

# **AMSA COASTAL PILOTAGE REGULATION REVIEW**

**Reviewer – John McCoy**

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Dear Mr Kinley,

**GREAT BARRIER REEF COASTAL PILOTAGE REGULATION REVIEW**

I now have pleasure in forwarding to you the report of my review into the adequacy of AMSA's safety regulation and related systems for coastal pilotage.

John McCoy

John McCoy

4 December, 2005

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## 1 INTRODUCTION/BACKGROUND

- 1.1 This report is submitted to the Australian Maritime Safety Authority (AMSA) and describes the conduct, examination, findings and assessments consequent upon the completion of the review commissioned by AMSA in May 2005.
- 1.2 AMSA is responsible for the licensing and safety regulation of coastal pilots in Australian waters. Coastal pilotage services are presently only required in the Great Barrier Reef (GBR) region, including Torres Strait, and, since 1993, these services have been provided by the private sector.
- 1.3 Prior to July 1993 the Queensland Government was responsible for the licensing, operational administration and tariff structure of marine pilotage in the GBR – Torres Strait region. After this time, the safety regulatory functions were transferred to the Australian Government, at which time control over the administration and pricing of pilotage services was relinquished. This encouraged competition in the provision of pilotage services with 3 companies now competing to provide these services. Competition for custom between the 3 pilotage providers has considerably reduced pilotage rates paid by the various client shipping companies requiring a pilot for transit of the Inner route of the GBR, Torres Strait and Hydrographers Passage.
- 1.4 Concern over the impact that privatization of pilotage may have on safety standards has been raised, with suggestions that commercial pressures tend to override safety issues and reduce capacity to fund capital replacement and reduced pilot income affects the attractiveness of the industry to encourage new entrants.
- 1.5 Previous studies found that implementation of appropriate safety audit and control mechanisms were sufficient to maintain safety outcomes and that there was no evidence to suggest that the absence of direct regulation of commercial aspects affects safety. As a safety regulator, AMSA is concerned to ensure that safety regulations and systems for monitoring trends and enhancing safety outcomes in coastal pilotage remain appropriate to contemporary circumstances and conditions. This review has been commissioned as an independent review of coastal pilotage regulation and associated pilotage safety systems.
- 1.6 Accordingly, AMSA has established the following terms of reference for this review:

*‘The independent reviewer will examine and assess:*

- *The adequacy of AMSA's safety regulation and related systems for coastal pilotage, including requirements for:*
  - *Training and licensing of pilots;*
  - *Safety standards for pilot service providers;*
  - *Safety management systems and codes;*
  - *Check pilots;*
  - *Audit and monitoring programs;*
  - *Appropriate information systems and guidance materials;*
  - *Technologies for providing safety information to pilots and pilot service providers; and*
  - *Monitoring of pilot and pilot service provider activities.*

- *The extent to which coastal pilots and pilot providers effectively use printed and electronic information provided by AMSA, including real time information provided by REEF CENTRE; and*
- *Whether and to what extent, if any, commercial pressures are impacting on compliance with safety regulation and systems or on the ability of the industry to recruit suitably qualified persons into the Australian coastal pilotage industry.*

*In undertaking the review, the reviewer will consult with each of the pilot service provider organisations, shipping industry organisations and a representative sample of Great Barrier Reef coastal pilots.’*

- 1.7 The terms of reference in the paragraph above establish the limits of the review. These terms of reference were supplied to each of the organisations and persons required to be consulted in the course of the review. During the required consultation a great deal of information was obtained by the reviewer, both orally and in written submissions. Not all this information was necessarily relevant to the AMSA terms of reference and the relevance of the information to the terms of reference was determined by the reviewer.
- 1.8 The major issue for pilots appears to be the competitive provision of pilotage but this reviewer is principally directed to examine and assess the adequacy of AMSA's safety regulation and related systems for coastal pilotage, and the extent to which coastal pilots and pilot providers effectively use printed and electronic information provided by AMSA, including real time information provided by REEF CENTRE. And, whether and to what extent, if any, commercial pressures are impacting on compliance with safety regulation and systems, or on the ability of the industry to recruit suitably qualified persons into the Australian coastal pilotage industry.
- 1.9 The plain meaning of the terms of reference is clear. The reviewer has taken note of the environment in which regulation of pilotage takes place and considered possible alternatives (see Appendix I) but, in accordance with its terms of reference, this review does not further consider the benefits or disadvantages of any **alternatives** to the current system of providing pilotage services in the GBR, whether in relation to safety outcomes or other matters. Nor does this review make recommendations nor draw conclusions with respect to this issue. As it must be, this report is strictly confined to addressing those matters contained in the terms of reference in the way those terms are expressed.

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<sup>1</sup> AMPA supplied the review with the results of a questionnaire circulated to all GBR pilots. No pilot expressed satisfaction with the current system of supplying pilotage in the GBR and all wanted change. 70% of pilots preferred the option of serving as a pilot of a pilot owned company providing services under contract to the Government under conditions of serial competition with 20% preferring the pre 1993 option with only one company with exclusive rights. The balance preferred other variations. Pilots saw no advantage to the current system other than to the ship-owner. All replies received agreed to AMPA acting for pilots if a non-competitive scheme could be negotiated.

<sup>2</sup> A member of ASA also contacted the reviewer. This member is a major Australian user of one of the GBR providers who was totally satisfied with the service the company's ships received from pilots of one provider which he considered "exemplary". He also said that he would be totally opposed to any change.

## 2 EXECUTIVE SUMMARY OF ASSESSMENTS

- 2.1 Any assessment of alternatives to the current competitive arrangements for supplying pilotage services to the Great Barrier Reef (GBR) is outside the terms of reference of this review. (Paragraphs 1.7 to 1.9 and Appendix I)
- 2.2 There is no major issue with the scheme of AMSA's safety regulation but there is a major issue with how pilotage is provided - this issue is outside the terms of reference of this review. (Paragraph 5.2)
- 2.3 Draft Marine Order 54 (Draft MO 54) contains the most comprehensive system of safety regulation of pilotage by a regulator in Australia. (Paragraphs 4.9 and 5.2)
- 2.4 Some areas of the safety management system of providers are deficient and do not meet the objectives of AMSA's Great Barrier Reef Safety Management Code (GBRSMC) and detract from safety. (Paragraphs 5.1, 5.4 and 5.6)
- 2.5 The agreed bench mark standards in Annex A of Draft Marine Order 54 should be amended to include a requirement that a crew member and pilot should be provided with an effective means of being secured to the launch when proceeding from the accommodation forward to the pilot transfer position. (Paragraph 5.7 and Appendix II)
- 2.6 The standards for pilot vessels appearing in Annex 1 of the GBRSMC should be considered minimum standards for all pilot vessels and the "grand-fathering" provision of paragraph 1 of Annex A to Draft MO 54, which applies the pilot vessel standards only to vessels acquired as replacement vessels after 1 July 2001, should be removed. (Paragraph 5.7 and Appendix II)
- 2.7 Where the Safety Management System (SMS) does not incorporate standard operating procedures for the operation of the pilot vessels and the training of their crews, they should be revised and amended to incorporate such procedures. (Paragraph 5.7 and Appendix II)
- 2.8 There appears to be no requirement for safety training for helicopter transfer - Pilots being transported by helicopter are entitled to the same level of protection and safety training as applies in other industries, including a requirement for a "HUET" course if that is the industry standard. (Paragraph 5.8 and Appendix II)
- 2.9 The conduct of pilotage operations in the GBR is not *prima facie* unsafe - However, there are significant gaps in the safety management system (SMS) at both the organizational and operational levels. (Paragraphs 5.10 to 5.11)
- 2.10 There is a gap in the SMS in that there appears to be an undesirable disconnection between the pilot on the bridge and the organization so that the SMS does not extend from the "board room to the bridge" of the ship as it should. (Paragraph 5.13)
- 2.11 The provider has a number of responsibilities under the GBRMSC, one of which is to develop and maintain an SMS which *inter alia* includes instructions and procedures to promote the safe pilotage of ships. Such instructions and procedures as may be available seemed to be somewhat ephemeral and, if they exist, pilots do not seem to be aware of them. There is no place for such gaps in an effective SMS. One example of an apparent gap in the SMS is that a number of pilots do not accept the layered defence theory in the management of risk and mitigation of the consequences of pilot error.

