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# REVIEW OF MARINE PORTS PILOTAGE LEGISLATION

## PUBLIC BENEFIT TEST AND PUBLIC INTEREST TEST

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## 1. BACKGROUND AND INDUSTRY CONTEXT

Marine safety and protection of the marine environment are acknowledged as the most important objectives of government legislation relating to maritime matters. The mandated use of pilotage services by fully experienced pilots in all ports of Queensland ensures that these objectives are, to the extent possible, achieved.

### 1.1 Legislation and Objectives

The legislation relating to Queensland's port pilotage activities is the Transport Operations (Marine Safety) Act 1994 and the Transport Operations (Marine Safety) Regulation 1995, and subsequent amendments. The overall objectives of this legislation are as listed.

- To provide a system that achieves an appropriate balance between (a) regulating the maritime industry to ensure marine safety; and (b) enabling the effectiveness and efficiency of the Queensland maritime industry to be further developed (s.3(1)).
- In particular, the objectives of the Act are to allow the government to have a strategic overview of marine safety and related marine operational issues; and to establish a system under which: (i) marine safety and related marine operational issues can be effectively planned and efficiently managed; and (ii) influence can be exercised over marine safety and related operational issues in a way that contributes to overall transport efficiency; and (iii) account is taken of the need to provide adequate levels of safety with an appropriate balance between safety and cost (s. 3(2)).

### 1.2 Previous Reviews

The conditions of and regulations for the supply of pilotage services for Queensland ports have been the subjects of several recent reviews. The most recent review, by the consultants KPMG, *Review of Port Pilotage Legislation in Queensland* in 1998, was in response to obligations under the Competition Principles Agreement. It examined the question of whether the benefits from the then current regulations outweighed their costs, and whether the objectives of the regulations could only be achieved by legislation.

At the time, KPMG found that the principal restrictions on competition were:

(i) the requirement to be licensed by Queensland Transport in order to be a port pilot;

(ii) the requirement that a port pilot must be either an employee of Queensland Transport or of an entity prescribed by regulation; and

(iii) prescriptions in respect of the fees charged for pilotage services.

That Review concluded that (i) should be retained, and no alternative has been or will be suggested.

Concerning (ii), the Review recommended that a single entity should be contracted, by a competitive tendering process, to provide pilotage services in a particular port for a specified time period.

Concerning the prescription of fees (iii), the Review recommended that it be discontinued and that it be determined for each port as part of the competitive tendering process.

In considering the KPMG review recommendations, the Queensland Government took the view that the particular characteristics of individual ports placed the port authorities in the best position to decide their pilotage arrangements, including fees. This approach was considered to provide the least risk of negative safety and environment results while still providing a degree of contestability for the pilotage market. This approach was endorsed in the Competition Impact Statement (Review of Marine Pilotage Legislation in Queensland), which was subsequently reported to the National Competition Commission.

### 1.3 Industry Context

To put the following discussion in statistical context, some pilotage statistics appear in the Appendix. Table A-1 shows revenue from pilotage for each port in Queensland. It shows that revenue has grown from $21.4m in 1996-97 to $25.3m in 2000-01. Table A-2 shows pilotage movements and gross revenue tonnes. Pilotage movements grew from 10,387 in 1996-97 to 11,230 in 2000-01, and gross revenue tonnes of arrivals increased from $129m to $166m over the period.

One outstanding characteristic of port pilotage services is that the various demanders of the service have different, and frequently conflicting, views on how that service should be carried out. Only the more obvious will be mentioned.

- The ship captain/master, as an agent of the owner, is primarily interested in minimising the time necessary to enter or to leave a port. He may be willing to take some risks, given the prevailing conditions (eg the weather, other traffic).

- The ship's crew would be more interested in their own safety than in minimising the ship's port time.

- The ship's insurers would be more risk-averse, willing to wait if necessary until safer conditions exist.

- The willingness of the owners of on-shore loading and unloading facilities, including stevedores, refineries, etc, to expedite port entry or exit may depend on whether they are currently fully occupied, or waiting for a ship.

- The port authority is primarily concerned with preventing any accident, which would interfere with the port's operation, but also with ensuring that the port is attractive to actual and potential users.

- Public concern with environmental damage results in extreme desire to avoid risk.

Any pilot, in considering these different assessments of risk, has to use experience and judgment in determining appropriate actions. The pilot will be as aware of the costs of delayed entry or exit, as of the risks. The objectives of any one of the stakeholders must be balanced against those of the others.

It is therefore necessary to prevent the pilot from becoming the agent of any one of them, eg. by employment by the ship owners, the stevedores or the insurers. In some cases, port authorities have been regarded as being in a position similar to that of the pilot, being charged with a wide variety of responsibilities including that to the general public.

As a consequence of these considerations, pilots are almost everywhere employed by entities acting as agents for governments and port authorities, or independent companies formed by pilots. In the latter case, care must be taken to ensure the company is not taken over (captured) or unduly influenced by any of the stakeholder groups. Furthermore, the profit motive of such a company might provide inducement for *them to engage* the smallest number of pilots, reducing time in waiting for pilots but increasing it for ships. On-going oversight by government is necessary.

