provided outside a port, for instance for deep sea assistance when laying under-sea pipe-lines as is currently occurring in Bass Strait, for moving oil rig infrastructure into position or for undertaking salvage operations many miles from any harbour.

There are basically four methods of harbour towage a tug can provide, namely:

- Towing a ship on a long tow line;
- Alongside towing;
- Performing a push-pull operation at a ship's side; and
- Escorting a ship, a service commonly used for large oil tankers.

The precise methods used by a towage operator will depend on a range of factors that differ from port to port within Australia and internationally. As noted in a leading text on the use of harbour tugs,

> "Methods of assistance provided by tugs in ports around the world differ due to local conditions and specific situations and have often grown from long standing customs and traditions."[1]

Because no two towage jobs are exactly the same - be it because of weather conditions, time of day, draft, trim, state of tide, under-keel clearance or ship design, or because of the different approaches taken by individual harbour pilots when directing tug manoeuvres - towage in practice can be complex. Towage also demands a high degree of professionalism because of the massive static and dynamic forces at play when hundred thousand-tonne vessels are being forced to change speeds and direction.

[1] Captain Henk Hensen, *Tug Use in Port: A practical guide*, The Nautical Institute, London, 1997, p.9.

Towage is not required by all ocean-going ships nor at all ports. As will be explained, a growing number of modern ships have in-built technologies - such as high angle of attack rudders, transverse bow and stern thrusters, omni-directional thrusters, twin screws and controllable pitch propellers - as part of their integrated steering and manoeuvring systems.

Such technologies can obviate the need for towage, at least in fine weather conditions. In a sense, this technology is equivalent to ships carrying their own tugs "on board."

There are 51 ports in Australia that require a towage service. Six of these are able to make do with visiting tugs from neighbouring ports. Ports that host mainly cruise ships and smaller vessels – or larger vessels with their own in-built steering and manoeuvring capabilities – may not require any tugs or at least not a permanent tug fleet.

A full listing of towage operators in Australian ports is provided in Appendix A.

Of the 51 ports requiring towage services, only three have exclusive towage supply contracts between the port authority and the towage operator. These are the ports of Townsville and Gladstone in Queensland and Bunbury in Western Australia.

Ultimately, towage is a form of risk management for those ships that have insufficient control over their ability to stop or turn within confined spaces – or that need assistance to reduce the time required to undertake these manoeuvres. Such ships are capable of causing significant damage to other ships, wharves, shore equipment (such as wharf-based container cranes) and the environment more generally. The use of towage services is one way to manage these risks.

Box 1.1 – Tug technology

There are two broad types of tug design, namely:

- Tugs with their propulsion aft [at the back of the tug] and towing point forward or near midships. This category includes all normal conventional types such as single screw [propeller] and twin screw tugs; and
- Tugs with their towing point aft and propulsion forward of midships. These are called tractor tugs.

Modern tugs have sophisticated technology to control their propulsion and steering systems. There is a wide variation of technologies, including Voith-Schneider tugs, Z-peller tugs and Kort nozzle tugs. Each offers different benefits and some are more popular in some parts of the world than in others.

In Australia there are a variety of single and twin screw and omni-directional tugs in use. Z-peller and twin nozzle propelled tugs are most common in Adsteam's fleet, which was recently expanded by the commissioning of six new multi-purpose Z-peller tugs at a cost of $8.3 million each.

Tug power measured in Bollard Pull

When assisting ships, tugs may be required to deliver massive pulling and pushing power, as well as delicate touches to position a ship gently against its berth. In addition to tug design, which sometimes determines which method of towage assistance a particular tug is best suited to perform, the pulling or pushing power of a tug is an important consideration in tug choice.

The measure of a tug's pulling and pushing power is called its static Bollard Pull (or BP). This is a measure of power assessed in terms of the tonnes force that a tug can exert on a stationary object (for example, a wharf bollard to which ships are moored).

Smaller and older tugs can have a static BP of less than 12 tonnes, but can still be effective even with large ships under fine conditions. Modern tugs can have a BP of up to and beyond 65 tonnes to enable them to more efficiently assist very large ships in harbour environments or to undertake open-sea operations.

1.1.1 Tug usage

The number of tugs required for a particular ship for a particular manoeuvre varies depending on, amongst other things, ship size and design, including any inbuilt capacity for manoeuvrability such as bow or stern thrusters. Up to four large omni-directional tugs may be used when assisting a large ocean-going ship – such as an oil tanker or dry bulk carrier – in a particular port. Many container ships require only one or two tugs.

The precise number and type of tugs used to assist a particular ship is determined by harbour pilots applying guidelines issued by harbour masters and port authorities, with the ultimate responsibility for the ship remaining with the ship's master. The tug operator has no say in how many tugs are used to assist a particular ship.

The towage guidelines used by harbour pilots, which they usually assist to develop, take into account the size and manoeuvrability of ships, port and berth characteristics, weather and tides. As noted in Box 1.2, Adsteam has been particularly active in pursuing tug utilisation efficiencies and in designing tugs based on its judgement as to future shipping trends. One of its ongoing aims is to see the

reduction in tug usage requirements in towage guidelines so as to permit the reduction of its tug fleet (and associated costs) in particular ports.

Box 1.2 – Adsteam's tug usage reduction and efficiency initiatives

Adsteam has been actively pursuing reductions in tug usage over a number of years. It has undertaken extensive research and development in tug design, implemented simulation programs for crew training and has developed plans for the optimum use of tugs in co-operation with pilots and port authorities.

Since 1991, Adsteam has undertaken or been involved in 21 projects at the Australian Maritime College in Launceston relating to tug boat usage and efficiency, including:

- **Adsteam (February 1994)** – Study of Tug Operations in Newcastle Harbour.
- **Townsville Port Authority (March 1994)** – Assessing tug assistance required for berthing and unberthing at Outer Harbour Bulk Terminal.
- **Sydney Ports Corporation (August 1995)** – Investigating the feasibility of using three tugs instead of four in the arrivals and departures at Gore Cove oil terminal.
- **Port of Darwin (August 1997)** – Investigating the operational limitations of assisting the berthing and unberthing vessels at the proposed East Arm with a single tug.
- **Ports Corporation of South Australia (July 1998)** – Training pilots and tugmasters in bringing to berth and departure of container ships in various weather and tidal conditions, including investigating the number of tugs required.
- **Port Kembla (September 1998)** – Investigating arrival and departure at night in various winds, tidal and swell conditions with four tugs assisting.
- **Port Kembla (June 1999)** – Assessing the effectiveness of various tug configurations and power settings when bringing Cape-sized ships into port in difficult weather conditions.
- **Mackay Port Authority (March 2000)** – Determining whether Panamax bulk carriers could be handled in proposed harbour configuration with the assistance of tugs with different BP.

A complete listing by the Australian Maritime College of relevant projects is provided in Appendix B.

As discussed further below, the overriding consideration in all tug usage decisions is safety to property, to the environment and to people. The next most important issue is efficiency. The importance of these factors reflects both the risk of damage that an inappropriately assisted (or unassisted) ship can cause, and also the cost of ship waiting time that can range from $10,000 to $60,000 per day.

One of the more complex issues arising in this context is the need for concurrent ship movements, such as at times of high tide when under-keel clearance can be maximised. The ability to handle more than one ship movement at a time, which could require a larger number of tugs in a port than may at first be thought necessary, is an essential element of a port's towage capability and a key usage issue.

1.1.2 Towage charges

In most cases, Adsteam charges its towage services on a "per tug used" basis, with the price of each tug increasing with the size of ship being handled. This approach relates usage (how many tugs are used per ship) to the cost of towage for a particular ship. If fewer tugs are used, the cost of towage reduces even where the cost per tug may increase (because of the size of the ship).

Amongst other objectives, this pricing model captures the fact that it is the larger ships that give rise to the demand for larger, more expensive tugs. It also reflects the fact that it can take longer to berth a larger ship, particularly large bulk carriers. Such ships can also cause greater damage than smaller vessels, which is also reflected in Adsteam's pricing structure.

A sample towage price schedule used by Adsteam is summarised in Table 1.1. These charges do not relate to any particular port, but rather are indicative of the way the towage schedules are constructed.

Table 1.1 – Sample towage price schedule

Vessel Gross Registered Tonnage (GRT)	Price per tug (inclusive of 10% GST)
Under 5,000 tonnes	$1,000
5,001 and under 10,000	$2,090
10,001 and under 15,000	$2,706
15,001 and under 20,000	$3,003
20,001 and under 25,000	$3,784
25,001 and under 30,000	$4,125
30,001 and under 40,000	$4,444
40,001 and under 50,000	$4,774
50,001 and over	$5,082

Alternative pricing models are used by other towage service providers in Australia and overseas. Adsteam's approach is based on historical pricing methods which have, with some modification in terms of volume rebates, continued to find acceptance among ship operators.

Per-ship charging, as used by Adsteam in Newcastle, allows ship operators to know with certainty their towage costs ahead of time (any additional tugs required would be "free") and is an approach that Adsteam is prepared to pursue. However, this would be a significant change that could only be introduced gradually.

Charging by time is another option, but not one that Adsteam supports because of the potentially selective use of tugs by ship operators and pilots. There is a risk that waiting until the last moment before calling a tug – a way of minimising cost – could significantly increase risk. In addition, time-based charging is more likely to lead to billing disputes and disputes over the level and duration of assistance requested.

This is not to imply that a towage operator can be complacent about its pricing structures. Adsteam, for instance, has been prepared to negotiate pricing arrangements with ship operators, as evidenced by the volume rebates and service guarantees it has introduced. Some of the pricing innovations that Adsteam has instituted over the last few years are described in Box 1.3 below.

Box 1.3 – Adsteam's rebate arrangements and elimination of ancillary charges

Rebate arrangements

Up until the mid-1990's, Adsteam's towage prices were the same for all shipping companies, irrespective of their usage of towage services. This structure was criticised by Adsteam's major customers who claimed that they were underpinning the fixed cost of towage to the benefit of casual and other less frequent callers to Australian ports.

Since 1996, Adsteam has followed normal commercial practice by progressively introducing volume-based rebates for its towage services. This initiative has been welcomed by towage users who had been demanding towage charge reductions. Adsteam calculates that its responsiveness to customer demands in this area has reduced its annual group revenue by approximately $6 million nationally, and by over $2.1 million in the currently declared ports.

Elimination of ancillary charges

Traditionally, towage operators (including Adsteam) included a range of ancillary charges in their pricing policies. These charges included the cost of tow lines for ships without their own equipment, cancellation charges, charges for changing orders and full rate towage charges for movements between wharfs in the same port.

Adsteam has now removed most of these charges and additional costs. This did not involve simply "rolling in" these costs into the base tariff, but rather their complete elimination. Adsteam estimates that its reduction of user costs in these areas has reduced its own total revenue by almost $900,000 per annum.

1.1.3 Service quality

The quality of towage services is assessed in a number of ways. First there is the availability of appropriate tugs as and when (and where) required by a ship operator wanting to enter, leave or move within a particular port. Availability in this context has at least two dimensions:

- Availability of appropriate tugs not committed to other jobs; and
- Responsiveness to a request for towage assistance.

A second measure of towage service quality is the ability of the tug master (a mariner as highly qualified as a ships master or pilot) and his or her crew to work effectively under the direction of a harbour pilot. Again, this has at least two elements to it:

- Efficiency in terms of minimal time delays; and
- Safety in terms of well trained crews capable of getting maximum efficiency out of allocated tugs with minimum risk to personnel and equipment.

The importance of high quality towage services to ship operators cannot be overstated. This is because the cost of inefficient, low quality service can be very significant. Substandard towage services can easily lead to extended ship delays or damage to property far in excess of the direct cost of the towage service itself.

As noted in Section 1.1.1, ships can cost their operators up to $60,000 a day while carrying cargo loads worth up to $100 million. Delays caused by the non-availability of tugs or inferior towage service can therefore be very costly. These factors

highlight the importance of maintaining high performance standards as described in Box 1.4 below and the significance of Adsteam's service quality achievements as noted in Box 1.5.

Box 1.4 – Towage performance indicators

The pilotage and towage indicators reported in *Waterline* measure the proportion of ship movements where the service is available to the ship within one hour of the confirmed ship arrival/departure time.

The proportion was 99.4 per cent for the pilotage indicator in the December quarter 2001, virtually unchanged from the previous quarter.

The proportion was 100 per cent for the towage indicator in the December quarter 2001, the same as in the September quarter 2001.

Performance has been at similar levels since the first data (covering the March quarter 1997) were published in *Waterline*.

March 2002 edition of *Waterline* published by Bureau of Transport and Regional Economics

Damage to property caused by unreliable, ineffective or insufficient towage assistance is a potentially high cost situation. In 1994, for instance, the *Swan Reefer* collided with Conaust's $9 million wharf-based crane at Fremantle because it did not utilise towage assistance despite complaints by pilots expressing concerns about such practices by smaller ships. Like other ports, Fremantle has also seen small cranes being "nudged", fendering systems damaged and navigational aids run down by unassisted ships.

More recently, on 10 April 2000, the 64,000 tonne Maltese bulk carrier *Amarantos* collided with the bulk terminal at Wallaroo in South Australia. As a result of insufficient towage capacity being "called-up" by the pilot, this ship caused extensive damage to the jetty, conveyor system and the loader, with the damage bill exceeding $3 million. The immediate concern, however, was loss of use of the port during a traditionally busy period for exporters.

Environmental damage caused by the leakage of oil or damage to cargo can also occur if towage services are not performed to an appropriate standard. In many instances, the damage can be far worse than simple damage to equipment. Even a ship running aground outside port confines and breaching fuel tanks, for example, can be disastrous. An example of this was the 1994 grounding of the *Iron Baron* on Hebe Reef off the entrance of the Tamar River. This incident involved the spilling of just a couple of hundred tonnes of fuel, but created an enormous impact in terms of environmental damage and clean-up costs.

The above examples reinforce the risk management nature of harbour towage, as well as the commercial cost of low quality service delivery. Not surprisingly, all port users as well as port authorities have a very real interest in ensuring that the quality of towage services is high.

Harbour towage is recognised by all these stakeholders to be an indispensable form of insurance against damage to property, environmental disaster and even loss of life in the port environment.

Box 1.5 – Adsteam's service quality achievements

Like its initiatives to increase the efficiency of tugs and reduce tug usage for ship operators, Adsteam's achievements in increasing the quality of its services and the satisfaction of its customers are important business objectives.

Adsteam's commitment to high quality service provision is reflected in its ISO 9002 accreditation and its formalised Service Charter.

Areas where Adsteam's customer surveys have demonstrated the effectiveness of its service quality programs include:

- Completing a greater than 99% success rate of servicing ship arrivals and departures, "in full and on-time;"
- Actively encouraging research modelling to determine ideal tug provision and utilisation;
- Maintaining a 24 hour on-call service in most ports, as well as 15 minute and 2 hour guaranteed response times to requests for assistance;
- Working with ship operators and port authorities to determine future tug requirements and improve operational procedures; and
- Responding to requests by port authorities for additional or more powerful tugs and the availability of stand-by tugs to eliminate tug shortages at infrequent peak times.

1.2 Towage-Related Services

Towage is one of a number of port services utilised by ship operators. Other services may be considered towage-related either because they are closely related to the provision of towage services, such as lines and mooring services, or because they require the use of tugs, such as ocean marine salvage.

The Commission's Terms of Reference and its Issues Paper specifically identify mooring services and fire-fighting operations as towage-related services for present purposes. A brief description of these services, as well as ocean marine salvage, is provided below.

As discussed throughout this submission, harbour towage services are related in economic terms to a range of other port services, including pilotage and services provided by port authorities. It is important that these linkages not be overlooked when assessing the broader policy issues on which the Commission has been directed to focus.

1.2.1 Lines and mooring services

When a ship is positioned at a berth, mooring lines are used to secure it in place. As a ship approaches or departs a berth, these mooring lines must be handled quickly and safely. All ships require lines handling services of some kind. Where shore-side bollards are difficult to access or where heaving-line methods of sending a line to shore are not appropriate, launches are required to carry the lines between the ships and the berth.

Like harbour towage, lines and mooring services are important for minimising the risk of damage to ships, other port users and to port equipment, as well as to reduce costly delays for ship operators.

It is common for line running and mooring gangs to be considered separate services carried out by different operators, although where these services are provided by the same operator this distinction is less important.

These services are charged in different ways depending on the port and the service provider. Adsteam adopts a very simple flat rate "per launch per ship" in Gladstone, Melbourne and Brisbane. In Port Hedland the rate is per launch but varies depending on ship size.

In the New South Wales ports of Newcastle, Port Botany, Port Jackson and Port Kembla, arrival and departure times, type of ship, the particular berth, overtime hours and whether the day is a public holiday or on the weekend, are all factored into the pricing arrangements. Industrial constraints have, to date, prevented any improvement in efficiency or pricing change in these ports.

1.2.2 Emergency services

Whilst not common, emergencies can occur at any time in shipping operations. Oil spills and fires can have catastrophic consequences. Most ports have both land-side and seabourne emergency response capabilities. In some cases all these services are provided by port authorities themselves, but increasingly there is a move towards contracting-out.

Typically, the role of tugs in emergency operations is not as visible as the roles of other service providers, or at least not as widely reported after the event. This lack of credit in no way diminishes the critical importance of towage service providers in these dangerous and demanding situations.

Some of Adsteam's tugs and their crews are equipped and trained to deal with port and other emergencies. In this regard, Adsteam has a number of tugs with fire-fighting equipment installed and its crews often undertake training with local fire fighting services.

Charges for these services vary from port to port. In Sydney, a fee of $7,500 every six months is paid to Adsteam by the port authority for the back up services of one of its fire fighting tugs. In Melbourne, there is a yearly fee of $10,000. In Newcastle, a capability to deal with emergency situations is stipulated by the Newcastle Port Corporation with charges being directed to the party actually requiring the emergency service. In Adelaide and Brisbane, no or very few charges are rendered. (See further Box 1.6 below regarding arrangements in Brisbane).

Box 1.6 – Adsteam and the Port of Brisbane Port Precinct Emergency Plan

The Port of Brisbane Corporation ("PBC") has established a Port Precinct Emergency Plan ("PPEP") within the framework of the State Counter Disaster arrangements. The major objective of the plan is to ensure an effective, co-ordinated and timely response to emergency incidents that occur within the Port of Brisbane.

Adsteam's Brisbane-based tugs and equipment are an essential part of the PPEP and would be required in a number of emergency situations, including fire fighting and oil pollution.

A Port Precinct Mutual Aid Group consisting of key stakeholders from the Brisbane port community was formed in 2000 and regular bi-monthly meetings are held. Representatives from Adsteam attend these meetings and take part in a number of desk top exercises on the PPEP for no charge.

In addition to these regular exercises, Adsteam has given a commitment to participate in annual exercises with the Queensland Fire and Rescue Authority, utilising the two tug's *Austral Salvor* and *Redcliffe,* which are each fitted with fire fighting monitors and 10,000 litre tanks for AFFF foam (provided by the PBC). No formal agreement is in place to perform these exercises and no charge is raised.

Adsteam also provides:

- 24 hour call out for key personnel, ample parking and a registered helipad;
- Conference rooms and communication facilities to assist the primary operations centre;
- Expert personnel, with a knowledge of tanker safety, oil pollution clean up and disaster management;
- Fixed and mobile workshops and a 24 hour refueling facility for small vessels, including heavy lift capability; and
- Salvage equipment linked to the national plan ready on site for speedy deployment.

These facilities, equipment and personnel are made available by Adsteam without charge.

1.2.3 Ocean marine salvage

Like emergencies that arise in harbours, the consequence of casualties at sea can be severe. Loss of life, pollution of coastlines, and cargo and ship destruction are all potential dangers. Not surprisingly, marine salvors need to be highly skilled operators able to respond effectively to crises that could occur at any time, often hundreds of kilometres from safe havens.

