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World Maritime University & Dalian Maritime University

Port State Control

Assessment and Analysis

By

Zhou Hao

The People's Republic of China

A dissertation submitted to the World Maritime University in partial
fulfillment of the requirements for the award of the degree of

MASTER OF SCIENCE

In

**MARITIME SAFETY AND
ENVIRONMENTAL MANAGEMENT**

2006

Dedication

**To my dear parent, Zhou Guangpeng, Zhou Chunlan
and
my beloved wife, He wei**

DECLARATION

I certify that all the material in this dissertation that is not my own work has been identified, and that no material is included for which a degree has previously been conferred on me.

The contents of this dissertation reflect my own personal views, and are not necessarily endorsed by the University.

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Title: Port State Control: Assessment and Analysis

Degree: MSc

Abstract

This dissertation is a study of the effectiveness of port State control from a global perspective and the challenges faced in the current regime, based on the information from IMO and several leading PSC MoUs as well as literatures from distinguished scholars.

A brief retrospect is taken at the background of the emergence and development of the international PSC regime. The definition of PSC and the main reasons, which triggered the development of the PSC regime all over the world, are examined. The legal basis for the port States to conduct PSC inspections is reviewed. The provisions included in various international conventions, such as UNCLOS, SOLAS, MARPOL, STCW and so on, are examined so that people may have a clear idea of the legitimacy of the international PSC regime.

The rationale of regional PSC MoUs is investigated. The development of the nine existing regional PSC MoUs and USCG in recent years is examined. The procedures on conducting PSC inspection and guidelines developed by IMO recently are also investigated.

The effectiveness of PSC is assessed mainly based on the inspection results from the Paris MoU, Tokyo MoU and USCG during the last decades. The cost efficiency of PSC regime is also under scrutiny.

However, the PSC regime is not perfect in eliminating the substandard ships. It has

its own inherent limitations. In addition, with the popularization of PSC regime, some challenges emerge during the development. The imbalanced development of PSC regime in the worldwide still gives living space to the substandard ships. The effectiveness of the PSC regime is diluted by the unqualified Port State Control Officers. Undue detention also reduces the fairness of the regime.

The concluding chapter provides a conclusion that the PSC is a supplement to the flag State control. It is an effective regime in eliminating substandard ships. But it is not yet effective enough to eliminate all of the substandard ships running around the world. The responsibility of flag States, shipowners and other stakeholders should never be neglected. Some recommendations and proposals may be useful in replying the challenges faced by the PSC regime.

Key words: Port State control, Effectiveness, MoU, Challenges, PSCO, Safety, International Conventions.

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List of Abbreviations

AFS	International Convention on the Control of Harmful Anti-Fouling Systems on Ships
AMSA	Australian Maritime Safety Administration
APCIS	Asia-Pacific Computerized Information System
APEC	Asia-Pacific Economic Cooperation
ASOC	The Antarctic and Southern Ocean Coalition
BIMCO	Baltic and International Maritime Council
BSIS	Black Sea MoU information system
BWM	International Convention on the Management of Ballast Water and Sediments
CCSSC	Caribbean Cargo Ship Safety Code
CIC	Concentrated Inspection Campaign
CLC	Civil Liability Convention
CIALA	Information Centre of the Latin American Agreement
CLMC	Consolidated Maritime Labour Convention
CMSA	China Maritime Safety Administration
EEZ	Exclusive Economic Zone
FOC	Flag of Convenience
FSI	Flag State Implementation
IACS	International Association of Classification Societies
ILO	International Labor Organization
ILO 147	International Labour Organization Convention No.147

IMDG	International Maritime Dangerous Goods Code
IMO	International Maritime Organization
IOCIS	Indian Ocean MoU Computerized Information System
ISM	International Management Code for the Safe Operation of Ships and for Pollution Prevention
ISPS	International Code for the Security of Ships and of Port Facilities
KMI	Korea Maritime Institute
LL 66	International Convention on Load Lines 1966 (LL 66)
MARPOL73/78	International Convention for the prevention of pollution from ships 1973, as amended by the 1978 Protocol
MTSA 2002	Maritime Transportation Security Act of 2002
NIC	National Informatics Centre
OECD	Organization for Economic Co-operation and Development
Paris MoU	Paris Memorandum of Understanding
PSC	Port State Control
PSCO	Port State Control Officer
PSIX	Port State Information eXchange
Qualship 21	Quality Shipping for the 21st Century
RINA	Registro Italiano Navale
RO	Recognized Organizations
SEAPOL	Southeast Asian Programme in Ocean Law, Policy and Management
SIReNaC	Système d'Information Relatif aux Navires Controlle

SOLAS 1974/1978	Safety of Life at Sea Convention 1974, as amended by the 1978 Protocol
STCW 1978/1995	International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended in 1995
UN	United Nations
UNCLOS 1982	United Nations Convention on The Law of The Sea, 1982
USCG	The United State Coast Guard

Chapter I

Introduction

In the past 80 years, the shipping industry expanded greatly in scale. The world's fleet expanded from 61.5 million gross tonnage in 1924 to 584.9 million gross tonnage in 2002 (Francisco, 2003). With the booming of maritime activities, a series of maritime accidents happened and caused a great loss and damage to human life, marine environment and properties. In response, the international maritime community has adopted international laws concerning safety, security at sea and marine environment protection. These international laws include conventions such as United Nations Convention on The Law of The Sea, 1982 (UNCLOS 1982), Safety of Life at Sea Convention 1974, as amended by the 1978 Protocol (SOLAS 1974/1978), International Convention for the prevention of pollution from ships 1973, as amended by the 1978 Protocol (MARPOL73/78), International Convention on Load Lines 1966 (LL 66), International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended in 1995(1978 STCW as amended in 1995), the International Labour Organization Convention No.147(ILO 147), etc; hundreds of codes such as International Management Code for the Safe Operation of Ships and for Pollution Prevention (ISM), International Code for the Security of Ships and of Port Facilities (ISPS), International Maritime Dangerous Goods Code (IMDG Code), etc and numerous resolutions and recommendations. They are developed by United Nation (UN), International Maritime Organization (IMO) and International Labor Organization (ILO) respectively. A list of status of IMO conventions is given in Table 1 Appendix A. The purposes of these instruments are to improve the safety of ships, protect the marine environment from ship-source pollution and raise the standards of crewing, training and accommodation on board ships. As Parties to the abovementioned international conventions the flag States have obligations to give full

and complete effects to these conventions. In other words, it is the responsibility of the flag States to make sure that ships flying their flags are constructed, equipped, maintained, manned and operated to comply with the standards laid down by the relevant international organization.

Nevertheless, some flag States have neither political will nor financial muscle and maritime know-how to properly discharge their regulatory obligations (Shiming, 2001). At the same time, shipowners and the classes fail their obligations in observing the safe operation of ships because of the fierce competition in the maritime market. This made many substandard ships easily fly the flag of these States and sail around the world in unsafe condition. In consequence, these substandard ships became threatening elements to the safety of human lives and maritime environment. A series of maritime accidents which induced heavy loss of human lives and maritime environment tragedy in the history have been proven to be the result of such defective flag State control regime. International maritime community feel it is insufficient to totally rely on the flag States to ensure “safe, secure, efficient shipping on clean oceans”. Another tier of control - Port State Control (PSC) regime need to be set up to eliminate the substandard ships which slipped from the flag State control regime.

Port State Control is the regime under which ships are inspected in ports of the countries they visit to ensure they comply with internationally accepted standards and are manned and operated in compliance with the applicable international laws (O’Neil, 2003). It is not a new concept. The port State control regulation existed in as early as 1929 SOLAS. Other major conventions such as MARPOL 73/78, 1978 STCW as amended in 1995, ILO 147, etc have similar control provisions. Therefore, the powers used by Port State Control Officers (PSCOs) are not new, it is the willingness to use this power which is new (Özçayır, 2003).

However, we must bear in mind port State control is an important complement to the work of the flag State but never be a replacement for it. Under international law, it is the flag State that is primarily responsible for ensuring that ship on its register comply with the applicable regulations and standards (O’Neil, 2003). In an ideal world where flag States give full and complete effect to the adopted international conventions, port State control would not be necessary.

During the past twenty years, port State control developed very fast. The first regional agreement on port State control - The Paris Memorandum of Understanding (Paris MoU) was signed in 1982. Now, there are nine regional MoUs which cover all over the world. Port State control is playing an indispensable role in eliminating the substandard ships. At one time, some questions such as the effectiveness of the PSC regime, cost-efficiency of the PSC regime have always been debated in the international maritime community. Also, in the future PSC regime face new challenges such as imbalanced development of the PSC regime, lack of trained PSCOs and undue detentions. This dissertation will review the development of PSC regime, discuss the effectiveness and cost-efficiency of the PSC regime and analyze the challenges ahead. Finally, it will draw a conclusion and give recommendations or solutions to the challenges. The research is primary based on the literatures of distinguished scholars and documents from IMO and MoUs. The main difficulty encountered in this research is the lack of information from PSC inspections in some MoUs. Therefore, the analysis in this dissertation may not reflect the whole picture of the world PSC regime.

Chapter II

The Background of Port State Control

2.1 Introduction

The emergence of PSC has many reasons. On one hand, some flag States fail their obligations in ensuring the ships flying their flags to comply with the standards stipulated in the international conventions. On the other hand, port State jurisdiction as a relatively new concept has gained wide reorganization in international community (Özçayır, 2003). At one time, the growth of flag of convenience and a series of oil pollution accidents in 1960s and 1970s made people realize port State control as a back-up control system need to be established to ensure the compliance of ships.

2.2 Flag State jurisdiction and flag State control

The words “freedom of the seas” have been described as a fundamental element of international law from the initiation of legal relationships between nations (Hawkins, 2005). The high seas are open to all States; whether coastal or land-locked. However, ship has to possess a nationality through registration to be able to prove its existence when it sails on the high seas. The reason behind this requirement is to ensure that each vessel will be subject to some regulatory scheme and system of laws. Otherwise, ships exist in the “legal vacuum”. Registration is the administration act by which

nationality and collateral rights and duties are conferred on a ship. With registration in a State, a ship comes within the national jurisdiction of that State (Özçayır, 2003).

The term, jurisdiction describes the power of a State under international law to exercise its authority over persons and property by the use of its municipal law. It is one of the most important concepts of international maritime law (Özçayır, 2003). Therefore, State assumes authority over the ship to exercise the power inherent in the jurisdiction of the flag State. The State undertakes the national and international responsibilities of a flag State in relation to that ship.

The national flag constitutes the primary source of State responsibility in relation to a ship. On the high seas, only the flag State may exercise rights over the ship in relation to jurisdiction. In other words, the State which has granted the ship the right to sail under its flag has the exclusive right to exercise legislation and enforcement jurisdiction over it on the high seas. The vessels on the high seas are subject to no authority except that the State whose flag they fly.

When flag States has jurisdiction over the ships which are entitled to fly their flags, they also have duties to ensure their ships comply with the standards accepted by the flag States under international law and conventions. According to Article 94 of UNCLOS 1982, every State shall effectively exercise its jurisdiction and control in administrative, technical and social matters over ships flying its flag (UNCLOS, 1982). The flag State is required to take such measures for ships flying its flag as are necessary to ensure safety at sea with regard to construction, maintenance and seaworthiness, manning, labour condition and crew training, prevention collision. This article establishes the link between municipal and international law (Özçayır, 2003). It imposes a duty on flag States to take any steps which may be necessary to secure observance with generally accepted international regulations, procedures and practices.

2.3 Coastal State jurisdiction and port State jurisdiction

Coastal State is the State within whose maritime zone a foreign ship is for the time being. According to international law, any State having a coastline is entitled to take certain limited steps to protect its own interests (Hare, 1994).

The international law provides that the maritime zone under the jurisdiction of coastal State can be divided into 4 parts: internal waters, territorial sea, contiguous zone and Exclusive Economic Zone (EEZ). The jurisdiction power of coastal State is diminishing from internal water to the high seas. Subjected to few exceptions, the coastal State may exercise full jurisdiction over foreign merchant ships within its internal waters (Özçayır, 2003). In territorial sea, the coastal State can also exert jurisdiction over foreign ships. But the foreign ships enjoy innocent passage over the territorial sea.

Port State jurisdiction over the enforcement of applicable international rules and standards for the protection and preservation of the marine environment is relatively new concept (Özçayır, 2003). Historically, the port authorities did not enforce local jurisdiction over foreign ships which are voluntarily and temporarily present in their ports. Port State jurisdiction was first introduced for detailed international consideration at the 1973 IMO conference on marine pollution. During the conference, a proposal was made for port State enforcement. Although this proposal was not adopted, it was considered as the most innovative and far-reaching one on port State enforcement. Article 6(2) of MARPOL provides that port officials in the contracting parties may inspect a foreign vessel in order to verify whether it has discharged in any sea area harmful substance in violations of the regulations annexed to the convention. Article 6(5) also provides a right of inspection applies to cases where port officials receive from any other Parties to the convention, a request for an investigation together with “sufficient evidence that the ship has discharged harmful substance or effluent containing such substances in any place” (MARPOL, 2002).

2.4 Impetus for the emergence of PSC

In an ideal world, PSC would not exist if flag States fully and completely enforce their obligation on implementation of the international conventions. However, some flag States did not discharge their obligations to ensure the ships flying their flag to conform the requirements and standards laid down in the international conventions. Besides this fundamental reason, other factors such as the booming of flag of convenience, successional serious oil pollution accidents in 60s and 70s, and the failure of assuming their responsibilities by classification societies also contributed to the emergence of PSC.

2.4.1 The failure of flag State implementation

The international law and conventions provide that flag States have a duty to ensure that their ships comply with the standards accepted by the flag State. However, many flag States have failed to implement international standards either because some States do not have maritime administrations with systems in place to enforce the relevant conventions they have signed, or because other States simply lack the will to enforce the obligations they have signed up to (Williamson, 1996).

2.4.2 The booming of flag of convenience

Although the term of “flag of convenience” has been profusely used since 1950, the use of Flags of Convenience (FOCs) dates back several centuries. In the 16th century, British ships improperly used the Spanish flag in order to overcome the existing restrictions about trade in the West Indies. Today, about 54% of world’s tonnage fly the flag of convenience (Francisco, 2003). The shipowners registered their ships under a foreign flag so as to overcome obstacles or restrictions of a political or economic nature which affected their own country. There are various reasons for the booming of FOC.

Fundamentally, there was no uniform interpretation on the meaning of “genuine link” in the international maritime communities. Article 91 of UNCLOS provides that a genuine link must exist between the flag State and the ship when the State grants

nationality to the ship. However, different States have different opinions on what is the genuine link. Some States set very strict conditions on ship registry while FOC set little restrictions on granting nationalities. Therefore, shipowners prefer to registering their ships in FOC to round the restrictions set by their country. Furthermore, FOCs set up advantages yielded by lower crew costs, freedom to use foreign labour, together with low taxes to increase their share in the world fleet.

Today it is unfair to relate all FOCs to substandard or lost ships because some FOCs have excellent safety records according to the fleet statistics and analyzing report on detention in Europe, the USA and Asia in recent years (Francisco, 2003). But, for many years, vessels registered under FOCs were involved in maritime disasters, such as *Amoco Cadiz*, *Torrey Canyon* and the most recent *Erika*. Also, the casualty records show that the casualty rate for FOC is substantially higher than that of the regulated fleet. Let's take the performance of Panama in 1997 for example, it lost more ships and more tonnage than any other flag State in the world. And it had the highest number of detentions, with 449 ships detained in this year (Özçayır, 2003). In this case, the role of port State should be hardened as it has proved to be the most efficient way of verifying compliance by registers, either open or closed (Francisco, 2003).