So far as pilotage in other jurisdictions is concerned, current information available suggests that public or regulated monopoly supply are the most usual means. Various US states tried competition and subsequently returned to a regulated monopoly. Hong Kong tried competition between four suppliers and eventually took them over and supplied the service via a regulated pilot authority. In the UK, the devolution of pilotage to the port authorities in 1987 with each port having just one pilotage service also produced problems of continuity of supply, as in Queensland. The EU has excluded port pilotage from its draft legislation freeing up access to port services. In Australia, various arrangements exist between pilot companies in some larger ports, and arrangements with port authorities, however comparisons are difficult to make because the decentralized nature of the state of Queensland results in a larger number of smaller ports. The nub of the problem is simply whether there is a supply of pilots who meet current qualification requirements including port-specific knowledge and are in sufficient supply to permit competition for the market from groups of bidders. It is of course possible to get a large number of bidder groups by reducing the necessary pilot qualifications. The KPMG Review regarded this as an unacceptable option. This is also the view of practically all industry stakeholders. Hence it was not further considered in this review.

### 1.4 Reasons for the Review

Attempts were made, by introducing competition for an exclusive port market through a tender process, to use market forces to provide the incentives for efficient supply. These attempts failed, not only because of the difficulties which arose at the port of Cairns, but because that failure drew attention to the flaws in the tender process approach. These flaws included the difficulty inherent in a process which relies on the availability of a sufficient number of tenderers, each with appropriately qualified staff able to provide the service, to enable an effectively competitive process to take place.

Such a competitive tender process could not be achieved because the essential safety requirement of port-specific experience, which pilots must have, severely restricts the number of competitors which can take part in a competitive tender process. This is so, regardless of any criticism which may be made of the Cairns process. Reliance on competition for the market for pilotage services is not possible, unless there is (i) a willingness to reduce the currently necessary level of pilot qualifications *or* (ii) a means to effect the transfer of the port-specific knowledge of the incumbent pilots. Regarding (i), there is almost no support for this within the industry, and certainly none in the community as a whole. With respect to (ii), this is not feasible if the incumbent is not willing to do so. The potential for the Cairns problem to become more widespread arises if port authorities attempt to shift from current arrangements with the incumbent pilots.

There is, therefore, no alternative to solutions which are not able to rely on competition to determine outputs, prices, and other matters, as it does in many other industries. Accordingly, an Issues Paper, REVIEW OF PORT PILOTAGE LEGISLATION, was sent by Queensland Transport to 75 major stakeholders on the 18.3.2002, inviting comments.

## 2. MAIN MATTERS OF CONCERN TO RESPONDENTS

### 2.1 General

10 submissions were received by the closing date for comments, as well as some telephone conversations, which included many useful suggestions and informed and frequently constructive criticisms. While it is impossible to deal with all the matters raised, a brief summation is possible.

The Issues Paper identified a number of models for consideration by stakeholders. The models were port-specific pilot arrangements which included exclusive licences, non-exclusive licences and flexible service delivery, and a pilot *pools* approach which included a privately provided model and publicly provided model. The major issues addressed by stakeholders in responding to the models in the Issues Paper are summarised in the remainder of section 2.

## 2.2 The Marine Agency of Queensland (MAQ) Concept

The suggestion that deployment of pilots under the MAQ should be under a regional pool arrangement was made by a number of submitters. This is taken up below under the discussion of the Pilot Pool (2.6).

There was concern that the MAQ would not be sufficiently removed from the regulatory arm of government, and that the line which should be drawn between licensing/regulatory functions and service providers would become blurred.

While there was support for the establishment of the MAQ, it was argued that the new model should take cognisance of some of the improvements which have taken place since 1999, especially to allow for differences in the characteristics of ports. One suggestion was that existing service providers should continue under contract to the MAQ, and also to provide such contracted services to ports without critical mass.

## 2.3 The Tender Process

Most submitters agreed that the tender process was unlikely to be successful, pointing out the absence of sufficient tenderers. This was seen as even more apparent so far as potential tenders for the port of Brisbane are concerned. Some were, however, of the opinion that failure of the Cairns process did not mean that other processes could not have been successful.

Suggestions were made for a collective pool for some of the smaller ports, with continuation of existing arrangements with Ports Authorities where feasible. One suggestion was that other options could be examined, so that pilots in smaller ports could undertake other port or cargo-related duties.

## 2.4. Pricing and Fees

There was general agreement on fees to be based on costs. However, it was suggested that a senior level Advisory Council should be set up to advise on all pilotage matters, including fees. Concern was that fees will be seen as contributing to the State's general revenue, rather than being cost-based.

It was generally recognised that fees could not be competitively determined, and that government would have to set fees. There was, to one submitter, the danger of flow-on effects on crewing costs if present changes are not carefully managed.