Like the emergency service capability of tug fleets in Australia, tug salvage capabilities are an ongoing cost for towage operators whether they are utilised frequently or not. Notwithstanding the commercial drain that maintaining these capabilities can create for towage operators, port authorities and governments have come to rely on the ready availability of these additional services.

Salvage services, when actioned, are deployed in several different ways. This can be by international convention and the use of Lloyd's Open Form, by common law salvage or by towage contract through industry recognised standard towage charter parties. Salvage awards and charter fees associated with these services are usually recovered via hull and cargo underwriters and/or through shipowner protection and indemnity clubs.

Marine salvage capabilities around the 17,000 kilometres of Australian coastline are maintained on a private enterprise basis. With funding for this capability coming directly from the casualty or ship in need of assistance. The Government is only required to fund the Australian Maritime Safety Authority, which plays an advisory/coordination role as required. All the tugs, personnel and related services are privately owned and operated.

Box 1.7 – Adsteam salvage and ocean towing activities in 2001

"During the year, 6 salvages of vessels seeking outside assistance were carried out by [Adsteam group company] United Salvage, and 6 ocean tows of vessels either in difficulty or seeking removal to another port were undertaken.

The salvages included the high-profile removal of the container ship *Bunga Teratai Satu* from its grounding on the Great Barrier Reef. This case led directly to a review by the Australian Maritime Safety Authority and the Queensland Department of Transport into improved protection procedures for the Reef, a matter of major concern to Adsteam and its salvage arm, United Salvage.

With Australia's long coastline to protect, it is unlikely that permanently stationed emergency response tugs would be a viable option. Adsteam's strategy, undertaken with virtually no governmental policy guidance or support, is to station salvage-capable tugs at key ports around the country. These tugs represent what is in reality Australia's only practical salvage response capability to casualties threatening the coastline environment."

Adsteam Marine Limited, 2001 Annual Report, p. 14.

1.3 Key industry participants

Towage and towage-related services are just one element of the total "package" of port services that ship operators require within the port environment. In its 1998 *International Benchmarking of the Australian Waterfront* study, the Commission considered that towage, along with pilotage and mooring and unmooring, fell within a distinct category of marine services.

The Commission considered marine services to be conceptually distinguishable from port and maritime infrastructure services provided by governments and port authorities. Other categories identified by the Commission included stevedore services (for containers, break-bulk cargo and bulk cargo) and services provided by port-land interface operators including,

> "…..container terminal operators or stevedores, transport operators, freight forwarders, customer brokers, the Australian Customers Service, Australian Quarantine and Inspection Services and facilitators of electronic data interchange."[2]

In Adsteam's view, it is the interaction between ship operators, towage service providers, pilots and port authorities that is directly relevant to the Commission's present task of assessing the need for and reform of towage regulation. More than any other factor, it is the commercial and competitive dynamics that exist between these industry participants that ensures efficient, reliable and competitively priced towage services in Australian ports.

As noted above, in Appendix A is a summary of the various operators, port statistics and other information relevant to the provision of the various services provided by port authorities, pilots and towage operators (as well as lines and mooring services) in the 51 ports in Australia that require towage services.

[2] Productivity Commission, *International Benchmarking of the Australian Waterfront*, Australian Government, Melbourne, 1998, p.171.

Directly below is an introduction to each of the above key industry participants. This discussion focuses on the ways in which these participants influence and constrain towage operators generally, and Adsteam in particular, across both declared and non-declared ports.

1.3.1 Ship operators

The main users of port services are ship operators. These operators either own or charter the vessels calling at Australian ports. In the vast majority of cases these businesses are foreign companies engaged in international trade between Australia and other ports around the world.

In order to protect their investments, their cargo and themselves against potential liability, ship operators demand world's best towage practices. This is one of the reasons why towage operators in Australia such as Adsteam strive to be "world competitive." Of course, port authorities and governments also expect world's best practices amongst port service providers. However, it is the continuous commercial interface between ship operator and towage operator as customer and service provider that creates a daily expectation of service quality and competitive pricing.

Adsteam strives to meet the requirements of its customers as any service provider would do when dealing with an informed and powerful customer base. The service quality initiatives previously noted, the efficiency improvements associated with better tug utilisation and the reduced tug usage that Adsteam actively pursues, as well as the introduction of towage rebate arrangements, are all instances where Adsteam has responded positively to the needs and demands of ship operators.

Significantly, in the ports with growing ship throughput such as Gladstone, Abbot Point and Brisbane, Adsteam has achieved cost savings as a result of increased tug calls. Having achieved greater efficiency, it then unilaterally shared the benefits of these savings with its customers in the form of price reductions.

Yet ship operators do not necessarily consider towage services to be distinct from the whole port service package. Rather, they expect towage operators to deliver their services in a manner that links seamlessly with the services of all other port services providers.

Ship operators need to know that the risk of damage to property, including to their own cargo, other port users and port infrastructure, is minimised. They also require a service cost that is justified on commercial grounds and that can withstand international benchmarking.

For regular callers to Australian ports, the size of their contribution to a towage provider's bottom line is a significant source of bargaining power. This power can manifest itself in meaningful threats to sponsor a rival towage operator or to invest in technologies that reduce a ship's reliance on external towage services. Relevantly, several ship operators such as Maersk, NYK, MIL, Swire and BHP own towage operations either in Australia or overseas.

1.3.2 Pilots

Pilotage, which is compulsory in most Australian ports for vessels over a pre-determined size, involves a pilot providing the ship's master with expertise in navigating local waters. Pilots board a ship prior to its entry into a port and assist it to enter the port. They later reverse the process to enable the ship to leave the port safely. Pilots work in accordance with formal towage guidelines developed in conjunction with harbour masters and port authorities. See further Box 1.8 below.

Box 1.8 – Harbour towage guidelines

Most Australian harbour masters and port authorities in association with the local pilots, publish towage guidelines that contain recommendations on tug usage. Usually the recommendations are in the form of the minimum number of tugs to be used in reasonable weather when undertaking specific manoeuvres. The actual numbers of tugs used are in most cases left to the discretion of the harbour pilot and ship's master.

Some common factors go into the drafting of towage recommendations and can include

- Size, length and deadweight/design of the ship and machinery;
- Whether or not bow thrusters or other manoeuvring systems are fitted;
- Berth design and location;
- Berth manoeuvring room/proximity of other vessels, cranes and obstructions;
- Channel configuration;
- Under-keel clearance;
- Tidal effects;
- Prevailing weather and swell conditions;
- Type and size of swinging basins;
- Whether or not a vessel is "ships head in or out";
- Pilotage experience with particular vessels/masters familiarity with the port;
- Early notification of shipboard technical problems (eg bow or stern thrusters inoperable);
- Capabilities and number of tugs servicing the port;
- Port traffic requirements/traffic separation; and
- Unusual vessel designs such as with naval ships.

In addition, some ports have other specific factors that go into the determination of tug requirements. For example, Brisbane bases its guidelines on the assumption that all vessels will be berthed stemming the tide. Sydney clearly states that each vessel's tug requirements will be assessed on an individual basis. Fremantle discounts individual tug numbers and refers to "power units".

Like towage operators, pilots charge ship operators directly for their services. As noted by the Commission in its 1998 *International Benchmarking of the Australian Waterfront* study, pilotage charges can include a number of variables and can be affected by contractual arrangements between pilots and third parties:

> "Pilotage charges are generally levied on the basis of the GRT of the ship and depend on the distance of pilotage and the extent of navigation hazards associated with a particular port. Pilotage charges can also be charged on a per service basis … There may also be charges associated with the cancellation or detention of a pilot. … Actual charges might vary from scheduled charges because of agreements between ship operators, port authorities and other service providers."[3]

The interaction between pilots and towage service providers takes place on two levels. The most obvious is the level at which pilots direct tug masters to manoeuvre their tugs while providing assistance to a ship. This interaction is a professional one based on mutual respect and reliance between pilots and tug crew.

The second level at which these operators interact concerns the issue of tug usage. As mentioned, pilots determine the number of tugs required to assist a ship based on towage guidelines developed between pilots, harbour masters and port authorities (and sometimes with the involvement of towage operators).

[3] Productivity Commission, *International Benchmarking of the Australian Waterfront*, Australian Government, Melbourne, 1998, p.50.

Ultimate tug choice is, however, often a discretionary decision based not only on safety considerations, but increasingly on commercial considerations as well. This issue has been recognised for a number of years, and would seem to be increasing in importance as noted at an international level by leading industry observers who openly acknowledge that, "Due to economic factors shipping companies are facing, captains and pilots are often under pressure to use the minimum number of tugs."[4]

While these considerations may be seen as introducing commercial tension between ship operators and pilots on the one hand, and towage operators on the other, towage operators rely on the fact that the risk of any decision to reduce tug usage is the responsibility of the pilot and ultimately the ship's master.

At the same time, Adsteam and other towage operators recognise that the inevitable trend toward fewer tug calls is also an opportunity to reduce tug fleets in ports thereby reducing capital costs. As mentioned, Adsteam has been at the forefront of developments in this area and continues to drive reform in co-operation with pilots, port authorities and ship operators.

Adsteam successfully removed two tugs from Newcastle following its acquisition of Hunter Towage Services in 1999. However, such rationalisation is not always possible.

Despite the work that Adsteam is doing in co-operation with pilots, port authorities and ship operators, the conservative nature of the industry has meant that even where towage guidelines have been made more flexible, this has not necessarily led to opportunities to reduce tug numbers in ports. As a consequence, tug usage has fallen but towage operator costs have remained unchanged (or increased as the tugs required for larger ships must be larger and thus constitute a great capital expense).

1.3.3 Port authorities

Port authorities are responsible for the management and development of port assets. They play a central role in the control of traffic flows, administer port and State regulations, and often provide additional port services, including in some instances lines and mooring services as well as pilotage.

Port authorities provide berths to ship operators and a range of other services related to the use of specialised port land and facilities, such as terminals and other infrastructure. The most relevant port authority services and charges for present purposes include:

- *Tonnage* – charges levied on ship operators to recover the cost of dredging and the provision of navigational aids. These charges are usually based wholly or partly on the GRT of the ship;

- *Berth hire* – charges levied on ship operators to recover the cost of providing wharf infrastructure. These charges are based on the time a ship occupies a particular berth, the size of the ship or on the cargo being loaded or unloaded; and

[4] Captain Henk Hensen, *Tug Use in Port: A practical guide*, The Nautical Institute, London, 1997, p. 9.

- *Wharfage* – charges levied on cargo owners (or in the case of container ships, ship operators on a per TEU basis) to recover part of the cost of providing port infrastructure and facilities. For container ships, port authorities generally levy separate wharfage rates for 20 and 40 foot containers and for loaded and empty containers.[5]

It is questionable whether these charges are related to the actual cost of providing the relevant facilities. Adsteam understands that port authority charges are often allocated to vary the balance between ship and cargo interests, or to meet the dividend requirements of state governments.

Port authorities' interest in towage is related to their interest in making their ports safe and attractive to ship operators. The underlying driver appears (and is sometimes explicitly stated) to be a desire to increase the desirability of their port relative to all other ports or at least to ports that they consider to be their competitors.

Unlike towage operators and pilots, port authorities are not compensated so much on the basis of ship calls, but more on cargo volumes. This charging arrangement gives port operators a significant interest in cargo throughput and less of an interest in ship size.

Port authorities are also keenly interested in the safety aspect of towage operations, and as noted are directly involved in developing towage guidelines to ensure the risk of damage to the port environment is minimised. They must also be mindful of potential liability should a towage operator provide a substandard service that results in damage to a ship or a third party's property.

Regardless of the degree to which port authorities' belief in inter-port competition is a reality, the derived competitive constraint on towage providers is very real. Port authorities are extremely attentive to ship operator demands for higher quality and lower-cost port services, including towage services. In turn, port authorities actively encourage (and sometimes direct) towage operators to increase their efficiency and standards of service.

In many ports, the relationship between port authorities and towage operators is informal. These port authorities do not stipulate any service or towage charge requirements, although they still do not want a service that is inefficient or prohibitively expensive. To this end, many "open" or informal ports reserve their rights to impose regulation on towage operators should they consider it necessary.

Other port authorities require service charters or non-exclusive contracts to be entered into between themselves and some or all towage operators in their port. Where the standards and criteria set out in these charters and contracts apply to all towage operators - and are otherwise justified on technical and safety grounds - there can be little harm in their use; and many advantages for everyone involved.

Still other port authorities restrict the number of towage providers in their port to only those providers (usually a single provider) that successfully tender for an exclusive contract to provide their services in the port. The use of a port authority's regulatory power in this context is a controversial subject.

[5] Productivity Commission, *International Benchmarking of the Australian Waterfront*, Australian Government, Melbourne, 1998, pp.84 and 85.

Port authorities must also provide a return to their shareholders who, for the most part, are their respective state governments. They will therefore view any opportunity to charge the towage operator by way of license fees or berth leases as ways of assisting their corporate objectives. This may explain, at least in part, the arrangements described in Box 1.9 below.

Box 1.9 – Port authorities and towage agreements

The majority of ports in Australia and around the world do not require towage operators to enter into formal agreements or licences. Of those that do, non-exclusive arrangements are common and the main aim of the arrangements is to preserve service levels rather than attempt to regulate towage charges.

However, some port authorities have taken the opportunity presented by licensing to extend their control beyond safety issues and increase their own profitability.

For instance, the most recent towage licence issued in Australia was by the Fremantle Port Authority. This licence requires liquidated damages (payable to the Authority, not the customer) in the event of any disruption ranging from industrial disputes to mechanical failure. This is the case even if the disruption is not a consequence of anything the towage operators does or does not do.

Port authorities have also been known to demand a share of the towage operator's profits, or to obtain licence fees out of all proportion to any supervisory function performed by the authority. This may explain the decision by one Australian port authority to award an exclusive contract to a towage operator with a higher price structure than its competitors, but which Adsteam understands paid a significantly higher licence fee.

Where formal licences do not exist, port authorities have sometimes linked the leases of berth facilities to service agreements which severely constrain the operations of the towage operator. There can also be very significant rents and access charges levied on operators in some ports.

1.4 The declared ports

Adsteam is a provider of declared towage services in seven Australian ports. These ports are Brisbane, Newcastle, Port Jackson, Port Botany, Melbourne, Adelaide and Fremantle. These services have continued to be declared since the initial PS Act declaration in 1991, despite recommendations by the ACCC in 1995 that declaration of all these services be revoked (See Box 1.10 below).

The table in Appendix A provides a summary overview of service providers and other relevant data for each of the seven declared ports.

Having described how ship operators, pilots, towage operators, port authorities and other port service providers interact with each other, it is useful to also consider the proportional significance, in terms of cost to ship operators, of their services. The following table is based on data from the Bureau of Transport and Regional Economics *Waterline* publication. It reflects a weighted average across five of the declared ports (Brisbane, Sydney, Melbourne, Adelaide and Fremantle) from 1994 to 2001.

Figure 1.1 – Port interface costs ($ per TEU)

Per TEU data	1994	1996	1998	2000	2001
Pilotage	7.98	7.74	6.85	5.37	5.39
Towage	17.28	18.06	13.98	9.31	9.28
Mooring	4.29	3.79	2.69	2.25	2.14
Port Services	71.76	67.03	60.07	55.68	57.73
Stevedoring	195.00	203.00	188.00	173.00	173.00
Customs Brokers	117.07	116.99	116.80	115.75	113.10
Road Transport	233.79	242.56	244.79	256.66	264.70
Total	**647.17**	**659.17**	**633.18**	**618.02**	**625.34**

Source: BTRE *Waterline* statistics

These data indicate that towage costs in the above ports have fallen from around 2.7% of total port interface costs in 1994 to about 1.5% in 2001. In dollar terms per teu, towage costs have fallen over this period from $17.28 per TEU to $9.28 per TEU (a fall of 46%) whereas total port interface costs have only marginally fallen from $647.17 per TEU in 1994 to $625.34 in 2001 (a 3.4% reduction).

As explained in Part 4 of this submission, this proportional decrease in towage costs is not related to the fact that towage services in these ports are declared.

Further financial information relating to towage is provided in Part 2 of this submission.

Box 1.10 – ACCC recommends revocation of current towage declarations

In December 1995, the Australian Competition and Consumer Commission concluded a 2 year review of declarations under the *Prices Surveillance Act* 1983. Based on its assessment of developments in the towage industry, the ACCC recommended the revocation of declaration of then declared towage companies.

At the same time, the ACCC proposed that it be directed under section 27(A) of the PSA to monitor prices, costs and profits of harbour towage operators in the ports of Sydney/Botany, Newcastle, Port Kembla, Melbourne, Geelong, Westernport, Brisbane, Gladstone, Townsville, Adelaide, Fremantle, Kwinana and Bunbury.

The ACCC also noted "… the potential for competitive performance-based tendering and the use of non-exclusive licences …" as a means of facilitating competition in the supply of harbour towage services.

The ACCC's recommendations, which preceded a change in Federal Government, were note adopted at that time.

1.5 Towage industry developments

The towage industry is a dynamic industry undergoing major industrial, technological and other changes. The future of the industry will continue to be shaped by these forces. The common theme is a constant drive for greater efficiency on the part of service providers and service users.

In this section three key issues are discussed. First, developments in the labour relations and industrial reform area of the towage industry are briefly noted, with a special emphasis on the significant progress that Adsteam has made in these areas.

The second issue is the evolution of the towage industry in terms of increased concentration of ownership reflecting the economic fundamentals of a tug boat operator faced with high fixed costs and reducing tug usage in most ports. As will be evident from the material provided throughout this submission, there have been few if any detrimental side-effects from changes in ownership in the industry.

Thirdly, the future of the towage industry is considered. This discussion includes an analysis of:

- changes in technology (both in ship and tug design) that are changing demand for towage services around the world (Section 1.5.3);
- changes in shipping trends, and in particular the increasing size and manoeuvrability of ships, which reduce tug calls and lower tug utilisation rates (Section 1.5.4);
- changes in the nature of towage regulation within individual ports, especially through revisions to towage guidelines and the use of towage licences (Section 1.5.5); and
- the continuing threat of new entrants which in recent times has been reinforced by events presently unfolding in Melbourne and potentially in other ports (Section 1.5.6).

1.5.1 Labour reforms

Labour productivity in the towage industry has improved dramatically over the last decade. The most notable reform has been the staged reduction in crew numbers on tugs from 8 down to 3 in just over 10 years. Adsteam has played a central role in achieving these Australia-wide reforms that are yielding significant cost savings for all stakeholders. This has been achieved without any government financial assistance to fund redundancy payments.

There has also been a range of reforms instituted by Adsteam to improve work practices and increase flexibility and efficiencies in the workplace. In these regards, see further Box 1.11 below.

The reduction in crew numbers was a two-stage process. The first crew reduction from 8 to 4 was completed by June 1992. This reform was a product of the Government's Towage Industry Reform Committee ("TIRC") formed in 1989. The TIRC also proposed a suite of other labour reforms including renegotiation of crew rostering and leave arrangements.

In 1995 Adsteam broke away from the Labour Award payment structure, and initiated direct company to union negotiation with the objective of replacing the award with an Adsteam Enterprise Based Agreement ("EBA"). These objectives have been met with significant achievements in the areas of:

- dampening wage expectations; and
- achieving substantial changes to work practices.

Later in 1998, Adsteam took the view that its harbour tugs could be safely manned by three crew members. It therefore decided to pay redundancy to one of the two deckhands on each tug (at a total cost of $5,870,010), with the tug engineer assuming additional responsibilities during actual towage operation. Adsteam successfully negotiated with the MUA to reduce the deckhands from 2 to 1.