This review has identified at least 5 defences, some of which are recognized by pilots and some of which are not. All those defences are currently available and are valued and employed by some pilots – The provider has a responsibility to ensure that ALL pilots are aware of and effectively employ these defences when engaged in pilotage operations. In an effective SMS, operating procedures should be standardized (i.e. SOP's), uniform and not optional. There are other areas for SOP's and standard check lists. These include (but are not limited to) preparation of passage plans, interaction with the bridge team and emergencies. (Paragraphs 5.15 to 5.23)

- 2.12 There appears to be no formal mechanism used by providers for the purpose of continual appraisal and review of the SMS although this is a requirement of the GBRSMC. (Paragraph 5.24)
- 2.13 The quality of launches used for pilot transfer appears to be well below an acceptable standard and this is likely to be as a result of the commercial pressures impacting on providers. (Paragraphs 6.3 to 6.7 and Appendix II)
- 2.14 Although a number of pilots said that they felt it necessary to maximize the number of pilotage acts they engaged in for commercial reasons, no pilot admitted to being pressured by a provider to breach the requirements of the fatigue management plan, nor did they admit to any such breaches. (Paragraphs 6.8 to 6.10)
- 2.15 There is no evidence to support the proposition that commercial pressures impact on the recruitment of suitable persons to become pilots in the GBR. (Paragraphs 6.11 to 6.14)
- 2.16 To encourage the proper exchange of information by VHF between piloted ships and assist reconstruction in the event of a casualty, VHF exchanges should be recorded by REEFCENTRE, if the technology to do so is available. (Paragraphs 7.2 to 7.4)
- 2.17 Prescriptive requirements for the training and licensing of pilots are adequate for the purpose. (Paragraph 8.2)
- 2.18 Many pilots see training in terms of costs and not benefits and this is exacerbated by concerns regarding the quality of the professional development course. (Paragraph 8.3)
- 2.19 With the exception of those deficiencies identified above, AMSA's safety standards were generally considered to be satisfactory. (Paragraph 8.5)
- 2.20 Whilst assessing AMSA's system of safety regulation as adequate and the most comprehensive in Australia, a number of areas of what are assessed as non-compliance were found. This meant that the safety management systems of providers were assessed as deficient in several important aspects, with a consequent possible reduction of safety outcomes. (Paragraph 8.6)
- 2.21 AMSA's scheme for check pilots received general endorsement and in some cases enthusiastic support. This review assesses it as adequate for the purpose. (Paragraph 8.7)
- 2.22 It was generally felt that AMSA's prescription for audit and monitoring programmes was adequate but insufficient resources were devoted to maintaining such programmes and so ensuring compliance. Those areas which this reviewer feels could benefit by increased attention in an audit, have been identified in a number of the assessments above. (Paragraphs 8.8)

- 2.23 AMSA information systems are more than adequate for the purpose, as is the technology for passing on safety information. (Paragraphs 8.9 and 8.11)
- 2.24 It is suggested that the benefits of quarterly meetings be re-evaluated. (Paragraph 8.10)
- 2.25 Whilst pilots make effective use of printed and electronic information provided by AMSA, the same cannot be said about REEFCENTRE with a number of pilots stating that REEFCENTRE has no useful role – this point needs attention in view of the safety implications. (Paragraph 8.13, paragraphs 5.20 to 5.21 and paragraph 7.1)

### 3 CONDUCT OF THE REVIEW

- 3.1 In undertaking the review, the reviewer was required to consult with each of the pilot service provider organisations, shipping industry organisations and a representative sample of GBR coastal pilots. During the course of the review this requirement was varied to include 2 particular members of the Australian Marine Pilots Association (AMPA) with a special interest in the issue of GBR pilotage, an officer of Marine Safety Queensland, AMSA’s manager maritime operations (Brisbane), an officer of the Great Barrier Reef Marine Park Authority (GBRMPA), a visit to REEFCENTRE and an interview with an officer of the Port Phillip Sea Pilots, Pty Ltd.
- 3.2 The required consultation took place over 2 periods. From 1 June to 3 June (inclusive) the reviewer interviewed, in Brisbane, company officers of Torres Pilots Australia and Australian Reef Pilots Ltd, two of the present three pilotage providers. Also interviewed in Brisbane was one nominated member of AMPA, the nominated officer of AMSA and an ex GBR pilot (a member of AMPA) who expressed an interest in the matters being considered in the course of the review.
- 3.3 On 21 June, the reviewer met with officers of Shipping Australia Ltd (SAL) to discuss the issues associated with the review and subsequently met with the other nominated member of AMPA.
- 3.4 From 22 June to 27 June (inclusive) the reviewer interviewed licensed GBR pilots (from both providers) as they passed through pilot accommodation on Thursday Island, prior to, and subsequent to, those pilots boarding or leaving piloted ships. Further additional interviews with licensed GBR pilots took place under similar circumstances in Cairns (29 June) and Mackay (1 and 2 July). A small number of interviews took place by telephone. Two pilots provided written submissions to the review addressing the terms of reference and other pilots sent emails with attachments containing relevant previous correspondence. It is considered a representative sample of pilots was interviewed. The details of the numbers and percentages of pilots interviewed are included hereunder:

	<b>Number of Pilots</b>	<b>Provider</b>	<b>Provider % Pilots*</b>	<b>Total % Pilots*</b>
	16	ARP	55%	27%
	9	TORRES	35%	15%
	3	HYDRO	75%	5%
<b>TOTAL</b>	<b>28</b>			<b>47%</b>

*\*NOTE: Percentages of pilot population for providers and total pilots depend on numbers of licensed pilots as at 28 February 2005*

- 3.5 A meeting with an officer of GBRMPA took place in Townsville on 30 June and a visit to REEFCENTRE at Hay Point was made on 1 July.
- 3.6 Officers of Hydro Pilots Australia were interviewed in Mackay on 1 July – these officers were also licensed GBR pilots for Hydrographers Passage.
- 3.7 Finally, a meeting took place with an officer of the Australian Shipowners Association and a separate meeting with an officer of the Port Phillip Sea Pilots P/L, in Melbourne on 4 July.

- 3.8 The review had the benefit of previous reports and relevant information on the AMSA web site, including the *Crone Report* (May 1994) and the *Holden Review* (March 2000), as well as certain correspondence supplied by AMSA and other parties interested in the review.
- 3.9 All interviews with pilots and certain other persons took place on a confidential basis and an assurance was given to persons who consented to be interviewed that any opinion, statement or material offered was given on the basis that it would not be attributed to the person providing it. This assurance was given in the belief that any other course of action would unnecessarily restrict the information available. For the most part interviews followed the form of questions directly addressing those matters within the terms of reference with an invitation to provide more general comment if desired.
- 3.10 Where the opinions or statements of others are quoted or referred to in this report without attribution, it is in the belief that it is an accurate recollection of what was said in the course of the review. However, the assessments and conclusions of this report are entirely those of the reviewer.

## 4 AMSA’S SCHEME OF SAFETY REGULATION

- 4.1 Marine Order 54 provides the basis of AMSA’s safety regulation of pilot arrangements in the GBR. Heads of power for the content and making of this Marine Order are found in the *Navigation Act 1912* (Cth), (the Act) ss 425(1), 425(1AA) and Part IIIA (inclusive). S 186E of the Act provides the offence provision with respect to unqualified persons performing the duties of a licensed pilot and s 186B defines a licensed pilot. There have been 3 issues of this Marine Order since 1994, with the current issue being Issue 3, Order Number 6 of 2001, as amended by Order Number 11 of 2002. A further draft Marine Order 54 has been made available to this review and, it is understood, this draft Order will not be issued until the completion of this review. However, although the system and content of both current and draft Marine Order 54 are similar, they are not the same. The safety regulation system considered by this review is that expressed in the draft Marine Order 54 and not the current Marine Order 54. While parties interviewed in the course of the review knew about the draft Marine Order, it is likely that comments received in a number of areas relate to the content of the current Marine Order.
- 4.2 Draft Marine Order (Draft MO 54) *inter alia* defines compulsory pilotage areas of Hydrographers Passage, the inner route of the GBR and the Whitsundays and voluntary pilotage areas of Hydrographers, the inner route of the GBR and the Great North East Channel<sup>3</sup>. It provides necessary definitions and the machinery provisions for its application and review of administrative decisions<sup>4</sup>.
- 4.3 Draft MO 54 provides for the licensing of pilots according to a range of areas, conditions, duration and vessels, with appropriate limitations and provision for renewal. There are licensing provisions for pilot licences, restricted pilot licences and trainee pilot licences and provision for their cancellation or suspension<sup>5</sup>. There are also discretionary provisions specifying the manner in which they are to be exercised<sup>6</sup>.
- 4.4 An important section defines the function and liability of a pilot as *“The function of a pilot on board a ship is to provide information and advice to assist the master and the ship’s navigating officers to make safe passage through the areas for which the pilot is engaged....Despite the presence of a pilot on a ship, the master of the ship continues to be responsible for the conduct and navigation of the ship in all respects....”* and this applies *“irrespective of whether the engagement of the pilot is compulsory or voluntary.”*<sup>7</sup>
- 4.5 Draft MO 54 also prescribes certain requirements in relation to the conduct of a pilot including a requirement for a Code of Conduct<sup>8</sup>.
- 4.6 Whilst determining the requirements for appointment, training, licensing and performance of pilots, Draft MO 54 also takes into account the role of the provider of pilotage services. The draft Order defines a pilotage provider as a *“person who assigns*