## 2.5. Training

It was generally recognised that the supply of pilots will be a problem in the long run, giving incumbents considerable market power. The remedy was suitable funding for training. Other suggestions included lower entry levels for piloting certain classes of ships, use of simulators to reduce on-the-water training time, and incentives to induce

more people into the industry, to counter the perception of exclusive training by incumbents.

### 2.6 The Pilot Pool

There were many suggestions, in part based in a perceived notion of a centrally based organisation allocating all pilots to all ports at all times. The constraints on such a model were stated by most submitters. These included the costs and times involved in transporting pilots around the state and the constraints imposed by the requirement of ports-specific experience.

The remedy was seen by some submitters as two or three regionally based pools, and avoidance of the "one shoe fits all" model. In some cases it was suggested that, where possible, pilotage services should remain under the control of the Ports Authority, with a formal service agreement with the MAQ.

The Pool approach was seen as better able to address the short and long run pilot supply problem than the current or other alternatives.

It was, of course, never suggested that pilot allocations from a single pool would be made daily or even periodically for all ports in Queensland. Port-specific requirements would prevent that. Practically all pilots in the large ports would continue in the ports they presently serve. The economies would be achieved by being able to move appropriately qualified pilots to where they are needed, especially between smaller northern ports. One submitter pointed out that, before the 1999 reorganisation, a relieving pilot from Brisbane would come north to relieve for holidays, and that this practice then ceased.

## 3. TEST OF PUBLIC BENEFIT

The requirements include:

that legislation should not restrict competition unless

- benefits of the restriction to the community as a whole exceed the costs; and

- the objectives can only be achieved by restricting competition.

The difficulty in the present case is that the attempt to legislate to remove restrictions to competition did not succeed. What the legislation did was to bring out the market characteristics which showed why competition could not succeed in this case.

Various options were considered, or, in many cases, re-considered in the light of recent experience. These options are examined in the following paragraphs.

### 3.1.1 Port-Specific Pilot Arrangements

The three options which were considered with respect to a port system in which pilotage services were contracted for each specific port were; (i) all port authorities to issue exclusive licences (a single contract per port), (ii) all port authorities to issue non-exclusive licences (multiple contracts per port) or (iii) each port authority to have the discretion to adopt exclusive or non-exclusive licences for pilotage.

### 3.1.1 Exclusive Licences

This would require port authorities to adopt a model under which tenders were called for a periodic contract to supply pilotage services exclusively to each port. The process of tendering would allow regular recourse to test the competitiveness of conditions to supply the market under a limited period monopoly. The standard of pilot services would be decided by the port authority with regards to safety, consumer preferences and commercial requirements. The period of the contract would have to be long enough to allow the operator to recover the investment in equipment but short enough to ensure: first, that new technologies can be introduced through the tender process; and second, that there is a pool of potential bidders for the contract. The tender process could encourage differentiation between bids on the basis of price, quality above minimum standard required and the range of services offered. Performance requirements would be written into contracts, monitored and penalty clauses invoked in case of poor performance.

A major weakness of the model is the difficulty in ensuring a substantial field of bidders, as many stakeholders recognised. This may be a problem even for large ports, and there may be few bidders or no bidders for the small ports. Pilotage fees may be lower in large ports than small ports, all other things being equal, reflecting the degree of interest in contesting the market for pilotage in a particular port. Furthermore, the irregularities in ship movements will result in fluctuations in demand for pilotage in smaller ports which cannot be dealt with by variations in the supply of pilots. Pilots in one port may be idle while there may be a shortage of pilots in another. Exclusive licences for the smaller ports tend to result in inefficient use of pilots.

### 3.1.2 Non-exclusive Licences

This option allows port authorities to open their market for pilotage services to competition from all licensed pilot operators with the necessary port-specific experience. This option requires the port authority to give up their existing relationship with users of port services and allow individual pilots to negotiate fees directly with their clients (shipping companies). It would allow competition in the market instead of for the market.

Industry feedback and anecdotal comment suggests that this approach is likely to put at risk the high standards of safety, which are mandatory. Even a marginal increase in the risk in the rate of incidents arising may far outweigh any benefit derived from a more

competitive pilotage market. This was the reason for rejection of this model in the KPMG Review.

### 3.1.3 Flexible Service Delivery

Flexible service delivery allows each port the discretion to decide whether to adopt the use of exclusive licences or to directly employ pilots. This option was accepted by the Queensland Government after considering the issues raised in the Public Benefit Test and the Competition Impact Statement, developed after the previous KPMG Review. This included the requirement of a single service provider in each port.

In the Queensland port context, the scale of the ports varies greatly. In respect of the scale of a port, a market structure that may produce an efficient solution in terms of prices and non-price requirements in one port, may not work efficiently in another port with different market attributes.