2.4.3 Successional serious oil pollution accidents in 60s and 70s

In the 1960s and 1970s, several serious oil pollution accidents happened. These accidents cause great maritime environment disaster and economic loss. Especially, *Torry Canyon* grounded along the Scilly Islands, UK in 1967 and lost almost 120,000 tonnes of oil. This accident highlights the issue concerning the extent to which a State directly threatened or affected by a casualty which takes place outside its territorial sea can or should be allowed to take measures to protect its coastline. In other words, the rights of a coastal State to intervene in case of oil pollution threat because any discharge in contravention of the convention or any alleged violation detected by a member State may be reported to the flag State for investigation and legal action as appropriate. Following deliberation in IMO's legal committee, a diplomatic

conference met in 1969 to adopt two new instruments. The first one dealt with the right to intervene, the international convention relating to intervention on the high sea in case of oil pollution casualties (Intervention Convention). The second was Civil Liability Convention (CLC). Under the intervention convention, the coastal State was first time to be given the right to take preventive and mitigating actions against vessels posing an environmental threat to its coast. Finally, in 1973 a significant breakthrough came when the international Convention for the Prevention of Pollution from Ships, usually referred to as MARPOL, was adopted by IMO, which enshrined the concept of Port State Control in international law. Following this convention, the port States were provided the right to inspect ships and report their deficiencies to the flag State and to detain ships until deficiencies were rectified

2.4.4 The failure of assuming their responsibilities by classification societies

The establishment of classification societies goes back to the 17th and early 18th centuries. They came into existence during this period out of the needs of marine insurers and shipowners. Today, the classification societies own duties to ensure that the specified ship has been designed, built and is maintained according to the classification society's own rules. In addition, they are authorized by the flag States to conduct statutory surveys and issue certificates in accordance with the various international maritime conventions.

In most time, most classification societies especially the International Association of Classification Societies (IACS) members do their job well in ensuring the safety and quality of shipping. However, some classification societies fail to fulfill their duties because of the fierce competition in the market. Also, world famous classification societies did not do their job good enough in sometimes. For example the in the *Erika* case, the ship's class is granted by Registro Italiano Navale (RINA), who is a member of IACS. In another case *Prestige*, the ship's class is ABS. Lloyds Register and DNV, BV and the Polish Register have sometimes faced (and hotly disputed) allegations that their surveyors sell forged safety certificates (Hare, 1994). Therefore, another tier of

control regime need to be in place to monitor the performance of classification societies.

2.5 The legal background of port State control

International maritime law codified the concept of port State control. The first one is the Article 6(2) of MARPOL. Following MARPOL, other conventions also provides control provisions which constitute the legal background of port State control.

2.5.1 UNCLOS 1982

UNCLOS 1982 is the constitution of the law of the sea. Almost all regulatory maritime conventions can find their root in the UNCLOS 1982. The concept of PSC can be found in part and . Article 25 of the UNCLOS (1982) empowered States whose ports were used by vessels to take necessary steps to prevent any breach of the conditions by vessels calling at their ports. Article 216 and 218 enable a port State to enforce international antidumping and anti-pollution measures. In addition, States are required by Article 219 to take administrative measures to prevent errant vessels from sailing. Legitimacy for PSC inspections may be found in these Articles of UNCLOS. The only limitation is that the steps taken should be reasonable, public, and not discriminatory (Hare, 1994). These articles provide legal background of PSC in UNCLOS 1982.

2.5.2 Control provisions in IMO conventions

The provisions for the control of foreign ships in ports originate from the inclusion of a respective regulation in the SOLAS convention. the history of the control provisions, aiming at verifying whether certificates carried on board ships in accordance with the specific requirements of Chapter I of the SOLAS Convention, are valid or not, goes back to 1914. Article 61 of 1914 SOLAS is the first control provision which required the contracting government to verify the certificates carried on board. The following SOLAS Convention also provided the control provision. Under Article 54 of the 1929

SOLAS Convention intervention actions were permitted to officers carrying out the control. In Reg. 18 Chapter 1 of the 1948 SOLAS Port State control officers were authorized for the first time, not to allow the unworthy ship to proceed to sea. Similar provisions can be found in Reg. 19, Chapter 1 of the 1960 and 1974 SOLAS.

Other IMO conventions also contain control provisions which can be followed by a Party to the relevant conventions to carry out inspection. These provisions are:

- Load Line 66, Article 21;
- MARPOL 73/78, Article 5 and 6, Reg. 8A of Annex , Reg. 15 of Annex , Reg. 8 of Annex , Reg. 8 of Annex and Reg. 10 of Annex
- STCW 78, Article and Reg. /4
- Tonnage 69, Article 12

2.5.3 ILO conventions

ILO Convention No. 147 Merchant Shipping (Minimum Standards) Convention 1976 aims to establish basic minimum standards with regard to safety, working and labour conditions for seafarers. It requires administrations to have effective legislation on safe manning standards, hours of work, seafarers' competency, social security and sets of employment standards equivalent to those contained in a range of ILO instruments. The control provision is contained in Article 4, which allows an administration to apply its provisions (including the power of detention) to any ship, which calls at its ports, whether or not the ship's flag State has ratified the Convention.

2.6 Conclusion

Port State control is a back-up control system because the primary responsibility to safeguard against substandard ships lies with the flag States. Although many international conventions provide power used by PSCOs, the willingness to use these power is relative new. That is because regional cooperation between member States is

necessary for effective PSC. Starting from Paris MoU, port State control became more organized and widespread and now there is a MoU on PSC covering almost every part of the world.

Chapter III

The Regional PSC MoUs and PSC Procedures

3.1 Introduction

Memorandum of understanding on PSC is the regional agreement on PSC. The purpose of MoUs is to achieve harmonization, the elimination of redundancy and exchange of PSC information. In the present time, there are nine MoUs which cover almost every part of the world. Paris MoU is the first MoU and regarded as model upon which other regions of the world base their agreement on PSC. The United States Coast Guard (USCG) is not a member of any MoU, but it can be regarded as a regional MoU by itself.

3.2 Rationale for growth in PSC regional agreements

The establishment of regional initiatives in which States are tied together in their port State control activities by MoUs. With the ease of dissemination of information through the internet, it is also likely to become the norm that the various regional initiatives, set up for geographic convenience, will increasingly share each other's database, thereby closing the net even more effectively on the unseaworthy ship and its unscrupulous owner seeking to ply a trade into unsuspecting ports.

Crucial to the success of port State control operations is the sharing of information gained about particular ships or their owners and operators, between jurisdictions in

and out of which those ships trade. There are two reasons for this. First, one would not like unduly to inconvenience ships by inspecting them at each port. It is reasonable to believe that Contracting States to conventions providing for PSC inspections will follow through on those obligations, an uncoordinated effort within a region can result in duplication of effort, redundancy, inefficiency and the few substandard ships that should be detained being able to avoid detention.

Second, co-operation with other ports in the region make it possible to ensure that identified substandard ships are effectively monitored. This applies especially to ships that have been allowed to sail with certain minor deficiencies on condition that they are rectified in the next port of call. When permission has been granted for a substandard ship to sail from one port, contingent in the deficiencies being rectified in the next port, it is essential for this information to be passed on to the authorities in the next port to ensure that those deficiencies have, in fact, been rectified. If subsequent PSC inspectors have no prior knowledge of earlier inspections, they can not follow up in the correction of deficiencies or target habitual offenders.

3.3 Introduction of the existing nine MoUs and USCG

3.3.1 The existing nine MoUs

In the present, there are nine MoUs which totally have 130 member Maritime Authorities. The nine MoUs are: Paris MoU, AcuerdoViña del Mar MoU (Latin-America Agreement), Tokyo MoU, Caribbean MoU, Mediterranean MoU, Indian Ocean MoU, West & Central Africa MoU (ABUJA MoU), Black Sea MoU, The Cooperation Council for the Arab States of the Gulf (Riyadh MoU). All of the nine MoUs have a Port State Control committee, the Secretariat and information center. Port State control committee is the executive body, composed of representatives from each maritime Authority of the MoU. The secretariat acts under the guidance of the Port State Control Committee, prepares meetings and assists the committee in carrying out its function. The secretariat also exchange information and

prepare reports. The information centers established database to store all details from each inspection report whether deficiencies are found or not. Most of the MoUs launched the computerized information system for the purpose of exchanging information on port State inspections. This information exchange makes information available to Authorities on inspection of ships in other regional ports to assist them in their selection of foreign flag ships to be inspected and their exercise of port State control on selected ships. The detailed information of the MoUs can be found in the Appendix B Table 2

3.3.2 USCG

The USCG began inspecting foreign-flagged tank and passenger vessels nearly 40 years ago. However, the Coast Guard did not closely scrutinize foreign-flagged freight ships until in 1994, when directed by Congress to develop a formal Port State Control programme (USCG, 2005). The principle objective of this program is to identify high risk foreign merchant ships on the basis of the performance records of their owners, operators, classification societies and flag State and to systematically target ships for boarding.

In the USA, there is no agreement or memorandum of understanding which is specifically dedicated to port State control. The US exercise its port State control authority through the US Coast Guard's long foreign vessel boarding program, now referred to as the Port State Control Program.

The USCG introduces the point rating system to assess the safety level of the vessels. According to the point rating system, ships are categorized as Priority I, II or III. Priority I includes the high-risk vessels, which require inspection before they are even allowed into port limits, often at the buoys. Defects must be rectified before the vessel enters the port if it is possible. Other ships will be inspected following the priority rating assigned to them. Flags, owners & operators and classification societies are assessed to help assigning the priority rating to a vessel under inspection. If any of

these entities fails to fully undertake its responsibilities for the safe operation of a ship, then the ship is likely to be considered a sub-standard vessel by the USCG. A percentage rating is then given to both flags and classification societies.

The USCG also publicize the lists of owners and operators, flag States and classification societies, which have fallen foul of USCG PSC procedures during the past twelve months. The USCG diligently publishes monthly detention records, giving full details of the vessel and the defects both on its website and in Lloyds List.

3.4 The development of the nine MoUs and USCG in the recent years

3.4.1 Paris MoU

In 2004, for the first time since the inception of the Paris MoU the Committee embarked on a fundamental review of the inspection regime. The port State control region aims to enhance its fight against sub-standard shipping by adopting a more risk based approach while at the same time reducing the burden on good operators. Changes under consideration include a move towards full coverage of ships entering the region rather than the current commitment of each member to inspect 25%. Periods between inspections would depend on the risk profile of an individual vessel. The review will also consider extending the current provisions for banning tankers, bulk carriers and passenger ships to other ships which independent research has shown to present a disproportionate risk, particularly to their crews. The Committee will be working closely with the European Commission to take account of the 3rd Maritime Safety Package in developing a new regime for the 21st century.

Continuing its annual programme of inspection campaigns the campaigns on GMDSS, operational requirements and MARPOL Annex 1 for 2005 and 2006, respectively.

The Paris MoU organized the first Expert Training programme and the first Specialized Training programme. The theme of the expert training programme are safety and security, while the theme of the Specialized Training programme is the

inspection of bulk cargos (Paris MoU, 2005)

The Review Panel became a permanent feature of Paris MoU procedures in 2003. Flag States or classification societies that cannot resolve a dispute concerning a detention with the port State, may submit their case for review. The Review Panel is composed of representatives of 3 different MoU Authorities, on a rotating basis, plus the Secretariat.

In November 2004, the Second Joint Ministerial Conference of the Paris and Tokyo Memoranda of Understanding on Port State Control was held in Canada. The Conference demonstrated the joint commitment of the two regions to eliminate substandard ships so as to promote maritime safety, working and living conditions on board and protection of the marine environment and to work more closely for harmonizing port State control procedures and enhancing port State control activities and initiatives.

3.4.2 Acuerdo Viña del Mar Agreement (Latin-America Agreement)

The Committee approved interim PSC procedures relating to cargo operations in 2003. A number of working groups and correspondence groups were established which covered a wide variety of issues such as drawing up electronic data requirements to facilitate the performance of and reporting on PSC activities related to maritime and port security; drawing up proposals on harmonized PSC activities related to maritime security; examining the viability of adopting regional standards and PSC measures related to all vessels with a gross tonnage of less than 500 and examining deficiency codes related to the implementation of the STCW Convention. Other matters such as the activities of the Information Center, the participation of the Agreement at international meetings and events, the training of inspectors, the verification procedures and improvements in the management of inspections and related information, the legal status of the Agreement's relevant instruments and the activities of other regional bodies and international organizations were discussed by the

Committee (IMO, 2004).

3.4.3 Tokyo MoU

The Committee adopted the revised Port State Control Manual on its 15th session. The ship targeting system developed by Republic of Korea was launched on 1st March, 2004. In order to be consistent with Paris MoU, the Concentrated Inspection Campaigns (CICs) on the safety of bulk carrier, ISPS Code, operational requirements and MARPOL Annex I were held in 2003, 2004, 2005 and 2006 respectively.

For the purpose of providing a mechanism for dealing with complaints by flag State or recognized organization (RO) against detention order by the port State Authority on a regional basis, Tokyo MoU launched a Detention Review Panel which considered the complaint received from procedural and technical aspects and, if appropriate, make advisory recommendation to the port State Authority to re-consider its decision.

Besides, the Committee also considered on-going implementation and arrangements of data exchange with other PSC data base systems, i.e. Systeme d'Information Relatif aux Navires Controlles (SIRENaC) of Paris MoU, Black Sea MoU information system (BSIS), Information Centre of the Latin American Agreement (CIALA) and Port State Information eXchange (PSIX) of the USCG.

Tokyo MoU organized the fourteenth basic training course, eleventh seminar for port State control officers and fellowship training course in 2004. For co-operating implementation and enforcement of the ISPS Code, the seminar was dedicated to the subject on maritime security. Under the current arrangement for PSC officers exchange programme, the Authorities of Australia, Canada, Hong Kong (China), Japan and New Zealand were provided the opportunity to send and receive one PSC officer with each other for exchange (Tokyo MoU, 2005).

3.4.4 Caribbean MoU

In 2003, The Port State Control Committee adopted a work programme for the next biennium, which includes the development of a training strategy for PSCOs, including regular seminars, and the development of a Manual for Surveyors. Amendments to the text of the MoU and to the Caribbean Cargo Ship Safety Code (CCSSC) were discussed and agreed. The inclusion of the Code as a relevant instrument of the MoU was agreed in principle. The Committee also discussed the adoption of a Maritime Security Code for Cargo Vessels with a gross tonnage of between 100 and 500, operating in the Caribbean region, which had been prepared in draft form by the IMO Regional Maritime Adviser for the Caribbean.

The Committee also agreed to the relocation of the Information Center from Curaçao to Suriname, following its agreement to accept an offer from Transport Canada to implement and host the Caribbean Information System within the existing Canadian port State control system (IMO, 2004).

3.4.5 Mediterranean MoU

In 2003, the Port State Control Committee held the 6th meeting of the Mediterranean MoU. The Committee reviewed progress made on the development of targeting factors and on the Mediterranean MoU Website. The Committee instructed the Secretariat to develop draft rules of procedure for administrative and financial matters for consideration by the Member States. The Committee established a Liaison Officers Group to deal with the information system. The Committee also set up a correspondence group to study the role of port State control in enhancing maritime security and in the implementation of the ISPS Code. For the training issues, Member States were urged to provide feedback to the European Commission on their experiences in the use of the PSC training package on CD ROM developed by the Commission. The Committee also supported proposals for approaching IMO with requests for the conduct of training courses for PSCOs and five yearly refresher courses for PSCOs (IMO, 2004).

3.4.6 Indian Ocean MoU

In 2004, with a view to harmonize inspections in the region, the Indian Ocean MoU carried out a CIC on life saving-appliances. The Committee considered and approved amendments to the Memorandum and the Manual for Inspectors. The Committee also discussed PSC activities outside the Indian Ocean region, short and long-term training programmes, as well as training of PSCOs relating to the implementation of the ISPS Code. The development of the Indian Ocean MoU Computerized Information System (IOCIS) by the National Informatics Centre (NIC) of the Government of India was discussed and approved.

3.4.7 Abuja MoU

The 3rd meeting of the Abuja MoU Port State Control Committee held in 2003. Four working groups were established dealing with the Information Centre, the manual for PSCOs, training matters and administrative and financial issues.

The Committee also adopted two recommendations, one on the ratification of the Abuja MoU and the relevant international conventions by the Member States and the other on the regular payment by Member States of their financial contributions for the functioning of the MoU. The Committee also issued a declaration stressing the Abuja MoU's commitment to the enhancement of maritime safety and pollution prevention and to the harmonization of PSC procedures in the region. The appeal procedure also was established.