During 2000-01, Adsteam achieved its objective of reducing tug crews from 4 to 3 for is fleet of harbour tugs fitted with towage winches. The systematic programme that Adsteam implemented to secure this result involved extensive consultation with the MUA and included:

a) An Independent Expert Risk Assessment study, which concluded that with some mitigating actions (the installation of additional alarm and safety equipment, and extensive training), tug safety would not be compromised;

b) Investment in the identified equipment, and development of a comprehensive deckwork training course for tug engineers;

c) The appointment of an independent chairman of an evaluation team, which eventually the MUA (after failed strike action) was induced to join;

d) An international evaluation tour which examined towage operations in Singapore, Europe, and the USA, principally for the benefit of the MUA contingent;

e) An Australia-wide evaluation programme in which the operational environment of each tug and port was taken into account;

f) The preparation of supporting argument and submissions in those states where government-appointed Manning Committees were in existence (ie New South Wales and South Australia); and

g) A redundancy package that was entirely funded by Adsteam (in contrast to the Federal Government Maritime Industry Finance Company scheme for stevedoring workers as a result of the waterfront confrontation of 1998).

Box 1.11 – Improvements in industry work practices

Adsteam took advantage of its EBA structure to introduce greater efficiencies into the work practices of its employees. The benefits generated from this process have led to vastly improved service levels for Adsteam's customers. Specific improvements include:

Pre-existing practice	New practice
Ordering procedures and the availability of labour created unacceptable gaps in the service offered to ship operators. The requirement that tugs be ordered by 4pm Friday for weekend tug calls was common. This practice still exists in some ports not serviced by Adsteam.	Guaranteed labour availability, flexible rosters and use of company-supplied mobile phones now mean a less than 2-hour service availability 24 hours a day, 7 days a week, 365 days a year.
Workforce restrictions on transferring from one tug to another reduced tug availability. One crew would stay idle while another was brought in to man an alternative tug.	This practice was eliminated within the EBA.
In some ports, tug availability was scheduled on a "taxi rank" system. This meant that the tug at the head of the rank had to be used, even if it was not the tug required by the harbour pilot.	This practice no longer exists and pilots can request the tugs they require.
Tugs sent for dry-docking were accompanied by its "home port" crew even if this left their port short of operational labour and casuals had to be employed.	Adsteam now routinely uses the most economical way of relocating a tug from one port to another.

1.5.2 Industry concentration

Increased concentration of ownership has been one of the key characteristics of the Australian towage industry in recent decades. The main vehicles for developments in this area have been joint venture initiatives and business acquisitions.

In the late 1960's, one of the first harbour towage joint ventures was formed between Howard Smith and Adsteam. However, it was not until the 1980's that the number of joint ventures formed was at its greatest. Today, joint ventures are no longer as prolific as in the past, mainly because of a maturing marketplace in many ports and the withdrawal of one or more of the partners who no longer saw future profit potential.

The move towards greater concentration, both by way of contract and by acquisition, has been driven primarily by the need for greater economies of scale in an industry typified by high fixed-costs and small (single-port) markets.

The need for improved efficiencies through increased economies of scale has also been a discernable motivator behind the trend towards consolidation in the global towage industry. The once fragmented industry is now becoming better integrated within the world shipping market, offering services on a much broader scale than was previously possible.

Adsteam has been a leader in developments in this area, as evidenced by the information in Table 1.2 below which covers selected acquisitions in the towage industry since 1996.

As can be seen, Adsteam's global perspective and desire to be a leading towage operator are reflected in the significance of its acquisitions from an international perspective.

Adsteam's objectives have also included a desire to be an Australian-based global player rather than become a subsidiary of an international, off-shore operator as has happened to the Australian ocean going and coastal shipping fleets.

Each of the acquisitions that Adsteam has undertaken during this period were, where relevant, subject to ACCC scrutiny.

Table 1.2 – Selected major acquisitions in the international towage industry (1996 – 2002)

Acquisition	Year	Description
Fenwick Towage (NSW)	1996	Adsteam and Howard Smith acquired all of Fenwick's towage assets in Port Botany, Port Jackson and Newcastle.
Medina Maritime Services (WA)	1996	Adsteam and Howard Smith acquired P&O Maritime Services' share in this Western Australia business.
Sleepdienst Jan Dooren BV (Netherlands)	1999	Smit acquired Sleepdienst, one of the last independent towage operations in the Netherlands.
Hunter Towage Services (Newcastle)	1999	Adsteam and Howard Smith acquired Hunter Towage.
MAJU Maritime (Singapore)	1999	MAJU Maritime (a joint venture between Keppel and SMIT International) merged with Keppel Smit.
Cory Towage (UK)	2000	Dutch Wijsmuller Group acquired Cory Towage from Britain's Ocean Group.
Rivtow (British Columbia)	2000	Smit International acquired the operations acquisition of Rivtow.
Howard Smith Towage (Australia and UK)	2001	Adsteam acquired Howard Smith's towage and related services operations as well as its interests in all joint ventures (some with Adsteam).
Port of Singapore Authority SembCorp (Asia)	2001	The PSA acquired SembCorp Logistics' marine business including tugs and salvage equipment in Hong Kong, Malaysia and Indonesia.
Svitzer/Wijsmuller	2001	Em Z Svitzer, a subsidiary of AP Moller, acquired 100% of Dutch Wijsmuller Group.
Red Funnel (UK)	2002	Adsteam acquired the UK towage company Red Funnel.

''

Importantly, there is no evidence that the increase in concentration in the Australian towage industry has led to higher prices or lower quality, less efficient services. Rather, towage services and pricing levels have on the whole improved for ship operators using Australian ports, as described in Sections 1.1.2, 1.1.3, 2.3 and 2.4 of this submission.

Further, the contestability of towage markets has not been reduced because of these acquisitions. Where a towage operator becomes more efficient through an acquisition, its ability to constrain its own prices and improve service levels increases. The threat of new entry remains. However, a more efficient incumbent operator will be better placed to protect its position if it consistently passes on benefits to its customers, as Adsteam has done.

A discussion of potential new entrants and towage market contestability more generally is provided further below in Section 1.5.6.

Box 1.12 – ACCC clears Adsteam acquisition of Howard Smith

On 14 May 2001, the Australian Competition and Consumer Commission stated that it would not intervene in the proposed acquisition of Howard Smith's Towage assets by Adsteam Marine Limited. This is the ACCC's most recent decision concerning towage services Australia.

"The ACCC has examined the likely effect on competition and will not oppose the proposed acquisition", Professor Fels said. The ACCC considered the proposed acquisition under section 50 of the *Trade Practices Act* 1974 which prohibits acquisitions that would be likely to have the effect of substantially lessening competition in a market.

"Based on Australian ports generally representing separate markets, the proposed acquisition of Howard Smith's Victorian towage operations would represent the transfer of market power from Howard Smith to Adsteam in the ports of Melbourne, Westernport and Geelong," Professor Fels said.

"In the other relevant ports where Adsteam and Howard Smith have joint venture operations, Adsteam is already the managing shareholder of most of these towage operations. It is unlikely that this change in the shareholding of the joint venture towage operation in each relevant port would cause a substantial lessening of competition."

1.5.3 Technology

Every service provider involved in supporting the international shipping industry faces pressure to increase its efficiency, usually though not exclusively through the adoption of improved technologies. At the same time, ship operators are looking for ways of reducing costs over the longer term to survive periods of intense competition brought about by periodic excess shipping capacity and downturns in world trading conditions, such as the Asian crisis in the late 1990's and following the events of 11 September 2001.

Major developments in tug technology since the 1960s have revolved around improvements in their power and manoeuvrability. In the 1960s, the standard tug was a 'single screw' operated boat, that is, it operated with only one propeller. In the 1980's, tugs were improved and operated with 'two screws' which improved power and manoeuvrability.

A large proportion of tugs being manufactured today are of omni-directional, Z-peller or similar reverse tractor design, which are even more manoeuvrable and can generate extremely high static bollard pulls.

The trend towards larger ships is increasing demand for larger tugs with not only the power equivalent to two or more earlier model tugs, but also the capability to be operated in a manner equivalent to how two tugs would have been used in the past. This latter point highlights the importance of maximising the efficiency of technology through modified and improved towage assistance techniques.

The increasing trend towards integrated ship steering and manoeuvring systems using bow and stern thrusters and high angle of attack rudder systems, will continue to be focused

upon by ship and towage operators in the future. As previously noted, these technologies can be a direct substitute for towage services and for a major ship operator can constitute an investment that will result in major long term operational savings.

Historically, break bulk and other dry cargo ships, as well as container ships, have lagged behind technological advances made in the design of cruise ships. Some observers estimate a 10-year lag for break bulk ships and 5 years for container ships. Today, almost every modern major cruise ship is capable of manoeuvring itself in and out of any port in the world totally unassisted by tugs. The savings that these operators are enjoying are not going unnoticed amongst freight businesses.

Anecdotal evidence provided by pilot associations indicate that over the last 10 years the number of cruise ships with their own in-port manoeuvring systems has increased from 30% to 100%. During the same period, container ships have increased their use of these systems by approximately 25%.

Box 1.13 – What are bow and stern thrusters?

Bow and stern thrusters are robust and reliable auxiliary propulsion systems that produce lateral movement of the bow and/or stern of a ship when manoeuvring at low speeds. They consist of a diesel, hydraulic or electrically driven propeller mounted in a tunnel running across the ship which pulls and pushes water at 90° to the centre line of the ship.

This movement of water provides lateral forces causing the bow or stern to move to port or starboard. The thrusters are located low down (below the waterline) at the narrower fore and end part of the hull. Some vessels are fitted with twin thrusters to improve the power output.

> "The transverse thruster, installed in the bow and/or the stern, has become an essential item of equipment on many vessels. It enables the normal process of docking to be managed without tug assistance because the vessel is made more manoeuvrable at low speeds"
>
> H. D. McGeorge, *Marine Auxiliary Machinery*, 7th Edition, Butterworth-Heinemann, 1995.

Some passenger ships have Z-pellers which is the same specialist propulsion system employed on modern tugs. They consist of a right angle propeller on a vertical shaft that can be turned through an arc of 360° to drive the bow or stern in which ever direction the pilot wishes. This is equivalent to having a tug sitting permanently on the bow and the stern of the ship.

1.5.4 Shipping trends

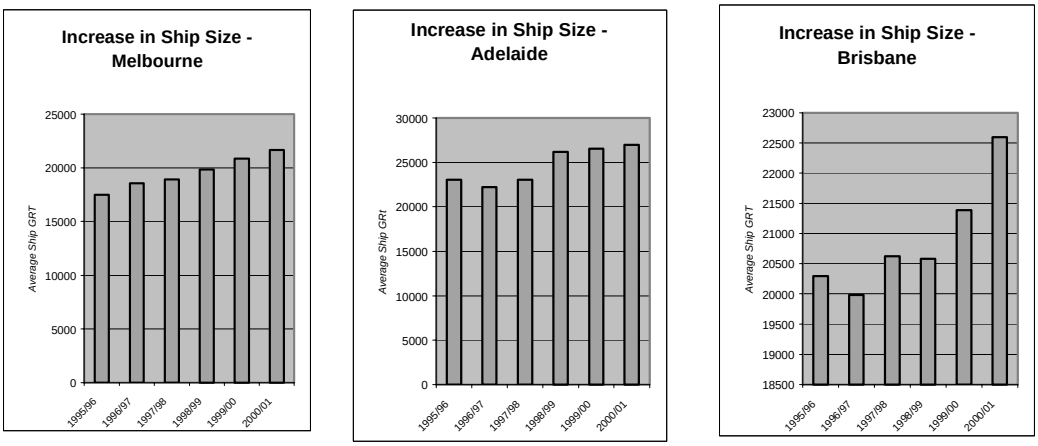
Simultaneous with an increasing investment in towage-reducing ship technology, the size of ships is increasing. This global trend impacts on Australian ports as much as anywhere else in the world. The economic drivers behind this trend are well recognised within the shipping industry.

For port authorities and other port service providers that earn revenue based on freight throughput, this trend provides an opportunity to increase revenue as bigger ships can mean more freight and the justification of higher charges.

For towage operators the trend towards larger ships can restrict expansion plans and undermine revenue, particular where towage charges are tug-call based. Larger ships require fewer if more powerful tugs for assistance. Some of them require no tugs at all because of the use of the technologies described above.

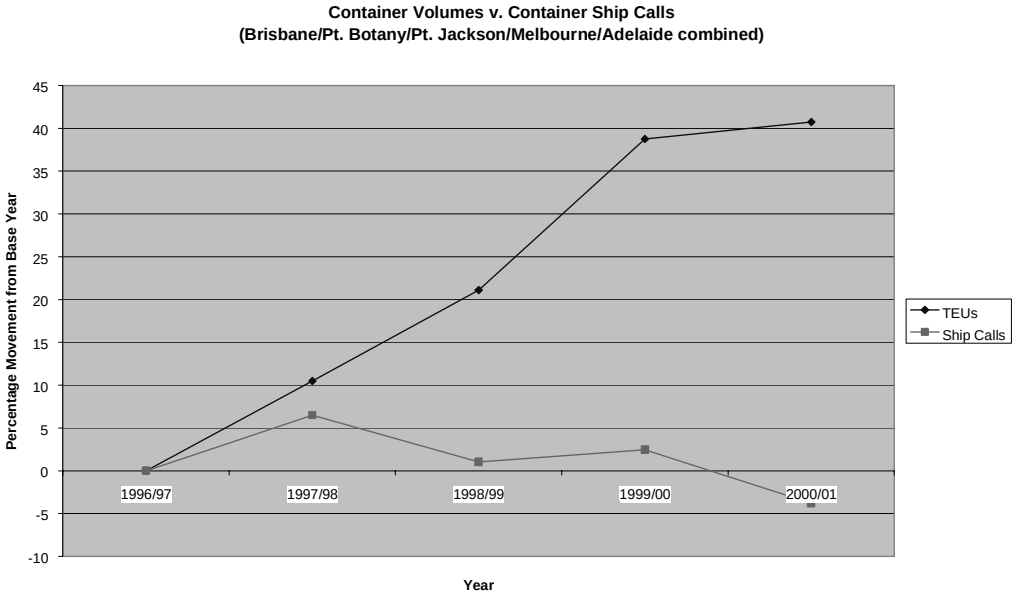
The following graphs show how ships are becoming bigger in several of the ports which collate such data.

Figure 1.2 – Increasing ship sizes



In relation to the direct impact that this trend is having on towage operators, Figure 1.3 illustrates the diverging trend lines between cargo growth and ship call numbers. The data used here is for combined container volumes in Brisbane, Port Botany, Port Jackson, Melbourne and Adelaide.

Figure 1.3 – Cargo growth and ship calls



Box 1.14 – Towage revenue effects of fewer tug calls

The above shipping trends, combined with the reduction in tug usage described previously which Adsteam and other industry participants are actively pursuing, have led inevitably to a reduction in towage revenues.

In many cases this has not been accompanied by a reduction in tug fleet sizes for reasons discussed in the next section concerning towage regulation.

In Appendix C are graphs charting the reduction in tug usage in five of Australia's main ports during this period. In every instance, tug jobs per ship call are lower today than in 1997.

Adsteam estimates that the national cost of towage to ship operators is approximately $7.7 million less today when compared to 1997 precisely because of fewer tugs per job call.

1.5.5 Towage regulation

> "This emerging unified policy on the port services industry [in the EU and UK] is in marked contrast to the situation in Australia, where jurisdiction is the domain of the various States, and in some cases devolves to individual port corporations or authorities, other than with price monitoring by the ACCC in the declared ports. The result is a hotch potch of policies and regulation that at times is the despair of potential external industry entrants".
>
> *International benchmarking of harbour towage at Australian declared ports*
> Thompson Clarke Shipping, April 2002, page 37.

Apart from formal prices surveillance, towage in almost every Australian port is affected by some form of regulation. This regulation comes in two broad forms. First, in the form of towage guidelines that have been described briefly already. Secondly, in the form of various licensing and service charter arrangements in place between port operators and towage service providers.

As has been explained in Section 1.3.2, towage guidelines are formal rules typically developed by pilots, harbour masters and port authorities to ensure the safe and efficient deployment of towage services. As also explained, towage operators can be involved in the development and revision of these guidelines as Adsteam has been on a number occasions.

For the most part, towage operators are in favour of the tug usage requirements set out in towage guidelines because of the primary risk that ship masters, pilots and port authorities must assume in this area. However, there is an increasingly apparent second level of regulation that results from these arrangements.

In Adsteam's experience, towage guidelines may indicate the need for fewer tugs in a port but pilots and port authorities are reluctant to allow fleet reductions to occur. This arguably reflects the conservative attitude of these key market participants. Nevertheless, this attitude constitutes a form of regulation that prevents towage operators achieving the efficiencies – and potential cost savings to ship operators - that tug fleet reductions would allow.

A related form of regulation is the requirement that a towage operator increase the power of its tugs, even where this is demonstrably not required for safety or efficiency reasons. Such requests – like requests for the maintenance of stand-by tugs that are rarely used - are often made to provide an extra level of comfort for pilots (and ultimately ship operators) and port authorities. However, the burden of such regulation on towage operators can be considerable.

This is a trend that is increasing in the towage industry, ostensibly without recognition as a form of regulation. It has potentially significant, negative competitive and commercial ramifications. This is because it distorts the signalling of the actual service required by ship operators, increases the cost base of the towage operator while revenue is decreasing, and penalises the pursuit of tug usage reductions.

Box 1.15 – Informal tug fleet regulations

The influence that port authorities and pilots have over the operations of towage operators can affect the fundamental economics of a towage operator's business. This can take the form of informal regulation which adversely affects Adsteam's operations in a variety of areas.

Invariably, Adsteam has conceded to undertake the measures required by these other port service providers in recognition of their responsibilities for port safety and efficiency, and also because of the commercial consequences of refusing.

Recent examples where pressure has been placed on Adsteam to make decisions about its fleet specification and related matters include:

- The Harbour Master in Geraldton requesting larger tugs to match planned port developments;
- A move toward Panamax vessels in Mackay which has led to a requirement for Adsteam to substantially upgrade its tug fleet in the port;
- An expectation in Newcastle that Adsteam will provide 6 large omni-directional tugs, with the occasional use of smaller tugs (for relief purposes) being the subject of criticism by the Harbour Master;
- In Townsville, Adsteam recently implemented a substantial increase in tug capabilities to better match expectations expressed by pilots; and
- The Harbour Master in Albany has requested Adsteam provide a larger tug to service a new woodchip trade.

At the state and port level, harbour towage is becoming a highly regulated industry through the use of licensing arrangements and service charter agreements. See below Box 1.16 for a survey of current and proposed towage licensing and other arrangements in Australian ports.

The trend in this area is an increased use of the "threat" of regulation where a towage operator is perceived to be failing to maintain sufficient standards of quality and service, or where towage charges are considered unjustified. Port authorities are particularly attentive to complaints by ship operators in these areas and believe that the threat of regulation is a useful mechanism to rectify any perceived shortcomings in a towage operator's performance.

Given the high fixed-cost nature of towage, an incumbent towage operator will always take such threats seriously because the introduction of another competitor (particularly on an exclusive basis) may well mean the end to the incumbent's business. This could be an element in the approach adopted by new entrants, who may seek to win a contract to damage the incumbent operators and then proceed to re-negotiate the contract during its tenure.

The renegotiation of an exclusive contract is something that has already been undertaken in the Port of Bunbury, where the failure to include GST in the original tender subsequently led to a recalculation of the terms of the contract. It should be borne in mind in this

context, that a port authority is vulnerable to the licensee threatening to depart the port – a prospect that could severely damage the port authority (and all port users) while it frantically moves to find a replacement operator (which could take days, weeks or months depending on the availability of a nearby tug operator, which would itself want favourable licence terms).