Ports differ with regards to tides, navigational aspects, weather, harbour and channel conditions, and the variety of ships and frequency with which different classes of vessel call at the port. Whilst this is a significant factor in respect of pilots requiring qualifications specific to each port, it is also relevant in respect of the particular delivery mechanism for pilotage services in each port. Thus the staffing of a pilotage service must factor in matters of port scale, port location, the difficulty and duration of the ship navigation to enter or exit a port. While the port of Brisbane may require a large number of pilots each day (eg. 23), others (like Weipa) do not even require one full time pilot each day. Some ports may require expensive service vessels and or helicopters as a result of the length of the channel or prevailing weather conditions, while other ports need only cheaper vessels or can use tugs to transfer the pilot to the ship.

The Competition Impact Statement (*Review of Marine Pilotage Legislation in Queensland*) took the view that the particular characteristics of individual ports placed the port authorities in the best position to decide their pilotage arrangements. The option was considered to provide the least risk of negative safety and environment results while still providing a degree of contestability for the pilotage market.

The results of consultation at the time (1998-9) led to a prevailing view that contestability for pilot services would result in improved services and overall efficiencies. Potential services providers were the strongest advocates of competition in the market, while port authorities and users with the greatest interest in safety supported the approach for individual port authorities to issue exclusive licences by tender.

Subsequent experience, discussed further below, shows that these models did not meet the objectives of the legislation.

### 3.1.4 Subsequent Experience

The port-specific approach to pilot services, in this case giving the port authorities the discretion to adopt a particular variation of the general approach, has been found to have three main problems: (i) non-continuity of supply, (ii) mismatches between demand and supply of pilot services, and (iii) pilot training.

First, non-continuity of supply can arise when the tender process is used. This has been evidenced in the break down of the tender process in the port of Cairns. The process has been unable to guarantee the continued supply of pilots necessary for providing on-demand services in one port. While current arrangements in a number of ports are providing the necessary supply of pilots, there is likely to be serious problems should they choose to deviate from those arrangements. Thus there is the ongoing problem of potentially uncertain supply arrangements for pilot services. This problem, then potential and now actual, was noted in the KPMG Review. Incumbent pilots are unwilling to train those who will take over their jobs. The transfer of intellectual capital cannot be enforced by legislation.

Second, mismatches between demand and supply of pilot services may arise where the port authority assumes responsibility for the supply of pilotage. Whether by exclusive contract or otherwise, and especially in smaller ports, port-specific pilot arrangements have created excess capacity of pilots at off peak demand times, and a shortage of pilots at peak demand times.

Finally, there is the problem of pilot training. In varying degrees it will be a problem with each of the port-specific approaches to pilot supply. Pilot training is in part general, and in part port-specific. If port authorities outsource by exclusive contracts, the applicants for a pilotage contract with a ports authority must have pilot accreditation, but would have the required port-specific qualification only if they were the incumbent contractors or had been trained by them. It is unreasonable to suppose that the incumbents are willing to train those who, in the case of exclusive licences, will take their jobs. The option of becoming market place competitors, in the case of non-exclusive licences, is not acceptable, mainly because of safety concerns but also because it is not viable in any but the largest ports.

As noted in the KPMG Review, "...if the incumbent pilots would not assist with the training of new pilots..." (p.31) it would then take far longer than 18 months to train the new pilots. Further, to compel to incumbent pilots to train their replacements is almost certainly neither acceptable nor legal.

This would not be of crucial consequences if there are many pilots at a port, with a steady stream of training for replacement rather than for displacement. This does not apply generally, especially at smaller ports, and the absence of competition from a number of entities with a sufficient supply of appropriately qualified pilots may also make competitive tendering a problem in the long run for large ports.

The current problem demonstrates that, given the constraints imposed by the necessary qualifications, an effectively competitive tender process for each port or for groups of ports is impossible. There is an insufficient supply of suitably qualified pilots to enable a number of groups of pilots to be formed to enable competition. It follows that, even if there were no efficiency gains from a pools approach - to be discussed - an effectively competitive tender process is not possible.

The question to be considered is what methods of service delivery exist which will ensure continuity of services, given the objectives of the legislation.

### 3.2 The Pilot Pool Approach

To address the problems common to port-specific systems of pilot supply, the pilot pool approach needs to be re-considered. It has been the customary means of pilot supply in many ports around the world.

The idea of sharing pilots was explored in the KPMG Review. KPMG suggested the coupling of larger and smaller ports. However, that could not solve either the long-run or the short-run supply problems. To overcome the pilots' unwillingness to train others requires that each of the coupled entities has need for a sufficiently large number of pilots to be seen by them to provide employment opportunities and continuity not markedly inferior to those provided by the demand for pilotage services for the state as a whole. To overcome the problem it would be necessary to lower the standard of qualifications so giving access to a larger number of competitive groups to allow a tender process to work effectively. All but one submitter argued strongly against any reduction in pilot qualifications. Given safety and environmental concerns, such a reduction was not further considered. This was also a conclusion reached in the KPMG Review. The reduction in pilot qualifications would be contrary to the safety objective of the legislation.