3.4.8 Black Sea MoU

In 2004, working Group on PSC Manual conveyed during the 5th Committee meeting and submitted proposal on improvement of the Black Sea MoU PSC Manual which was adopted by the committee. The committee accepted the initial "Rule of Procedures for Review Board" to implement on a trial basis. The Black Sea MoU carried out a CIC on ISPS code, simultaneously with Paris MoU, Tokyo MoU and

USCG. The Black Sea MOU also sent 2 senior PSCOs to participate the Paris MoU seminar. The PSCO exchange programme also carried out among the member States (Black Sea MoU, 2005).

To provide industry with the MoU news, procedures and inspection results, the Black Sea MoU launched the internet web-sit containing general information on MoU, regularly updated detention list and a direct link to the MoU database providing on-the-fly inspection results in 2003.

3.4.9 The Cooperation Council for the Arab States of the Gulf (Riyadh MoU)

The Memorandum of Understanding on PSC for the States of the Cooperation Council for the Arab States of the Gulf (Riyadh MoU), was signed in Riyadh on 30 June 2004. To the present, there is little information on this MoU (IMO, 2004).

3.4.10 USCG

The USCG launched the Qualship 21 (Quality Shipping for the 21st Century) on January 1, 2001 (See Appendix C for detail), which is an initiative to identify high quality non-U.S. flagged vessels, and then reward them with incentives. The Qualship 21 programme also evaluates each registry for eligibility on an annual basis. So far around 800 ships were were awarded Qualship 21 status in end of 2004. Eight States were awarded Qualifying Registries as of March, 2005 (USCG, 2005).

The terrorist attacks on the U.S in September 2001 catalyzed significant security enhancements to governing the USCG's safety-oriented Port State programme. With the adoption of the domestic legislation entitled "Maritime Transportation Security Act of 2002"(MTSA 2002), the ISPS Code and MTSA 2002 represent a significant expansion of focus for port State activities and are incorporated into their Port State Control programme to the fullest extent possible. The programme seamlessly incorporates and emphasizes compliance with security standards in addition to safety and environmental compliance standards (USCG, 2005).

3.5 The PSC procedures and IMO guidelines of PSC on specific aspects

3.5.1 Introduction

Although the main conventions provide the control provisions, the detail procedures on PSC are laid down in the IMO guidelines. In the 1981 Assembly, resolution A.466() on procedures for the control of ships was adopted and since then a variety of resolutions relating to port State control have become effective. The IMO Subcommittee on Flag State Implementation (FSI) reviewed and amalgamated existing resolutions and documents on port State control. As a result of this study, resolution A.787 (19) was adopted by the 19th Assembly of IMO. The resolution is intended to provide basic guidelines on the conduct of such inspections, the recognition of the deficiencies of a ship, its equipment, its crew and the application of control procedures. In 1999, the 21st Assembly adopted resolution A.882 (21) which amended the resolution A. 787 (19). This amendment gave the establishment of “clear ground” for more detail inspection, accidental damage, reports on remedial action and additions to the list of certificates and documents. It was also agreed to incorporate the Interim Guidelines for PSC related to the ISM Code. In addition, IMO adopted a list of circulars which provide guidelines for the inspection on specific aspects of ship operation, such as operation in compliance with ISPS Code, Annex to MARPOL73/78.

3.5.2 General

According to the guidelines provided by IMO, when the PSCO conducts an inspection of a ship, he may, before boarding, gain from its appearance in the water, an impression of its standard of maintenance from such items as the condition of its paint-work, corrosion, pitting or un-repaired damage. On boarding, and upon introduction to the master or the responsible ship’s officer, the PSCO should examine the vessel’s relevant certificates and documents. If the certificates are valid and the PSCO’s general impression and visual observations on board confirm a good standard

of maintenance, the PSCO should general confine the inspection to reported or observed deficiencies, if any. However, if the PSCO has clear grounds for carrying out a more detailed inspection, the master should be informed. As for the deficiencies found in the process of detailed inspection, the PSCO may take appropriate action to require the crews rectify deficiencies as soon as possible. If the deficiencies are serious enough to pose a danger in the forthcoming voyage, the PSCO may detain the ship. The final purpose is to prevent a ship from proceeding to sea in an unsafe condition or presenting unreasonable threat to marine environment.

3.5.3 No more favourable treatment and non-convention size ships

For the ship whose flag State is not a Party to a particular convention, the port State which is a Party to the convention may still enforce the requirements of the convention on this ship. Article (3) of the Protocol of 1987 to SOLAS 74; Article 5 (4) of MARPOL 73/78 and Article (5) of STCW 78 stipulate that not more favourable treatment be given to ships of countries that are not Parties to these convention. In other words, ships registered in non-Party States should be held to the same international standards as ships registered in the port State, if the port State is a Contracting Party to one of the conventions. The resolution A.787 (19) also provides that:

All Parties should as a matter of principle apply the procedures....[of no more favourable treatment]... to ships of no-Parties and ships below convention size in order to ensure that equivalent surveys and inspections are conducted and an equivalent level of safety and protection of the marine environment are ensured.

The similar doctrine applies to ships below convention size. Generally speaking, a ship should not be permitted to sail if it is not safe or if it poses a threat to the marine environment. Although these ships may be exempted from international conventions, PSCO may take action, including detention if necessary to ensure that the ship does

not present a clear hazard to safety, health or the environment. The conditions of and on such ship and its equipment and the certification of the crew and the flag State's minimum manning standard shall be compatible with the aims of the provisions of the conventions; otherwise, the ship shall be subject to such restriction as are necessary to obtain a comparable level of safety and protection of the marine environment. States in the Caribbean region have, with the assistance of IMO, developed specific regional regulations governing non-convention sized ships. These regulations gain wide recognition of USCG.

3.5.4 The IMO and ILO guidelines of PSC on specific aspects

Although the resolution A.787 (19) as amended by resolution A.882 (21) provides basic guidelines on conducting the PSC inspections, IMO and ILO also adopted a list of PSC inspection guidelines on maritime safety, security, environmental protection and labour conditions on board ships. The IMO guidelines includes: Guidance For Port State Control Officers On Issues Related to Certificates of Competency (MSC/Circ. 1030), Guideline Relating to The Implementation of SOLAS Chapter -2 and ISPS Code (MSC/Circ. 1111), Guidelines For PSC Under MARPOL Annex 6 (MEPC/Circ.472), etc. The ILO guideline includes Inspection of Labour Conditions on Board Ship: Guide-lines for Procedure. All of these guidelines are supplement to the basic guidelines of PSC contained in resolution A.787 (19) as amended by resolution A.882 (21). They provide technical assistance for PSCOs to conduct PSC inspections.

3.6 Conclusion

The existing nine MoUs and USCG almost cover every part of the world. Their development is not homogeneous. The Paris MoU, Tokyo MoU and USCG are relatively matured. Whereas other MoUs are still in the developing stage. Great effort still needs to be taken by these MoUs and IMO to upgrade the PSC quality in these MoUs. The nine MoUs basically apply the same inspection procedures recommended

by IMO and ILO. However, the inspection procedure employed by USCG is slightly different from the guidelines of IMO.

IMO developed not only basic procedures on conducting PSC inspections but also guidelines on how to inspect some specific aspects of ship. These guidelines help PSCOs carry out inspection in a more efficient and uniform way. They make the development of PSC keep up with the development of international conventions. The experience in the past 20 years showed that PSC had done a great effort in eliminating substandard ships. However, to which extent that the PSC regime has achieved its effectiveness? The next chapter will give a detained analysis on the effectiveness of PSC regime.

Chapter

The Effectiveness and Cost Efficiency of The PSC Regime

4.1 Introduction

With the popularity of the concept of port State control, more and more States use PSC as an effective tool to enforce the ships to implement IMO and ILO regulations and eliminate substandard ships. Although the primary responsibilities of implementing related international conventions lie on the flag States, the performance of PSC in recent years seems to overweight the performance of flag State in achieving their goal. This chapter will discuss the effectiveness of PSC regime by analyzing performance of the two main MoUs and USCG in recent years.

Furthermore, this chapter will discuss the cost of the PSC regime in Paris MoU. And the issue of cost efficiency of PSC regime will be analyzed from the economic point of view.

4.2 The effectiveness of PSC regime

The PSC regime takes effect in two ways: one is through the control action taken in inspections; another way is to promote flag States to implement international conventions through publishing annual PSC report which contained their performance of implementation in the last year. The former is a direct approach while the latter is an indirect approach. This part will examine the performance of PSC regime only

through the statistics and empirical data published by the Paris MoU, Tokyo MoU and USCG. There are two reasons for this. On one hand, according to the worldwide statistics of PSC in 2004, the port State control inspections activities in these three regions account for over 70 percent of the total inspections conducted in the whole world. On the other hand, after years of development, the PSC regime in these three regions especially in Europe where Paris MoU covered is matured. Therefore the statistics data in the three regions are more representative than that in any other region.

4.2.1 The general profile of PSC inspections in the three regions

As early as in 1992, the Paris MoU Secretariat admitted that, in the absence of any better criteria, the quantity of PSC inspections is one indicator that can be relied upon in measuring the impact of PSC in the region (Paris MoU, 1992).

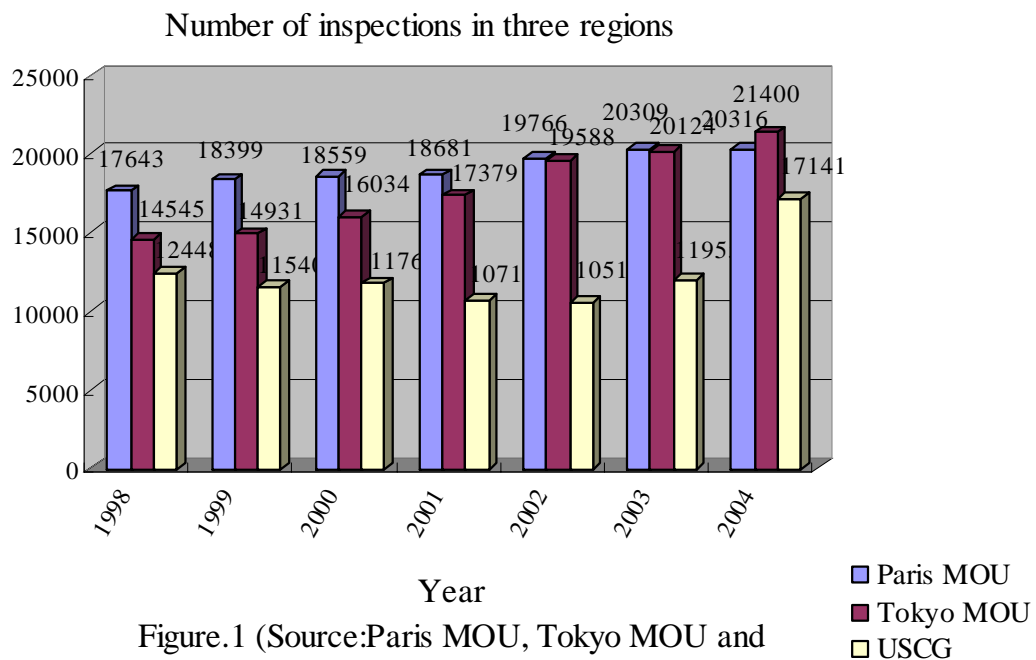


Figure.1 (Source:Paris MOU, Tokyo MOU and USCG 2004 Annual Report)

Number of individual ships inspected under Paris MOU and USCG

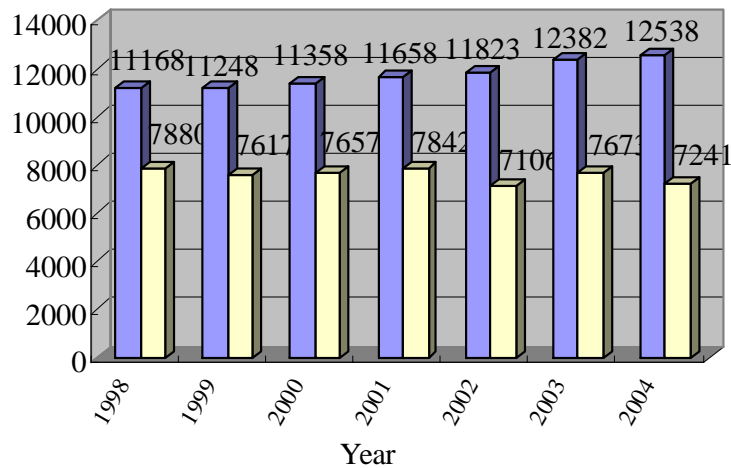


Figure.2 (Source: Paris MOU and USCG 2004 Annual Report)

■ Paris MOU
 ■ USCG

Figure 1 shows the number of inspections carried out under Paris MoU, Tokyo MoU and USCG from 1998 to 2004. The number of inspections in Paris MoU and Tokyo MoU steadily increased from 1998 to 2004. However, the increase in Tokyo MoU is more swift and violent than that in Paris MoU. The reason behind this is that after more than 20 years of development, the Paris MoU is relative mature. While Tokyo MoU is still in its rapid grow up stage. The figure also shows the trend of the number of inspections conducted by USCG is quite unstable. But the number jumped to its historical height in 2004 because of U.S's intense enthusiasm in implementing ISPS Code. Figure 2 shows the number of individual ships that were subject to PSC under Paris MoU and USCG from 1998 to 2004. It shows the same trend as the number of inspection in Figure 1. With the growing number of inspections carried out, one notes the increasing numbers of deficiencies identified during PSC inspection. The numbers are given in Figure 3.

Number of deficiencies observed under Paris MOU and Tokyo MOU

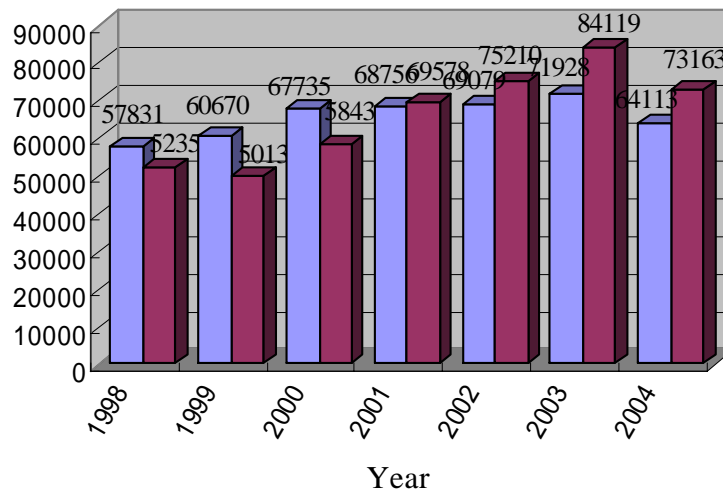


Figure.3 (Source: Paris MOU and Tokyo MOU 2004 Annual Report)

The MoU annual reports use the concept of “deficiency rate” to express the relationship between the number of deficiencies on the one hand, and the number of inspections on the other. Figure 4 shows that the trend of the deficiency rate in Paris MoU and Tokyo MoU developed in a different way. The general trend of deficiency rate in Tokyo MoU rose from 1998 to 2003. It dropped sharply in 2004. While the deficiency rate in Paris MoU reached its summit in 2001 and declined in the past 4 years.