Another problematic aspect of licensing arrangements is an increasing desire on the part of port authorities to regulate all aspects of the towage operator's business. This is particularly dangerous when a port authority is neither a buyer nor seller of the services in question and invariably lacks direct knowledge of harbour towage economics.

Only rarely has a port authority explicitly recognised the need for a towage operator to earn a return on its investment.[6] Yet these examples do not allow for any revenue enhancement for the towage operator from traffic growth in that port.

Further issues concerning towage licensing are discussed in Section 4.2.

Box 1.16 – A survey of port authority regulations

Towage services have been licensed for some years in Cairns, Townsville, Mackay, Gladstone, Esperance, Albany, Bunbury and Geraldton. Apart from standards of service requirements, the type and number of tugs required, and back-up provisions, these licences have significant price control mechanisms.

In 1999, the Western Australia Parliament passed legislation which allows port authorities to issue exclusive licences. Such a licence has been issued in Bunbury, which deprived Adsteam of the right to operate in the port, even on a competitive basis. More recently, the Fremantle Port Authority invited proposals for either exclusive or non-exclusive licences to be issued in Fremantle and Kwinana. All three of these ports now impose very stringent towage price controls.

The Queensland Government, after a recent enquiry, has been recommended to extend to all ports in the State the right to issue licences. It is believed that the NSW Government is considering similar legislation. In Victoria in 2000, the Office of Regulator General conducted a review to examine whether price control licensing should be introduced in that state.

In the private ports of Portland, Geelong and Westernport, there is a Service Agreement which imposes significant operational obligations on the towage service providers.

Even in ports where there is no legislative power to issue licences, such as Port Kembla and Newcastle, there are Service Agreements that address such issues as the size, power and number of tugs required, the provision of fire fighting services, the need to obtain approvals before the removal of tugs from port, the obligation to upgrade as the port requires it, the guarantee of back-up tugs in the event of a break-down, and service standards relating to the response time and availability of tugs.

A further area of regulation that is impeding the efficient operation of towage operators and ostensibly discouraging new entrants, is the classification and qualification requirements of tug crews. These regulations, which are discussed further in Section 4.3 below, vary between states and create unjustified anomalies and inefficiencies.

By way of illustration, the same twin-screw tug of 2,700 kW (total propulsive power at 720RPM) requires an engineer qualified to the level of MED 1 in Queensland, an EC 3 qualified engineer in New South Wales and an EC 2 qualified engineer in Victoria.

[6] This is the case in Gladstone where the towage licence provides for a fixed return on investment. The licence with the Townsville Port Authority also recognises that towage capacity in the Port cannot be increased unless it is "commercially justifiable to the Company and sufficient to ensure a reasonable rate of return to the Company" where the rate of return is the rate of return on funds employed.

Another problem area is the application of the "1200 RPM rule" for defining propulsive power in a multi-engined vessel such as a tug, and the resultant engineer qualification required. For instance, Adsteam operates in one port with two tugs of similar power and technical sophistication. However, one requires an MED 1 engineer while the other requires an EC 3 engineer because its main engines operate below 1200 RPM. Adsteam asserts that this distinction has no technical relevance.

In other countries, Adsteam understands that these inconsistencies do not arise and the qualification levels are lower, making tug operations more flexible and potentially more cost efficient.

A further disadvantage of the existing certification system is that Adsteam is prevented by certification requirements from training its crew to the level required for harbour towage unless they have "blue water" fleet experience. This compounds upon the assessment that certification levels are in some instances well above that required for similar work in other countries.

Some of the above inconsistencies arise because of a different regulatory frameworks adopted in each state. Some states abide by the USL ("Unified Shipping Laws") Code, while others use state regulation, and still others rely on manning committees or a combination of the above. Adsteam has continued to argue for greater uniformity in these and related areas.

There is also a reluctance on the part of some governing bodies to take responsibility for certain regulatory requirements. For instance, for AMSA[7] surveyed ships operating in harbour, the state regulator determines required manning/certification levels. However, in one state the regulator considers this to be an AMSA responsibility - while AMSA insists that it is a State issue as the "voyage" is not subject to the Navigation Act.

1.5.6 New entrants

The contestability of harbour towage markets in Australia has been the subject of much discussion. The size of each market or sub-market (which has usually be taken to mean an individual port), the high fixed-costs of running a towage business, the ready availability of tugs for utilisation by a new entrant, and the identity of who may want to enter particular markets, have all been considered at some time.

The Commission's present inquiry is the latest opportunity to review these issues and up-date current thinking – particularly in terms of required regulatory reforms.

Whether a market consists of a single port, or a collection of nearby ports, or even a broader construction, is in some senses an unnecessary question. When the ACCC undertakes an inquiry into whether a particular acquisition or conduct may have the effect of substantially lessening competition, a relevant market clearly needs to be defined.

It is Adsteam's view that when assessing the issue of new market entry in the current context a return to first principles is appropriate. Accordingly, a discussion of fundamental economic issues relevant to such an assessment is provided in Part 3 of this submission and in the attached CoRE Research report.

As will be discussed, while towage is a high fixed-cost industry, it is not a high sunk cost one. This distinction is very important. The proof of it is evident from the entry of new competitors in a number of Australian ports over a number of years. The most recent

[7] Australian Maritime Safety Authority

instance is the imminent entry of a new towage operator in Melbourne as reported in Box 1.18 below.

Box 1.18 – "New towage operator to launch in Melbourne"

"Adsteam's dominance of towage in Australia's main container ports will be challenged later this month when new entrant Australian Maritime Services takes delivery of two Z-peller tugs to operate in Melbourne.

The 43-tonnes bollard pull tugs, *Yarra* and *Flinders*, are sailing from Hong Kong and will be based at South Wharf, close to Adsteam's towage centre.

A company representative said the vessels are modern and practical, and well-configured for operation in Australian ports.

The service will start next month and over the next 12 to 18 months, Australian Maritime Services plans to roll out similar operations in Sydney, Brisbane and Fremantle.

The company has the backing of a major overseas operation with wide maritime interests and it is envisaged that eventually it will employ about 200 staff nationwide in a range of disciplines.

Australian Maritime Services has from a very early stage acted closely with the three maritime unions and it is understood that enterprise bargaining agreements with the unions are at a very advanced stage.

Marine Safety Victoria will ultimately determine the safe manning levels on *Yarra* and *Flinders*, but the company is hopeful that the tugs will operate with a crew of three, which would be the same as Adsteam.

A company representative said there has been a very positive reaction from shipping companies, the government and statutory authorities to the new towage entrant."

LLOYD'S LIST DAILY COMMERCIAL NEWS
18 April 2002

"A new towage venture will launch a two-tug operation at the port of Melbourne from next month, throwing down a challenge to existing operator Adsteam Marine.

Melbourne-based Australian Maritime Services plans to expand into the ports of Sydney, Brisbane and Fremantle within the next 12 months and reveals it has already secured several clients in Melbourne, which will give the new operation at least 40 per cent of the local towage market.

AMS's associate partners are overseas, but the company directors have been involved in the Australian shipping and transport industry for some time, with interests in ship mooring, vessel management, logistics and container parks.

A company spokesman said the directors had been planning to enter the towage sector for several years.

The tugs to be deployed in Melbourne will be the 43 tbp Z-pellers Yarra and Flinders, sourced from Hong Kong. They are likely to be joined by a 60 tbp salvage-capable vessel at a later date."

LLOYD'S REGISTER – FAIRPLAY WEB LINKS
19 April 2002

The present situation in Melbourne demonstrates that there may be any number of competitors willing to enter a marketplace commonly described as having natural monopoly characteristics. However, it is not the only example as evidenced by the following table which lists a range of national and international businesses with a

demonstrated interest in developing or extending their towage operations in Australian ports.[8]

Table 1.3 – Prospective and actual market entrants

Port	NEWCASTLE	ALBANY	GERALDTON	GLADSTONE	BUNBURY	FREMANTLE KWINANA
Year	1994	1996	1997	1999	2000	2001
Licence	Non-exclusive	Non-exclusive	Non-exclusive	Exclusive	Exclusive	Optional
Competitors	Waratah[7] Brambles BHP NYK Line[8] Navix Line[8] Daiichi CK[8] K-Line[8]	FTO[7] MacKenzie FLT[9] Sunlap[10] HK Shipping[11] Westug[12]	SHS[7] Brambles Westug[12] GTO[13]	GTS[7] Brambles Sembawang[14] THS[15] POAL[16]	SHS[7] Brambles MacKenzie Riverwijs[17] THS[15]	SHS[7] Brambles THS[15] POAL[16] Southern[18] Westug[12] Smit[19] Riverwijs[17] Kotug[20] PSA[21] HKST[22] Sabre[23]

[6] Port Authorities typically do not publish respondents. These are our best estimates, based on market intelligence, of competitors making a substantive response to invitations. Port authorities could no doubt confirm to the ACCC in confidence.
[7] Adsteam and Howard Smith joint venture.
[8] A major Japanese shipping line in consortium with BHP.
[9] Fremantle Launch and Tug Company - a Fremantle based tug company.
[10] New Plymouth, New Zealand.
[11] Hetherington Kingsbury, a major Australian representative of international shipping companies.
[12] Non-union operator providing towage services to Robe River.
[13] Geraldton Tug Operators, a local consortium.
[14] Sembawang, a large Singaporean maritime conglomerate owned by the Singapore government.
[15] Total Harbour Services, a WA based group with strong overseas backing.
[16] Port of Auckland Limited, a towage service provider with a protected domestic market.
[17] Riverwijs, a joint venture between Riverside (a non-union Qld group) and Wijsmuller, second only to Smit in size and capability
[18] Australian group with widespread towage interests.
[19] The largest Dutch towage operator.
[20] Major Dutch towage operator from Rotterdam, Hamburg, and Bremen.
[21] Port of Singapore Authority, one of the largest single towage operators in the world, owned by the Singapore government.
[22] Hong Kong Salvage and Towage, a joint venture between Hutchison Whampoa and the Swire Group.
[23] A U.S. group, details unknown.

The availability of new and second-hand tugs has been an issue over which different observers have held different views. It would seem plausible that the above competitors would have considered this issue and satisfied themselves that they had tugs available should their tenders be successful. Many of the Asian operations noted could easily bring their tugs to any of the above ports in a matter of days.

Contrary to the conclusions of some previous studies,[9] there exists a strong second-hand market for tugs which adds to the global fleet of tugs available for a market entrant. This is

[8] Port authorities typically do not publish the names of tender respondents. These are Adsteam's best estimates based on market intelligence.
[9] The ACCC in its 1995 *Inquiry into the Harbour Towage Declaration* at page 43 states that a new entrant would require at least two large tugs each costing $10 million (a figure which compares with the $8.3 million recently paid by Adsteam for brand new tugs) and that the resale of tugs would be much lower that the acquisition costs. Lease arrangements, according to the ACCC would be likely to result in cost penalties if terminated early. In Adsteam's view – which the Commission may wish to confirm with the above mentioned Western Offshore Technology Pty Limited – these observations may not be factually correct. In any event, there are few industries

relevant for a new entrant that chooses to purchase a tug rather than enter into a flexible lease/charter arrangement with a tug charter company. On these issues the Commission may wish to review its reliance on the ACCC's observations that the second hand market for tugs is "thin."[10]

Given the large number of ports throughout the world requiring towage services, together with the very significant and ever-changing tug population, the market for second-hand tugs is an active one. It is only where there is restrictive regulation in place (for example in the US where the Jones Act precludes the acquisition of non-domestic built tugs) that the free movement of second-hand tugs within and between regions is impeded.

The Australian company Western Offshore Technology Pty Limited (www.wotech.com.au) is a specialist in the sale and purchase of tugboats. As of mid April 2002, Wotech is advertising the availability of over 200 second-hand tugs for sale. See also Marcon International, Inc., ship sales and charterers – consultants, and in particular its on-line Tug Market Report (www.marcon.com) and also the site www.tugbroker.com which is operated by Marman BV out of Holland.

Lastly, incentives for market entrants to compete in various ports can be and are provided by port authorities and ship operators (and sometimes shippers, ie the businesses whose freight is traded internationally). Again, merely the threat of their doing so can provide a strong discipline on market incumbents. Apart from where an exclusive licence exists, there are no barriers to the sponsoring of new towage operators in any port in Australia.

1.6 Conclusion

The above industry overview has described many of the elements that need to be included in an economic analysis of the Australian towage industry. Of these elements, arguably the most important are the way that the service of towage is delivered as one of a number of complementary services provided in a port; the relationship between ship and tug calls, towage revenue and the high fixed-cost nature of a towage operator's business; and, the ways in which the fundamental economics of the industry are changing over time because of shipping and regulatory trends, and because towage markets are demonstrably contestable.

where a profit can be consistently made on the sale of second-hand equipment and leases should be negotiated with all possible contingencies in mind, including the possibility of early termination. The Commission may like to inquire of the lease arrangements that the new entrant in Melbourne has considered satisfactory for his purposes as noted in Box 1.18.

[10] Productivity Commission, *International Benchmarking of the Australian Waterfront*, Melbourne, 1998, p. 63.

2 TOWAGE ECONOMICS

Towage service providers operate in a high fixed-cost environment where service standards are critical - not only because of the safety issues discussed earlier which are a priority for ship operators and other port users, but also because high quality towage services are considered important by port authorities wanting to attract ship operators to their ports (to utilise their port infrastructure and services).

On a broader level, towage like other port services is considered integral to facilitating trade in goods between Australia and the rest of the world. In this regard, The ACCC has noted that, "the economic importance of towage industry lies not in its absolute market size, but in its role as a facilitator of international trade for Australia's trade exposed sectors."[11] At the same time, the cost of towage is insignificant in terms of final product prices as will be discussed in Section 2.3 below.

This section of the submission explains the nature of costs faced by towage operators as well as the demand, pricing, service quality and financial performance imperatives that drive towage operators in Australia, and more generally at an international level. The competitive dynamics between each of the key industry participants, and in particular the central role of pilots in determining tug usage, are discussed in the next section.

Many of the economic issues raised in this part of the submission are also discussed in the attached report by Professors Joshua Gans and Stephen King of CoRE Research. The Commission may wish to consider the more technical discussion provided in that report in conjunction with the issues presented below, and in particular note Professor Gans and King's discussion of:

- The nature of variable and fixed costs, economies of scale and economies of scope in the towage industry (Section 2.2 of the CoRE Report)
- The nature of demand for towage services having regard to the nature of those services and the availability of substitutes (Section 2.1); and
- The interaction of the complementary service providers that operate within the port environment (Section 2.3).

2.1 Cost analysis

The two major cost components of a towage operator's business are capital and labour, both of which have fixed cost characteristics. Tugs are the main capital cost for a towage operator. While Adsteam owns its tugs largely for historical reasons, it has been asserted that there exists a large market for the chartering or leasing of tugs. It is understood that the viability of these options is being demonstrated by the approach adopted by the new entrant in Melbourne noted in Section 1.5.6 above.

Harbour towage labour spends much of its time on stand-by, much like fire fighters do when waiting to be called to an emergency. The 24 hour availability of tugs with between a 15 minute and 2 hour response time creates the same kinds of labour issues, with shift work and rostering arrangements in place to meet required service levels.

Capital and labour costs vary very little if at all in relation to tug size or job type. The most significant variation is in relation to labour costs for tugs requiring different manning configurations.

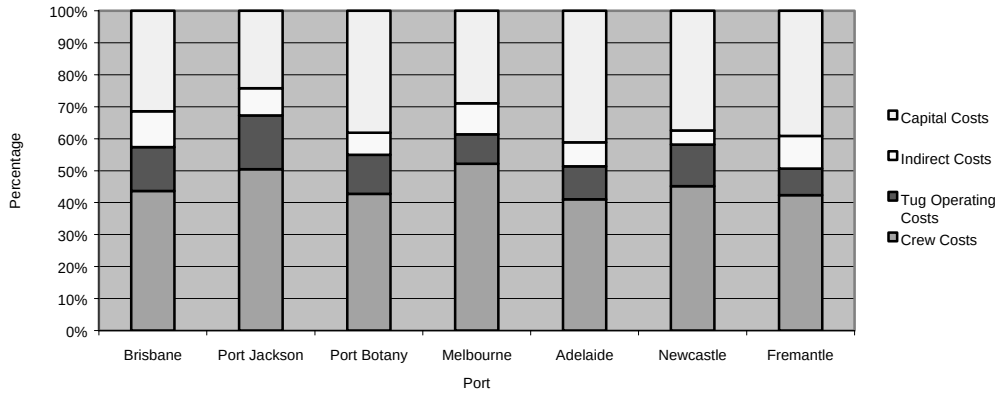
[11] ACCC, *Inquiry into the Harbour Towage Declaration*, Melbourne, 1995.

Importantly, neither of these fixed-cost components should be considered sunk costs for the purpose of competition analysis. The ability of towage operators to dispose of tugs or deploy them elsewhere is well documented. The second-hand market for tugs and the role of businesses such as Wotech, Marcon and Marman BV (noted in Section 1.5.6) facilitate activities in this area (and leases can be structured in such a way as to minimise exit costs). Redundant labour can be managed in much the same way it is in other industries.

Fuel costs are the only variable costs of any significance in towage. However, how much fuel is used for a particular tug job is not always under the control of the towage operator. For instance, a pilot may require a tug to extend the time required to assist a ship or to undertake energy intensive work. This is in addition to the distance that a tug may need to travel to and from a ship.

Table 2.1 below shows the cost components of tug operations in the seven declared ports during 2001. As noted, labour and capital costs were the most significant costs borne by Adsteam during this period accounting for between 75% and 84% of total costs.

Table 2.1: Breakdown of costs at selected Australian ports, 2001



2.1.1 Adsteam's cost reduction initiatives

Adsteam has undertaken a number of initiatives to reduce its costs in each of the above areas. In relation to capital costs, it introduced a 5-year docking program to take advantage of its good record with Classification Societies. This has allowed in-water surveys to be undertaken at the two and a half year mark, with full dry-docking deferred to every five years.

In addition, Program Maintenance Systems have been introduced to better control maintenance costs. New paint systems have also been adopted to reduce lay-up time and limit paint inventory. This is in addition to savings in operational costs such as the national fuel contract noted further below.

Other factors have prevented Adsteam from reducing its capital costs. The first is that unlike shipping companies that can lay up a ship if trade declines, tug operators must be on stand-by all of the time. They are therefore unable to reduce levels of service, or utilise smaller vessels (if pilots require tugs of a particular size), or withdraw temporarily (if demand for port calls temporarily dips).

This is another facet of the fixed-cost problem which is exacerbated by the fact that tug size invariably needs to be geared-up for the largest ship. While large tugs can assist large and small ships, small tugs are more limited in the work they can do, particularly in bad weather conditions.

The second factor preventing Adsteam from reducing its capital costs relates to the fact that port authorities demand enough tugs of sufficient power to handle all shipping requirements in their ports. The issue of what is an appropriate level of towage service in a particular port is a complicated issue. Adsteam cannot unilaterally decide to reduce its fleet, but must engage in a process of consultation with port authorities, pilots, ship operators, unions and various other stakeholders.

Adsteam's numerous studies and simulations conducted at the Australian Maritime College as were noted in Box 1.2 above, have facilitated some progress in this area. Nevertheless, the fact remains that port authorities, harbour masters and pilots insist on having a fleet of tugs that is capable of assisting the largest and most cumbersome ship that is likely to arrive in their port – even if such ships arrive only infrequently.

This raises similar cost implications for Adsteam as the cost of providing stand-by tugs, ie tugs that are available at call but which are rarely required and which are arguably unnecessary. The ability of port authorities to impose these cost burdens on Adsteam without a full appreciation of the need for compensation has led in part to ship operators complaining to the same port authorities about the cost of towage.