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<sup>3</sup> Draft MO 54, s 2

<sup>4</sup> *ibid* s 5

<sup>5</sup> *ibid* s 7

<sup>6</sup> *ibid*

<sup>7</sup> Draft MO 54, ss 7.2 – 7.4

<sup>8</sup> *ibid* s 8

*or allocates a pilot to a particular transit, irrespective of the legal relationship, contractual or otherwise, between that person and the pilot”*<sup>9</sup>. The model of regulation used to regulate the behavior and performance of the provider is based on the ISM Code<sup>10</sup>. The ISM Code places responsibility on a shipowner for the development and implementation of systems and procedures for the safe operation of ships. Draft MO 54 places the responsibility on a pilotage provider with respect to pilotage<sup>11</sup>. As is the case with shipowners, the Marine Order requires a pilotage provider to have a valid document of compliance which certifies compliance with a Safety Management Code (SMC)<sup>12</sup>. This Code is incorporated into Draft MO 54 as an Appendix entitled the “Great Barrier Reef Pilotage Safety Management Code (GBRPSMC). Systems and procedures are subject to audit<sup>13</sup>.

- 4.7 The GBRPSMC *inter alia* requires that the provider develop, implement and maintain a Safety Management System (SMS)<sup>14</sup>. The provider has defined responsibilities, one of these being to designate a person with access to the highest level of management who is required to provide a link between the provider and a pilot on board and appoint a training pilot and check pilots<sup>15</sup>. The responsibilities of the “designated person”, check pilots and training pilots are also defined, as is the responsibility of pilots<sup>16</sup>.
- 4.8 Annexes “A” and “B” of the GBRPSMC provide for “benchmark” standards for pilot transfer arrangements and guidelines for check pilots respectively.
- 4.9 Paragraphs 4.1 to 4.8 above summarise the scheme of safety regulation used by AMSA to maintain safety of pilotage operations in the GBR. **It is the assessment of this reviewer that Draft MO 54, its Appendix and Annexes, contain the most comprehensive system of safety regulation of pilotage by a regulator in Australia.**

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<sup>9</sup> Great Barrier Reef Pilotage Safety Management Code (GBRPSMC), s 1

<sup>10</sup> International Safety Management Code for the Safe Operation of ships and the Prevention of Pollution

<sup>11</sup> GBRPSMC, ss 1.4

<sup>12</sup> *ibid* s11

<sup>13</sup> *ibid*

<sup>14</sup> *ibid* ss 1.4

<sup>15</sup> *ibid* s 3

<sup>16</sup> GBRPSMC, ss 4,5, 6 &7

## PERCEIVED DEFICIENCIES OF THE EXISTING SAFETY MANAGEMENT SYSTEM

- 5.1 The previous section summarized the requirements of AMSA's scheme of safety regulation. A key part of the scheme is a safety management system (SMS) with important responsibilities being assigned to providers, other persons and pilots. This section identifies and discusses certain perceived deficiencies of the SMS, assessed on the basis of information received in the course of the review.
- 5.2 By way of general comment, it must be said that even where issues exist between AMSA and the pilots, for the most part there is no major issue with AMSA's safety regulation. Rather, the major issue is with how pilotage is provided and the fact that it is provided under conditions of aggressive competition by 3 different providers. This is said by pilots to be the major issue affecting the achievement of an optimal safety outcome with respect to pilotage in the GBR. It has already been concluded (paragraph 1.9) that any assessment of alternative systems of pilotage provision in the GBR is outside the terms of reference of the review which will confine itself to an assessment of AMSA's safety regulation of the existing system. This will not satisfy a great number of the persons who contributed to the review and, not least, AMPA, or IMPA.
- 5.3 Pilotage services may be acquired by the shipowner in two entirely different ways. Pilotage may be voluntary and a pilot will be taken on board for local knowledge and skill and with a view to reducing the risk of adverse events occurring, such as stranding or collision. Government may choose, as a matter of policy, to licence the persons offering their services as a pilot in order to ensure minimum standards of skill and competency. The decision on whether to take a pilot however, is a matter for the shipowner. Services in the GBR prior to 1993 were of this category as indeed are services in parts of the GBR today. On the other hand, as well as licensing pilots, legislation may make pilotage compulsory and the shipowner has no choice on whether to carry a pilot. Parts of the GBR are compulsory pilotage areas. Compulsory pilotage is part of the risk management strategy for the area. Shipowners can externalize the cost of risk to some extent and a policy which makes pilotage compulsory operates to reduce risk to life, property and the environment at the cost of the shipowner. Pilotage, both voluntary and compulsory, is therefore about risk management and safety.
- 5.4 This approach is made clear in Draft MO 54 which states: ***This Part makes provision for the licensing of coastal pilots and the manner in which they carry out their duties and, to promote the safe operation of ships under pilotage, the manner in which they are assigned or allocated to ships.*** (Paragraph 1.1 of Draft MO 54). And in paragraph 1.2 of the Annex to Draft MO 54 which states:
- 1.2.1 The objectives of this Code are to promote:*
- (a) Safety at sea in the GBR region;*
  - (b) Prevention of injury or loss of life; and*
  - (c) Avoidance of damage to the marine environment and to property, by ensuring that all persons, procedures and operations involved in coastal pilotage are covered by an approved Safety Management System (SMS).*
- 1.2.2 The objectives of each SMS include:*
- (a) The observance of safe working practices;*
  - (b) The identification of risks and provision of suitable safeguards; and*

*(c) The provision of continuous improvement.*

While the above objectives of the Great Barrier Reef Pilotage Safety Management Code are admirable, some areas of pilotage service delivery fall short of these objectives - There are two separate operations in the delivery of pilotage services. There are the pilot transfer arrangements whereby a pilot is placed on board the vessel to be piloted and then taken off that vessel after the completion of the pilotage operation. Then there is the performance of the pilotage operation on the bridge from the requisite communication and interaction with the bridge team, performance of the pilot's tasks and functions to the eventual completion of the pilotage operation and departure from the vessel. This review has concluded that certain deficiencies which detract from the safety of both pilot transfer operations and the performance of the pilotage function on the bridge are present in current arrangements for the delivery of GBR pilotage services.

**5.5 Pilot Transfer Arrangements**

- 5.6 Pilots use launches for transfer from most boarding grounds in the GBR and helicopters for transfer in Hydrographers Passage. It is something of an understatement to say that most pilots are dissatisfied with the vessels and the arrangements provided for transfer by launch. Pilots related to this reviewer a number of examples of what they perceived as deficiencies with the launches, operational procedures and training of crews. One written submission received from a pilot regarded the condition of the launches used for transfer by both providers as being “deplorable”. In addition there has been a recent death of a crew member during an operation. The reviewer was urged to examine launches during the course of this review but declined. It was not the task of the reviewer to ‘survey’ launches nor would it necessarily have been useful in coming to any conclusions – the pilots use the launches under actual conditions of operation all the time. They see the operational deficiencies. There is no reason to doubt the truth of their perceptions and the reviewer does not.
- 5.7 While there is an agreed benchmark standard for pilot vessel standards contained in Annex A to Draft Marine Order 54, the vessels used for pilot transfer are subject to the survey of Maritime Safety Queensland (MSQ) as to safety, construction and manning. This report reviews AMSA's safety regulation of coastal pilots. Certain assessments which have been made regarding pilot vessel standards, as prescribed by draft MO 54 and the associated safety management systems, are included in Section 2 of this report, (Executive Summary Of Assessments). Detail supporting these assessments is included in Appendix II.
- 5.8 There are additional issues associated with helicopter transfer of pilots, particularly in Hydrographers Passage. These issues are also considered in Appendix II.