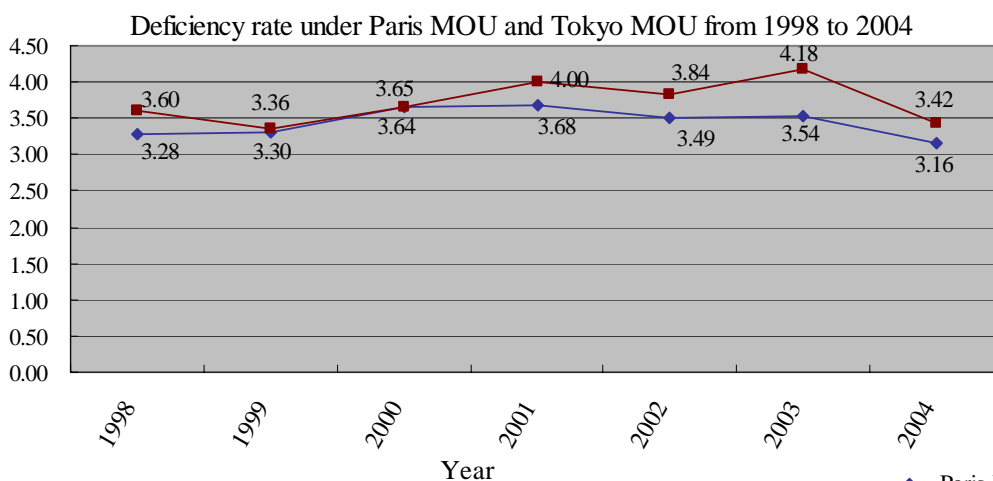


Figure.4 (Source: Paris MOU and Tokyo MOU 2004 Annual Report)

That implies that more deficiencies per inspections have been observed in the 6 years.

The trend suggests that, very roughly, the “rectification rate” achieved by MoU is also increasing. Deficiencies must be rectified before a ship is allowed to leave port. It is assumed that, in most instances in which deficiencies are identified, a rectification follows (Payoyo, 1994). The rising deficiency rates thus suggest a corresponding rise in the rectification rate.

With regard to the delays or detentions effected in the three regions, Figure 5 shows that a different trend of detention numbers in the three regions form 1998 to 2004. In 2000, Paris MoU detained the most ships in its history and the number of detention fell from that year. That is because Paris MoU launched enhanced targeting system in 2000 (Shiming, 2001). The general trend of the number of detention in Tokyo MoU rose in the 7 years. But the number of detention and detention rate sharply declined in 2004. This trend also happened on Paris MoU. The decline may be attributed to the implementation of ISPS Code. From 1st July 2004, the ISPS Code came into force and a CIC on the ISPS Code was carried out in Paris MoU and Tokyo MoU. The ISPS related detention percentage is about 1%, much lower than the overall detention rate of 6.51% in the region during the same period. While the trend of the number of detention in USCG developed in an exactly opposite way to that in Tokyo MoU.

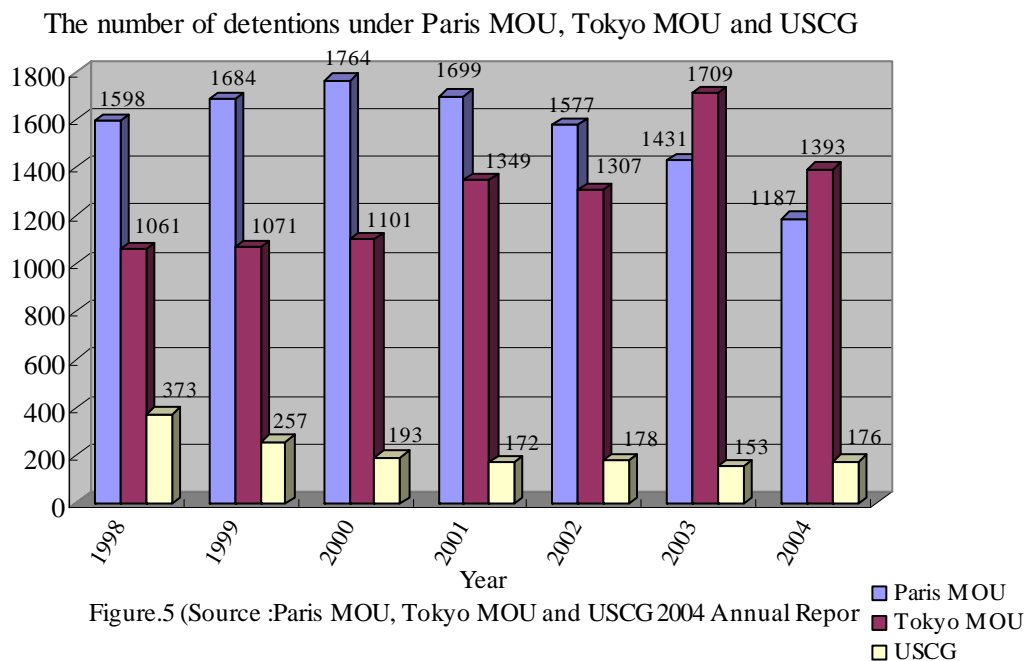
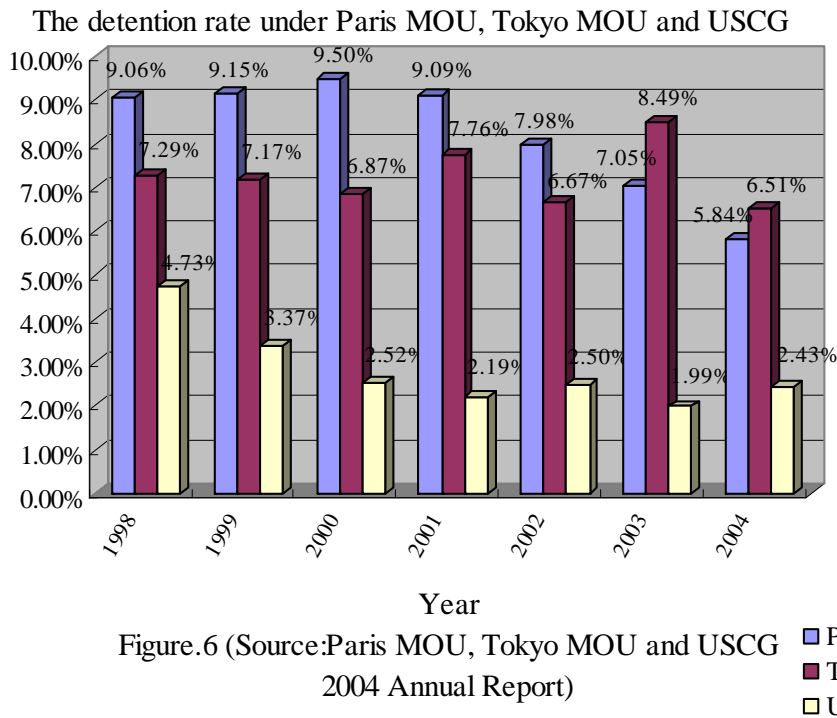


Figure 6 shows that the trend of detention rate in the three regions basically followed the same trend of number of detentions.



4.2.2 The Black-Grey-White List and Targeting System

Every year, the Paris MoU, Tokyo MoU and USCG published the information of PSC inspections which were conducted in their regions last year. The PSC committees analyzed the inspections data and evaluated the performance of flag States through the Black-Grey-White List System. Once the performance of a flag State in that year was categorized in the Black List, the State would face two serious consequences. One was the great politic pressure from the international community that required the State taking effective measures to improve the safety level of the ships flying its flag. Another was that through the targeting system, all ships flying the flag of black-listed State would be targeted as the ships with higher priority to be inspected. The more inspections are conducted on the ships flying the flag of the black-listed State, the more deficiencies will be observed and more detentions will happened on these ships. It is a vicious circle and will cause great financial loss to the flag State. The black-listed flag State will be compelled to make appropriate policies to ensure the

ships flying its flag comply with international safety and environment protection standards. Although some scholars argued the validity of black-listing a flag State because the flag State is also a sovereign State, the experiences in Paris MoU, Tokyo MoU and USCG show that Black-Grey-White List system which cooperates with Targeting system is a powerful tool to enforce ships comply with international conventions indirectly.

4.2.3 Case study

The PSC performance of Chinese ships before 1998 was very poor. Figure 7, Figure 8 and Figure 9 provides the performance of Chinese ships in Paris MoU, Tokyo MoU and USCG. Before 1998, the 3 Year Rolling Average Detention Rate of Chinese ships in the three regions was higher than those of the whole region. Consequentially, China was blacklisted by the Paris MoU, Tokyo MoU and USCG before 1998. Chinese government endured tremendous pressure from international community that required improving the safety level of Chinese ships. Chinese shipping companies also assumed great financial loss in the shipping market. The China Maritime Safety Administration (CMSA) took appropriate measures such as enhancing the safety management of the ship companies, the Pre-Voyage inspection and improving the safety standard of statutory regulations to reduce the detention rate. These measures took effect in 2000. China jumped into the White list and stabilized from 2000. This is a good example that PSC regime promotes flag State implementation in an indirect way.

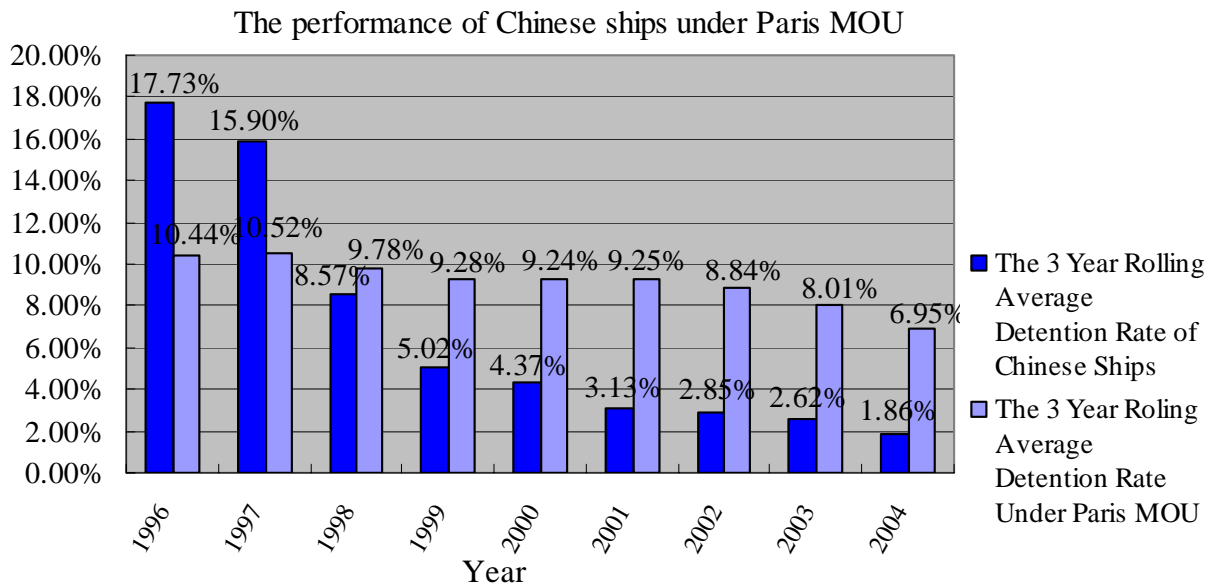


Figure.7 (Source: Paris MOU Annual Report 1996-2004)

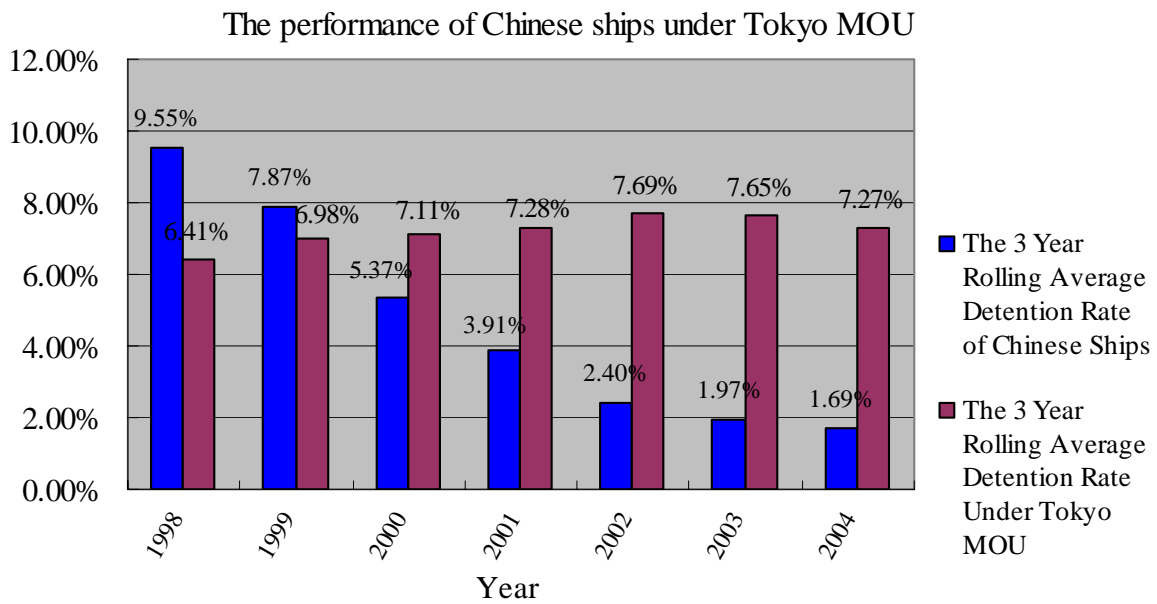


Figure.8 (Source: Tokyo MOU Annual Report 1998-2004)

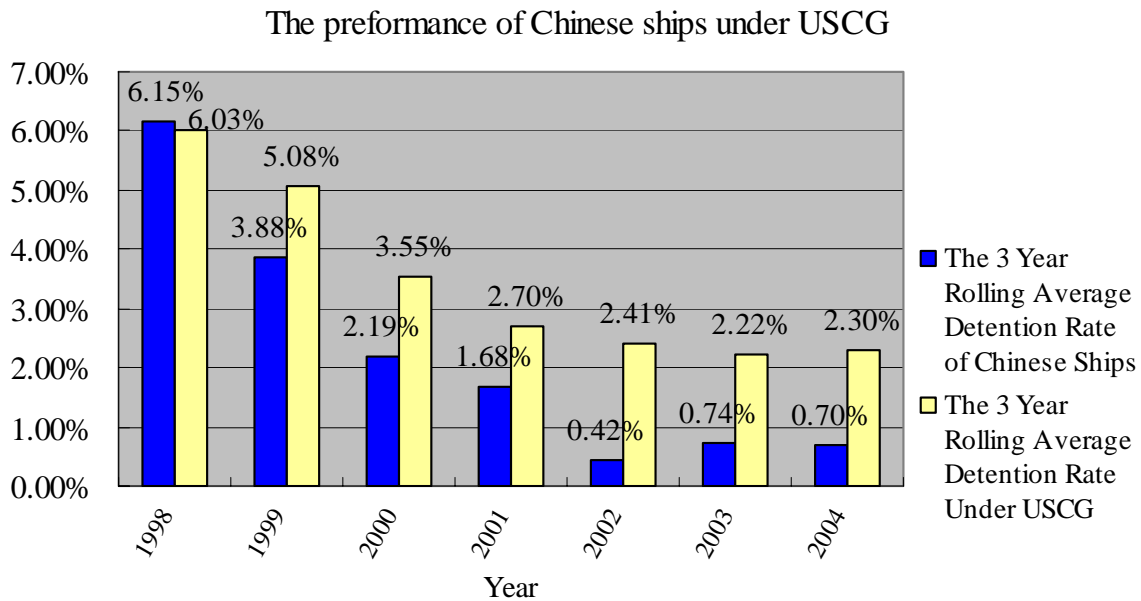


Figure.9 (Source: USCG PSC Annual Report 1998-2004)

4.3 The cost efficiency of the PSC regime

The issue of cost efficiency of the PSC regime concerns the cost spent on the regime and the effectiveness. In the present, there is only one report available which contain the cost of PSC regime: the Paris MoU 1992 Annual Report. As far as the effectiveness of the PSC regime, there is still not any direct study which contained the concrete quantity of the effectiveness. However, a study made by the Organization for Economic Co-operation and Development (OECD) in 1996 may throw some light on the effectiveness of PSC regime through analyzing the financial advantages obtained by shipowners as a result of non-observance of applicable international rules and standards.