Box 2.1 – Increasing capital cost pressures on towage operators

Capital costs increase for towage operators as the size of ships increases. This is partly because bigger ships usually require bigger - even if fewer- tugs.

At the same time, larger ships carry greater volumes of cargo. They therefore visit a port less often, and when they do so they are increasingly likely to have bow thrusters and other steering aides to reduce their need for tugs. The result is fewer ship calls and fewer tug jobs per ship. Evidence of these trends is provided in Section 1.5.4 above and in Appendix C.

These factors are exacerbated by port authorities and pilots that demand surplus towage capacity to meet every eventuality. This requirement combined with the inability of towage operators to lay up a tug if trade declines, or reduce levels of service, or utilise smaller tugs, places unusual commercial pressure on towage companies.

An example where all these dynamics have operated against the interests of Adsteam is in Perth where the Fremantle Port Authority recently insisted that the port have a high-powered, new technology tug essentially for back-up purposes, even though it would be rarely used. Adsteam has complied with this requirement even though its cost-base has increased significantly as a result.

Adsteam's success in reducing manning numbers on tugs (the reduction of crews from eight to four to three) and in improving work practices have been described in Section 1.5.1 above. Savings achieved in this area have also included savings through a recalculation in aggregate wage in all ports. This resulted in wage freezes which have applied to approximately 50% of Adsteam's workforce since 1999.

Fuel costs have been controlled by Adsteam through its instructions to tug masters to operate at the most economical consumption rate available, except when under the instruction of a pilot. Adsteam has also implemented a National Fuel Tender to take advantage of its Australia-wide consumption. This competitive tender was offered to the major oil suppliers and resulted in an overall fuel cost reduction of approximately 8%.

Despite these control measures, Adsteam's fuel costs have generally moved upwards in recent years.

In 2001, a Federal Government decision delivered savings to users of marine diesel fuels by way of a Diesel Fuel Rebate. The full value of this rebate was passed on by Adsteam to its customers in the form of a towage price reduction, a process that was monitored by the ACCC as part of its general industries oversight.

The only other costs of significance in the present context are the indirect costs of regulation and insurance. In relation to Adsteam's compliance with the PS Act procedures, the Commission should be aware that the last notification prior to the 2001 notifications cost approximately $300,000 for consultants and other direct costs. This is a cost not borne by any other competitor in the industry and must ultimately be recovered from towage customers – or from Adsteam's own bottom line.

The other costs associated with the PS Act process relate to the loss of a significant amount of senior management time (conservatively estimated to bring the total cost to $500,000 in the above-noted instance) and the competitive disadvantage that has occurred through the dissemination of commercially sensitive information by the ACCC. These issues are described more fully in Section 4.1 below and in Appendix D.

Lastly, the cost of protection and indemnity insurance for Adsteam has risen by 20% this year. This is despite Adsteam maintaining amongst the lowest premium rates of any ship or tug operator in the world.

2.2 Demand

2.2.1 The nature of demand for towage

Demand for towage services is more an indirect or derived demand than for most other services. While ship operators may consider themselves to demand tugs for assistance (if for no other reason than they must pay for towage), the towage requirements of a ship are in most instances determined by harbour pilots. To the extent that ship operators can be involved in the development of towage guidelines it may be possible for them to have greater say in pilot decisions in this context.

As to the type of tugs available at a given port or even who the towage service provider will be, this is rarely a decision for a ship operator. These issues are more likely to be dealt with by port authorities and pilots exercising their quasi regulatory powers.

Unless a port is completely open and unregulated, demand decisions will be less a matter of customer preference and more an imposed solution.

Adsteam has actively encouraged ship operators to deal directly with their towage service providers. The benefits for ship operators include an ability to secure volume rebates as discussed, and to determine the quality of tugs and level of service they require. While Adsteam recognises that port authorities and pilots have a role to play, it questions the degree to which their involvement is necessary or even desirable in the commercial relationship between supplier and customer.

In other jurisdictions, restrictions on the ability of ship operators to contract directly with the towage operator of their choice has led to the institution of legal action by regulatory authorities. A case in point is the current action by the Federal Maritime Commission against exclusive tug franchise arrangements in Port Canaveral in

Florida in the US.[12] In Box 2.2 is a summary of previous and ongoing action taken by the FMC in Port Everglades in relation to similar arrangements.[13]

Adsteam maintains that there are significant parallels between these arrangements and the concerns expressed about their anti-competitive nature, and the use of exclusive towage licences in small regional ports, such as Bunbury.

Box 2.2 – US action against exclusionary towage contracts

In 1989, a private coal terminal on the lower Mississippi River published a tariff that restricted the tugboat companies permitted to provide services to ships calling at its facility. This practice subsequently spread to other terminals on the lower Mississippi River.

Under such contracts ships are required to use only a designated tugboat company, even if the shipowner or charterer has an existing contract with another tugboat company.

Observers note that this practice effectively closes the terminal to traditional competition for shipdocking and ship assist work among tugboat companies. Terminal operators have reportedly stated that the rationale for the practice is to increase both safety and efficiency.

The practice provides increased revenue for the terminal without associated cost as the terminal operator retains a percentage of the charge for any towage work performed on an hourly basis.

In 2000, the Federal Maritime Commission ("FMC") initiated an investigation under section 15 of the Shipping Act of 1984. This investigation resulted in findings that these exclusive franchises harm shipowners by eliminating customer choice and raising prices with no improvement in the level of service provided, and harm tugboat companies that are not granted exclusive franchises by shrinking the market in which they can operate.

The FMC had been scheduled to issue a final decision in March 2002, but late last year determined that the complexity of the case necessitated additional steps, including a discovery process and the appointment of an Administrative Law Judge to manage the proceedings and make a preliminary recommendation.

The FMC is scheduled to issue its final decision by 1 November 2002.

It is also relevant to note more generally the Draft Directive of the European Commission in respect of Market Access to Port Services that requires Member States to take the necessary measures to ensure that providers of port services, including towage operators, have access to the market.

These overseas development are discussed further in the attached reports by Thompson Clarke Shipping and Charles River Associates. Relevantly, Thompson Clarke Shipping notes at Section 7.8 of its report in relation to European developments, that:

> "As far as regulatory reform is concerned, the E.U. leads the way in seeking to finalise a directive that will improve competition and transparency, within a framework that allows for the evolving risk management approach to tug operations now favoured in the UK."

[12] See Federal Maritime Commission Order of Investigation and Hearing, Exclusive Tug Arrangements in Port Canaveral, Florida, Docket No. 02-03 served on 25 February 2002.
[13] Federal Maritime Commission Order to Show Cause, Exclusive Tug Franchises – Marine Terminal Operators Serving the Lower Mississippi River, Docket No. 01-06 served on 11 June 2001.

Adsteam's view is that market contestability should be customer driven, ie driven by users of (and payers for) towage services, namely, ship operators. Where the choice of users is overridden by solutions imposed by complementary service providers (services provided by pilots and port authorities in this instance), apparent gains could be at the expense of developing truly competitive outcomes.

A further discussion of these issues and reform options is provided in Part 4 of this submission.

2.2.2 Tug usage

Possibly a more accurate way of assessing what is commonly meant by the concept of demand in other industries, is to examine tug usage. This was a topic discussed earlier in this submission. However, the present context permits a slightly broader perspective on what drives demand for - or usage of - tugs.

The two main issues considered here are the demand for or usage of tugs in various Australian ports and the factors influencing tug usage in the future. This discussion is informed by a reading of the earlier discussion on these points in Sections 1.1.1, 1.5.3 and 1.5.4.

Market size

The Australian towage market is small on a world scale. Submissions to the ACCC in 1995 estimated the value of the national market to be $158 million. Today this market is around $170 million.

To provide further perspective, Brisbane, Port Jackson, Port Botany, Melbourne and Adelaide together have less than one quarter of the ship calls of Singapore. They are also well below totals for ports such as Rotterdam, Hamburg, Los Angeles, Yokohama and Hong Kong. Melbourne, Australia's largest container port, ranks 39th in the world order. Sydney ranks 53rd.

While the following table is now more than five years old, it demonstrates the relative size of Australian ports compared with overseas ports. The attached reports by Thompson Clarke Shipping and Charles River Associates provide more up to date data for Singapore, Hamburg, Los Angeles, Port Klang, Philadelphia, Tilbury and Auckland, as well as data for Hong Kong, Zeebrugge, Rotterdam, Seattle, Houston, New Orleans, Portland, Boston, Vancouver, Antwerp, Amsterdam, Marseilles and Colombo.

Table 2.1: Towage statistics at selected world ports, 1997

Port	Tugs	Ship calls per year	Ship calls per tug
Pusan	22	33,409	1,519
Singapore	21	117,723	5,606
Hamburg	21	13,340	635
Nagoya	21	9,244	440
Los Angeles	16	2,634	165
Port Klang	14	4,476	320
Philadelphia	11	2,560	233
Tilbury	10	2,291	1,418
Sydney	8	2,166	271
Melbourne	5	2,872	574
Brisbane	5	1,804	361
Auckland	5	2,291	458
Adelaide	4	1,357	339
Fremantle	3	1,786	595
Lyttelton	2	1,600	320

Source: PC, 1998

Increasing ship sizes

As discussed in Section 1.5.3, tug usage is not as closely correlated with ship calls or container numbers as is often assumed. Demand for tugs is a ship specific demand. Some ships need more tugs than others, and some need fewer. Sometimes larger ships require fewer tugs than smaller ships.

The international trend to increasing ship sizes impacts adversely on Adsteam's towage business. The graphs in Figure 1.2 show how ships are becoming bigger in several of the ports that collate such data.

The most obvious effect of this trend is that there are fewer ships calling at Australian ports for the same amount of cargo. Even when trade figures suggest growth, this does not translate into a commensurate increase in ship calls. As previously discussed, the graph in Figure 1.3 illustrates the diverging trend lines between cargo growth and ship call numbers.

These trends have several important implications for a towage operator such as Adsteam, including the following:

- Since the towage operator earns revenue from tug jobs, when ship calls are static or decline, so do tug jobs;
- The requirement to station a tug fleet capable of servicing these ships remains constant. There is no scope for a towage operator to reduce its tug fleet in any port simply because there are fewer ships calling;
- In fact, the trend to larger ships fuels the demand by harbour pilots for larger, more powerful, and inevitably more expensive tugs; and

- The marginal improvement in tug job price (bracket creep as the price per tug job increases when the ship is bigger) fails to compensate for the loss of tug jobs.

The ultimate effect of these trends – which are driven by international shipping dynamics and resistance on the part of port authorities, pilots and others to permit towage operators to adapt to changed economic conditions – is that the revenue base for the towage business inevitably diminishes, while the cost base remains constant or even increases.

To illustrate this last point, if instead of using two tugs a ship uses just one, the ship operator enjoys a 50% reduction in towage charges. The towage operator, on the other hand, experiences a 50% reduction in towage revenue without any change to its cost base.

Reductions in tug usage

> "As a result of the improved manoeuvring capabilities of modern ships on the one hand and the improved towing performance of modern tugs on the other hand, the number of tugs [as well as the number of times a tug is] required for assistance in port areas is decreasing."[14]

In addition to the effects on towage of the increasing size of ships as described above, tug utilisation is being reduced by changes to towage guidelines and the readiness of harbour pilots in conjunction with the ship's master to manoeuvre ships with fewer tugs.

There is little doubt that the drive for efficiency by ship operators is behind this behaviour. Whether it is appropriate for towage operators to be left to absorb the increased costs that result from the process, so that ship operators can enjoy savings and others can potentially increase their charges, is questionable. Adsteam does not believe that such arrangements are sustainable over the longer term.

Port authorities are responding to the demands of ship operators who want to reduce costs. Pilots, similarly, are under pressure to deliver savings to shipping companies even if they choose not to do so by reducing their own fees.

Ship operators can achieve short term reduction in towage costs because tug pricing is on a "per tug used" basis, and if one tug can be eliminated then the cost to the shipping operator falls. These benefits can be substantial given the number of ports ships frequent during their operational life.

As previously noted in Box 1.14, Adsteam's own calculations suggest that lost revenue as a direct result of this "towage efficiency" is currently around $7.7 million per annum Australia wide (as compared with five years ago). This figure is around $5.19 million per annum for the port of Brisbane, Port Jackson, Port Botany, Melbourne and Adelaide.

These efficiencies can be weather related. When benign weather conditions prevail, a pilot will be encouraged to "drop a tug." They can do this secure in the knowledge that the dropped tug can still be called up if the weather deteriorates. That tug will still be there as a cost to the towage operator.

For the towage operator, such experimentation by pilots requires the same number of tugs to be maintained in the port, with the same availability of labour. The same fixed cost base is incurred, but without the previous level of usage. As noted, the

[14] Captain Henk Hensen, *Tug Use in Port: A practical guide*, The Nautical Institute, London, 1997, p.9.

towage operator in this situation is unable to reduce costs, ie remove a tug from the port, to compensate for the loss in revenue.

In economic terms, ship operators are engaging in a form of free riding. They are reducing their costs by not paying for the costs borne for them by the towage operator. This approach is inconsistent with a user pays principle.

2.3 Prices

Harbour towage prices are published in schedules by the harbour towage operators and vary between ports according to the different characteristics of the ports and tugs available. With few exceptions, Adsteam levies its towage charges on ship operators on a 'per tug call' basis A sample price schedule was set out in Table 1.1 above.

The movement of towage prices over time is best considered in "real" rather than nominal terms. By this is meant that not only should inflation be added to year to year comparisons of price movements, but that the actual or invoice price paid by ship operators should be compared.

This means that a range of cost savings that have been passed on to ship operators should be taken into account. This includes the reduction in tug calls for the same or similar ship, the elimination of ancillary charges, the introduction of volume rebates, rebates related to changes in government regulation such as the diesel fuel rebate and currency benefits.

The results of a comprehensive assessment of this kind show that ship operators have been paying less and less for towage services provided at Australian ports even though prices per tug may have increased.

From 1997 to 2001 the cost of towage to ship owners has generally decreased in line with a mixture of price reductions and cost savings, many of which have been explained in Part 1 of this submission. Tables 2.2 and 2.3 show the components of towage cost reduction at five ports during the period.

Table 2.2: Reduction in towage costs, 1997-2001 - Adsteam

Change incurred	Brisbane	Port Jackson	Port Botany	Melbourne	Adelaide
Reduction in tug usage	-1.63%	-4.24%	-8.05%	-30.16%	-4.38%
Elimination of ancillary charges	-2.13%	-0.14%	-0.02%	-2.75%	-0.67%
Introduction of volume rebates	-2.76%	-5.02%	-2.66%	-3.17%	-1.50%
Actual price variations	-3.00%	15.00%	0.00%	10.00%	0.00%
Total	**-9.52%**	**5.6%**	**-10.73%**	**-26.08%**	**-6.55%**

Table 2.3: Reduction in towage costs, 1997-2001 – Other Factors

Change incurred	Brisbane	Port Jackson	Port Botany	Melbourne	Adelaide
Diesel fuel rebates	-3.55%	-2.10%	-2.05%	-3.26%	-4.71%
Currency variation	-31.92%	-31.92%	-31.92%	-31.92%	-31.92%
CPI effect*	-10.46%	-10.46%	-10.46%	-10.46%	-10.46%
Total	**-45.93%**	**-44.48%**	**-44.43%**	**-45.64**	**-47.09**

* The CPI effect since the date of the last price increase in the above ports has been:

-38.27%	-10.09%	-20.78%	-8.97%	-19.81%

2.3.1 Towage costs in the broader supply chain

Towage prices can also be assessed as a cost impost on the price of traded goods. The more significant towage is as a proportion of the price of a finished product, the greater concern one would have over increases in towage charges on international trade in goods and related issues. The opposite is also true in that where towage is demonstrably insignificant in this context, any concern should be allayed.

Earlier in Figure 1.1, it was calculated that the cost of towage across a number of ports has fallen from approximately 2.7% of total port interface costs in 1994 to approximately 1.5% last year. This provides a useful perspective for the purposes of the present analysis as these figures indicate towage is not a major cost in relative terms.

Another useful way of assessing these issues is to determine the degree to which towage impacts on the final cost of traded goods. Table 2.4 illustrates the insignificance of the cost of towage at Adelaide, Brisbane and Melbourne as a percentage of the per tonne value of different types of cargo.

As an explanatory comment, the calculation of towage charges is by industry convention based on the total cost of tugs to bring the relevant ship into port and to assist it depart. Some ships require two tugs "in" and two tugs "out" (which means the towage cost will be four times the relevant per tug charge for a ship of that size). Other ships require two tugs in and only one out, or just one tug in.

This somewhat counter-intuitive approach needs to be borne in mind when analysing the figures below and elsewhere in this submission.

Table 2.4 – Indicative Cost of Towage Estimates (Inclusive of GST) – Selected Bulk Dry / Wet cargoes

Port	Cargo	Average load/discharge (in tonnes)	Cargo value (per tonne AUD)	Towage cost (AUD per tonne)	Towage cost as % of cargo value
Port Adelaide	Grain	30,000	$240	$0.50	0.21%
Port Adelaide	Oil	26,000	$292	$0.41	0.14%
Brisbane	Coal	45,000	$47	$0.32	0.67%
Brisbane	Cement	28,000	$78	$0.30	0.38%
Brisbane	Gypsum	20,000	$30	$0.24	0.81%
Melbourne	Crude Oil	70,000	$650	$0.19	0.03%
Melbourne	Refined Oil	35,000	$2,500	$0.27	0.01%
Melbourne	Fertilizer	25,000	$320	$0.37	0.12%

Box 2.3 - Impact of towage changes on container ship charter rates

In relation to the effects of towage prices on container ship charter rates, the attached report by Howe Robinson indicates little if any impact at this level. In this regard the report notes:

> "Analysis of the containership charter market indicates that hire is determined by the relationship between supply of capacity and demand for containerised movements. There is little to indicate that any form of "cost" pricing is applied under normal market conditions. During the first three months of 2002 charter hire levels for most containership were not sufficient to cover the operating and finance costs of the vessel."

Containership Charter Rates – A consideration of Pricing Policy,
Howe Robinson Shipbrokers,
March 2002.

2.4 Service quality

Service quality and reliability is critical in all ports requiring a towage service. The safety and efficiency reasons for this have been described in Part 1 of this submission. Nevertheless, there is commonly less emphasis on these aspects of towage than on the actual price of towage as set out in towage price schedules.

In Adsteam's view, greater attention needs to be given to service quality in the provision of towage services. When considering the nature of demand for towage as in this section of the submission, service quality is a critical and arguably the most important factor.

It is partly for this reason that Adsteam has summarised a number of its service quality achievements in previous parts of this submission and in particular in Boxes 1.4 and 1.5 and related discussion.

Apart from any pricing elements, port licences and service charters typically address issues such as the power and size of tugs to be used in a port, the provision of ancillary services, requirements to up-grade technology as required and specified service standards such as on time performance and tug availability.

There are also the emergency services and salvage capabilities of tugs that are relied upon by port authorities and governments as described in Sections 1.2.2 and 1.2.3. Often, the towage operator can be persuaded by various means – including by relying on its sense of public duty and the professionalism of its people – not to seek full cost recovery from beneficiaries of these services.

The quality of service provided by Adsteam and other service providers at the Port of Fremantle was recently assessed by way of a shipping line/agents survey conducted by Fremantle Port in June 2001. The aim of that survey was to assess the level of service provided by the Fremantle Port Authority and the private sector in order to improve the overall standard of service.