## 5.9 The Conduct of the Pilotage Operation

- 5.10 At the outset it must be said that the conduct of pilotage operations in the GBR is not *prima facie* unsafe nor is there a high risk based on the probability of an occurrence of an adverse event. Indeed, given the safety regulation, the training, the experience and the qualifications of the pilots who perform the task, it would be remarkable if the operation carried with it anything other than a low probability of failure. Det Norske Veritas determined the annual frequency of groundings of piloted vessels to be 0.7 and collisions to be 0.4<sup>17</sup>. Of course, risk is not just about the probability of an event occurring. It is also about consequences and the consequences to the GBR of a grounding, or collision, can be severe<sup>18</sup>. The real issue is whether the risk is being managed as effectively as it might be or alternatively, how effective is the SMS?
- 5.11 In any operation where the business and purpose of an organization is safety, a safety culture should be pervasive throughout the organization and at all levels. Accordingly, in the supply of pilotage services in the GBR a provider should ensure that the SMS extends to all operations of the organization from the board room to the bridge of the ship. However, it is far from clear to this reviewer that this is the case for pilotage providers in the GBR. It is the assessment of this review that there are significant gaps at both the organizational and operational levels and that these gaps increase risk and reduce the level of safety which could, and should, be achieved.
- 5.12 There are obviously 3 separate areas of risk management of pilotage operations in the GBR. There are the pilots, the pilotage providers and the regulator, AMSA. The regulator's position is always a difficult one. Modern regulation means less prescriptive requirements and more performance based requirements. This presents difficulty for a regulator in monitoring and enforcement. Of course, the regulator can deal with the Document of Compliance (DOC) of a provider and this may be thought to be a sanction which would compel adherence to the highest standards. But there are obvious and strategic implications to such a heavy handed course and suspension of a DOC may not necessarily result in a good safety outcome. There are issues of whether regulation is applied with a light or heavy hand. AMSA's model is one which is used in the wider shipping industry. This review accepts (in common with most pilots<sup>19</sup>) that AMSA's model is a good regulatory model and considers how it translates into the performance of pilots and provider in managing risk through their SMS.
- 5.13 Insofar as the organization (i.e. the provider) is concerned, effective management of risk requires commitment, certain competencies within the organization and an ability to recognize risk. One might suppose that the pilots could provide this competency and ability to the organization. Yet this does not appear to be the case. Most pilots appear to see the performance of pilotage operations as entirely pilot centered and discrete. The role of the provider, as seen by a number of pilots, is to arrange the job with a client shipowner, place the pilot on board and eventually see the pilot is paid what he is due. The provider appears to see the operation in exactly the same terms. The provider does not see a role in intervention with or, monitoring of, the performance of a pilot other than to conform with the provider's obligations under the GBRPSMC. To that extent

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<sup>17</sup> DNV GBR Pilotage fatigue Risk Assessment 1999 p 7

<sup>18</sup> *ibid*

<sup>19</sup> Pilots views are restricted to the operational requirements of MO 54 – they are mostly of the opinion that there should be increased regulation of the commercial aspects of pilotage as discussed elsewhere in this report

there appears to be an undesirable disconnection between the pilot on the bridge and the organization. It follows that **the SMS does not appear to extend from the board room to the bridge of the ship**. This means that the safety of the operation on the bridge is entirely in the hands of the pilot insofar as the organization is concerned. One provider informed this review that it offers “insurance” in the case of a pilot error resulting in a casualty. The payout is \$100,000 against payment of an initial “premium” which is additional to the pilotage fee. Although insurance is part of risk management this insurance, is not really part of the SMS envisaged by the GBRPSMC. An opinion was expressed in the course of the review that the provider was little more than an agent who obtained the work and saw a pilot was placed on board a vessel. But this is not what the GBRPSMC requires. Whatever the practice is, the GBRPSMC places the responsibility of the development and implementation of the SMS squarely on the provider. If insufficient expertise is available to the providers at present to fulfill this responsibility, such expertise should be acquired. The GBRPSMC requires the provider to designate a person or persons in the provider’s office with access to the highest level of management to provide a link between the pilot and provider<sup>20</sup> and this person has defined responsibilities<sup>21</sup>.

- 5.14 Pilots are professional and rightly take pride in their skills, knowledge and performance on the bridge. Many pilots see the task in terms of their ability to take the ship through the GBR using a mental picture of the Reef gained through long experience. Many see the management of pilotage risks as being largely about the quality and experience of the pilot. That is to say, exclude the “bad” pilot by maintaining the requirements which existed prior to 1993 and recruit “better” pilots by a much higher level of remuneration. This assumes that the “good” pilot will not make any error. Unfortunately this is a heresy in terms of error management. As James Reason says, “One of the basic principles of error management is that the best people make the worst mistakes”<sup>22</sup>. It is certain that effective risk management accepts that all human beings are fallible, errors may be made and endeavours to avert the consequences of single person error by putting in appropriate defences. Even “super pilots” (if they exist) are human and thus fallible. A safety management system which relies on a pilot **not** making an error, is not a system at all.
- 5.15 Since 1993 there have been a number of casualties in the GBR. It was alleged, in the course of the review, that a major cause of these casualties could be found in the competitive nature of pilotage which has led to a reduction in the standard of the pilots. There is, of course, seldom a single cause of any accident. Indeed, where a single cause is identified, it is likely that other causative factors were present but have not been identified. Yet a number of things are clear. No pilot involved in groundings intended the consequences. Other than noting the preponderance of less experienced pilots involved, no lack of skill or knowledge was identified as a causal factor. Rather, available skill and knowledge was not employed on the day. In simple terms, there was a lapse or an error which contributed to the incident. Where the actions or omissions of a pilot were identified as a causative factor, it was likely a challenge from the watchkeeper on the bridge would have averted the consequences of pilot error.

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<sup>20</sup> GBRPSMC, ss 3.8

<sup>21</sup> *ibid* s 4

<sup>22</sup> J. Reason, *Managing the Risks of Organisational Accidents*, Ashgate, 1997, p. 127

Unfortunately, there was no simple “heads up” from others on the bridge and groundings followed. This was identified in the Australian Transport Safety Bureau (ATSB) reports as a failure to properly implement Bridge Resource Management, (BRM).

- 5.16 Many pilots interviewed pointed to the variable standards in skills, knowledge and ability of both watchkeepers and masters as a reason not to bother with BRM. Yet the same vessels, with the same crews, go to all ports in the Commonwealth – Pilot services in Brisbane, Sydney, Fremantle and Melbourne are jointly developing and implementing procedures to actively involve the bridge team in the pilotage of the vessel, whatever the individual standard of the members of the team. This is the first defence against the consequences of pilot error. How and whether it is implemented should not be left to the individual pilot no matter what his opinion of the bridge team’s abilities are. The provider should develop and implement standard procedures to ensure the bridge team is involved in the navigation of the vessel. It is surely insufficient to recognize the problem and a solution and then adopt the attitude that it will not work because some members of the bridge team are useless. From time to time suggestions are made that 2 pilots are carried to allow for periods of rest – however, in developing procedures, consideration could perhaps be given to the role the vessel’s master might play, in order to allow 2 people on the bridge at all times.
- 5.17 It has been held that a good pilotage plan is central to the safety of the pilotage operation. Whilst this proposition was generally agreed, agreement was not unanimous, with one pilot stating that a passage plan was “all rubbish and required just to satisfy bureaucrats at the IMO”. Given that this one view of a plan may be considered extreme, it was noted and ignored by the review. Involvement of the bridge team would be assisted by standard operating procedures (SOP’s), standard check lists, standard plans etc. Uniform procedures reduce risk of error. This has been the experience of other pilot services. It has also been the experience in many organisations (e.g. airlines, hospitals, power stations) who wish to effectively manage risk. One pilot interviewed said he emailed his plan 2 days in advance to the ship, so that meaningful discussion could take place and the plan be amended as necessary. This seems like a good idea. If it is, it should be capable of adoption by all pilots. Pilots have a variety of methods and ideas. Facilitation of discussion about methods and techniques and the adoption of ‘good ideas’ is the responsibility of the provider under the GBRSMC. It is part and parcel of an effective SMS.
- 5.18 Most pilots appear to make use of a lap top computer combined with GPS in their conduct of the pilotage operation. It is another aid to assist navigation and is used with other aids and methods. It can also be combined with an alarm system to warn of deviations from the plan. The alarm can (and is) set during a pilot’s necessary absences from the bridge for sleep etc as well as when he has conduct of the vessel. If unplanned deviations occur, the pilot and watchkeeper may be warned and corrective action can take place. This is another line of defence against error. The issue is why such a defence is not used by all pilots? The effective use of the device requires a protocol to be developed incorporating defined procedures (an SOP) to be followed by all pilots. Once again there appears to be a role for the provider as part of the SMS.
- 5.19 The attitude of pilots to REEFCENTRE varies. Two written submissions suggested that it was unnecessary and should be closed down because traffic information could be

obtained using other technology. The pilots making the written submissions, and some other pilots, considered REEFCENTRE had no role in monitoring navigation through the GBR. This opinion was not shared by all pilots who saw REEFCENTRE as having a useful role in terms of warning of deviations from the track leading to danger. That is to say another “heads up” akin to a challenge from a watchkeeper aboard a vessel. One pilot volunteered the information that a warning from REEFCENTRE to his vessel had averted a possible grounding. Pilots who saw REEFCENTRE as having no useful function, either in supplying traffic information or in monitoring navigation through the GBR, also saw the training of REEFCENTRE operators as deficient in some way. That is, they thought operators should possess a marine certificate of competency as Master. With great respect to this view, it is not shared by this reviewer, nor a number of their colleagues who were involved in assisting REEFCENTRE to develop a system to monitor navigation. The capacity of REEFCENTRE operators to provide useful information does not require specific nautical training, qualifications or background. The system software provides the warning and operators pass it on.