The Paris MoU Secretariat reports that, in the operation of the Paris MoU from 1982 to 1992, approximately US \$ 25 M was spent to conduct about 12 5000 inspections on 9 5000 individual ships (Paris MoU, 1992) That means averagely \$200 were spent on every inspection. According to the Annual Report of Paris MoU in 1994, the inspection percentage to the number of ships called in the region and the times of inspection for an individual ship were respectively 26.8% and 1.59. Therefore, the

cost spent on conducting PSC inspection for an individual ship in the whole year was $\$200 \times 26.8\% \times 1.59 = \85.2

Another study by OECD in 1996 pointed out for a late 1970s built 30 000 dwt bulk carrier operating within the handysize time charter market in 1994, the margin of sub-standard operation can be seen to equate to some US \$500/day or US \$182500/year (OECD, 1996) This can be regard as financial advantages obtained by this substandard bulk carrier in 1994. The existence of the PSC regime under Paris MoU is to ensure this bulk carrier to fully observe applicable international standards. In other words, without the PSC regime the shipowner tend to operate this bulk carrier in substandard safety level to save operational cost for its survival in the fierce shipping market. Therefore, the effectiveness of the PSC regime on this bulk carrier in 1994 was equated to the financial advantages obtained through sub-standard operation, which was \$18 2500/year.

From above analysis, we can draw a conclusion that in 1994, for a late 1970s built 30 000 dwt bulk carrier operating in Paris MoU, the average PSC inspection cost was \$85.2/year, while the effectiveness of the PSC regime can be \$18 2500/year! It is really cost-effective way to ensure this ship to observe appropriate international conventions. Although the above cost-benefit analysis only reflected the individual case, it still provided a reference about to which extent the PSC regime was cost-effective.

4.4 Conclusion

From the above discussion, it is clear that the PSC is a very effective regime to improve ships safety level in direct or indirect ways in regions where the system properly operated. In addition, compared with the benefit of the regime, the cost is so little that can be neglected by the shipping industry. However, the PSC regime is not congenitally perfect. And with the development of the regime, many new challenges which may reduce the effectiveness of the PSC regime emerged.

Chapter

The Challenges to the Current PSC Regime

5.1 Introduction

Although port State control is playing a more and more important role in improving maritime safety and marine environment protection, it needs to be remembered that port State control is an imperfect system operating in an imperfect world. It is neither a cure all nor does it absolve others from their responsibilities (AMSA, 2001). There are some challenges to the current PSC regime. Some challenges exist because the PSC regime itself has inborn limitations. And the others come forth with the development of the PSC regime.

5.2 The inherent limitations of PSC regime

PSC regime as a supplement to the flag State implementation is not a panacea to cure the deficient flag State implementation. It also has its own limitations. The inherent limitations of PSC regime fall into two major aspects. Firstly, the scope and depth of PSC inspection are limited by time scale and access available to ships and shipowners (Shiming, 2001) Secondly, there are many subjective elements in the PSC procedures.

5.2.1 The limitation to the scope and depth of PSC inspections

The Procedure For Port State Control provides that:

If the certificates are valid and the PSCO's general impression and visual observations on board confirm a good standard of maintenance, the PSCO should generally confine the inspection to reported or observed deficiencies, if any. If, however, the PSCO from general impressions or observations on board has clear grounds for believing that the ship, its equipment or its crew do not substantially meet the requirements, the PSCO should proceed to a more detailed inspection.

In other words, the ship should be exempted to detailed inspection unless clear grounds exist. Once clear grounds exist, the ship will be subject to detailed inspection. In this case, they are in fact challenging the authorities of the statutory certificates because these certificates are only *prima facie* evidences that certify the ship and shipboard operations comply with applicable international conventions. Although the contents contained in these certificates authenticate the vessel observe applicable conventions and everything is in good condition, the observed clear grounds are enough to make PSCOs to believe that as a matter of fact, the ship, the ship equipment and shipboard operation do not meet appropriate requirements. This is also why we say PSC regime is the supplement to the flag State implementation.

However, a question arises in this situation: to which extent can a detailed inspection be? There are two aspects to this question: one is how many items can be included in the detailed inspection, another is how deep could a detailed inspection be.

The ship safety and shipboard safety operations involve many items. According to the Form of PSC report, there are 444 items can be included in one PSC inspection. (See Appendix D) The scope of these items is quite comprehensive. They range from shipboard documents to equipment and safety operations by crew on board. However, because of limited human resources and time of ship in port, it is impossible for PSCOs to inspect every item in one inspection. In practices, the PSCOs can only select some items in one inspection to be inspected. Therefore, the scope of inspection is inexhaustive though it is a detailed inspection.

The depth of detailed inspection is more complicated. The ship, ship equipment and shipboard operations involved many smaller details and layers of the ship. When the statutory certificates are issued, there is, however, also need for a large number of other certificates and other kinds of documentation to be issued for verifying compliance of smaller details of the ship with the relevant requirements. Only by having a several layer structure of certificates, the ship certificates can be issued (Jönsson, 2005). Therefore, when the detailed inspection is carried out, the depth of inspection should also touch smaller details of the ship and all layers structure of certificates. However, the inspections by PSCOs can not be so detailed because of the limited technical methods and professional knowledge level of PSCOs. For example, although the Cargo Safety Equipment Certificate and Product Certificate issued by ROs to certify the lifeboat on board meet the relevant requirements, the PSCOs can inspect every detail of the lifeboat when clear grounds exist, such as the PSCO find the lifeboat deform seriously. However, some particulars such as the longitude strength of the lifeboat and strength of the material can not be scrutinized under the conditions on board and the technical methods available by PSCOs.

5.2.2 The subjective elements in the PSC regime

Inevitably, the subjective elements exist in the PSC regime because it is the PSCOs to conduct PSC inspections. Generally, the subjective elements may take effect in two processes: the decision-making process on how detail will the inspection be; the decision-making process on which remedial actions should be taken after deficiencies are observed.

As the analysis made in section 5.2.1 point out, the scope of the detailed inspection are extensive to about 444 items. Therefore, it is basically up to PSCOs to decide which items should be included in one inspection. The scope of the chose items depend on the professional knowledge level and preference of PSCOs, or in other words to which extent that the PSCOs are familiar with the specific aspects of the ship. Generally, a PSCO is inclined to choose the items which are known well by himself.

Another process where the subjective elements exist is designating control measures after deficiencies are observed. The remedial actions can range from “rectified the deficiency in three month” to “detention” (See Appendix E). Deciding which control measures to be taken is also depended on PSCO, especially when PSCO decide to detain a ship. Although the PSC procedure requires the PSCO should exercise professional judgment to determine whether to detain a ship until the deficiencies are corrected or to allow it to sail with certain deficiencies to the next port, the professional judgment is also up to the PSCOs and different PSCOs will have different judgments and interpretations to the same deficiency.

5.2.3 The impact of the inherent limitations to the PSC regime

The inherent limitations have two impacts to the PSC regime. On one hand, the limited scope and depth of PSC inspections reduce the effectiveness of the PSC regime. Once the scope and depth of inspection can not cover all aspects and every detail of the ship, ship equipment and shipboard safety operation, the effectiveness of the PSC regime can not reach its maximum. On the other hand, the subjective elements in the course of inspection impact the fairness of the PSC regime. For the same deficiencies, different PSCOs will take different control measures which are based their individual professional judgments. Different control measures will bring different impacts to ship operations. The fairness of the PSC regime is abated. More seriously, ship sometimes is unduly detained by PSCOs, which will be discussed latter.

5.3 The imbalanced development of the PSC regime

The development of the PSC regime is not homogeneous between the MoUs. Even within the same region of the MoU, the development of PSC regime between different member States is also unbalanced. These unhomogeneity greatly dilute the effectiveness of the PSC regime because it is still beneficial to all concerned when harmonization of the various areas of port State control administration and inspection

procedures can be achieved on an inter-regional basis (IMO, 2004).

5.3.1 The imbalance of the PSC development between the MoUs

Although PSC regime has been incorporated into UNCOLS and major marine conventions and the first regional MoU operated more than 20 years, the operation of the PSC regimes all over the world never achieved uniformity. The unhomogeneity between the MoUs existed in many aspects of the operation of the PSC regime. Not only some contexts of the MoUs themselves but also the practices and PSC performance of the each MoU are not homogeneous.

As far as the MoUs themselves are concerned, the contexts of the agreements are not same. Appendix B Table 2 gives a comparative table of the existing nine PSC regional agreements. This table shows the relevant instruments of the MoUs which provide the legal background of the PSC regime are not consistent. The TONNAGE 69 Convention which set the benchmark for other conventions is not included as relevant instrument under Mediterranean MoU. The member States of AcuerdoViña del Mar MoU can not enforce the requirements of the ILO Convention No. 147 (Minimum Standard, 1976) on foreign ships because it did not accept the convention as the relevant instrument. Even some MoUs included ILO 147 convention as their relevant instrument, the adoption was only conditional. For example, although Tokyo MoU adopted ILO 147 as its relevant instrument, the implementation of ILO Convention No. 147 will not require any alterations to structure or facilities involving accommodation for ships whose keels were laid down before April 1, 1994 (Tokyo MoU, 2004). Apart from the relevant instruments, the target inspection rate set by the MoUs ranged from 10% to 75%. The unhomogeneous contents of MoUs inevitably led the unhomogeneous of the practice and performance of the PSC regime in different MoUs.

The practices and performance of the nine MoUs and USCG also reinforced the above point. The overall inspection rate in the region can be an indicator reflecting how

many inspections have been done on the ships called in this region.

The overall inspection rate in Paris MOU, Tokyo MOU and USCG

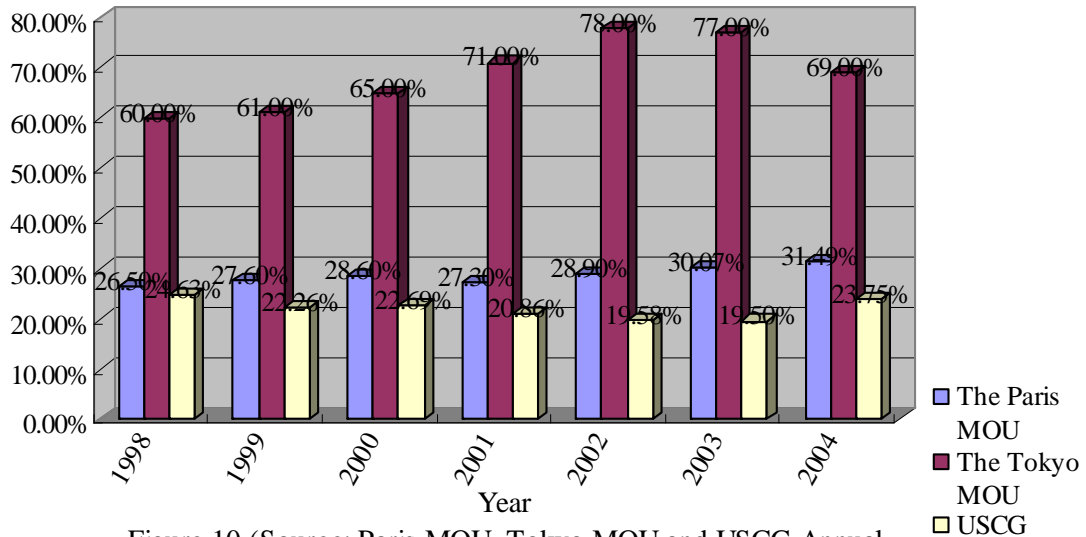


Figure.10 (Source: Paris MOU, Tokyo MOU and USCG Annual Report 1998-2004)

Figure 10 shows the overall inspection rate in Paris MoU, Tokyo MoU and USCG. The highest overall inspection rate was 78% and achieved by Tokyo MoU in 2002, while the lowest one was 19.5% and achieved by USCG in 2003.

Another indicator – the detention rate of a flag State in different MoUs may vividly reflect the imbalance of the PSC regimes in the whole world. Theoretically, the PSC inspection performance of a flag State especially a flag State of convenience in different regions all over the world should be the same, because ocean is free for ships to sail. However, the truth tell us another story.

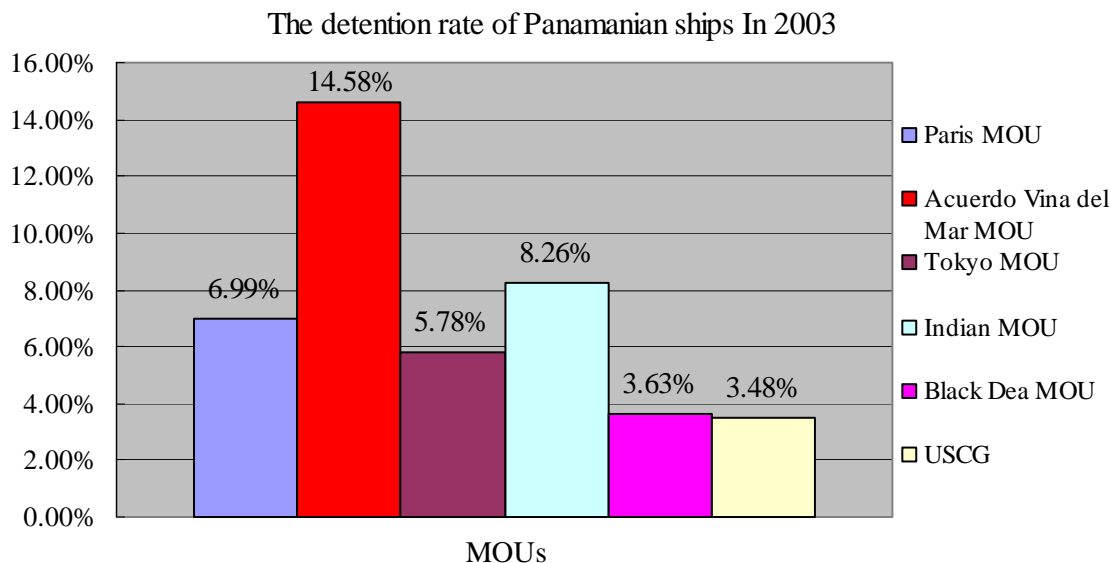


Figure.11 (Source: The 5 MOUs and USCG Annual Report 2003)

In 2002, Panama register held 21.7% share of the world fleet and was regarded as the largest flag State (Francisco, 2003). Figure 11 shows the detention rate of ships flying flag of Panama in 2003. The detention rate in the 6 regions which almost covered this planet ranged from 3.48% in U.S to 14.58% in Latin American area. It is interesting to note that although U.S is supposed to have the strictest PSC regime, the detention rate of Panamanian ships under USCG is the lowest in the 6 regions.

5.3.2 The imbalance of the PSC development within the region of MoU

Even inside the MoUs, the PSC regime never reached homogenous. The Tokyo MoU can be a good example. Appendix F Table 3 gives the conventions status. The ILO 147 only has 4 signatory States in Asia-Pacific area. Appendix G Table 4 provided the statistical data of the Tokyo MoU in 2004. The inspection rates of member Maritime Authorities ranged from 0.80% to 74.41%. Similarly, the detention rate in this region ranged from 0 to 22.68%

5.3.3 The reasons behind the unbalanced development of the PSC regime

Generally, there are mainly two reasons for the imbalance between and inside the MoUs. On one hand, the political, economic and culture backgrounds of regional

MoUs and the member States are quite different. For example, most member States of Paris MoU are developed countries and they stress the importance of accommodation, working, food and catering conditions on board. Therefore, as Parties to the ILO Convention No 147, they emphasize the inspections on items related to ILO 147 when their PSCOs carry out PSC inspections. On the contrary, most member States in Tokyo MoU are developing countries. Only 4 States are Parties to the ILO 147 convention. Therefore the PSCOs in the other States can not inspect the ILO related items in the PSC inspections. According to the 2004 annual reports of the two MoUs, the percentage of ILO 147 related deficiencies to the total deficiencies observed in the two regions are respectively 13.51% and 3.24%.

On the other hand, different MoUs develop in different stages and a MoU in different stages has different performance of PSC inspections. The oldest MoU is Paris MoU which was established more than 20 years ago. Now, it is mature and its performance has become stable. The youngest MoU is Riyadh MoU which was established in 2004 and still in its infant stage. When a MoU was in its inception stage, it usually took a while for the regional MoUs to establishing their authority and unifying their PSC practices (SEAPOL, 1999). The following figure about the regional inspection percentages in Tokyo MoU can give a good example.