The solution is to have a pilot pool from which allocations to ports are made as required, and which will have training for replacement, which is not seen as training for displacement. A pools approach offers advantages with respect to the transfer of knowledge between pilots. With experienced pilots within a pool, they no longer face the problem of being replaced by other pilots in the short term. The creation of a cooperative, not a competitive, work culture will lead pilots to assume as one of the responsibilities of their job the training of the next generation of pilots, as they did in the past. No pilot is likely to have current port specific knowledge of every port in the state, but the grouping of ports to be served from a regional pool of pilots makes it possible for there to be pilots with port-specific knowledge of more than one port within each pool.

The pilot pool will also reduce short-run excess supply and demand at many ports by pilot allocations which reflect port needs. This removes the necessity of each port, or combinations of two or three ports, to have sufficient pilots to cope with demand peaks without them being on station when there are no ships at that port.

Allocation of pilots from a Queensland pilot pool would reduce the costs associated with the constraints imposed by exclusive port authority markets. A simple and obvious example was given by a submitter who referred to the ability to send a relieving pilot for a short period from Brisbane to one of the ports north of it. This practice ceased with the introduction of port specific arrangements.

Additionally, since the service must be available when ships require it, exclusive provision by a port authority requires backup pilots at that port. Pilots may be absent on leave for various reasons (holidays, sickness, accidents etc.). The pilot supply, organised in this port specific way, requires each port to have enough pilots not only to cope with the fluctuations with ship arrivals and movements (ie. to cope with the maximum demand), but also to have some standby capacity for the contingencies mentioned above.

The ability to provide the necessary pilot back up for a number ports, to the extent that backup pilots have the particular port-specific knowledge, produces efficiency gains for the entire system. These efficiency effects are, of course, similar to those of any network of services which is required to provide un-storable services to meet fluctuating demands.

Electricity supply - also un-storable and required to meet fluctuating demand - provides a similar example of standby capacity which can be used in the system. To have standby capacity for each generating station is more costly than to provide it for large parts of the system or for the system as a whole. This is one of the principal reasons for having an interconnected system.

While precise operational assessments were not undertaken in this PBT, a simple example will suffice to provide the efficiency reasons for the pools approach. Suppose there are to be three ports, supplied by one pilot pool. Each requires pilots to meet maximum demand and for stand-by capacity. Maximum demand occurs at different times in the three ports. At the time of maximum demand in port 1, pilots in ports 2 and 3 will have spare capacity and can, if not constrained by exclusive contracts, be deployed to meet the demand at port 1. Certainly the total number of pilots required for all three ports will be less. Even if the reduction is only one pilot, the savings will be of the order of $150,000 p.a.

Using the same example for the provision of contingencies, at least one pilot in each port needs to be on call to meet foreseeable (holidays) and unforeseeable (sickness, accidents) events. Pool supply will clearly make it possible to reduce this by at least one pilot, representing a further saving of $150,000 p.a.

The savings to the system as a whole would obviously be considerably more.

While the pool solution provides for the most efficient supply of pilotage services, the pool can be either a government or a privately-owned entity. The relative merits of the alternatives must be examined, given the objectives of efficiency in pilot deployment and the guarantee of a sustainable supply of pilots.

The question is whether alternatives can be found to the pilot pool approach, which allow efficient delivery of pilotage services and ensure continuity of service supply.

### 3.2.1 A Privately provided Pilot Pool

One important question is whether it is possible to establish the privately-owned pool entity by an effectively competitive tender process, which would need to be repeated every five years. This may be difficult, since a competitive process requires tenders from a number of independent groups, each with a sufficient number of pilots with the appropriate experience to replace the incumbents.

A competitive tender process would, given the current problem, require each of the applicants to be able to guarantee that the incumbent pilots are willing to pass on their port-specific experience by providing the necessary training. Without such a guarantee, the current problem would not be solved, and sustainable pilotage services could not be provided.

These considerations indicate that the essential requirements to be met by the tenderers place severe restrictions on the applicants for the contract. Competition for the contract will face difficulties in ensuring that there are a sufficient number of appropriately qualified potential suppliers to make it effective.

It is, nevertheless, necessary to consider the possibility that it can be made to be effective, especially because the benefits from competitively determined supply may allow the determination of competitively established pilotage fees.

The successful tenderer would require some regulation. The company's share register, given the conflicting objectives of the interested parties, would require oversight. Pilot licensing will continue to be in the hands of government, but a sufficiently competitive and regularly repeated tender process can be expected to result in competitively determined fees. While this fee level may advantage some ports and disadvantage others, this may become a matter for consideration by government after the fees are known.

The question is whether an effectively competitive tender process can take place.

### 3.2.2 A Publicly provided Pilot Pool

Supply of pilotage services by a government entity would not face problems of pilot supply. However, costs would not be under competitive pressure, and fees would have to be determined by government.

There are various means by which pilotage services can be provided by a government entity.

For pilot training and service delivery, Queensland Transport has considered a range of possible options and concluded that the creation of a separate agency attached to

Queensland Transport, with state-wide responsibility for pilot training and pilot service delivery for all Queensland ports, is the best means to ensure a sustainable supply of appropriately qualified pilots from the establishment of a critical mass of pilots, at reasonable costs and prices.