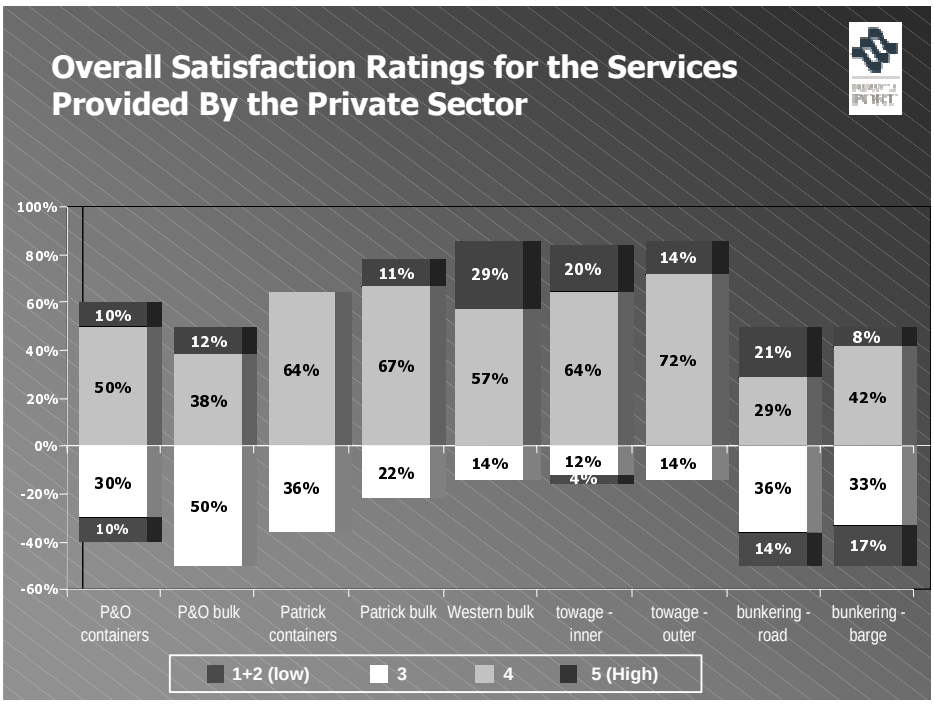
The services covered by the survey were the services provided by the Fremantle Port Authority (including pilotage), stevedoring, towage and bunker (fueling) services. Towage services provided by Adsteam were consistently rated highly in the survey.

As a measure of the importance placed on service quality by the respondents in this survey, the 2 hour notice period for tugs was the only recorded area where

improvements was considered necessary (even though this aspect of Adsteam's service is world's best practice).

The following graph is extracted from the Fremantle survey, which pre-dated the licensing regime that now exists in that port.

Table 2.4 - Overall Satisfaction Ratings for the services provides by the private sector, Fremantle



Source: Fremantle Port, June 2001

2.5 Risk

Risk is another critical issue in the economics of a towage business such as Adsteam's. Risk for towage operators comes in a variety of forms, from risk of damage to tugs and property to the risk of being displaced by a competitor in one or more ports.

Safety and damage to property are key issues for towage operators, and indeed are always central considerations in the provision of towage services. Risk in this area is increased by the fact that Adsteam has no choice but to provide its services to all ships that require assistance, regardless of their mechanical efficiency, construction and design quality, or the views of the ship's crew towards what a tug should or should not be able to do.

The Commission is reminded again of the massive forces with which tug masters must deal when assisting a ship weighing hundreds of thousands of tonnes. Errors of judgement or equipment failure can result in major accidents. Since the towage operator is unable to choose whether or not to assist a particular ship (or how to assist it given that they are under the instructions of a harbour pilot), this raises risk levels which extend beyond the control of the tug master and the tug crew.

A related issue is the offering of credit to ship operators. As Adsteam is required to assist all ships that enter a particular port as directed by the harbour pilots, it is forced to enter into direct commercial relationships with ship operators. The credit risk that Adsteam takes on in these circumstances is difficult to measure, although examples of bad debts and similar experiences are considered to be an unavoidable part of a towage operator's business.

The risk of being displaced by a new market entrant is another major issue for Adsteam. As the incumbent operator in many ports in Australia, it has a good deal to lose should a new entrant succeed in establishing themselves. Given the natural monopoly characteristics of most ports in Australia, it becomes a "them or us" proposition unless a co-operative arrangement such as a joint venture can be devised in a way that preserves the operators' viability while also complying with the law.

The interest of port authorities in exclusive towage contracts threatens Adsteam's viability not just in individual ports but more broadly. Where a competitor wishes to establish itself by this means, it may view thin margins as an appropriate short-term price to pay for market entry. For Adsteam, however, its longer term commitment to the market may be threatened to the point where it must consider whether to endure a period of unviable operation to maintain its presence in the market place.

These aspects of risk, particularly for an incumbent towage service provider, are fundamental in the towage industry. Where these risks can be minimised, the viability of towage operators is more certain and customers will benefit from reductions in the risk premium that service providers must otherwise build into their pricing and service delivery arrangements.

2.6 Conclusion

Harbour towage is driven by a derived demand, which is itself derived from the interaction between towage operators, pilots, port authorities and ship operators, as well as the dynamics of international trade. What is clear is the degree to which towage operators and their customers, ship operators, are separated by the interposed decisions of third parties, namely, pilots and port authorities. These decisions distort or even prevent the signalling between buyer and seller that one would otherwise expect in an open market arrangement.

It is also clear that the cost of towage for ship operators has not increased to the extent that a cursory observation may suggest, and on some measures has decreased dramatically. Similarly, when looking at the value of end products, towage is an insignificant cost. The importance of towage as a service is not insignificant, however – and nor is the risk that towage operators face when providing their services.

At the same time, towage operators' costs are predominantly fixed while revenue is subject to pressures from reducing ship calls and tug utilisation. In these areas as well, third party decisions can prevent efficiency improvements that a towage operator would otherwise pursue.

3 COMPETITION ISSUES

An analysis of competition issues in the Australian towage industry begins with the identification of relevant markets and an assessment of whether or not sellers or buyers have market power. Accordingly, market definition, evidence of market power, identifying natural monopoly characteristics, assessing the degree of countervailing constraints and other issues commonly considered in the competition law context, are all likely to be relevant to the Commission's considerations in this area.

A suggested approach is to begin by asking relevant analytical questions, then seek to answer them using the information already provided in this submission augmented by other information as necessary. Following this approach, the issues discussed in this section are:

- What is the relevant harbour towage market - or markets?
- Do towage operators – or other market participants – have substantial market power?
- Is harbour towage a natural monopoly?
- Is there an identifiable competition problem?

These and other issues are also discussed in Section 3 of the attached CoRE Research Report and in the technical Appendix of the report. A summary of key issues arising in this context appears in the Executive Summary of the report and is relevant to note here:

> "We find that harbour towage is very similar to many service industries; although it is not characterised by substantial sunk entry costs that might be seen in other monopolistic industries. In addition, it is subject to price and service quality pressure from port authorities who have the power to exclude towage operators in their respective ports. This means that competitive analysis of this type of monopoly departs from a traditional textbook analysis."

3.1 What is the relevant market - or markets?

Market definition is discussed extensively in the competition law jurisprudence of Australia and other countries. It is central to an assessment of whether particular conduct may have the purpose or effect of substantially lessening competition, a legal test which is applied by courts and regulators to assess whether economic inefficiencies may exist or may have been created contrary to the public interest.

A market in this context is generally accepted to be "… the field of activity in which buyers and sellers interact and the identification of market boundaries requires consideration of both the demand and supply side."[15] This definition was given a practical interpretation in the seminal *QCMA* case decided by the Trade Practices Tribunal in 1976, where it was stated:

> A market is the area of close competition between firms or, putting it a little differently, the field of rivalry between them …. Within the bounds of a market there is substitution – substitution between one product and another, and between one source of supply and another, in response to changing prices ….

[15] *Trade Practices Commission v Australian Meat Holdings* (1988) ATPR 40-876 per Wilcox J at 49,480.

> It is the possibilities of such substitution which set the limits upon a firm's ability to 'give less and charge more.' Accordingly, in determining the outer boundaries of the market we ask a quite simply but fundamental question: if the firm were to 'give less and charge more' would there be, to put the matter colloquially, much of a reaction?"[16]

The identification of a relevant market in a given circumstance, such as here in relation to towage services, is not always straightforward. To begin with, market definition and market power are not necessarily distinct concepts. As noted by Mason CJ and Wilson J in *Queensland Wire Industries Pty Ltd v BHP* (1989) ATPR 40-925 at 50,008;

> "Defining the market and evaluating the degree of power in that market are part of the same process, and it is for the sake of simplicity of analysis that the two are separated."

Secondly, defining a market is purposive in the sense that it "… must be carried out keeping in mind the object of doing so."[17] This means that what is considered a relevant market in one setting, for instance in assessing a possible breach of the prohibition against a misuse of market power in section 46 of the *Trade Practices Act* 1974 ("TPA"), may not be the relevant market for assessing whether a merger or acquisition may have the effect of substantially lessening competition in violation of section 50 of the TPA.

A market is generally considered to have four dimensions, namely, a product or service dimension (what is the product or service – and substitutable products or services - in question?), a functional dimension (is a single functional level involved, such as retailing, or is there more than one relevant functional level to consider, such as manufacturing, distribution and retail?), a geographic dimension (the region or regions within which demand or supply substitution occurs) and a time dimension.

Lastly, what is meant by a "relevant" market needs consideration. While towage services may be provided in a particular market, the impact of decisions and conduct in other markets on the behaviour of a towage operator may mean that another market is also relevant to understanding a particular issue. For instance, if the quality of towage services is influenced by competition or perceived competition between port authorities as suggested in this submission, then a broader market for port services may need further analysis.

Similarly, any activities and arrangements amongst harbour pilots that impact on tug usage levels or other issues relevant to a tug operator's business decisions, may indicate that the market in which pilots operate is relevant to a consideration of issues relating to harbour towage.

These considerations suggest that harbour towage may be best viewed not as a distinct market but as part of a broader market or a series of inter-dependent markets.

3.1.1 Product dimension

As has been stated, harbour towage is the provision of tugs to assist ships to manoeuvre into, out of and within a port environment. The elements of this service have been described in Part 1 of this submission.

Reliance on bow thrusters and other technologies that reduce reliance on and usage of tugs is a constraint on towage services, but is not strictly part of the product dimension of the relevant market. The significance of these alternatives is not

[16] *Re Queenlsand Co-operative Milling Association Ltd and Defiance Holdings Ltd* (1976) ATPR 40-012 at 17,247.
[17] *Australian Meat Holdings v Trade Practices Commission* (1989) ATPR 40-932 per Pincus J at 50,104.

overlooked however, as they could be considered in the context of countervailing power and at other points in the Commission's analysis.

This suggests that the relevant product dimension is the provision of towage services. However, the inter-dependence between towage operators and other port service providers, as discussed further below, may indicate that such a conclusion should not be made too quickly.

In matters such as this it can prove counter-productive to tie oneself to a view of the relevant market or markets before being certain that a particular approach is necessary to achieve the objectives of the original inquiry.

3.1.2 Functional dimension

While towage operators provide towage services to ship operators, they do not do so in a commercial vacuum. Towage services are typically just one element of the package of marine and other services offered at a port. Moreover, it can be difficult to understand completely the decision-making process surrounding the delivery of towage services without an appreciation of the roles of pilots and port authorities in determining critical demand and supply issues.

In competition law matters, a narrow view of the relevant functional dimension of towage services may be argued by the regulatory authority. This reflects the purposive nature of market definition and the focus of the law (and the regulator) on the conduct of individual commercial entities. Such an approach can be valid in an exclusive dealing matter or when assessing the competitive impact of a merger.

In the present matter, however, the focus of the Commission is broader and less constrained by legal formalities and law enforcement issues. There is no strict legal assessment to be made here, but rather a first principles analysis of how towage services interact with service users and the contextual setting in which towage is provided as part of a broader chain of complementary port services.

For instance, as has been described, competition between ports - or at least the behaviour of port authorities that reflect a perception of inter-port competition - creates a derived demand for efficient towage services. In another context, towage may be considered merely an extension of pilotage since it is through the use and direction of tugs that a pilot provides their services (and the towage service is delivered).

Without suggesting that there is only one right approach to the issue, Adsteam believes that an appropriate view of the functional dimension of towage services should acknowledge that towage service providers do not operate as independently as service providers in other industries. Further, the strict functional distinctions that may be critical in determining legal liability may not assist the Commission to gain the proper perspective for assessing industrial policy issues.

3.1.3 Geographic dimension

The geographic dimension of towage services has received more attention than any other aspect of market definition in this industry. One question is raised consistently, namely, can tugs based in one port be used to provide towage services in another? The answer is both yes and no, depending on relevant circumstances.

Clearly, ports that are hundreds or even thousands of kilometres apart are unlikely to experience inter-port competition between towage operators in the sense described. That said, the ability to move tugs between ports (as Adsteam does from time to time when reallocating its tug fleet to maximise its efficient deployment) and even

between regions (such as the current movement of tugs from Hong Kong to Melbourne) suggests that a broader view of the geographic dimension of harbour towage is appropriate.

Where there may be concern over supra-normal profits or sub-standard towage services, it is natural to ask from where will a new or additional competitor come? Within a shortened time frame, say a few hours or a day, it is really only towage operators in the same port that could provide the relevant competitive constraint. This time frame leads to a focus on so-called "on-water" competition.

If a broader time frame is adopted however, which for the purposes of the current inquiry may be more appropriate, then a broader geographic dimension is likely to be more useful.

Given the Commission's present interest in longer term competitive outcomes and effects such as the threat of new entry on incumbent behaviour, the constraints with which the Commission will be concerned may indicate that a broader, multi-port or even international market for towage services – or a subset of that market being the supply of tugs – would provide an appropriate "reality check" for any regulatory proposals it may need to consider.

3.1.4 Time dimension

Time is sometimes viewed as the forgotten dimension of market definition. This is partly because there has been very little judicial guidance as to what precisely this dimension is meant to cover. Sometimes it is forgotten as a matter of convenience.

Adsteam considers the time dimension of a towage market to be a very important element in assessing issues such as market power and appropriate regulatory responses. Where a market is defined with a time dimension of less than five years, it is unlikely to capture all the relevant competitive dynamics that should be considered in making long-term decisions about market structure and various regulatory options.

The consequences of a shortened time horizon is overly restrictive regulation and the likelihood that future competition will be obstructed rather than facilitated by attempts to create artificial competitive environments. As will be discussed later, Adsteam considers the use of exclusive towage contracts to fall within this category of exclusionary and detrimental regulation.

The Commission is therefore encouraged to include in its analysis at least one scenario that includes a broad time horizon. In Adsteam's view, the nature of the Commission's task necessitates a far-sighted and measured approach that looks at the long-term risks of imposing further regulation in an already highly regulated industry.

3.2 Do towage operators – or other market participants – have substantial market power?

It has been said that ,"Market power is concerned with power which enables corporations to behave independently of competition and of the competitive forces in a relevant market."[18] Put slightly differently, a firm with market power is unconstrained in its price and other business decisions by others actually in the market, those able to enter the market or by other factors such as countervailing power.

[18] *Eastern Express Pty Ltd v General Newspapers Ltd* (1992) 35 FCR 43 at 62-63.

In sum, when a firm possesses market power and exercises it for an anti-competitive purpose, the aim (but not necessarily the result) is to achieve an outcome that would not otherwise be possible in a more competitive market.

3.2.1 Evidence of market power

Market power can be observed in a number of ways. In some cases, for conduct of a particular type to occur, a firm must possess substantial market power. For example, predatory pricing is only possible and rational if the firm predating possesses the ability to disregard the reaction of others and its own circumstances in pursuit of its purpose of driving competitors out of its market or discouraging them from entering.

Accordingly, if it can be inferred that a firm's conduct is indeed predatory, then it can be inferred that the firm possesses a substantial degree of market power. Of course, there is some circulatory to this approach given that predatory conduct in the sense described requires a determination that a firm has market power. This reflects the comments from the High Court in the *Queensland Wire case* noted above in which market definition and the identification of market power were viewed as being no more than different sides of the same coin.

On the other hand, whilst the possession of substantial market power may enable a firm to increase prices, prices may increase simply because demand exceeds supply. In this case price movements signal the need for supply to be increased and/or for a decrease in demand. Simply observing the price effect alone therefore reveals little about whether or not one or more firms possesses substantial market power.

3.2.2 Assessing market power

Traditionally in Australia the presence of market power has been assessed based on structural indicators. Generally the starting point is to examine the following structural features of the market: market concentration, product differentiation, the height of barriers to entry/exit, the extent of vertical integration and the nature of other long term arrangements such as long term supply contracts.

However, market structure is not determinative of market power. Consideration of structural factors alone may mislead. It is important also to analyse inter-market relationships because firms today rarely operate in only one market and it may be something within one of these other markets that either confers market power or constrains the firm in the market under consideration. These observations are particularly apposite in the towage industry.

It also needs to be borne in mind that market power can be transferred between markets. That is, a firm with power in one market may be able to leverage that power in another area. Similarly, the conduct in which the firm engages may alter the height of entry barriers. Entry deterring behaviour such as predatory pricing, expanding production, and signalling may raise the height of entry barriers, while the entrance of independent operators at other levels in the supply chain may lower them. In recent years, technological change has altered significantly the height of entry barriers in telecommunications and in steel for example.

Lastly, market power is a matter of degree, ranging from little to no market power in a perfectly competitive market to absolute market power in a monopolistic market (although even in a monopolistic market there may be significant constraints on the monopolist). Even firms that produce in competitive markets but supply differentiated products possess or possess some market power.

3.2.3 Market power held by towage operators

In the towage industry, operators such as Adsteam are not unconstrained in their pricing and supply decisions. In response to the question posed in the *QCMA case*, if Adsteam were to 'give less and charge more', the reaction would be predictable. Ship operators, port authorities and pilots to name just the key industry participants have already demonstrated their strong and effective resistance to towage price increases as well as to suggestions to rationalise towage services.

Even where Adsteam can objectively defend its position in these contexts, it cannot be assured that its proposals will be implemented. The requirements that it maintain standby-tugs, up-grade its fleet, minimise any increases in its charges and so on, are all imposed constraints that on occasion have threatened the viability of Adsteam's operations. Ship operators have secured rebates and maintain continuing pressure on towage operators through their influence over port authorities and pilots.

There is also the threat of new entry. Sometimes port authorities attempt to exploit this option by threatening to issue exclusive licences in their port. However, this is not always necessary as demonstrated by the non-exclusive tender process in various ports around Australia including Newcastle, Albany, Geradlton, Fremantle and, most recently, in Melbourne where an "unassisted" new entrant is set to establish itself in competition against Adsteam.

3.2.4 Market power held by port authorities, pilots and ship operators

Discussion in this submission of the constraints on towage operators has included numerous references to the influence of port authorities and pilots on the pricing and supply discretion of towage operators generally, and Adsteam in particular. Adsteam believes that the market power of these industry participants is of greater concern than any market power that Adsteam may have. The bargaining power of ship operators is also relevant to this analysis.

Port authorities

Port authorities are generally not subject to exclusive licences in Australia. Neither are they constrained by new entrants working to usurp their position of control in their own port. Inter-port competition is often cited as a constraining influence on their market power, but apart from indications that port authorities believe this to be the case, direct evidence of this is limited to a small number of ports.

When dealing with towage operators, there is little doubt that they exercise considerable power. In Box 1.9 above, the degree to which port authorities can demand sometimes uncommercial arrangements from towage operators is evidence of their power. This power can be used to extract additional revenue from towage operators in various ways, including through exclusive licences, and in setting the tug fleet size, specification and towage service levels that are ultimately paid for by ship operators.