5.20 The different opinion of pilots concerning REEFCENTRE functions is of concern with respect to the effectiveness of a SMS. It seems to this review that REEFCENTRE provides another line of defence to mitigate the consequences of pilot error. But all pilots must “sing from the same song sheet” to make this defence fully effective. There seems to be a case for the provider and AMSA to either convince or compel pilots to accept this defence. If the defence does no good it certainly will do no harm.

5.21 There appears to be at least 4 defences which either are, or should be, available to mitigate the consequences of pilot error. These are summarised as follows:

- The development by each provider and the pilots of standard operating systems and their adoption by each pilot.
- The development by each provider and the pilots of a standard operating system to encourage/compel maximum and effective involvement of a vessel’s bridge team in the pilotage task.
- The development by each provider and the pilots of an effective protocol for the use of the lap top computer and alarm system.
- The development by each provider and the pilots of an effective protocol to make best use of information provided by REEFCENTRE.

5.22 Defined procedures should both recognize the above defences and get pilots to accept and use them. This layered defensive approach builds redundancy into the system. While any one of the defences can fail due to operator error or equipment failure, the probability of failure of every defence simultaneously is extremely low.

5.23 But what of failure which results in a grounding or collision? Are there procedures which pilots follow for containment of the consequences of the collision or grounding? The short answer to this question is that there does not appear to be. There does not appear to be uniform guidelines on what to do in case of emergencies. Pilots had individual solutions to deal with this problem but individual solutions have no place in emergency management. Decisions taken under stress are unlikely to be the best decision to fit the circumstances. Defined standard operating procedures (SOP’s) to be

followed following an incident will inform effective decision making and reduce the risk of a poor decision being made. Once again this should be part of the provider's SMS. The relevant SOP's should be part of the pilot's kit.

- 5.24 Paragraphs 5.16 to 5.23 deal with what this review perceives as deficiencies in the SMS. But every risk and “hole” in defences is not always readily discernible, particularly systemic risk in the organisation. Accordingly, SMS's require continual appraisal and review and this is also required by the GBRPSMC<sup>23</sup>. It is not clear how pilotage providers fulfil this responsibility. While there may be informal arrangements at the level of pilots and also within provider management, there appears to be no formal mechanism for the provision of continual appraisal and review.

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<sup>23</sup> GBRPSMC, s 10

## **6 THE IMPACT OF COMMERCIAL PRESSURES ON COMPLIANCE AND SAFETY REGULATION AND ON RECRUITMENT OF SUITABLE PERSONS TO PILOTAGE IN THE GBR**

- 6.1 Pilots and others contributing to this review had strong opinions on this issue. Given the history of the present arrangements for supply of pilotage services in the GBR, this is understandable.
- 6.2 Pilots alleged that commercial pressure impacted on safety in two areas. These areas were the pilot transfer arrangements and in the area of recruitment of pilots. Some pilots also alleged that commercial pressures impacted on safety in other areas. One allegation related to “some” pilots continuing a passage through the GBR at less than minimum Under Keel Clearance (UKC) because they personally felt some commercial pressure to do so as a result of competition. Another allegation related to pilots of one provider ignoring the effects of “squat” when proceeding with minimum UKC. A written submission received, alleged that persons with no aptitude for pilotage were being licensed and their performance was subsequently observed to be incompetent<sup>24</sup>. Under its terms of reference and without statutory powers and protection, this review cannot deal with such allegations and moves from them. Another allegation involved the commercial pressure a pilot may feel to maximize income by making trips in excess of those permitted under fatigue management requirements – this is considered further below.
- 6.3 Paragraphs 5.7 to 5.9 and Appendix II considered the transfer arrangements and identified what the reviewer perceived as deficiencies. The issue for this section is whether commercial pressures played a part in those perceived deficiencies?
- 6.4 For the most part launches are old. Moreover, most do not conform to the standards contained in Annex A of Draft MO 54. Indeed this is recognized explicitly in the standards with a “grand fathering” provision for existing vessels. Rationally, investment in plant for transfer of pilots is dictated by available revenue. Revenue is shared by 3 providers according to the number of vessels piloted. Competition between providers means that helicopter transfer is provided in triplicate and launch transfer in duplicate.
- 6.5 Transfer takes place in a number of places in the GBR. It is obvious unit costs of transfer would be less if the amount of plant was reduced and utilization of the remainder increased. If it is obvious to the reviewer it must be very obvious to the businesses acting as pilotage providers. Yet agreement to share plant has not taken place - It is difficult to conclude otherwise than this is because of strategic commercial decisions associated with aggressive competition.
- 6.6 Deficiencies in floating plant used for transfer have safety implications. It follows, that commercial pressures appear to impact on the safety of transfer arrangements.

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<sup>24</sup> In the term of the reviewer’s stewardship of the Marine Board of Victoria a number of pilots were not considered to possess the necessary aptitude to be pilots – some chose to leave. This certainly had nothing to do with competition, nor pilot remuneration! There are really no psychometric tests for pilots which have the necessary level of reliability as a predictor of actual performance on the job. The serving pilots in Melbourne selected their unsuitable colleagues in much the same way some pilots argued to the review is appropriate for the GBR – i.e. the best method was argued to be “select from people we know”.

- 6.7 To say that commercial pressures impact on the safety of pilot transfer is not the same as advocating regulation of the commercial aspects of pilotage. Commercial pressures always impact on business decision-making. AMSA, as the regulator, could achieve an improved safety outcome (despite prevailing commercial pressures) by appropriate regulation of vessel standards accompanied by an effective compliance programme.
- 6.8 There is an apparent belief that pilots are forced to work by providers to the extent that fatigue management requirements are breached. There is no doubt that many pilots feel the need to work to maximize their income which is a function of the number of pilotage acts they perform.
- 6.9 Effective fatigue management is important to AMSA. It is subject to a separate review concurrently and the nature of any fatigue management plan is not an issue for this review. It is assumed by this review that compliance is carefully monitored by AMSA. It was indicated by providers that the exercise of a favourable discretion by AMSA is sought for any variation of the requirements. The frequency of requests was estimated by one provider to be of the order of 20 times per annum and the other provider estimated the number of requests to be 12 times per annum. It appears these requests are routinely granted. While initially being made by telephone, both providers said the requests and the indulgence from AMSA were memorialized. There does not seem to be a significant difference between providers, such that a commercial advantage is given to one provider by an excessive imbalance in the number of concessions from AMSA. In addition, there is no evidence to show that the exercise of the discretion impacted unfavourably on safety.
- 6.10 An examination of the number of trips undertaken by pilots of the two major providers in the three pilotage areas of the GBR was made for the period 1 March 2004 to 28 February 2005. It appears that the average number of trips made per Torres pilot in Hydrographers Passage, the Inner Route and overall exceeded the ARP pilots' average by over 25%. Great North East Channel pilotages were about the same for both sets of pilots. This is consistent with a claim from Torres that in the March quarter 2005, Torres had 53% of the market and ARP 38%, with approximately the same number of pilots. Provided that fatigue management guidelines were not breached, this may mean no more than Torres pilots earned more money. Certainly, although pilots said that they felt a "commercial pressure" to maximize their remuneration, none said that they were pressured to breach fatigue management requirements by the provider and none admitted to any such breach.
- 6.11 Since 1993 pilots have suffered a dramatic reduction of income as a result of competition for pilotage business in the GBR. In addition pilots said that the number of trips they made to earn even that reduced income, had increased by about 50%. Pilots who piloted prior to the change allege that present income levels impact on the ability of providers to recruit suitable people to act as pilots in the GBR. Moreover, they say that changes to the threshold qualifications for entry into GBR pilotage have lowered the standard of pilots. Both these factors are said to diminish the pilotage safety outcome. The only evidence other than opinion offered in support of these assertions was reference to the number of incidents, involving vessels under pilotage charge, since 1993. This review regards such "evidence" as equivocal at best – this "evidence" is considered in the paragraph which follows. Some more strident observations were made. One of the more extreme observations likened the situation in the GBR to that

currently confronting the Queensland Government in the Health Service<sup>25</sup>. It will be ignored in the process of coming to any conclusions in this review. It is recorded for the purpose of illustrating the necessity for the review to separate fact from mere assertion.