In addition to the problem that competition may not be able to provide a sufficient number of competitors for the market, some of the stakeholders' primary concern for safety and the environment make pilotage supply a matter of public interest. Government needs to be aware of possible conflicts between commercial considerations on one hand, and safety and protection of the environment on the other. The benefits from possible competitive supply of alternative arrangements for the delivery of pilotage services must be assessed with that conflict in mind.

In the Competition Principles Agreement, the various sub-clauses in 1 (3) make it clear that, while the competitiveness of Australian businesses (1 (3) (i)) is one matter to be taken into consideration, the other clauses refer to wider matters of community concern to be taken into consideration. So far as supply by a pilot pool is concerned, clause (1 (3) (j)) refers to the efficient allocation of resources, a requirement which is not met by current arrangements.

With a public pilot pool, additional questions to be answered are:

(a) should the training of pilots be carried out by the government agency responsible for pilot supply or

(b) should the training of pilots be carried out by a private training organisation(s).

The choice is thus between (i) one more attempt to introduce competition by the tender process with a private pilot pool, or (ii) to establish a public pilot pool. The choice must take into account natural monopoly elements, difficulties in a sufficiently competitive tender process, the needs of stakeholders with different objectives generally, and especially the public interest component.

The proposed legislation accepts this failure of the competitive model, which resulted primarily from the inability to ensure the availability of a sufficient number of competitive groups to make the tender process effective. Experience has shown that on-going services of port pilots, essential for safety and protection of the environment, cannot be achieved by competitive processes in Queensland, either in or for a ports market. The expected impacts of the proposed legislation - in terms of public benefit and public interest - are shown in a table of impacts and are examined in the text of the Review.

## 4. PILOTAGE FEES

The process of competitive port-specific tendering was supposed to resolve the problem and result in fees based on costs in the ports to which the tenders applied. On that

understanding, the KPMG Review "...recommended that the prescription of fees for pilotage services should be repealed." (p.45). The Government's response was to allow port authorities to determine pilotage fees in the same way as other port charges.

A sufficiently competitive tender process for supply by a pilot pool would result in competitively determined fees. However, because such a process is not feasible fee determination by a government entity must be adopted. In this context, it should again be noted that competitively determined fees would not have solved all problems. For example they may have disadvantaged some ports, and, where this conflicted with other government policies, may still have required government support for some ports.

When fees cannot be competitively established, a brief discussion of the relevant principles to be applied under monopoly supply by government, where fees are to be based on costs and possible oversight under the Competition Principles Agreement, is useful.

The implications of the requirements under the Competition Principles Agreement are that where required outcomes can be achieved only by legislation, the prices to be set should be similar to, as far as possible, the prices which would have been determined in a reasonably competitive market. This requires a relationship between costs and revenue similar to what it would have been in a competitive market. However, the various cost complexities mentioned in the next paragraph make it difficult to apply the total cost base to individual ports.

It is possible to go into minute detail in attempts to base pilotage fees on pilotage costs. There are many cost complexities associated with most transport services including pilotage, referred to variously as fixed, joint, marginal, variable, attributable, long and short run, avoidable, separable, out-of-pocket, and more.

Unfortunately, while commercial pressure in competitive markets enforces cost-related prices by demonstrated sustainability regardless of cost complexities, monopoly markets provide no such discipline. In monopoly markets in which regulation requires that prices reflect costs, prices are usually primarily based on the two main cost components of the services. These are:

(i) the more or less readily ascertainable costs which vary directly with the provided services, eg time spent and distance travelled, and

(ii) the other costs, such as equipment, stand-by, administration, etc, which do not vary directly with the provided service. These costs are frequently recovered by reference to the capacity of the recipient of the service to pay, eg the size of the vessel or the volume of cargoes exchanged.

This is not a new idea. "To meet local needs the Pilotage Act of 1870 devised a system of dues based on the distance of pilotage and the tonnage of the vessel" (Lewis, G.1973, A History of the Ports of Queensland, UQ Press, p.62). So long as the relationship between

the revenue collected and the costs of pilotage is as required (eg by the Competition Principles Agreement and the Queensland Government), it is difficult to improve on an approach based on such considerations.

With government being responsible for determining fees for pilotage services, a means of prices oversight should be considered.

**5. Transition/Review/Sunset Arrangements**

Current delivery of pilotage services includes a pilots' company (Brisbane), and various arrangements with port authorities and Queensland Transport. The proposed new arrangements will have little immediate effect on service delivery, apart from more effective use of pilots for services in the smaller ports. However, the ability to provide the necessary backup pilots for a number of ports has an immediate efficiency effects, allowing more effective deployment of pilots. There will be benefits to the entire system, not just the small ports. Nevertheless, the primary objective is to ensure future service supply, with a secondary objective of achievement of some efficiencies in pilot deployment for smaller ports.

Though currently the available options do not provide acceptable, or perhaps even feasible, alternatives, this may not be so in the future. A review of the new arrangements should be mandated, to take place not more than five years from the date of commencement of the new arrangements.