Pilots

Pilots also operate in a "protected" industry. The close relationship between pilots and port authorities is essential to the efficient management and operation of a port. However, this same relationship can create a barrier to entry into pilotage as a port authority can effectively determine which of two or more potential pilot operations will succeed. Barriers to entry into a particular piloting business or into the industry as a whole – through high qualification and experience requirements – may also be relevant.

The power of pilots to set usage levels for towage operators is a key area of influence and constraint. As noted, pilots can be under pressure from ship operators to reduce the use of tugs. Towage operators are effectively powerless to even question tug usage decisions in this context.

This last issue is equally relevant to port authorities and pilots. Wherever there are complementary services being provided by independent operators, there is an incentive for the operators with stronger market or bargaining power to reduce the charges of the other providers while increasing their own charges. In the port environment, the towage service provider is most vulnerable when these dynamics operate.

Ship operators

The nature of demand for towage services was discussed in Section 2.2.1 of this submission. Ship operators typically do not determine tug usage levels (although they clearly have an interest in reducing costs in this as in other areas of their operations). However, they do negotiate directly with towage operators and pay them for services rendered. In this context they demonstrate considerable bargaining power – particularly the larger, multi-port operators.

The market power of ship operators is also seen in their dealings with port authorities and pilots, both in relation to their demand for pilotage and port services, and also in relation to their usage of towage services. While Adsteam does not claim to completely understand its basis, it is aware that ship operators wield considerable influence over port authorities and in particular over port authorities' attention to the service quality and pricing of towage services.

In this context, ship operators can develop sophisticated strategies to depress towage charges (for instance they can convince a port authority to call a tender for towage licences with price control) and increase service levels.

Box 3.1 – Countervailing and bargaining power in the towage industry

Countervailing power

Countervailing power may constrain the market power of a supplier or group of suppliers. It exists wherever a buyer can credibly threaten to cease acquiring from a particular supplier. In the absence of competing suppliers, this may be possible because the buyer decides to vertically integrate, to establish the infrastructure necessary to import, or to support/sponsor a new entrant (by entering into a contract for supply and/or with technical assistance).

In the port services area, towage is essentially the only service that a ship operator can avoid by investing in alternative technology such as bow thrusters and other "tug boat on board" devices.

Ship operators can also set up their own towage operation as has happened in some instances in Australia and overseas (this is in addition to sponsoring an independent entrant). Similarly, port authorities can enter the towage market to the exclusion of other providers as happens in "full service" ports.

Bargaining power

Countervailing power is different from bargaining power. A firm that has no countervailing power may nevertheless have significant bargaining power. This may be because it is a monopsonist or because it is a major acquirer and the firm which appears to have market power may have undertaken significant investment specifically to meet the buyer's requirements.

In a bilateral monopoly, the negotiated outcome may be such that the buyer earns no excess profits, the seller earns no excess profit or the excess profit may be shared between the two although not necessarily equally.Even where parties have similar degrees of bargaining power, one party may be more anxious to achieve an outcome faster than the other such that the outcome is likely to favour the more reluctant party.

While there may not be a traditional buyer and seller relationship between them, the above analysis is relevant to the relationship between port authorities and towage operators.

For instance, it is common for port authorities to enjoy significant bargaining power over towage operators, who are "at the mercy" of the port authority should it seek to exclusively licence another operator (or enter the towage market itself) and as providers of complementary services are subject to pricing constraints by the port authority.

3.3 Is Towage a Natural Monopoly?

The term 'natural monopoly' refers to the way a product or group of products is produced, rather than referring to a market structure. Formally, the term natural monopoly refers to the situation where, at all relevant levels of output, it is more efficient (in terms of minimising production costs) to have output supplied by one producer rather than to have that output supplied by more than one producer.

The concept of a natural monopoly technology is closely related to the concept of 'economies of scale'. A firm's production process has economies of scale if the average costs of production declines as the firm produces more output. Clearly a technology that has economies of scale is a natural monopoly technology. However, other technologies may also be a natural monopoly.

In general, a production technology is most likely to be a natural monopoly if it involves relatively large fixed costs and relatively low marginal costs over the relevant range of output.

There are three important features to note about natural monopoly technology. First, because natural monopoly refers to the way a product or group of products is produced, the presence or absence of natural monopoly can change as technology changes. In other words, as technology changes so does the 'natural monopoly' status of an industry.

A simple example is presented by fixed-line local telephone systems. Traditionally these have been considered to be a natural monopoly for voice calls. The network involved large fixed costs to set up but low marginal costs for extra calls. However, with the advent of wireless technology it is not clear that the fixed-line network is a natural monopoly for voice calls today.

Technological change has altered both the product being sold and the way it is produced. Voice telephone calls are now a product consumed in cars, in restaurants and in the street, rather than just in a home or office. Further, the efficient production of this product probably involves a mix of wire-based and wireless providers. A single wire-based provider is no longer the efficient way to provide the product.

Secondly, the presence or absence of natural monopoly technology depends on the extent of demand. At low levels of demand it might be most efficient to have a single producer. But as demand grows, it may be more efficient to introduce multiple producers.

Again an example from telecommunications is illustrative. In the 1960s, data flows between Sydney and Melbourne were small. It was probably sensible to have a single firm owning and controlling the network between Melbourne and Sydney to provide transmission services for telecommunications. However, the massive increase in inter-city data flows means that today there are many firms providing these services and this is probably an efficient way to supply the huge demand for data transmission.

Put simply, if demand is higher, production is less likely to involve a natural monopoly technology.

Thirdly, natural monopoly refers to technology, not market structure. It is quite possible for there to be multiple providers who survive in a market even though there is a natural monopoly technology. The survival of these firms will depend on the nature of competition.

Thus the presence of a single producer does not mean that production is a natural monopoly. The presence of multiple producers does not mean that there is no natural monopoly. The key point, however, is that if there are multiple providers even though there is a natural monopoly technology, then this is inefficient. In the absence of government intervention in the market, it is unlikely that such an inefficient structure will survive in the longer term.

Each of these points is important for towage. Technology is changing in towage. Technology means that some ships incorporate bow thrusters and other devices to raise manoeuvrability. These innovations are likely to change the nature of towage services. In particular, in the future, towage is likely to be supplied by a mixture of tugs and 'self provision' by shippers. In such a situation, self-provision may efficiently compete with traditional towage services.

The relationship between demand and natural monopoly technology means that care must be taken when comparing between ports. For example, at a large port it might be efficient to have multiple towage operators even though it would be inefficient to have more than a single operator at a smaller port. Similarly, if there are

a number of ports in close proximity efficient towage might involve multiple operators even though demand at any individual port would lead to a natural monopoly.

As a result, care must also be taken both in drawing inferences from "on-water" towage competition at some ports and about trying to increase competition by encouraging multiple towage operators. In particular, if a particular port is characterized by a natural monopoly then encouraging on water competition at that port would be inefficient and would raise production costs.

Similarly, if towage is characterized by a natural monopoly technology in a port, we would expect to see production evolve to a single towage company or to co-operation between towage companies, say through a joint venture. While there can be 'temporary' competition through entry, or permanent competition through the threat of entry, we would expect to see productive efficiency lead the market to a single effective towage supplier. This is not socially undesirable – in fact it reflects cost-minimising production.

3.4 Is there a competition problem?

In the findings and conclusion of Professors Gans and King as set out in the attached CoRE Research report, it was noted in the Executive Summary:

> "Ultimately, if there is any problem regarding high costs through Australian ports, it is unlikely that the driving factor is any competition concerns with harbour towage. Any policy predicated on that factor alone may do more harm than good".

Any competition concerns expressed over the structure of towage markets in Australia, and in particular the position of Adsteam as the sole provider in some ports, would need to be based on a concern over efficiency. Where there is an absence of "on-water" competition, this does not mean that a particular port is inefficient. The above discussion of natural monopoly discusses why in fact this can be the most efficient outcome.

It may be suggested, however, that the lack of competition or threatened competition leads to complacency such that the incumbent does not realise the efficiencies that could be realised. This is not the case for Adsteam. As has been discussed, there are a number of constraints and positive forces on Adsteam so that it continuously improves its performance and passes on to its customers efficiency-related cost savings.

Several examples of the work that Adsteam has been doing for many years to improve the efficiency of its operations and in particular to reduce tug usage to the benefit of all users as well as itself, have already been described. These examples demonstrate the degree to which Adsteam has maintained a pro-activity commonly associated with competitive markets.

The driving force behind this high level of performance is a combination of threatened regulation (in the case of port authority licensing), potential new entrants (both through licensing and unassisted), pressure from port authorities and other port service providers, and the demands of towage users.

In sum, Adsteam believes that the evidence available indicates that there is no economic efficiency problem in the way towage services are provided in the ports where it is the towage operator.

3.5 Conclusion

A competition analysis of the towage industry, which necessarily includes an analysis of the broader port services industry, raises difficult conceptual and practical issues. Even the basic dimensions of relevant markets can be difficult to define, and even where a clear picture appears to be emerging, it is important to ensure that the picture is appropriate given the purpose of the analysis.

In assessing the need for regulation, Adsteam believes that the default should be a reluctance to impose more regulation in an industry that is already subject to numerous commercial and quasi-regulatory constraints. Moreover, it is difficult to identify precisely what problem such regulation would address – and a real risk of significant detriment.

In Adsteam's view, there is sufficient discipline in the marketplace to allay any concerns that the Commission may otherwise have had based on previous reports and second-hand comments from industry observers. Further, the dynamics of the industry are such that greater rather than fewer pricing and service quality constraints will exist in the future. In these circumstances, deregulation instead of further regulation should be recommended.

4 REGULATORY OPTIONS

There is potentially a wide range of regulatory options that the Commission will need to consider during its inquiry, either because of its own identification of potential needs or because third parties will seek attention for their particular proposals. These options could include further regulation, a continuation of the status quo, complete deregulation and structural reform.

It is not Adsteam's intention to distract the Commission from what it considers to be its legitimate function in this area. Indeed, Adsteam believes that the greatest value in the present inquiry is the independence and rigour that the Commission's approach will bring to bear on the fundamental issues listed in its Terms of Reference.

Adsteam does intend to provide the Commission with its perspective on some regulatory options, namely, the revocation of prices surveillance or similar regulation under the PS Act or any legislation, the discontinuation of exclusive towage licences, reduced third-party interference in the relationship between towage operators and ship operators, and greater uniformity in the regulations that apply to towage operators.

It is Adsteam's submission that there is not a competitive or efficiency problem relating to towage in Australian ports; and that even where this may be suspected regulation by way of prices surveillance or any other form of formal or informal regulation would only ever be a second-best solution. In Adsteam's view, if free market forces were to be given greater – not less – freedom to operate in this industry there would be significantly greater potential for increased economic efficiency.

Box 4.1 – Identifying the real problem

Much of this submission has described factual arrangements relevant to a proper understanding of the Australian harbour towage industry. This has included a discussion of the roles of key industry participants and their use of market, countervailing and bargaining power.

While Adsteam does not intend to isolate any one issue or business as creating a perceived need for regulation in the broader port services area, it does believe that the focus on towage operators as being the problem is both misdirected and counter productive.

In any event, Adsteam remains unconvinced that past regulatory arrangements relating to its business have ever been justified – a theme that is supported by observations and analysis presented in the attached CoRE Research report:

> *"… the case that there is a particular competitive problem in harbour towage has yet to be proven. Structural barriers to entry appear to be relatively low while actual behaviour suggests considerable constraints on the ability of towage operators to choose their own terms and conditions."*
>
> CoRE Research, *Harbour Towage in Australia: Competitive Analysis and Regulatory Options*, April 2002, p. 24.

4.1 Continued prices oversight

Adsteam's harbour towage services in seven Australian ports have been subject to declaration under the PS Act since 1991. Adsteam does not consider this form of

regulation to have been either effective or cost justified. These are the primary reasons why Adsteam opposes continued prices surveillance.

A further reason for arguing against continuation of the current prices oversight regime or any variation of it is the difficulties that Adsteam has had in dealing with the ACCC as both judge and jury in an environment that involves high commercial and competitive risks for Adsteam.

Not surprisingly, Adsteam supports many of the conclusions and recommendations presented by the Commission in its March 2001 Draft Report on the Review of the Prices Surveillance Act 1983, some of which include:

- That the PS Act fails to meet best practice principles for legislation and prices oversight;
- That price notification provided under the PS Act is no longer appropriate; and
- That the PS Act has the potential to inhibit and retard the development of pro-competitive options in industries that have historically been considered to have market power.

The ultimate recommendation in the Commission's Draft Report is that the PS Act should be repealed and a new section inserted in the TPA to provide for inquiries and prices monitoring in nationally significant markets where there may be monopolistic pricing. While opposed to any further legislative intervention that may adversely affect its business, Adsteam would certainly support the repeal of the PS Act as proposed.

4.1.1 Has prices surveillance been effective?

Adsteam does not consider any of its price notifications to have ever been unreasonable. Nor has it ever been willing to risk the viability of its operations on ACCC rejection of its notified price rises. It is therefore arguable that prices surveillance has done little more – at least in a formal regulatory sense - than merely publicise the fact that Adsteam's prices are increasing.

On this basis alone the Commission may be satisfied that the PS Act declaration of Adsteam's harbour towage services in the seven declared ports has not been effective. Further, there is nothing to indicate that the continuation of this regulation would in some way increase or improve its effectiveness.

Adsteam further notes the ineffectiveness and possible detriment of the current declarations as identified in an economic sense by Core Research in its attached report. In that context it was suggested that the broader impact of regulation focussed just on Adsteam is "… likely to be either ineffective or potentially harmful."[19] This latter concern is a reference to the potential for price regulation to lead to a mere redistribution of rents amongst other port service providers resulting in lower customer welfare as service quality is reduced.

[19] Harbour Towage in Australia: Competitive Analysis and Regulatory Options, CoRE Research (Joshua Gans and Stephen King), April 2002, p. 24.

4.1.2 What has been the true cost of declaration?

The direct costs of PS Act declaration are imposed principally on Adsteam and the ACCC. For Adsteam, these costs have been significant. Previous price notifications have, as noted earlier, cost Adsteam up to $300,000 in consultancy and related fees, including legal fees when the numerous procedural issues that have arisen from time to time have required clarification. These costs are in addition to the huge time burden that the notification process places on Adsteam management, which is conservatively estimated to have been approximately $200,000 in recent notifications.

To the extent that the ACCC measures such things, the Commission may wish to inquire as to the costs incurred by the ACCC in assessing price notifications. This cost is of course ultimately a burden on taxpayers, some of whom are users of the declared services.

There have also been times when Adsteam has delayed price increases because of the cost and inconvenience of having to run any such proposals through the price notification process. This has adversely affected Adsteam's business, and has led to "bulk" price increases sometimes of an order that factors-in the fact that Adsteam is forced to "catch-up" price increases that have not occurred in the past.

Contrary to any assertions that this kind of behaviour shows that price regulation is effective, there is little point in Adsteam seeking a 1-2% price increase in even a larger port where that increase would immediately be lost through the expense incurred in pursuing a price notification through the ACCC processes.

Price regulation in this context has the effect of "bunching-up" nominal price increases into larger ones. This has a negative effect on the service provider and understandably upsets customers. It also creates significant regulatory costs for both the service provider and service user.

This "stickiness" of prices and the "leap frog" pricing effect is not good for Adsteam, nor for its customers.

Where there are price reductions – or the possibility of price reductions – Adsteam may not have passed them on as readily as it would have done in the absence of price regulation. This is because any future increases from the reduced price levels would have required further notifications, with all the attendant costs noted above. Price "stickiness" has therefore occurred in both directions.

Customer dissatisfaction has inevitably resulted from the above practices. Some ship operators have criticised Adsteam for the inflexibility of its pricing arrangements, notwithstanding attempts by Adsteam to introduce rebate arrangements and other mechanisms to create flexibility within a regulated environment.

Adsteam's dealings with customers have also been made more difficult because of the publicity given to its price increases in the declared ports, particularly when augmented by public comments from the ACCC as to the justifiability of those increases. In Adsteam's view, this publicity has not created any positive effects in its dealings with customers and to the extent that it believes the ACCC has made misleading statements, this has created confusion and distrust in the marketplace.

Adsteam does not believe that proper weight has been given to these kinds of issues by the ACCC or in previous reviews of price regulation. While sometimes

difficult to quantify, Adsteam encourages the Commission to carefully consider the costs of prices surveillance as faced by Adsteam and borne by other stakeholders, including the ACCC.

Lastly, Adsteam believes that any assessment of the cost of prices surveillance under the PS Act must include the costs associated with the administrative shortcomings of the ACCC, the public misrepresentation of Adsteam's business arrangements and commercial motivation, and breaches of confidence by the ACCC that have significantly damaged and disadvantaged Adsteam both commercially and competitively.

The most recent price notifications by Adsteam in December 2001 provide examples of behaviours and incidents to justify the above criticism. In Box 4.2 is a summary of the issues raised during this recent price notification process, with a more detailed account as prepared by Adsteam's lawyers provided in Appendix D.

Box 4.2 – Adsteam's recent price notifications

On 21 December 2001, Adsteam notified the ACCC of proposed increases in towage charges in Adelaide, Melbourne, Port Botany, Port Jackson and Brisbane. The events that took place over the following three months highlight the degree to which a company with declared services under the PS Act can be damaged both commercially and competitively by this form of regulatory administration.

The aspects of the notification process of greatest concern to Adsteam relate to:

- The ACCC's release of commercially sensitive and confidential information to participants in the towage industry, including parties associated with Adsteam's competitors in Australia and overseas;
- The ACCC's misuse and possibly abuse of its powers under the PS Act, and in particular its decision not to oppose Adsteam's current prices (something not envisaged by the legislation when "sensibly construed") and the unusual and unnecessary urgency that it placed on Adsteam during the review process; and
- The ACCC's use of a media release after its decision which, amongst other things, in Adsteam's view failed to provide a balanced report of the submissions made by Adsteam or the ACCC's reasons for its own decision, and therefore could be considered misleading.

These matters are expanded upon in greater detail in Appendix D.

4.1.3 Conclusion on prices surveillance

Adsteam does not believe that a case for the continued prices surveillance of its services has been made out - or that it has ever been justified. Some of the reasons for this conclusion were confirmed by the ACCC in its 1995 *Harbour Towage Study.* Where there have been contrary views, these have invariably reflected a failure to understand the commercial and competitive imperatives that drive a towage operator's business.

Moreover, Adsteam's experience – and independent economic analysis – indicates that regulation under the PS Act is problematic and undesriable both conceptually and procedurally. Certainly, Adsteam would strongly resist any requirement that it once again subject itself to the administrative processes of the ACCC.

4.2 Exclusive towage licences

Adsteam's opposition to exclusive towage licences is well documented. In its 2001 Annual Report, it stated:

> "Australia is unusual in the developed world for the number of port authorities considering exclusive licences for towage, a regulatory outcome that we see as being anti-competitive. Adsteam has been very public in its view that it is the shipping companies using towage services, that is, the customers, who should be choosing their towage providers. We have been very encouraged by the support shown by the shipping lines for this stance."[20]

Adsteam believes that insufficient analysis has been undertaken of the negative effects of exclusive towage licences. This is in contrast to the length to which advocates of this form of regulation have gone to demonstrate its virtues. As noted below, there are indications that the Commission, having undertaken previous inquiries in this area, has recognised at least some of the potential shortcomings of exclusive licensing arrangements.

For instance, in its discussion of efficiency within ports in its May 1993 study into *Port Authority Services and Activities*, the Industry Commission recommended at page 115 that "Subject to ensuring a satisfactory standard and level of service, port authorities should issue only non-exclusive, tradeable licences for towage, pilotage and other port services. Any exclusive licence should be issued for only a short term (say, three years) through public tender."