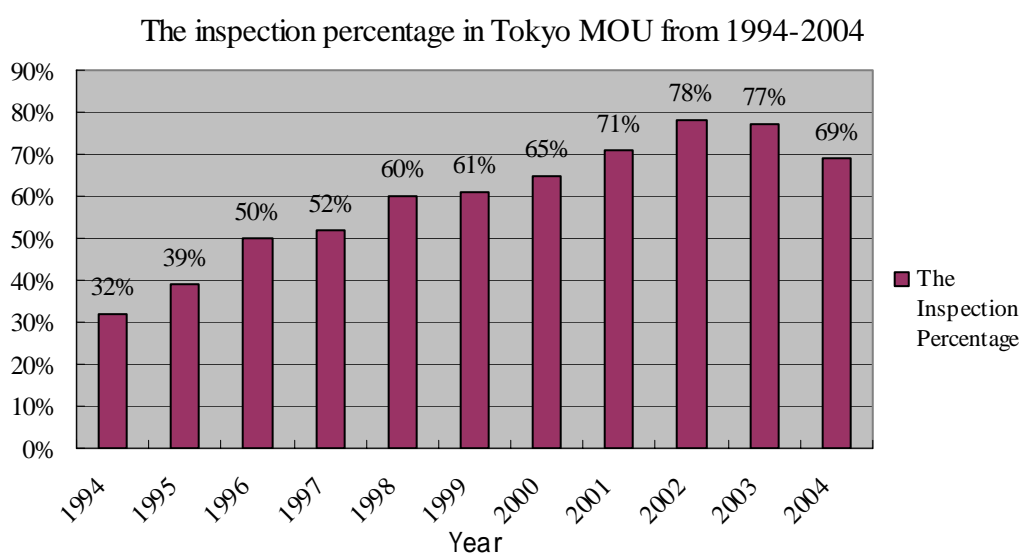


Figure.12 (Source: Tokyo MOU Annual Report 2004)

Figure 12 illustrate that in 1994 when the Tokyo MoU began to operate, only 32% ships called in this region were inspected. The inspection percentage increased gradually to the peak point in 2002. From this year on, the inspection percentage stabilized at around 75%, which is the target rate of Tokyo MoU.

5.3.4 The negative effect of the imbalance

Without homogeneity and uniformity between and inside the MoUs, the effectiveness of PSC regime especially the effectiveness of the well-operated regime will be greatly abated. With the imbalanced PSC development between the MoUs, the unscrupulous operators of the substandard ships will seek regions have low inspections percentage to avoid the disturbance of PSC inspections. With the unhomogeneity inside the MoUs, the operators of substandard ships will divert their ship to ports in a region with lower detention rate (Shiming, 2001). And the shipowners of these substandard ships continue to enjoy the financial advantages over the ships in good conditions. This will lead unfair competition in the shipping market. The substandard ships will slip through the PSC regime which is the last safety net. In addition, the imbalance of PSC regime can also result in unfair competition and vulnerability for ports of those countries that do conduct proper inspection.

5.3.5 Case study

On 3rd Feb 2006, ferry “*Al Salam Boccaccio 98*” carrying 1415 passengers and 220 cars sunk in the Red Sea. She left Dhuba, Saudi Arabia for Safaga, Egypt with passengers mostly Egyptians. Survivors said that a fire broke out, which escalated out of control, explosion was heard, and ship listed then sank. According to report, 424 survivors were rescued. Close to 1000 persons were missing. International Maritime Organization secretary general Efthimios Mitropoulos has led global expressions of shock and grief at the sinking of the Egyptian passenger ro-ro ferry *Al Salam Boccaccio 98* (Lloyd’s List, 2006).

The 36-year-old, 11,779 gross registered tonnage ro-ro ferry had undergone several

conversions to increase its capacity to 1,400 passengers and had been sailing under the Panamanian flag since 1999. Previously it had flown the Italian flag under a different name. RINA had classed the vessel since it was built (in Italy) in 1970. The ferry was operated by Egyptian El Salam Maritime Company (Kennedy, 2006)

Faced with the pictures of grieved relatives of lost person, people can't help asking why this tragedy happened. Although the accident was still under investigation, what was becoming very evident, however, was that this ferry was not able to trade in Scandinavia before it was transferred to Red Sea, following the regional introduction of the Stockholm rules (Corbett, 2006)

Following the Herald of Free Enterprise accident in 1987 and the Estonia in 1994, international regulations were formulated for ro-ro passenger vessels that provided improvements (post-2000) for the construction and operation of these vessels. This so-called "Stockholm Agreement" sets out specific technical solutions to safeguard these ships and ensure that a vessel is able to stay afloat during an emergency (for instance, with 50 cm of water on deck) (Kennedy, 2006). Apparently, ferry "Al Salam Boccaccio 98" could not meet the requirements of the Stockholm Agreement. After this ferry transferred to Red Sea to avoid the rigorous regulation in Europe, it continued to sail between Egypt and Saudi Arabia. Egypt is the member State of Mediterranean MoU where the target inspection rate is only 15%. And Saudi Arabia is the member State of Riyadh MoU which was established in 2004 and still in its early stage. The MoU need time to establish its authority and unify their PSC practices. The imbalance of PSC regime among the Paris MoU, Mediterranean MoU and Riyadh MoU gave living space to *Al Salam Boccaccio 98*. In other words, this ferry slip through the maritime safety net weaved by the three MoUs.

5.4 The challenges to the PSCOs

The role of PSCO in the PSC regime is extreme important because he (she) is located in the center of the PSC regime. The professional knowledge level, human resources

and ethical principle of PSCOs greatly impact the effectiveness and fairness of PSC regime. The PSCOs are facing three challenges: the shortage of PSCOs in some regions; more and more higher qualifications requirements to PSCOs; ethical principle of PSCOs.

5.4.1 The shortage of PSCOs in some regions

Although a PSCO is not necessarily required to sit any standardized examination and does not need to have prior experience at sea, the number of PSCOs in the region where the ports have heavy traffic is quit low (Özçayır, 2003). Appendix H Table 5 gives the number of inspected ships per PSCO in Asia-Pacific Economic Cooperation (APEC) Economies. In Hongkong and Korea, the numbers of PSCOs in 2002 were respectively 13 and 10. Another example, the South Africa Department of Transport address in its 1998 annual report:

South Africa is situated on a particularly busy corner of the world's major sea routes. Frequently, weather conditions are dreadful and many casualties occur. In this region, port State control is carried at all the seven commercial ports by 24 professional deck and engineer ship surveyors of the Chief Directorate of the Shipping. These surveyors have to do a multiplicity of Merchant Shipping Act related tasks concerning the ships register, certification of crew and pollution monitoring. Therefore, in this region, statutory surveys take preference and with staff shortages port State control is ineffective in some ports.

The reason behind this is that there is a shortage of skilled and experienced persons in the shipping industry and that future port State control officers would be difficult to recruit in order to ensure that port State control inspections maintain the same high standards (IMO, 2004). According to a study by Baltic and International Maritime Council (BIMCO) in 2000, there will be a shortage of some 46,000 ship's officer by

2010 (Grey, 2005).

The direct consequence of shortage of PSCOs is the great workloads for PSCOs. In Korea, an inspector averagely conducted 184.6 inspections in 2002 (KMI, 2003). The overweight workload for PSCOs inevitably lead that the quality of inspections can not be assured.

5.4.2 The professional knowledge level of PSCOs

PSC inspections are highly professional job which can only be accomplished by experienced inspectors with professional knowledge. During the process of inspections, the inspectors use professional knowledge to decide if the ship, ship equipment and shipboard operations comply with the applicable standards. Particularly, the PSCO should exercise professional judgment to determine whether to detain a ship (IMO, 1999). For the PSCOs, the professional knowledge level has two sides. First, the PSCOs must acquire necessary knowledge of the provisions of the applicable conventions and instruments before they are authorized to carry out PSC inspections by port State. Second, the PSCOs must continuously update their knowledge with respect to instruments related to port State control.

Before PSCOs begin their career as PSC inspectors, training should be provided to them to acquire necessary knowledge. However, the scope of the necessary knowledge is quite extensive, which includes conventions, codes, IMO resolutions and numerical guidelines. And the contents of instruments are extremely complicated. For example, the conventions have SOLAS, MARPOL73/78, STCW 78 as Amended in 1995, LOADLINE, etc. Furthermore, all of these conventions have amendments. The amendments apply to ships which were constructed in different years. Different types of ships also have different applicable regulations in these conventions. For PSCOs, it is a great challenge to make acquainted with these instruments.

With the development of international conventions, more and more amendments and codes are adopted and become compulsory requirements to applicable ships, such as

Annex to MARPOL 73/78, ISPS Code. Thus, the PSCOs must update their knowledge to keep up with the development of conventions. The PSC Procedure requires that periodical seminars for PSCOs should be held in order to update their knowledge with respect to instruments related to port State control (IMO, 1999). This is not a big problem for the developed countries which have considerably bigger budgets. But some developing countries have limited financial support to get their PSCOs' professional knowledge level improved. The PSCOs can not receive sufficient knowledge update training and can not effectively carry out PSC inspections.

5.4.3 The ethical principle of PSCOs

The PSCOs should hold integrity in ethic because they represent fairness and have power to take control measures which can bring financial loss to shipowners. The PSCOs and the persons assisting them should have no commercial interest, either in the port of inspection or in the ships inspected, nor should PSCOs be employed by or undertake work on behalf of recognized organizations (IMO, 1999).

However, like any other system where human beings are involved, the port State control system can be abused (Özçayır, 2003). In recent years, port State control, so often depicted as a knight in shining armour in the battle against substandard shipping, has found itself fending off accusations of corruption (Corbett, 2004) George Barclay, director of the international port State control database Equasis, also admitted: "This is a problem that exist to a greater or lesser extent all over the world and will unfortunately remain for a while" (Fairplay, 2004). Even more worse, the industry's silence on the issue ultimately makes it hard to assess accurately how widespread corruption is (Fairplay, 2004).

There are mainly two reasons for the rampancy of the corruption. Firstly, as section 5.2.2 point out, there are many subjective elements in the PSC regime. These subjective elements set aside space for the corruption. The PSC inspectors are free to

choose control measures once deficiencies are found. Secondly, the financial incentives that creates for low-paid, overworked and undervalued port officials is one of the driving force behind the abuses of the port State regime. PSC will always be a problem area, as the inspectors are low paid and see great opportunities for a quick buck (Slater, 2004).

The abuse of power by some PSC inspectors badly impairs the integrity, reputation and effectiveness of PSC regime. If the endemic of corruption is rampant in the whole world, the PSC regime can not exert its effect as a safety net. And even worse, it can be a burden of the whole shipping industry.

5.5 Undue detention

5.5.1 Overview of undue detention

Detention is a very serious matter. Just as John Hare pointed out in 1997:

If a chartered vessel is facing cancellation dates and is unable to complete loading or discharge by reason of a port State control detention, her owner would clearly suffer considerable financial losses. These losses may be mirrored down the charter party, and could be compounded by publicized allegations that the owner's hitherto good trading name has been tarnished.

Undue detention is to detain a ship for what subsequently and in retrospect turns out to be insufficient cause (Hare, 1997) The Procedure For Port State Control provides: "when exercising control, all possible efforts should be made to avoid a ship being unduly detained or delayed" (IMO, 1999). Nevertheless, undue detentions happen occasionally in the worldwide. If there is an Achilles heel in current international port State control practice it is that authorities may be concerned by their possible exposure to actions for wrongful detention (Hare, 1997).

To avoid ships being unduly detained, the international conventions also provide that an unduly detained ship will be entitled to compensation and can appeal against the detention if the detained ship can prove wrongful detention (SOLAS, 1974). But it is seldom to find any successful cases where an owner has successfully recovered compensation following wrongful detention by a PSCO (Özçayır, 2003). The reason behind this situation is that in any instance of alleged undue detention or delay the burden of proof lies with the owner or operator of the ship (ASOC, 2003).

5.5.2 The reasons of undue detention

Generally, there are mainly two reasons for the undue detention. One is that the PSCOs have insufficient professional knowledge and make inappropriate judgment. Another reason is that there are still insufficient guidelines available to help PSCOs make decision of detention.

The international conventions, codes, resolutions and guidelines are very complicated instrument system for PSCOs to command. Furthermore, these instruments are not invariable and are constantly amended. With the development of shipping industry, more and more instruments are adopted and come into force. This raises huge challenges to PSCOs. A qualified and experienced PSCO need a long time training and should study the relevant instruments continuously. In case a PSCO has insufficient knowledge in one aspect, he (she) may make inappropriate judgment based on the insufficient knowledge and unduly detain the ship.

Even the PSCOs have sufficient professional knowledge, the insufficient guidelines on PSC detention may also lead the PSCO unduly detain the ship. The PSC procedure provides guidelines on detention and MoUs provide a list of detainable deficiencies, but those are not enough for PSCOs to make professional judgment. For example, when the ship is found to be deficient, a combination of deficiencies of a less serious nature may also warrant the detention of the ship (IMO, 1999). However, there are no any guidelines on what is the combination of deficiencies of a less serious nature that

may lead a detention. The PSCOs meet a big problem in this situation and undue detention may happen.

5.5.3 Case study

The “*Lantau Peak*” case is a case that the vessel suffered undue detention and the owner successfully recovered compensation following the wrongful detention by PSCOs. In an important Federal Court of Canada decision on April 5, 2004 in *Maritime Consortium Management vs. Her Majesty the Queen in the right in Canada*, the shipowner was awarded \$5,969,072 plus costs against the Crown in respect of the negligent conduct of Canadian Port State Control inspectors and their superiors in Vancouver and Ottawa with respect to the inspection and detention of the bulk carrier *Lantau Peak* (Hawkins, 2005).

On April 5, 1997, the *Lantau Peak* arrived in Vancouver Harbour from Japan to conduct some minor repairs and then load coal for a return voyage to Japan. Before loading, the vessel had planned to repair hull frames found to be detached during the voyage. On arrival alongside the berth, *Lantau Peak* was inspected by two Canadian Steamship inspectors following which it was ordered detained as a measure of Ports State Control. The vessel remained in detention for 130 days until August 13, 1997. On departure the *Lantau Peak* sailed in ballast to China for extensive hull repairs required by the terms of its release from detention. The detention was imposed primarily on the basis of the inspector’s opinion that the hull frames were wasted by corrosion beyond what was considered an acceptable limit. The limit imposed by the inspectors was 17 percent of the original as-built thickness. The shipowner argued the classification society, Class NK, requirements should be applied, not some unique Vancouver standard. The shipowner commenced suit in the Federal Court of Canada against Her Majesty and the local inspectors seeking damages for unnecessary repair costs, off-hire expenses, port costs and bunker expenses. In a lengthy 189 pages decision, Justice Campbell hold that his arbitrary determination was inconsistent with the standards of both the flag administration and classification society and its basis

was not substantiated (Campbell, 2004). The ship owner was improperly required to undertake unnecessary and extensive repairs in the Canadian port, rather than being allowed to sail to a foreign port where repairs would have been less costly (Fairplay, 2004). The Port State Control inspectors and their supervisors in Transport Canada were negligent in the conduct of their duties (Hawkins, 2005).

In this case, the root cause of the undue detention rested that the PSC inspectors made a wrong judgment based on an arbitrary standard. The arbitrary standard required that the maximum wastage of hull frame not exceed 17 percent of the original as-built thickness, which was not international agreed standard contained in any international conventions. The PSC inspectors referred to wrong standard and have inadequate knowledge on the limitation of the wastage of hull frame.

5.6 Conclusion

The PSC regime is far from a perfect system to combat substandard ship and improve maritime safety through promoting flag State implementation. More or less, the inherent limitations and the weakness in the course of development impair its efficacy. Large room still exists for the PSC regime to improve its performance. Policies and measures need to be taken by the international maritime community to enlarge the effectiveness and efficiency of the system. Some proposals have been adopted by IMO, while some proposals are under discussion.