- 6.12 It is always easy to raise the safety question and in many cases it may even be justified. Many anecdotes of alleged safety breaches, incompetence and unverifiable sources were offered in the course of this review. Effective investigation requires statutory powers to obtain useable information and both protect witnesses and investigators. No details of specific incidents were given to this review. In fact, as most people are aware, if they have evidence it should be reported to AMSA, ATSB or Federal and State police, so that those organisations with statutory responsibilities and powers can take effective action. As stated in the previous paragraph, the only specific “evidence” offered as to the effect of competition on the safety of GBR pilotage was the number of incidents since 1993. How relevant is this factor as evidence? In paragraph 5.10 a Det Norske Veritas report to AMSA was quoted as determining the annual frequency of groundings of piloted vessels to be 0.7. This figure is for around 4000 acts of pilotage per annum. In judging the relevance of this figure, this reviewer compared another pilotage (a port pilotage) where the remuneration of pilots was the highest in Australia and until 1999 no competition was present. From 1984 to 1999 that pilotage averaged one grounding per year with the number of pilotage acts around 6000<sup>26</sup>. These groundings were generally in the vicinity of marked channels. Given that GBR pilotage acts are considerably longer than the port pilotage acts under consideration, the rate of groundings in the GBR does not seem excessive by comparison with the port considered. Of course, it is said that the rate of incidents increased in the GBR post 1993 from that pre 1993. However vessels grounded under pilotage charge before 1993. Given that it is logical to say that the rate of pilotage incidents will be partially a function of the number of pilotages, it is not possible to conclude that if there has been any increase in the number of incidents since 1993, that increase can be attributed to the effects of competition. Moreover, drawing specific conclusions as to trends and attempting correlations from an analysis of a relatively small number of incidents is unwise. Therefore, the “evidence” of the number of incidents since 1993 is concluded to be equivocal at best. Correlating it with the effects of competition is very tenuous.
- 6.13 In contradicting the views of pilots, providers believed that they receive sufficient applications to effectively make a choice of suitable applicants for appointment as a GBR pilot. Interviews with Australian shipping organisations indicated that they had no complaints with the quality of pilots currently piloting in the GBR.
- 6.14 From statements made in the course of this review it is clear pilots in the GBR are not over remunerated for their services by comparison with the levels of remuneration in port pilotage throughout Australia. Pilot income depends on the number of vessels piloted. Pilots are contracted to a provider and while they are not conscripted, it may be that a certain amount of contractual imbalance is present. However, to say that this is the relationship of the pilot to the provider is one thing. To then say that this

<sup>25</sup> The comment was made that a number of “Dr Patels” now serve as GBR pilots. The comment was extremely unfortunate and beyond being able to be described as mere hyperbole. It is unsupported by evidence and should not have been made.

<sup>26</sup> Annual Reviews and Reports of the Marine Board of Victoria 1984 to 1999

relationship necessarily impacts on safety is quite another. There is a global and developing shortage<sup>27</sup> of available persons with Master Class 1 which also applies in Australia<sup>28</sup>. Pilotage providers need to compete for available persons. The providers in the GBR say they have sufficient pilots to make a choice. In examining the contradictory information obtained from various parties in the course of the review, the assessment of this reviewer is that there is no evidence to support the proposition that commercial pressures impact on the recruitment of suitable persons to become pilots in the GBR.

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<sup>27</sup> Thompson Clarke Shipping P/L, *Maritime Skills Availability Study*, 2002, p. 4

<sup>28</sup> *ibid*, p. 6

## 7 REEFCENTRE

- 7.1 Paragraphs 5.19 and 5.2 considered certain matters associated with REEFCENTRE. It is unfortunate that a number of pilots believe that REEFCENTRE should be closed down since they apparently believe that its sole use is to supply details of vessel traffic. In this context they believe that the information on traffic could, and should, be obtained directly on board the ship and not via REEFCENTRE operators. But REEFCENTRE has a role in emergency management and is a line of defence in mitigating the consequences of pilot error.
- 7.2 Another issue, which concerned the exchange of information by VHF during passing situations in the GBR, was raised by pilots. Incidents were related of either inadequate exchange of information to assist a safe passing or even aggressive exchanges on the VHF. These were said to have been promoted by the regime of aggressive competition which translated into bitterness between certain pilots of rival organisations. It was also said that the frequency of such incidents had decreased over time but although now unusual, on occasion they still took place. This must be cause for concern. Apart from a possible breach of the *Navigation (Collision) Regulations 1982 (Cth)* by a person responsible for the navigation of a ship<sup>29</sup> there are considerations of what such lapses mean for safety generally.
- 7.3 REEFCENTRE records VHF exchanges between ships at Hay Point during manoeuvring from the anchorage to berth and *vice versa*. It also records its own exchanges between itself and ships proceeding through the GBR. It does not have the technology to similarly record VHF exchanges between ships in the GBR.
- 7.4 In order to determine if undesirable VHF exchanges between piloted ships still take place and the frequency of such exchanges, it would assist if such exchanges could be recorded by REEFCENTRE. Moreover, recording would both encourage the proper exchange of information by VHF and assist reconstruction in the event of a casualty.

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<sup>29</sup> e.g. Possible breaches of Rules 2, 5 and 7(a) of the International Regulations for Preventing Collisions

## 8 ADDRESSING THE TERMS OF REFERENCE

8.1 The following paragraphs examine and assess all the issues set out in the terms of reference *seriatim*. They also address certain additional issues not covered in sections 3 to 7 above.

### 8.2 The Training and Licensing of Pilots

Older pilots viewed AMSA’s standards as deficient by comparison with those prevailing prior to 1993. They identified the deficiencies as being the much reduced experience as master of vessels using the GBR before entry into the GBR pilotage service. They also felt that the current trip requirements prior to licensing were far from being an effective substitute for such service. This opinion was by no means shared by all the pilots. Despite a connection being drawn between the number of casualties and this aspect of training and licensing, this review is unable to draw any such connection and, apparently, neither did the reports of ATSB. So far as this review is concerned it assesses the requirements of Draft MO 54 as adequate for the purpose.

8.3 Pilots had a major issue with respect to how the costs of training, particularly continuing training, are met. They noted the collection by the provider of a training levy, for professional development training. They felt that the amount of the levy devoted to training was insufficient, given the collections. One pilot suggested the establishment of a trust fund in which the training levy would be deposited and from which payments would be made, with the sole purpose of funding a variety of pilot training. Currently the pilots of one major provider directly pay all training costs themselves, with the exception of the costs of the professional development courses required by AMSA. The other provider pays all training costs. This, of course, does not mean pilots do not pay them in the form of reduced remuneration after costs are deducted. The reviewer considers that this issue is outside the terms of reference and accordingly moves from it. However, there appears to be a wider issue and that is that pilots apparently see training as a cost and not a benefit. This issue was exacerbated by a common view that the content and delivery of the professional development course was largely irrelevant to the task of pilotage in the GBR and hence of limited benefit.

8.4 One pilot provided a written submission drawing attention to what he saw as anomalies of Draft MO 54 (licensing of pilots). That is, where no period of grace was allowed to obtain a medical certificate for renewal of a licence and thus the period of validity of a medical certificate was thereby reduced. That pilot also saw it as anomalous that persons who had been ashore for a number of years were allowed to have their service deemed equivalent to service at sea.

### 8.5 Safety standards for pilot service providers

The standards prescribed by Draft MO 54 were generally considered to be satisfactory. Any reservations or complaints were directed towards the level of compliance and the “grand fathering” exemption for existing vessels. This report concurs with that view and also suggests that the standards for pilot transfer arrangements require some amendment. These were examined and assessed as being

deficient in some respects. This issue is discussed in paragraphs 5.7 and 5.8 above and in Appendix II.

#### 8.6 Safety management systems and codes

This report has assessed that safety management systems are deficient in a number of important aspects. This is discussed at length in Section 5 above.

#### 8.7 Check pilots

Pilots were, in general, content with the standards prescribed for a check pilot and the way the system operates. Whilst some pilots believed that check pilots may be subject to pressure, one written submission said “There is sufficient anecdotal evidence to support the claim that the check pilot system in operation for coastal pilots is far superior to the vast majority of port pilotage check pilot systems”. Some pilots felt that check pilots should be appointed from the competitor, presumably to verify the integrity of the program. It was noted by the review that the check pilot system used by airlines does not use pilots of competitor airlines as check pilots. Given the intensity of feeling between some pilots of the two major providers, one would be somewhat hesitant to have then checking each other. The review therefore endorses the approach used by AMSA.

#### 8.8 Audit and monitoring programs

It was generally felt by pilots that Draft MO 54 was adequate in its prescription. However, it was also felt that some improvements could be made in the way audit and monitoring is actually carried out in practice, particularly insofar as providers are concerned. There was a general perception amongst pilots that compliance by providers with standards was more of a problem than the standards and increased and effective audit would combat this perception. This review expresses no opinion on this, other than to refer to the opinions, previously expressed in section 5, as to perceived deficiencies in the SMS which should be detected and remedied by audit.