Benefits to the community are that pilotage services will *continue to* be provided by independent professional pilots. The safety benefits must be compared with the costs of marine accidents, and the potential to increase the risk of environmental damage.

The impacts on industry are shown in the following Table 1. The impacts described cover income transfers, efficiency gains and efficiency losses as well as non-efficiency. The table shows that in the short run, there are a range of effects which are minimal, as the service will continue to be provided as currently. In the longer run, users of the pilotage service will benefit from the assured supply and assured quality of pilots. The assured supply of pilot services to individual ports in Queensland cannot be left to the uncertainties and difficulties of current arrangements. Recent experience has revealed that the state's economy cannot be exposed to the risk of the inability of market forces to arrange pilotage services.

The impact on communities will also be positive, especially for those relying on small ports.

So far as the impact on costs is concerned, there will be some cost reductions made possible by more efficient pilot deployment from the pilot pools.

## *6.* THE PUBLIC INTEREST

The impact of the proposed reorganisation of pilotage services on ecologically sustainable development, social welfare and equity considerations and CSOs is small, since the services will generally be available as they are now. Where the pool model allows better matching of supply with demand in smaller ports, this will make such ports more attractive to users, with corresponding benefits.

So far as occupational health and safety, industrial relations, access and equity are concerned, there will be little change in the short run because, as mentioned above, pilotage services will continue to be provided as currently. Pilots located at particular ports will continue to provide those services in those ports, to be eventually engaged by the Maritime Authority of Queensland. The longer run impact will be in the guarantee of continued supply of such services by highly qualified independent professional pilots.

Economic and regional development will benefit from assured supply, which will also serve the interests of the consumers.

Competitiveness of Australian business is unlikely to be affected by the proposed changes, which merely acknowledge that it was not possible to apply competitive processes to Queensland ports pilot markets.

The efficiency of resource allocation is enhanced by arrangements which, by use of the pool model, allows reductions in idle time and ensures efficient pilot deployment.

## Economic and Non-economic Impacts of Proposed Legislative Arrangements for Port Pilotage Supply

| Impact | Size of Impact | Direction of Impact | Stakeholders Affected |
|---|---|---|---|
| **Income Transfers** | | | |
| Economic rents of pilots | Relatively small | Uncertain | Pilots |
| Economic rents of shippers and ship owners | Relatively small | Positive through some cost reduction by more efficient pilot deployment. | Shippers and ship owners |
| Funding a public pilotage agency | Relatively small, but depends on government fee decisions. | Insignificant relative to industry costs. | Queensland taxpayers, shippers and ship owners |
| **Efficiency Gains** | | | |
| Guaranteed pilot supply continuity | Significant | Positive trade benefits | All, but particularly small ports |
| Continuity in pilot training | Significant | Positive trade benefits long term | All |
| Operational independence of pilots | Significant | Positive trade benefits long term | All |
| Matching demand and supply of pilots by pilot pooling | Significant | Positive trade benefits long term, greater utilisation of available pilots. | All |
| Regulated pilot prices and fees | Significant as competitive forces are not available, but dependent on government decisions. | Positive | All |
| **Efficiency Losses** | | | |
| Absence of competitive pressure on pilots, requiring on-going government oversight | Minor | Negative | Pilots, port authorities and ship owners |
| **Non-efficiency Effects** | | | |
| Marine safety | Significant long term | Positive | All |
| Marine ecology | Significant long term | Positive | All |
| Social welfare | Minor | No change | All |
| Access and equity | Minor | No change | All |
| Occupational health and safety | Minor | No change | All |
| Industrial relations | Minor | Positive through continuity of engagement of pilots | Pilots |

NB: It is acknowledged that existing arrangements in a number of ports are also delivering many of the benefits outlined above. However, there is a significant risk that if deviations from current arrangements take place in those ports, there will be a break in the continuity of pilotage service supply and consequently the benefits derived under current arrangements would not continue to be realized.

## 7. RECOMMENDATIONS

7.1. Establish the Marine Authority of Queensland (MAQ) as an independent entity within Queensland Transport.

7.2. Attach all Queensland port pilots to the MAQ. Regulatory and licensing should be clearly separated from other matters , either by appropriate arrangements within the MAQ, or as currently by Queensland Transport.

7.3. Allow for agreements between selected ports authorities and the MAQ regarding pilot deployment.

7.4. Establish arrangements by MAQ for pilot deployment from three pools, southern, central and northern.

7.5. Establish a Technical Advisory Council.

7.6. Fees to be set by government, based generally (but not necessarily on the costs of each port) on costs of supply of pilotage services, with appropriate provision for oversight.

7.7. A review of the proposed new arrangements should occur no later than five years after the new legislation takes effect.