Chapter

Recommendations and Conclusion

6.1 Introduction

Although PSC regime has achieved partial success, there is a mass room for the improvement of the regime. There are many approaches available to improve the performance of PSC regime. Most of them are to enhance the homogeneity of the PSC regime through worldwide coordination and cooperation. No matter what approach is employed, the active participations of all stakeholders in the maritime community such as shipowners, classification societies, flag States and port State are essential.

6.2 Promote uniformity of the PSC regime worldwide

The uniformity of the PSC regime has two tiers: the uniformity within the region of the MoU and the uniformity between the MoUs. To promote uniformity of the PSC regime worldwide, the two tiers of uniformity need to be improved simultaneously.

For the improvement of uniformity within the region of the MoU, the PSC committee of each MoU may play an important role. First, the PSC committee of each MoU should develop a consistent PSC manual, preferably based on the PSC manual of Paris MoU which is relatively mellow. The PSC manual provides the detailed guidelines on the procedures of PSC inspection to unify the PSC practices. Second, establish PSC auditing mechanisms in the context of the Voluntary IMO Member

State Audit Scheme. As far as the member States of IMO are concerned, their maritime Authorities' responsibilities of implementing international conventions rest on not only ensuring ships flying their own flag to observe applicable standards as flag State implementation, but also establishment an effective and consistent PSC regime as a port State. The performance of PSC inspections is an important aspect of the voluntary audit scheme. The MoU can also introduce the PSC self-assessment scheme among the member Authorities of the MoU. In accordance with the PSC performance of each Authority, the MoU may coordinate the practices of member Authorities to achieve the uniformity within the region of MoU. Third, urge the member Authorities of MoU that have not ratified all relevant instruments to do so as soon as possible. Particularly, the MoU should promote the accession to the conventions which aim to improve living and working conditions on board ships by States of member authorities.

For the Uniformity between the MoUs, information exchange should be promoted. Port State control is more effective when implemented on a regional basis. However, it is still beneficial to all concerned when harmonization of the various areas of port State control administration and inspection procedures can be achieved on an inter-regional basis (IMO, 2004). To this end, all Port State Control Committees are urged to keep each other fully informed of all new port State control initiatives undertaken in their respective regions, in order to review whether reciprocal measures can be introduced. Also, through the coordination of IMO, the PSC committees of MoUs should enhance harmonization of coding systems, including those for ports and places of inspection.

6.3 Enhance the transparency of the PSC system

For the success of the PSC, there is an urgent need for more transparency. Transparency could not be the solution in eliminating substandard ships but surely it is a step in the right direction (Cubbin, 2001). Some shipowners still consider the risk of non-compliance to be outweighed by their commercial interest or survival in a

harsh market. Some relevant industry players are still more concerned about their market share rather than the problem of substandard shipping. However, exposing them to the public will surely benefit this world by raising the quality level of the whole shipping industry. The publicized detention list will deter charterers to contract bad quality ships. This trend has already emerged in the US where many major oil companies are under public pressure not to charter ships with bad records (Shiming, 2001). In addition, to some extent transparency can prevent the abuse of PSC by some inspectors.

One measure to increase transparency is continuous publication of detailed information on a regular basis on detained ships, including the names of owners and various commercial interests such as entities and charterers. More transparency is being achieved as information on all appropriate parties involved in ships under detention is made available to the port State. Another measure is to publish annual report by every maritime Authority and MoU. Through the annual report, an overview of the performance of port States and MoUs will be presented to the public yearly. The port States with poor performance may receive pressure from public that require them improving their PSC activities.

6.4 Promote the information exchange worldwide

The most obvious advantage of the information exchange is to avoid too frequent PSC inspections on ships, especially on quality ships, while at the same time save valuable inspection resources and cost to inspect the potential high-risk ships. Although the existing nine MoUs have set up their own information center, some of them have no computer network enabling their member States to store their inspection data in a central database for use by other members, none of which are able to satisfactorily exchange data with any of the others due to problems with technical IT compatibility. To promote the information exchange worldwide, the first and the most important is to help some of the developing MoUs to establish regional PSC computer databases. Second, continue to improve the regional port State control information systems and

to work toward full exchange of information among the existing nine regional PSC regimes and the USCG. This can be done by improving contact mechanisms amongst the MoU secretariats and by facilitating the flow of information between MoU information centres on action taken against sub-standard shipping.

6.5 Develop detailed guidelines on PSC for PSCOs

With the adoption of conventions such as International Convention on the Control of Harmful Anti-Fouling Systems on Ships (AFS), International Convention on the Management of Ballast Water and Sediments (BWM), more and more guidelines on enforcing PSC aspects of these conventions are needed to help PSCOs carry out inspections. These guidelines should be exhaustive enough to cover the every detailed requirement of the conventions. After the guidelines on PSC inspections were developed, they also need to be amended according to the practices in realities.

Apart from the IMO conventions, the enforcement of PSC aspects of ILO conventions also need guidelines to help PSCOs conduct inspections living and working conditions on board. The draft Consolidated Maritime Labour Convention (CLMC) is submitted to ILO for adoption. Developing and implementing an inspection regime that is based on the new ILO convention is urgent. This regime will enhance the protection of the workers concerned and reflect the greater consistency, clarity, adaptability and general applicability that the consolidation of the more than 60 maritime labour instruments will bring to the rapidly developing, globalized maritime sector.

6.6 Strengthen the recruiting and training of PSCOs

The qualification of the PSCOs is the key to the success of the PSC regime. The public acceptance and credibility of port State control depends greatly on the professional attitude and skills of PSCOs and that suitably trained seafarers have a crucial role in achieving safe, secure and efficient shipping on clean oceans, and making sure that port State control inspections maintain the expected high standards

(Tokyo MoU, 2005) Sufficient human resources should be available for the PSC regime and the professional knowledge level of PSCOs should be improved continuously. The following measures may be taken for these purposes:

First, appropriate programs should be instituted to attract and recruit qualified persons to become port State control officers. This involves encouraging investment in infrastructure, improving working conditions and, ultimately, encouraging more persons to join the team of PSCO. Second, continue and enhance regional training programs for PSCOs. The trainings have various types which can serve for different levels. Besides the present basic training course, fellowship training and seminars for PSCOs, the PSCO exchange programme which has obtained good effect in some regions should be popularized. The PSCO exchange programme is intended to establish a two-way PSCOs exchange in the region, whereby each Authority could send out their officers to another Authority in exchange of receiving officers from that Authority.

6.7 Intensify the Targeting System

The targeting systems can identify high risk ships for priority inspections while leaving ships of prudent shipowners “in peace” as a reward for their good performance. High-risk ships will be inspected more frequently than ships with a lower risk profile and compliance measures taken, if necessary. At the same time the precious PSC resources can be utilized more productively. In the present, the targeting system runs very well in Paris MoU, Tokyo MoU and USCG. The other MoUs should be recommended to follow these examples especially considering their relatively shortage of resources so that the relatively high percentage of substandard ships can be targeted more precisely. In addition, the targeting system based on a ship’s risk profile can be improved to identify the companies operating sub-standard ships. Through targeting the company with poor safety performance, the effectiveness of the PSC regime can be improved.

6.8 Conclusion

The primarily responsibility of keeping the ship in compliance with international standards rests on the shipowners, flag States and other relevant industry stakeholders. The development of the PSC regime is the world reaction to the failure of shipowners and flag States in fulfilling their responsibilities. PSC is only a back-up but not a substitute for flag States enforcement, and it is in no way responsible for foreign ship's safety standards. It does not relieve the responsibility of flag States, owners and other relevant industry players imposed by international legislation to do their jobs properly and responsibly.

The legal basis and procedures of PSC were set up in the past decades. Its efficacy can be extended if PSC is carried out on a regional basis. With the development of regional PSC MoUs, the PSC regime is recognized by the world maritime community as a more and more effective means in achieving safe, secure and efficient shipping on clean oceans. So far, the PSC regime has achieved partial success in promoting the safety level of the shipping. However, the PSC regime is far less perfect in achieving it's goal.

To make the PSC regime more effective, there is still a lot of work to be done. Measures in improving the effectiveness of PSC included promoting the uniformity of PSC regime worldwide, enhanced transparency through increased information exchange within regions and inter-regionally, strengthening the recruiting and training of PSCOs and intensifying the targeting system. IMO and PSC committees of MoUs can play active roles so that all these measures can be taken in a globally harmonized and consistent manner.

In a word, PSC regime is effective, but it faces some challenges. Great efforts still need to be done by stakeholders to improve its efficacy. The ultimate goal is to achieve safe, secure, efficient shipping on clean oceans, which is one of the oldest industries in the history of mankind.

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Appendices

Appendix A: Table 1 Summary of status of conventions at 31 January 2005

Instrument	Entry into force date	No. of Contracting States	% world tonnage*
IMO Convention	17-Mar-58	164	98.56
1991 amendments	-	87	83.58
SOLAS 1974	25-May-80	155	98.52
SOLAS Protocol 1978	01-May-81	107	94.99
SOLAS Protocol 1988	03-Feb-00	77	66.84
Stockholm Agreement 1996	01-Apr-97	9	9.58
LL 1966	21-Jul-68	155	98.49
LL Protocol 1988	03-Feb-00	73	63.28
TONNAGE 1969	18-Jul-82	142	98.25
COLREG 1972	15-Jul-77	146	97.60
CSC 1972	06-Sep-77	76	61.11
1993 amendments	-	8	4.76
SFV Protocol 1993	-	10	9.71
STCW 1978	28-Apr-84	148	98.50
STCW-F 1995	-	4	3.26
SAR 1979	22-Jun-85	83	52.05
STP 1971	02-Jan-74	17	23.14
SPACE STP 1973	02-Jun-77	16	22.30
INMARSAT C 1976	16-Jul-79	89	92.22
INMARSAT OA 1976	16-Jul-79	87	91.35
1994 amendments	-	40	29.10
FAL 1965	05-Mar-67	100	65.84
MARPOL 73/78 (Annex I/II)	02-Oct-83	130	97.07
MARPOL 73/78 (Annex III)	01-Jul-92	115	92.99
MARPOL 73/78 (Annex IV)	27-Sep-03	100	54.35
MARPOL 73/78 (Annex V)	31-Dec-88	119	95.23
MARPOL Protocol 1997 (Annex VI)	19-May-05	19	60.04
LC 1972	30-Aug-75	81	69.85
1978 amendments	-	20	19.23
LC Protocol 1996	-	21	12.02
INTERVENTION 1969	06-May-75	82	71.79
INTERVENTION Protocol 1973	30-Mar-83	47	46.08

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CLC 1969	19-Jun-75	45	4.81
CLC Protocol 1976	08-Apr-81	55	55.66
CLC Protocol 1992	30-May-96	104	93.44
FUND Protocol 1976	22-Nov-94	33	47.41
FUND Protocol 1992	30-May-96	93	88.49
FUND Protocol 2000	27-Jun-01	-	-
FUND Protocol 2003	-	8	9.47
NUCLEAR 1971	15-Jul-75	17	19.76
PAL 1974	28-Apr-87	30	37.47
PAL Protocol 1976	30-Apr-89	24	37.17
PAL Protocol 1990	-	4	0.77
PAL Protocol 2002	-	-	-
LLMC 1976	01-Dec-86	47	49.75
LLMC Protocol 1996	13-May-04	15	14.94
SUA 1988	01-Mar-92	115	81.04
SUA Protocol 1988	01-Mar-92	104	76.95
SALVAGE 1989	14-Jul-96	48	36.77
OPRC 1990	13-May-95	82	63.67
HNS Convention 1996	-	8	5.37
OPRC/HNS 2000	-	11	16.11
BUNKERS CONVENTION 2001	-	6	4.09
AFS CONVENTION 2001	-	10	9.18
BWM CONVENTION 2004	-	-	-
* Source: Lloyd's Register of Shipping/World Fleet Statistics as at 31 December 2003			

Appendices

Appendix B: Table 2 Port State control agreements: comparative table

	Paris MoU	Acuerdo de Viña del Mar	Tokyo MoU
Participating Maritime Authorities and Associate Members	20 Belgium, Canada, Croatia, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Netherlands, Norway, Poland, Portugal, Russian Federation, Slovenia Spain, Sweden, United Kingdom	12 Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, Ecuador, Honduras, Mexico, Panama, Peru, Uruguay, Venezuela	18 Australia, Canada, Chile, China, Fiji, Hong Kong (China), Indonesia, Japan, Republic of Korea, Malaysia, New Zealand, Papua New Guinea, Philippines, Russian Federation, Singapore, Thailand, Vanuatu and Viet Nam
Co-operating Members	Cyprus, Lithuania and Malta		
Observers	Estonia, Latvia, United States, IMO, ILO, Tokyo MoU, Caribbean MoU, Mediterranean MoU and Black Sea MoU	IMO, ROCRAM, United States	Brunei, Macao (China) Solomon Islds*, United States, IMO, ILO, ESCAP, Paris MoU, Indian Ocean MoU and Viña del Mar Agreement
Target inspection rate	25 % annual inspection rate per country	15 % annual inspection rate per country within 3 years	75 % annual regional inspection rate
Relevant instruments	LL 66 and LL PROT 88 SOLAS 74 SOLAS PROT 78 and 88 MARPOL 73/78 STCW 78 COLREG 72 ILO Convention No. 147 TONNAGE 69	LL 66 SOLAS 74 SOLAS PROT 78 MARPOL 73/78 STCW 78 COLREG 72 TONNAGE 69	LL 66 and LL PROT 88 SOLAS 74 SOLAS PROT 78 and 88 MARPOL 73/78 STCW 78 COLREG 72 ILO Convention No. 147 TONNAGE 69
Information Centre location	DSI - Centre Administratif des Affaires Maritimes (CAAM), Saint-Malo, France	Centro de Información del Acuerdo Latinoamericano(CIALA), Prefectura Naval Argentina, Buenos Aires	Asia-Pacific Computerized Information System (APCIS), Vladivostok, Russia
Committee composition	A representative of each of the authorities and the EC Commission	A representative of each of the authorities	A representative of each of the authorities
Secretariat	The Hague, The Netherlands	Buenos Aires, Argentina	Tokyo, Japan
Signed on	1 July 1982	5 November 1992	1 December 1993
Official languages	English, French	Spanish, Portuguese	English
Concentrated inspection campaigns	Dedicated to operational compliance on board passenger ships. 1 May to 31 July 2003 covering most of the cruise season in Europe and Canada.	August - October 2002 - Training Convention on STCW. February - April 2003 - ISM.	July - September 2002 - ISM Code compliance. September - November 2003 - Bulk carrier safety campaign (same questionnaire as Paris MoU). Control of operational requirements campaign in Autumn 2004. GMDSS 2005.
Major training/exchange issues	1 st expert and specialized training - Human Element and Safety and Environment: Inspection of Tankers. 2 nd expert training - Safety and Environment: IMDG Code, Load Lines, GDMSS and Oily water separators. 3 rd expert training - Human element: ILO and STCW conventions, Intercultural Communication and Operational Control.		2 nd regional training course on PSC with the 13 th Tokyo MoU basic training course (11 - 28 Nov 2003) 10 th seminar for PSC officers (22-24 October 2003). Further fellowship training course (19 Sept.—7 Oct. 2003). Two expert mission training courses during 2003. Exchange programme for PSC officers.
Total number of inspections/ detention rates +/-	2002 - 1,577 detentions 2003 - 1,428 (9.45% decrease in detentions) inspection rate in 2003 - 30.1%	2002 - 151 detentions 3.3% detention rate) 2003 - 126 detentions (2.8% detention rate)	2001 - 1349 detentions (detention rate 7.76%) 2002 - 1307 detentions (detention rate 6.67%) 2003 -1709 detentions (detention rate 8.49%) (31% increase in detentions)
Chairman	Mr. A. Cubbin (United Kingdom)	Mr. E.S. Arce (Chile)	Mr. J. Mansell (New Zealand) (Former Chairman) Mr. K.-T. Lim (Republic of Korea) (Chairman elected in 2004) Mr. Y. Sasamura (Japan)
Secretary-General	Mr. R. Schiferli (Netherlands)	Mr. J.J. Beltritti (Argentina)	
New Members/Observers	Slovenia joined as full member 22 July 2003.		Observers: Macao, China and Viña del Mar Agreement and Black Sea MoU.
PSCC meeting	36 th meeting in Dubrovnik, Croatia 12-15 May 2003. 37 th meeting in Copenhagen, Denmark 11-14 May 2004. 38 th meeting in Helsinki, Finland 9-13 May 2005.	10 th meeting in Buenos Aires, Argentina 1-3 September 2003. 11 th meeting in Viña del Mar, Chile 22-24 September 2004. 12 th meeting in Lima, Peru September 2005.	12 th meeting in Renaca, Chile 24-27 March 2003. 13 th meeting in Port Vila, Vanuatu 23-26 February 2004. 14 th meeting in Shanghai, China 22-25 November 2004. 15 th meeting in Thailand November 2005.
Inter-regional exchange of data	Data provider to Equasis		Data provider to Equasis Inter-regional exchange Black Sea - Tokyo MoUs
Website Email	www.parismou.org office@parismou.org	www.acuerdolatino.into.ar ciala@prefectura naval.gov.ar	www.tokyo-mou.org secretariat@tokyo-mou.org
IMO workshop special responsibilities		Chairman 2 nd workshop - Prefecto Mayor P. C. Escobar (Argentina)	