#### 8.9 Appropriate information systems and guidance materials

The vast majority of pilots and providers felt that the information systems and guidance materials provided to pilots and providers were more than adequate. In fact the only criticism, if criticism it was, was of too much material and information being supplied.

#### 8.10 To the extent that AMSA’s information communication system with pilots and providers involves some reliance on the quarterly meetings, then it must be said that many pilots interviewed expressed some dissatisfaction with both process and achievement. This dissatisfaction appeared to lie in what was perceived as unresponsiveness by AMSA to any arguments or suggestions put by pilots. The process was not seen as consultative but seen as AMSA coming to the table with a prepared position with any amendment or deviation unacceptable. An alternative process of dialogue with pilots was suggested by two pilots. It was suggested that a peak consultative group of pilots be formed (possibly elected) with the function of facilitating communication between AMSA and pilots and *vice versa*. The group would

be expected and able to influence and have input to policy, change and development. There was no place for providers in this consultative group. To this reviewer at least, this idea seems not without some merit.

8.11 Technologies for providing safety information to pilots and pilot service providers

Pilots and providers were content with the technology for providing safety information.

8.12 Monitoring of pilot and pilot service provider activities

See paragraph 8.8 above.

8.13 The extent to which coastal pilots and pilot providers effectively use printed and electronic information provided by AMSA, including real time information provided by REEFCENTRE

Paragraphs 5.20, 5.21 and Section 7 have considered certain issues associated with REEFCENTRE. If the expressed views of a number of pilots are any guide to the use they make of real time information from REEFCENTRE, then it must be concluded that those pilots are **not** making effective use of that information. However, it was generally agreed that pilots and providers made effective use of printed and electronic information provided by AMSA although a number of pilots felt they were somewhat inundated with information.

8.14 Whether and to what extent, if any, commercial pressures are impacting on compliance with safety regulation and systems or on the ability of the industry to recruit suitably qualified persons into the Australian coastal pilotage industry.

See section 6 above.

## 9 CONCLUSION

- 9.1 The assessments of this review are included in the sections above and summarized in section 2. The reviewer is aware, and regrets, that for many pilots, the assessments contained in this review will not be all they expected.
- 9.2 In closing, the reviewer thanks all the persons and organisations contributing to this review for their time, information and unfailing courtesy. For those who do not see every point they made addressed in this report, the reviewer points out that reports seldom contain every item of information gathered, nor include every issue or point made in the course of a review. Moreover, any report is required to be compiled and submitted according to its terms of reference. This reviewer has attempted a summary of relevant information gathered. If there are any inaccuracies or errors in this report they are the responsibility of the reviewer.
- 9.3 The reviewer also acknowledges and particularly thanks the GBR pilots who extended their hospitality in the course of this review.

John McCoy

John McCoy

At Hobart

4 December, 2005

## APPENDIX I

## CONSIDERATION OF SOME ALTERNATIVES TO CURRENT ARRANGEMENTS FOR PROVISION OF PILOTAGE SERVICES IN THE GBR

- 1.1 The purpose of this Appendix is to consider an issue continually raised by the majority of pilots interviewed, which was the issue of what is the most appropriate organization to provide pilot services in the GBR having regard to safety? The corollary to this was that most pilots thought that the present system of 3 competitive pilotage providers was unsatisfactory and did not produce an optimal safety outcome. Having acknowledged the issue and considered it in the context of the terms of reference, the reviewer moved from it, since it was clearly outside the terms of reference.
- 1.2 One pilot provided a written submission to the effect that he did not believe most of his colleagues could give an informed opinion on the effect of competition on safety since most had not experienced the system prior to 1993! Notwithstanding, the great majority of pilots favoured a single organization of pilots. This was also supported by the Australian Marine Pilots Association (AMPA). One model advanced by AMPA proposed a single organization of serving pilots, together with 2 companies providing pilot transfer infrastructure for those pilots – it was averred that competition for pilot custom between those companies would provide efficiencies. It was further proposed that the single pilot organization would provide exclusive pilotage services in the GBR by agreement with an agency of the Australian Government, which agreement would control the rates of pilotage charged to clients – the agreement could allow for serial competition by tender to make the market periodically contestable.
- 1.3 Pilotage services to the ports of Australia are provided in a number of ways. They are provided by pilots who are port employees or employees of some other government agency or by limited companies composed of pilot shareholders, with an agreement with the responsible government agency to provide pilotage services on an exclusive basis, subject to serial competition - these pilot companies control their own plant for pilot transfer. For this option pilotage is provided under what is effectively a condition of monopoly for the period between tenders. Pilotage rates are controlled by the agreement. Finally, there exists another option which has been adopted for the ports of Victoria.
- 1.4 In Victoria, there is no legislative capacity to permit exclusive agreements for the provision of pilotage services. Nominally, at least, the responsible government agency, Marine Safety Victoria (MSV), encourages competition<sup>30</sup>. Pilotage providers may not operate without registration and are subject to certain legislative requirements as are pilots. There is no statutory or contractual control of pilotage rates. On its face, the Victorian system appears to be similar to the way pilotage is provided in the GBR. The regulatory role of MSV is similar to AMSA and does not regulate the commercial aspects of pilotage. However, although competition is *de jure*, permitted and encouraged none actually exists in fact, with pilotage for the ports of Port Phillip, Melbourne, Geelong and Westernport being provided by a single provider and another sole provider providing pilotage in the port of Portland. The single provider for Port Phillip, Melbourne, Geelong and Westernport is a company with the equity firmly in the hands of the serving pilots.
- 1.5 In the previous paragraph, reference was made to the similarities between the GBR and the ports of Victoria with respect to the provision of pilotage services. In principle the

<sup>30</sup> see MSV web site - [Hwww.marinesafety.vic.gov.au](http://www.marinesafety.vic.gov.au)H (pilotage services)

same conditions of competition which characterize the provision of pilotage services in the GBR could exist in Victoria. However, those conditions do not currently exist in fact. No competitor has chosen to enter the market in Victoria although it is possible. The conclusion is that significant barriers to entry exist in Victoria which may not currently exist in the GBR. These barriers may lie in the difficulty of obtaining licensed pilots or the costs of providing transfer arrangements. Other differences also exist. The equity of the principal Victorian pilotage provider is held by the serving pilots. With some exceptions, the equity of the pilotage provider companies in the GBR is not held by serving pilots. While there has been no suggestion at present that the possibility of competitive provision of pilotage services detracts from operational safety in Victoria, that is not the case in the GBR – many pilots, AMPA and its international affiliated body, the International Marine Pilots Association (IMPA) allege that competitive provision by the 3 pilotage providers does detract from an optimal safety outcome. Finally, there is considerable differences in the operation of coastal and port pilotage, both in duration and functions with the skills and knowledge required being different in many respects.

- 1.6 Paragraphs 1.1 to 1.5 (inclusive) of Appendix I make it clear that there are a range of alternatives which have been adopted for the provision of pilotage services in Australia. Competition in the GBR has lowered the price for pilotage by over 50% with (as the now defunct Prices Surveillance Authority found) a consequent benefit to ship-owners – it appears that this benefit has largely been purchased at the expense of the pilots with pilot remuneration being also cut by over 50%. It also appears that cost pressures as a result of competition have other effects, most probably in the area of the investment in plant used for pilot transfer. It is understandable that many pilots bitterly resent the dramatic reduction in their remuneration and working conditions which have occurred as a result of competition. It has been said that the consequences (apart from the obvious direct effect on lifestyle) have been personal and marital difficulties as well as bankruptcy. It has also been said that considerable tension exists between the two major competitors and this does not engender the proper environment for safe pilotage. There is no doubt that the two major organisations (and many pilots within those organisations ) have a history and carry baggage associated with the formation of, and aggressive competition between, the two groups. Indeed, such tensions were manifested in issues which required resolution by the Court of Appeal of the Supreme Court of Queensland<sup>31</sup>. However, neither this review nor this report is the proper place to agitate these issues.
- 1.7 The Australian Marine Pilots Association (AMPA) and the International Marine Pilots Association (IMPA) argue that there is no place for competition between pilotage services in the same pilotage area. AMPA also says that all licensed GBR pilots are in agreement with this position<sup>32</sup>. Moreover, it is also understood by this reviewer that the policy of IMPA is to oppose the competitive provision of pilotage services in any case. In expressing the converse view, the Australian Shipowners Association (ASA) and

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<sup>31</sup> Richardson & Ors v Radford & Ors [1996] QCA 554 (on [www.austlii.edu.au](http://www.austlii.edu.au))

<sup>32</sup> AMPA supplied the review with the results of a questionnaire circulated to all GBR pilots. No pilot expressed satisfaction with the current system of supplying pilotage in the GBR and all wanted change. 70% of pilots preferred the option of serving as a pilot of a pilot owned company providing services under contract to the Government under conditions of serial competition with 20% preferring the pre 1993 option with only one company with exclusive rights. The balance preferred other variations. Pilots saw no advantage to the current system other than to the ship-owner. All replies received agreed to AMPA acting for pilots if a non-competitive scheme could be negotiated.