H.M. Kolsen
*26.4.2002.*

# APPENDIX

**TABLE A-1: REVENUE FROM PILOTAGE**

| Port | 96/97 | 97/98 | 98/99 | 99/00 | 00/01 |
|---|---|---|---|---|---|
| Brisbane | $9,553,000 | $10,077,000 | $10,473,000 | $11,652,000 | $11,101,000 |
| Bundaberg | $121,000 | $97,000 | $109,000 | $127,000 | $99,000 |
| Port Alma | $55,000 | $74,000 | $71,000 | $96,000 | $73,000 |
| Gladstone | $3,812,000 | $3,207,000 | $3,447,000 | $3,858,000 | $4,188,000 |
| Mackay | $445,000 | $424,000 | $305,000 | $360,000 | $344,000 |
| Hay Point | $3,782,000 | $3,893,000 | $3,606,000 | $4,725,000 | $5,504,000 |
| Abbot Point | $416,000 | $410,000 | $714,000 | $657,000 | $711,000 |
| Townsville | $1,647,000 | $1,664,000 | $1,649,000 | $1,628,000 | $1,870,000 |
| Lucinda | $81,000 | $57,000 | $78,000 | $67,000 | $44,000 |
| Cairns | $483,000 | $373,000 | $397,000 | $334,000 | $368,000 |
| Karumba | $46,000 | $33,000 | $77,000 | $34,000 | $31,000 |
| Weipa | $679,000 | $418,000 | $575,000 | $543,000 | $643,000 |
| Thursday Island | $9,000 | $2,000 | $9,000 | $14,000 | $30,000 |
| Mourilyan | $103,000 | $96,000 | $118,000 | $69,000 | $76,000 |
| Cape Flattery | $199,000 | $169,000 | $161,000 | $138,000 | $171,000 |
| **TOTAL** | **$21,431,000** | **$20,994,000** | **$21,789,000** | **$24,302,000** | **$25,253,000** |

**TABLE 2: PILOTAGE MOVEMENTS AND GRT**

| Port | 1996-97 | | 1997-98 | | 1998-99 | | 1999-00 | | 2000-01 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total piloted movements | Total GRT (on arrival) | Total piloted movements | Total GRT (on arrival) | Total piloted movements | Total GRT (on arrival) | Total piloted movements | Total GRT (on arrival) | Total piloted movements | Total GRT (on arrival) |
| Abbot Point | 159 | 3,819,256 | 161 | 4,069,864 | 237 | 5,537,093 | 186 | 5,082,219 | 212 | 6,112,952 |
| Bundaberg | 98 | 659,556 | 85 | 652,374 | 85 | 641,450 | 93 | 764,608 | 68 | 551,227 |
| Brisbane | 4,329 | 40,828,114 | 4,401 | 42,942,655 | 4,710 | 46,120,953 | 4,971 | 50,191,981 | 4,620 | 48,693,355 |
| Cairns | 623 | 2,301,320 | 654 | 2,639,505 | 765 | 3,067,542 | 607 | 2,867,869 | 494 | 2,480,572 |
| Cooktown | 8 | 12,590 | 2 | 56,250 | 4 | 117,086 | 0 | 128,125 | 1 | 128,125 |
| Cape Flattery | 95 | 1,216,419 | 74 | 1,026,304 | 67 | 911,426 | 70 | 962,827 | 74 | 984,599 |
| Gladstone | 1,492 | 29,865,769 | 1,402 | 31,766,356 | 1,500 | 33,373,500 | 1,685 | 36,629,842 | 1,730 | 39,735,283 |
| Hay Point | 1,178 | 28,880,982 | 1,257 | 31,997,723 | 1,304 | 34,555,050 | 1,521 | 39,233,525 | 1,606 | 43,132,763 |
| Karumba | 160 | 104,525 | 96 | 84,621 | 129 | 145,095 | 152 | 242,483 | 120 | 366,390 |
| Lucinda | 57 | 482,089 | 50 | 494,788 | 34 | 382,516 | 40 | 423,849 | 22 | 270,892 |
| Maryborough | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 28,897 |
| Mackay | 337 | 2,734,859 | 326 | 2,958,442 | 274 | 2,663,509 | 294 | 2,589,630 | 272 | 2,361,111 |
| Mourilyan | 77 | 594,584 | 86 | 556,372 | 93 | 573,188 | 81 | 579,516 | 52 | 421,044 |
| Port Douglas | 3 | 300 | 0 | 0 | 4 | 1,418 | 0 | 0 | 4 | 996 |
| Port Alma | 148 | 527,637 | 155 | 469,970 | 159 | 551,510 | 163 | 548,490 | 142 | 463,192 |
| South Port | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Thursday Island | 32 | 107,717 | 13 | 96,757 | 14 | 139,208 | 48 | 143,232 | 42 | 178,809 |
| Townsville | 1,285 | 8,682,489 | 1,359 | 9,569,858 | 1,323 | 9,914,814 | 1,396 | 10,103,595 | 1,435 | 11,168,433 |
| Weipa | 306 | 8,195,998 | 211 | 8,005,313 | 271 | 8,719,267 | 264 | 9,415,758 | 330 | 9,284,971 |
| **TOTAL** | **10,387** | **129,014,204** | **10,332** | **137,387,152** | **10,973** | **147,414,625** | **11,571** | **159,907,549** | **11,230** | **166,363,611** |