More recently in its April 1998 *International Benchmarking of the Australian Waterfront* study, the Commission stated generally at page 266:

> "It is appropriate that licence arrangements are used to ensure that safety standards are maintained and services are provided by properly qualified staff. However, once minimum safety standards have been met licences should, in general, be issued on a non-exclusive basis. This would ensure that the licensing arrangements do not impede the entry of new (appropriately qualified) operators into the industry."

While not wanting to infer more than is appropriate from these extracts taken from previous the research by the Commission, Adsteam believes that many of the concerns identified by the Commission comport with those of Adsteam.

4.2.1 Exclusive licence detriment

Exclusive towage licences have parallels with franchising arrangements in other industries, most notably public transport and infrastructure projects. The benefits of exclusive licence arrangements in these settings have been well documented. However, exclusive licences also have a number of negative features that, in the towage industry at least, can outweigh any perceived benefits.

In particular, exclusive contracts have clear quasi-regulatory characteristics and can:

- Create a barrier to entry (and to potential entry which may already be exerting a competitive force on incumbents). In this regard, it is conceivable that the imminent entry of a new market participant in Melbourne – and potentially in Brisbane and Sydney as well – would not be taking place in that port – or those other ports - if an exclusive licence had been in operation;

- Limit competition in the sense that not all potential entrants will be in a position to respond to a tender at the same time. Those pursuing a different strategic

[20] Adsteam Marine Limited, *2001 Annual Report*, p. 13.

timetable are therefore excluded, or forced to comply with an imposed timeline not considered commercially optimum;

- Stifle innovation and dynamic efficiency by locking in arrangements for a set period. This can be especially damaging where the exclusive period is long and port volumes change markedly, potential new entrants emerge, or commercial and technical innovation in the industry advances rapidly;

- Remove choice from customers (ship operators) and constitute a "one size fits all" product. In these regards, the New South Wales Coal Association submitted the following comment to the Commission's 1993 study as noted at page 91: "The NSWCA considers the existence of exclusive licensing agreements has tended to result in excessively high charges and restrictive work practices." Such arrangements cannot by their very nature be overturned by dissatisfied customers;

- Place greater power and responsibility (including potential legal liability) in the hands of the port authority (to get the contract right, to monitor it and seek redress where problems arise) and could be seen as "de facto" vertical re-intergration by the ports. This could be seen as being at odds with the "landlord" philosophy adopted by Australia's major ports;

- Raise issues under the TPA (especially section 45, 46 and 47, particularly the third line forcing prohibition). The issues raised here are potentially complex. Adsteam is unaware of any analysis that has been undertaken of arrangements that create barriers to entry and "force" ship operators to use particular towage service providers; and

- Create additional costs by way of deployment of the incoming tugs, redeployment of outgoing tugs and redundancy of the crew when the licensee changes. This kind of disruption has both economic and social costs. It creates inefficiencies and wastes community resources. It also creates an incentive to build into towage charges a risk premium that may not exist without exclusive contracts.

These are some of the reasons why exclusive towage contracts should never be viewed as a "first best" solution, and why they should only be applied cautiously if at all. In Adsteam's view, rather than have to make a case against exclusive contracts there should be an obligation on their proponents to justify their use taking into account the above areas of detriment.

Adsteam would be pleased to provide further information on the issues raised above as required by the Commission.

4.2.2 Port authorities

As an expansion on the arguments against the use the exclusive towage contracts, Adsteam considers there to be serious issues of concern raised by the role that port authorities play in this context. It is almost axiomatic that where the regulator of an exclusive towage contract (or any port service licence for that matter) is the port authority, substantial conflict of interest issues will inevitably arise.

Theoretically, the port authority is interested in reducing the overall cost of a port visit to its shipping company customers. Its interests, then, become aligned – at least in some areas - with the interests of the shipping company. Clearly, shipping companies would prefer lower towage rates. In turn, a port authority with control over towage services and towage charges will move to satisfy ship operators demands, while at the same time taking the opportunity to satisfy the demands of its other constituencies such as shareholder governments and others.

In short, a port authority will have an interest in forcing down the prices of the towage operator, regardless of the reasonableness of doing so or of any commercial damage caused to the towage operator – which in the case of an incumbent that is forced out of the port could constitute its entire business. At the same time, the port authority will have an opportunity to increase or further consolidate its own revenue streams from towage service providers or from ship operators directly.

In a sense, a port authority is a competitor with the towage operator for a share of the port visit revenue. Where it can exercise control over the towage operator, particularly control over its pricing and cost-base, it will be difficult for it to resist – and indeed it will have a commercial obligation to capitalise on – the situation. The result will be inequity and detriment to the towage operator which in the longer term will reduce its ability to maintain service levels.

4.2.3 Conclusion on exclusive licences

Adsteam does not consider exclusive towage licences to be anything other than a regulation of last resort, and even when competition concerns are raised there is no guarantee that the detriment associated with exclusive contracts will be outweighed by the anticipated benefits.

Adsteam does not oppose non-exclusive contracts that enable port authorities a degree of control over service quality and related issues without discriminating between service providers. Such arrangements can be used to improve service levels without creating entry barriers or barriers to choice.

4.3 The need for reform

Having explained its opposition to continued prices surveillance regulation and to regulation by way of exclusive towage licences – and having based its position on facts and analysis that are for the most part verifiable by the Commission – it is now appropriate to propose some reform possibilities for the Commission's consideration.

In Adsteam's view, the harbour towage industry has similarities to, as well as differences from, a range of other service industries. While the Commission is no doubt familiar with (and understandably discounts comments by) businesses that argue that their industry is different from every other industry, Adsteam believes that harbour towage raises novel issues. As noted in the attached CoRE Research report at page 3:

> *"We find that harbour towage is very similar to many service industries; although it is not characterised by substantial sunk entry costs that might be seen in other monopolistic industries. In addition, it is subject to price and service quality pressure from port authorities who have the power to exclude towage operators in their respective ports. This means that competitive analysis of this type of monopoly departs from a traditional textbook analysis."*

Having regard to the earlier parts of this submission, opportunities to improve competitiveness in the towage industry are relatively limited, yet not necessarily insignificant. At present, there are robust free-market forces at work at most ports, and the basic building blocks for efficient markets exist in others. In many ports, Adsteam and other towage operators are as efficient and as attentive to service quality and safety issues as anywhere else in the world.

Yet, these markets are not free from distortions caused by the interference of third parties. Sometimes these distortions exist to correct market failures, which for most

part are assumed rather than proven to exist. At other times they are nothing more than commercial opportunism, or reflect a lack of co-ordinated regulatory administration.

There are three areas where reforms need to be focussed. These are the areas of:

1. The overall regulatory framework within which port services, and in particular towage services, are provided. Adsteam considers it essential that all unnecessary or detrimental regulation – both formal in the form of prices surveillance for instance, and informal in the case of exclusive towage contracts - be eliminated and a free market approach be encouraged as in Europe and the US;

2. The use of towage guidelines as risk management devices, not commercial regulation, along the lines being promoted in the UK where safety and related issues are considered by pilots and port authorities, but pricing and other commercial issues are left to negotiation between towage operators and their customers;

3. Compensation for services such as salvage and emergency services provided by towage operators in a way that avoids cross-subsidisation but allows a commercial return for the provision of "public good" services in ports and around Australia's 17,000 kilometres of coastline; and

4. Greater uniformity in state and Federal regulations applying to towage operators, particularly in relation to manning levels and qualifications, inconsistent regulations in areas such as the treatment of effluent and occupational health & safety, and the regulation of the interstate deployment of tugs.

4.3.1 Reform Area 1 - Overall regulatory framework

The overseas regulatory regimes described in the Thompson Clarke Shipping and Charles River Associates reports, particularly those in Europe and the US, offer a number of free market regulatory models for the towage industry in Australia.

The reform process underway in Europe as part of the 2001 EU Directive noted in both the above reports, reflects a commitment to generating efficiencies through open markets. The key principles of these reforms, which are summarised in section 5.2 of the Charles River Associates report, are to increase uniformity and ensure a pro-competitive environment across all member states.

In North America, the FMC is seeking through its statutory powers to "free up" exclusive towage arrangements to increase the choice of customers and the viability of competitive marketplaces. A similar theme can be discerned in Canada, where neither the Federal Government nor any provincial governments seek to limit towage rates, but rather they allow service suppliers and buyers maximum freedom to negotiate.

In both Europe and North America, there does not appear to be any price regulation of towage services, and certainly no equivalent to the prices surveillance regulation that applies to Adsteam notwithstanding similar port structures.

Adsteam considers that these countries have adopted overall regulatory arrangements that should be considered in Australia. The first step is to remove prices surveillance and to discourage exclusive contracting arrangements where the anti-competitive effects are likely to outweigh the perceived benefits.

The second step is to ensure the fair and informed application of general competition laws as apply in other industries.

4.3.2 Reform Area 2 - Towage guidelines

Towage guidelines play a critical role in the safe and efficient delivery of towage services, as well as in the safe and efficient operation of port services more generally. These guidelines are best seen as risk management tools, not as instruments of economic regulation to be used to achieve the commercial objectives of ship operators, pilots, port authorities or even towage service providers.

In this area, the introduction of the Ports Marine Safety Code in the UK is a useful precedent and is discussed in some detail in section 5.6.3 of the Thompson Clarke Shipping report.

A key requirement of the Code is that port authorities undertake risk assessment programs which involve towage operators amongst a range of other interested parties. The product of these programs are towage guidelines based on an objective assessment of safety only and not on economic considerations. Furthermore, they are not to be used to restrict access to towage (or other) services by qualified service operators.

Adsteam would support a similar approach to the development of towage guidelines in Australia, with one additional element. That element is a process whereby towage requirements as set out in towage guidelines, and which over time permit the use of fewer tugs per ship, are translated into active management of tug fleets and the reduction of tugs which – on an objective assessment – are no longer required.

The problem that this additional element is intended to avoid is the reduction of tug utilisation without a reduction in tugs in a particular port. Adsteam has been actively involved in reducing tug utilisation in an effort to reduce its tug fleet in ports. To date, however, the results of this effort are a reduction in revenues without the anticipated reduction in capital costs. Adsteam believes that further work needs to be undertaken by all stakeholders to progress utilisation efficiencies to their ultimate conclusion.

It is submitted that this means of minimising the third party interference is something that the Commission should develop further as it considers reform options in this area.

4.3.3 Reform Area 3 - Compensation for salvage and emergency services

Adsteam has been accused of investing in tugs that can perform both harbour towage and salvage work with a view to cross-subsidising the latter service and making it a highly profitable aspect of its business. The fact that the last six new tugs that Adsteam has commissioned have limited salvage capability reflects the fact that this is not Adsteam's strategy.

Indeed, Adsteam would prefer relief from much of its role as a salvage and emergency services provider, at least from a pure economic perspective. While it maintains a strong commitment to supporting initiatives to protect the environment and the safety of ships and others, this is not a commitment without cost. Accordingly, there is a need to consider ways of improving the compensation arrangements that apply.

The beneficiaries of Adsteam's salvage and emergency services capabilities are numerous. First there are those directly assisted by the services, who for the most part pay for the service but not enough to cover the entire cost of the maintaining Adsteam's capability in these areas. Indirect beneficiaries include port users, other port service providers, ship operators outside of port, coastal communities, the environment and ultimately the country as a whole.

Adsteam would be interested to know how the Commission believes these costs and benefits can be balanced such that the viability of Adsteam's services can be assured. This is not a threat to withdraw services in particular areas, but rather a request for assistance in an area where Adsteam is likely to be considered less than objective in making its suggestions.

4.3.4 Reform Area 4 - Regulatory uniformity

Lastly, the uniformity of regulations that apply to towage operators, particularly national towage operators such as Adsteam, needs to be addressed. The example of engineer qualifications was discussed in Section 1.5.5 above to illustrate the inconsistencies and additional costs involved in complying with multiple jurisdiction-specific requirements.

Another major area of concern is the way the USL Code is applied by state legislation. Each state interprets the Code differently. As the Code deals with a wide range of issues including marine qualifications, training requirements, crewing, construction, stability, surveys, navigation and contingency planning, the result is that there are a large number of requirements that differ between each jurisdiction. This impacts on the free flow of personnel and vessels across state borders

For example, some states require all crew members to hold a current First Aid certificate, others do not provided there is a minimum number of valid First Aid certificates on board. Similarly, the examination requirements for the various certificates of competency issued under the USL Code guidelines differ. In NSW for example, conflict resolution is part of the syllabus for the Master 4 qualification, however it is not required in other states. There are numerous other examples.

Overlaying the difficulties that arise because of the various different state interpretations of the USL Code is AMSA's obligations under international convention. AMSA issues its requirements by way of the Navigation Act and Marine Orders. Marine Orders are designed to comply with international marine conventions and they contain all Commonwealth requirements relating to the safety of navigation. By their very nature however, they cross over and encompass almost all of the USL Code requirements. The result is that it is difficult at times to determine which regulations apply and in what circumstances.

Of particular concern, is the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, the STCW Convention. AMSA is obliged to implement the convention, however the relevant state authorities have not adopted its requirements. This has created a situation where state-issued Certificates of Competency are not valid for deep-sea voyages. It also means that the training requirements for seafarers has become extremely complex and costly because holders of AMSA certificates are required to revalidate to STCW standards, even when they may only trade in harbour or near coastal waters.

There are a number of other examples of which the Commission should be aware. For instance, the treatment of effluent on tugs is not treated consistently. Some states tend towards requiring shore-side discharge while others permit tertiary treatment on the tug and discharge while the tug is in operation. In Queensland at

present, regulations are being developed which could limit the choice of Adsteam as to which method of treatment and discharge it adopts. This could in turn limit the ability of its tugs to work at interstate ports.

Another issue is the involvement of AMSA which under the Federal Navigation Act is permitted to impose regulations on tugs moving between states in addition to the requirements that the states themselves impose. Adsteam does not believe that this multi-tiered arrangement is justified, particularly where the costs involved are not insignificant, and would suggest that AMSA and state regulations be conformed into one cohesive national regulation.

In relation to the crew qualifications issue previously discussed, Adsteam believes that further work needs to be undertaken to create a uniform regulatory arrangement around all of Australia. Similarly, manning committees should work within a national framework with appropriate discretion to provide exemptions from otherwise standard requirements. The underlying approach should be one of uniformity augmented by discretionary powers, not the development of discretionary, non-standard rules where attempts to achieve consistency are practically impossible.

Where the free movement of tugs between ports, either by Adsteam, other incumbent towage operators or new entrants, is considered an important element in increasing efficiencies in the Australian towage industry, the issue of regulatory uniformity should be a fundamental objective of the economic reform process.

4.4 Conclusion on reforms

The discussion in this part of the submission makes clear Adsteam's view on a number of the issues that the Commission will no doubt need to consider during the Inquiry. Adsteam has not attempted to present an exhaustive analysis. Nor has it sought necessarily to impose its views or preempt the Commission's deliberations.

What this submission has attempted to do is to highlight issues and possible ways of progressing reforms in a number of areas that have to date not received sufficient attention within the industry, or by review bodies such as the Commission. These matters are all relevant to increasing economic efficiency in the towage industry, and Adsteam would be pleased to assist the Commission in any way to achieve real progress in the areas noted above.

CONCLUSION

Adsteam acknowledges that the regulation of harbour towage and related services in Australia raises complex and difficult issues. It believes that the current forms of regulation that apply, namely price regulation under the PS Act and exclusive licensing by some port authorities, are inappropriate and burdensome. Moreover, it believes that reforms aimed at reducing third party interference in the relationship between towage operators and their customers, ship operators, are well overdue.

In this submission, Adsteam has provided the Commission with considerable factual and analytical information. This has included input from Adsteam's senior management and other industry participants. It has also covered work prepared by independent consultants who have examined industry data not only in Australia but overseas, and who have undertaken the same kind of economic and regulatory analysis that the Commission will undertake during the course of the Inquiry.

In these regards, the Commission's attention is once again directed to the attached reports of CoRE Research, Thompson Clarke Shipping, Charles River Associates and Howe Robinson.

In relation to industry issues, the nature of harbour towage and related services has been explained and the key industry participants (towage operators, ship operators, port authorities and pilots) have been identified, and their roles described. An overview of the various structural and performance data at more than 50 ports around Australia is set out in the appendices to this submission. Developments and trends, including labour reforms, industry concentration, technology, shipping trends, technological developments and new market entry, have also been discussed.

In particular areas, these issues have been characterised and presented differently from the way that they have been presented in previous industry reviews and studies. Where these differences have been explicitly noted, an explanation in support of the approach adopted in this submission has been provided. Where there has been no explicit acknowledgement, the supporting information and references provided should permit the Commission to assess what it believes to be the better view.

In relation to the economics of towage, a range of fundamental commercial and economic issues has been covered. This has included discussion of the costs of providing towage, the nature of the derived demand for towage services, towage charges, service quality issues and the relevance of risk analysis. Again, Adsteam trusts that this information – much of which was noted in the Commission's Issues Paper – will be of assistance to the Commission.

The discussion in Part 3 covered both legal and conceptual approaches to the analysis of market definition and market power issues. An overview of the elements of natural monopoly has been provided. It was also explained that the way in which towage services are influenced by third party interference has more to do with pricing and service levels than any perceived anti-competitive motives on the part of towage operators.

In relation to regulatory options, Adsteam has provided the Commission with its assessment of relevant issues and suggestions encouraging greater efficiency in the Australian towage industry. The ultimate conclusion being that price regulation of Adsteam should be discontinued, that exclusive towage licences should be viewed as having significant anti-competitive effects, that the minimisation of third party involvement in the relationship between towage operators and ship operators should be recognised as a reform priority and that there is a pressing need to move to greater uniformity in a number of regulatory areas.

Adsteam would be pleased to provide whatever further assistance the Commission may require by way of additional information or an expansion of the information provided in this submission.

Glossary

1200 RPM rule	Rule used to define propulsion power in a multi-engine installation where by if the engines rotate above 1200 rpm the power of one engine is used to determine propulsive power and resultant engineer certificate requirement.
ACCC	Australian Competition and Consumer Commission.
ACS	Australian Customs Service.
AMSA	Australian Maritime Safety Authority.
ATAC	Australian Transport Advisory Council.
Bollard Pull	The measure of a tug's pulling and pushing power is called its static Bollard Pull (or BP). This is a measure of power assessed in terms of the tonnes force that a tug can exert on a stationary object (for example, a wharf bollard to which ships are moored).
Bow/Stern Thruster	A device fitted either in the bow or stern of a ship to provide transverse thrust.
BTRE	Bureau of Transport and Regional Economics.
Commission	Productivity Commission.
Contestability	The degree of ease with which firms can enter or leave a market. In a contestable market the threat of new entrants causes the incumbent firms to operate at levels approaching that expected in a competitive market.
EC2	Engineer Class 2.
EC3	Engineer Class 3.
GRT	Gross registered tonne expresses the total capacity of a vessel in tonnage units of 100 cubic feet.
LLDCN	Lloyd's List Daily Commercial News.
Mass tonnes	Cargo unit of weight measurement.
MED1	Marine Engine Driver 1.
MUA	Maritime Union of Australia.
Pilotage	Charges levied on ships using the services of a pilot to navigate in ports and their approaches.
Port authority	Agency responsible for control and management of a port and its facilities. They are usually public bodies in Australia.
PS Act	Prices Surveillance Act 1983.
PSA	Prices Surveillance Authority.

TEU	Twenty foot Equivalent Units. An internationally recognised standard conversion basis enabling the number of containers to be compared. A standard shipping container measures 20 feet by 8 feet by 8 feet.
TIRC	Towage Industry Reform Committee.
TPA	Trade Practices Act 1974.
USL Code	Unified Shipping Laws Code
Voith Schneider	Omni-directional propulsion system for tugs.
Z-peller	Omni-directional propulsion system for tugs.