Shipping Australia Ltd (SAL) prefer to see the present competitive arrangements remain with regulation achieving appropriate safety outcomes from providers.<sup>33</sup> A change in the way pilotage is provided in the GBR would require a change in policy by AMSA, changes to legislation and a variation in government policy. The rational and respectable way to proceed with such changes is by an analysis of the costs of options with respect to the safety benefits to be derived. If a cost/benefit analysis of the various options with respect to safety has been done by any party, it is not available to this reviewer. In any case, no such analysis was offered by the parties advocating a change from the current arrangements.

- 1.8 This Appendix has been included to acknowledge a major issue which was continually raised by pilots in the course of this review. Having recognized this wider issue, it must be reiterated that any recommendation to change the current arrangements for the provision of pilotage in the GBR is completely outside the terms of reference of this review.

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<sup>33</sup> A member of ASA also contacted the reviewer. This member is a major Australian user of one of the GBR providers who was totally satisfied with the service the company's ships received from pilots of one provider which he considered "exemplary". He also said that he would be totally opposed to any change.

## APPENDIX II

### PILOT TRANSFER ARRANGEMENTS

- 1.1 Boarding and leaving vessels from pilot launches is a hazardous business.<sup>34</sup> Some hazards are difficult to control such as weather and tide but other hazards can be controlled. One hazard capable of control is the risk to pilots and pilot launch crews caused by unsuitable plant or deficiencies in plant operating procedures or the training of crews.
- 1.2 An agreed benchmark standard for pilot vessel standards is contained in Annex A to Draft Marine Order 54. This standard appears to be satisfactory with the exception that it does not appear to require that any person (i.e. pilot or deck hand) be provided with an effective means of being secured to the launch when proceeding from the accommodation forward to the pilot transfer position. Other pilot vessels throughout Australia are fitted with equipment which allow pilot and assisting crew to “hook on” when going forward. Most often this consists of sail track going either side of the launch from the entrance of the accommodation to the pilot transfer position. A snap hook, line and safety harness secures any person proceeding forward to the sail track. The assessment of the reviewer is that the standards should be amended to incorporate a similar requirement for pilot and deck hand to wear a safety harness and “hook on”, particularly in view of the recent death.
- 1.3 It appears that much of the plant used for launch transfer is “getting on”. Indeed this is recognized by a “grand-fathering” provision in paragraph 1 of Annex A to Draft MO 54. This provision applies the standard only to vessels acquired as replacement vessels after 1 July 2001<sup>35</sup>. It is understood that this provision operates to exempt most of the pilot launches from almost all the requirements of the pilot vessel standards contained in Annex A. What of the provisions of Annex A that do apply to existing vessels in service prior to July 2001? There appears to be only 3 provisions which apply to existing vessels. These are:
- Adequate fendering<sup>36</sup>
  - Adequate safety handrails on deck and inside accommodation<sup>37</sup> (One pilot interviewed reported an incident where he grabbed a “safety rail” inside the accommodation and it came away – the provider said that the “safety rail” was a “towel rail”. Another pilot said that he had experienced the detachment of a safety rail outside the accommodation when screws pulled out – apparently the rail was not bolted through)
  - Windscreen wipers that are effective in rough weather and a system for applying fresh water to the area of the forward windows covered by the wipers<sup>38</sup> (This has been alleged to have been waived or at least not enforced on certain vessels).

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<sup>34</sup> The author of this report has some experience of the dangers associated with pilot transfer arrangements. In Port Phillip (Victoria) in the period of the reviewer’s stewardship of the Marine Board of Victoria, one pilot and both crew of a pilot launch were lost when the launch was overwhelmed by the sea in the Rip Entrance to Port Phillip. In a previous incident a pilot was lost when he fell overboard from a launch after leaving a vessel he had piloted. In addition, there were other incidents of pilots falling into the sea and deficiencies with boarding ladders causing injury but not death.

<sup>35</sup> Annex A, s 1

<sup>36</sup> *ibid* s 6(a)

<sup>37</sup> *Ibid* s 6(f)

<sup>38</sup> *Ibid* s 6 (h)

- 1.4 So much for the requirements of the pilot vessel standards that are supposed to be applied to all vessels, both existing and replacements. If it is accepted that the standard does not apply for the most part to existing vessels, what parts of the standard are not met by existing vessels? Pilots reported that existing vessels (and even some replacement vessels) did not meet the following standards – That is, the vessels did not have<sup>40</sup>:
- Adequate impact-absorbing seating for both crew and pilots situated to allow comfortable access to all necessary controls and equipment required to be used by both crew and pilots;
  - Adequate on-board lighting including a search light operable from the coxswain's position and access lighting from the cabin;
  - Adequate safety handrails on deck and inside accommodation;
  - Adequate rescue and associated equipment to a proven system to enable a person to be recovered from the water;
  - Windscreen wipers that are effective in rough weather and a system for applying fresh water to the area of the forward windows covered by the wipers;
  - Air-conditioning (heating and/or cooling) which can be used for demisting.
- 1.5 This reviewer does not regard the pilot vessel standards of Draft MO 54 as excessive. Indeed, the standards should be considered to be the minimum standards for ANY pilot vessel used in the GBR, both existing and replacement. Why is this so? Transferring pilots is a hazardous operation. To reduce the risk and ensure a pilot arrives for the pilotage operation rested and without stress<sup>41</sup> the best possible transfer arrangements are required. “Grand-fathering” provisions are necessary to ensure an orderly and reasonable implementation of prescriptive safety requirements. Notwithstanding, 4 years appears to be a reasonable time to implement the pilot vessel standards of Draft MO 54 for all vessels, both replacement and existing and the concession in the standards for vessels in service prior to 1 July 2001 should be removed.
- 1.6 The reviewer is aware that such a change may have significant cost implications and difficulties of maintenance, refit and repair may exist in the area of operation of the GBR pilot vessels. Nevertheless, it is also considered that the safety implications outweigh the cost implications.
- 1.7 Pilots of one provider also alleged that defined procedures for the safe operation of the launches did not exist, or at least both pilots and launch crews were unaware of them. An adequate SMS should ensure that such procedures exist and pilots and launch crews are both aware and compliant. Such standard operating procedures (SOP's) should encompass all parts of the operation including prescribed equipment and enforcement. Indeed, these are no more than safe working practices and should be covered by any SMS<sup>42</sup>. To the extent that such procedures are not covered by a provider's SMS, the SMS should be changed to incorporate such procedures. If such procedures are part of a provider's SMS, audit should determine to what extent pilots or launch crews are unaware of such

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<sup>39</sup> Annex A, s 6(h)

<sup>40</sup> *ibid* s 6

<sup>41</sup> Annex A, ss 2.1(b)

<sup>42</sup> GBRPSMC, ss 1.2.2(a), (b) & (c)

procedures or are non-compliant. In either case there are obvious holes in the SMS as it relates to pilot transfer arrangements<sup>43</sup>.

- 1.8 Finally, this section of the review turns to matters which were raised in connection with the use of helicopters for pilot transfer. One issue raised referred to the situation which was said to regularly occur in the Hydrographers Passage pilotage, where 3 different helicopters from 3 different pilotage providers operated in close proximity to each other. This was said to be unsafe. This matter is clearly one for the Civil Aviation Safety Authority (CASA) and not for this review.
- 1.9 Another issue raised concerned the helicopters operated by one provider used for pilot transfer in Hydrographers Passage.. In effect, the issue related to CASA's regulation where the business structure of the provider allowed a helicopter of a different standard to be used in pilot transfer operations and this standard presented a significant cost advantage to that provider. The matter of the standard to be imposed for helicopter transfer operations is, again, clearly one for CASA and not for this review.
- 1.10 A third issue raised involved the lack of safety training for pilots using helicopters for transfer. It was pointed out by pilots that personnel routinely using helicopters for transfer over water in a variety of occupations, undergo a HUET course. Certain pilots said that they had undertaken such a course at their own expense. It is suggested that this needs to be further investigated to ensure that pilots being transported by helicopter receive the same level of protection and safety training as applies in other industries.

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<sup>43</sup> An example of a deficiency appears to be in an alleged lack of training and defined procedures for emergency events. The possibility of a pilot or deck hand falling from a launch is real. What recovery procedures are in place? Pilots interviewed had not seen regular exercises to recover persons from the water. In other Australian pilotage operations crews of launches are regularly exercised in recovering a mannequin from the water.