* Pending acceptance

Appendices

	Caribbean MoU	Mediterranean MoU	Indian Ocean MoU
Participating Maritime Authorities and Associate Members	23 Anguilla*, Antigua and Barbuda, Aruba, Bahamas, Barbados, Bermuda*, British Virgin Islds*, Cayman Islds, Cuba, Dominica*, Dominican Republic*, Grenada, Guyana, Haiti*, Jamaica, Montserrat*, Netherlands Antilles, Saint Kitts & Nevis*, Saint Lucia*, Saint Vincent & the Grenadines*, Suriname, Trinidad & Tobago, Turks and Caicos Islds*	11 Algeria, Cyprus, Egypt, Israel, Jordan; Lebanon, Malta, Morocco, Tunisia, Turkey and the Palestinian Authority*	18 Australia, Bangladesh*, Djibouti*, Eritrea, India, Iran, Kenya, Maldives, Mauritius, Mozambique*, Myanmar*, Oman, Seychelles*, South Africa, Sri Lanka, Sudan, Tanzania, Yemen
Observers	IMO, ILO, CARICOM, IACS, Canada, USCG, Paris MoU, Viña del Mar, Tokyo MoU, DNV, Equasis and LR-F	IMO, ILO, EC	Ethiopia, IMO, ILO, PMAESA,
Target inspection rate	15 % annual inspection rate per country within 3 years	15 % annual inspection rate per country within 3 years	10 % annual inspection rate per country within 3 years
Relevant instruments	LL 66 SOLAS 74 SOLAS PROT 78 MARPOL 73/78 STCW 78 COLREG 72 ILO Convention No. 147 TONNAGE 69	LL 66 SOLAS 74 SOLAS PROT 78 MARPOL 73/78 STCW 78 COLREG 72 ILO Convention No. 147	LL 66 SOLAS 74 SOLAS PROT 78 MARPOL 73/78 STCW 78 COLREG 72 ILO Convention No. 147 TONNAGE 69
Information Centre location	Information Centre Suriname	Information Centre Casablanca, Morocco	Indian Ocean MoU Computerised Information system (IOCIS), Information Centre Goa, India
Committee composition	A representative of each of the authorities	A representative of each of the authorities	A representative of each of the authorities
Secretariat location	Kingston, Jamaica	Alexandria, Egypt	Goa, India
Signed on	9 February 1996	11 July 1997	5 June 1998
Official languages	English	Arabic, English and French	English
Concentrated inspection campaigns			LSA campaign 2004. Fire-Fighting Appliances 1 April-30 June 2005.
Major training/ exchange			Seminar for PSCOs in India 8-10 February 2005.
Total number of inspections/ detention rates +/-			2001 - 291 detentions (detention rate 5.27%) 2002 - 306 detentions (detention rate 5.61%) 2003 - 472 detentions (detention rate 9.27%)
Chairman	Mr. I English (Guyana)	Mr. L. Vassallo (Malta) Adm. H. Hosni (Egypt) (Former) Mr. F.S.A.H. El Kady (New 2005)	Mr. M. Kinley (Australia)
Secretary-General	Mr. L. Bennett (Jamaica)		Mr. B. Ganguli (India)
New Members/ Observers	Tokyo MoU	Black Sea MoU Observer	Yemen new member (as of 7th meeting). Black Sea MoU and Equasis observers
PSCC meeting	8th Paramaribo, Suriname (28-30 October 2003). 9 th meeting in Havana, Cuba (7 to 9 September 2004). 10 th meeting in Cayman Islands (June 2005).	6 th meeting in Aqaba, Jordan (7-10 October 2003). 7 th meeting in Alexandria, Egypt (31 January - 2 February 2005). Planned joint PSCC meeting in 2006 with Black Sea MoU in Istanbul, Turkey.	6 th meeting in Goa, India (20 - 23 October 2003). 7 th meeting in Amboseli, Kenya (27 - 30 September 2004). 8 th meeting in the Maldives/South Africa (5 September 2005).
Inter-regional exchange of data		Unilateral consultation of Equasis	
Website Email	Caribmou@Caribbeanmou.org	www.medmou.org medmou@dataxprs.com.eg	www.iomou.org iomou@sancharnet.in
IMO workshop special responsibilities		Chairman 3 ^d workshop -Admiral H. Hosni (Egypt)	Chairman 1* workshop - Capt. W.A. Dernier (South Africa)

*Pending acceptance

Appendices

	West and Central African MoU	Black Sea MoU	The Cooperation Council for the Arab States of the Gulf (GCC) Riyadh MoU
Participating Maritime Authorities and Associate Members	16 Benin*, Cape Verde*, Congo, Côte d'Ivoire*, Gabon*, The Gambia*, Ghana, Guinea, Liberia*, Mauritania*, Namibia*, Nigeria, Senegal, Sierra Leone, South Africa* and Togo*	6 Bulgaria, Georgia, Romania, Russian Federation, Turkey and Ukraine	6 The Kingdom of Bahrain, State of Kuwait, Sultanate of Oman, State of Qatar, Kingdom of Saudi Arabia, The United Arab Emirates
Observers	IMO, ILO, MOWCA	IMO, ILO	IMO, ILO
Target inspection rate	15 % annual inspection rate per country within 3 years	15 % annual inspection rate per country within 3 years	10 % annual inspection rate per country within 3 years.
Relevant instruments	LL 66 SOLAS 74 SOLAS PROT 78 MARPOL 73/78 STCW 78 COLREG 72 ILO Convention No. 147 TONNAGE 69	LL 66 SOLAS 74 MARPOL 73/78 STCW 78 COLREG 72 TONNAGE 69 ILO Convention No. 147	LL 66 SOLAS 74 SOLAS PROT 78 MARPOL 73/78 STCW 78 COLREG 72 TONNAGE 69 ILO Convention No 174 (Minimum Standards, 1976)
Information Centre location	MOWCA Headquarters, Abidjan, Côte d'Ivoire. Temporarily moved to Nigeria Abuja MoU Information Centre (AMIS)	Black Sea Information System (BSIS), Novorossiysk, Russian Federation	Muscat, Sultanate of Oman
Committee composition	A representative of each of the authorities	A representative of each of the authorities	A representative of each of the authorities
Secretariat location	Lagos, Nigeria	Istanbul, Turkey	Riyadh, Saudi Arabia
Signed on	22 October 1999	7 April 2000	30 June 2004
Official languages	English, French	English	Arabic (The official text of the Memorandum is the English version)
Concentrated inspection campaigns			
Major training/exchange issues	National Information Centres established and National Database Managers (NDBMs) designated. NDBMs and PSCOs trained.	Regional PSCO exchange programme initiated. PSCO Training Strategy (includes basic training, PSCO workshops and seminars, specialized training courses and PSCOs exchange programme.) Interregional exchange of PSC data with Tokyo MoU.	IMO TC activity for IT development of information centre (2004)
Total number of inspections/detention rates +/-	2003 - 2 detentions (detention rate 1.9%)	2002 - 222 detentions (detention rate 6.28% in 2002) 2003 - 249 detentions (detention rate 4.76%)	
Chairman	Mr. A. Mbaye (Senegal) Engr. B. Oluwole	Capt. M. Chintoan-Uta (Romania) (Former) Dr. V. Kliuev (Russian Federation) (New 2004) Mr. H. Yüce (Turkey)	
Secretary-General	(Nigeria)		
New Members/Observers			
PSCC meeting	3 ^d meeting in Brazzaville, Congo 22 - 24 October 2004. 4 th meeting in Abuja, Nigeria in June 2005.	4 th meeting in Odessa, Ukraine (22 -26 April 2003) 5 th meeting in Novorossiysk, Russian Federation (26-30 April 2004) 6 th meeting in Batumi, Georgia (18-22 April 2005) Planned joint PSCC meeting in 2006 with MED MoU in Istanbul, Turkey.	
Inter-regional exchange of data		Inter-regional exchange Black Sea -Tokyo MoUs	
Website Email	wcamoupsc@micro.com.ng abujamou@yahoo.com	www.bsmou.org secretariat@bsmou.org bsmousecretariat@superonline.com	
IMO workshop special responsibilities		Co-ordinator of Contact Group on Information Exchange - Dr. V. Kliuev (Russian Federation) (3 rd workshop)	

* Pending acceptance

Source: (IMO, 2004)

Appendices

Appendix C: Quality Shipping for the 21st Century

United States Coast Guard Port State Control Quality Shipping Initiative

The U.S. Coast Guard is pleased to submit a summary of Qualship 21, a new initiative to identify quality, foreign-flagged vessels, and provide them with incentives.

Qualship 21, Quality Shipping for the 21st Century

The number of substandard vessels in the United States waters has decreased, and a very small percentage of port State control exams result in a detention. While our targeting matrix appears to be effective in identifying the highest risk vessels for boarding and examination, Coast Guard policy requires all foreign-flagged vessels to be examined no less than once each year, regardless of the score that the vessel receives in the matrix. This provides few incentives for the well run, quality ship, and the United States believes that quality vessels should be recognized and rewarded for their commitment to safety and quality. Therefore, on 1 January 2001, the United States will implement an initiative to identify high-quality ships, and provide incentives to encourage quality operations. This initiative is called, Qualship 21, quality shipping for the 21st century.

By closely examining port State control data from the previous 3 years, the characteristics of a typical quality vessel were identified. A quality vessel is associated with a well run company, is classed by an organization with a quality track record, is registered with a flag State with a superior port State control record, and has an outstanding port State control history in the United States waters. Using these general criteria, approximately 10% of the non-U.S. flagged vessels that call in the United States will qualify for this initiative. The specific eligibility criteria are as

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follows:

- 1) The vessel may not have been detained, and determined to be substandard in the U.S. within the previous 3 years;
- 2) The vessel may not have any marine violations (and no more than 1 Notice of Violation, also known as a ticket) in U.S. waters within the previous 3 years;
- 3) The vessel may not have had any major marine casualties or serious marine incidents in U.S. waters within the previous 3 years;
- 4) The vessel must have completed a successful U.S. Port State Control examination within the previous 1 year;
- 5) The vessel may not be owned or operated by any company that has been associated with a substandard vessel detention in the U.S. within 2 years;
- 6) The vessel may not be classed by, nor have its statutory Convention Certificates issued by, a targeted class society. A class society is targeted if points are assigned in the Coast Guard's port State control targeting matrix;
- 7) The vessel must be registered with a flag State that has a detention ratio not more than 1/3 of the overall U.S. detention ratio (determined on a 3year rolling average), and the flag State must have at least 10 U.S. distinct vessel arrivals in each of the last 3 years;
- 8) The vessel's flag State must submit its Self-Assessment of Flag State Performance to the IMO, and provide a copy to the Coast Guard; and
- 9) Though not specifically mentioned in the above criteria, the Coast Guard reserves the right to restrict eligibility in the Qualship 21 initiative to any vessel because of special circumstances including, but not limited to, significant overseas casualties or detentions, and pending criminal or civil

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investigations

To encourage quality vessel operations, all Qualship 21 vessels will receive a Qualship 21 Certificate, and the vessel's name will be posted on the Qualship 21 page of the Coast Guard's port State control internet web site. Qualship 21 vessels will also receive the following incentives:

- 1) Freight ships will be eligible for a maximum of 2 years of limited port State control oversight. Annual exams of these vessels will be eliminated and replaced with biennial exams;
- 2) Tank ships must still be examined annually, but the mid-period examination of a Qualship 21 tank vessel may be reduced in scope; and
- 3) Passenger vessels will not be eligible for a reduction in port State control exams. While passenger vessels have an excellent safety record in the United States, there is too much at risk to consider any changes to our passenger vessel examination policy.

A vessel owner will not be required to apply for Qualship 21 designation. The Coast Guard will screen its vessel database, and develop a list of ships that appears to meet the Qualship 21 qualification criteria. Letters will be sent to the vessel owners to notify them of the initiative, and their opportunity to participate. To qualify for the original list, owners would be required to answer a series of questions to verify that our initial screening of the vessel was correct.

The Qualship 21 vessel list will be published annually (with the first list published on 1 March 2001) on the Qualship 21 page of the headquarters port State control web site. Amendments will be made in the 2nd quarter of each calendar year, to add the vessels that were missed through the initial screening process. Input for the 2nd

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quarter amendment will come from vessel owners who believe they have vessels eligible for designation, yet their vessels were not published on the list. Additionally, the annual vessel list will be updated monthly when eligible vessels complete required PSC exams, and when subtractions to the list are made as vessels trigger exit criteria.

To maintain the integrity of the program, and to protect the safety of U.S. ports, a Qualship 21 vessel will be removed from the program when it triggers the following exit criteria: substandard detention in U.S. waters; marine violation, or more than 1 ticket; serious marine incident or major marine casualty; discovered in

U.S. waters with serious deficiencies, or failed to report a hazardous condition to the Captain of the port; transfers class to a targeted class society; or changes registry to a flag State that has a detention ratio more than 1/3 of the overall port State control detention ratio, or to a flag State that has less than 10 distinct vessel arrivals in each of the previous 3 years.

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Appendix D: The items that can be included in one PSC inspection

CODES FOR NATURE OF DEFICIENCIES	CREW AND ACCOMMODATION (ILO 147)		
0100 SHIP'S CERTIFICATES AND DOCUMENTS	0300 CREW AND ACCOMMODATION (ILO 147)	0628 stowage of liferafts	0860 Entry dangerous spaces (instructions, warnings)
0110 cargo ship safety equipment (including Exemption)	0301 minimum age	0629 marine evacuation system	0870 Cargo Gear Record Book
0111 cargo ship safety construction (including Exemption)	0310 dirty, parasites	0630 launching arrangements for survival craft	0899 other (accident prevention)
0112 passenger ship safety (including Exemption)	0320 Ventilation	0635 launching arrangements for rescue boats	STABILITY, STRUCTURE AND RELATED EQUIPMENT
0113 cargo ship safety radio (including Exemption)	0321 Heating	0636 helicopter landing/pick-up area	0910 hydraulic and other closing devices/watertight doors
0114 cargo ship safety (including Exemption)	0322 Noise	0637 means of rescue	signs, indicators (WT doors, fire detectors, fire dampers, ventilation)
0116 document of Compliance (DoC/ISM Code)	0330 sanitary facilities	0640 distress flares	0920 Damage control plan
0117 safety management certificate (SMC/ISM Code)	0340 drainage	0650 lifebuoys	0930 stability/strength/loading information and instruments
0120 load lines	0350 lighting	0660 lifejackets	0931 information on A/A-max ratio (ro-ro passenger ships)
0130 liquefied gases in bulk (CoF/GC Code)	0360 pipes, wires (insulation)	0663 immersion suits	0936 steering gear
0131 liquefied gases in bulk (CoF/IGC Code)	0361 Electrical devices	0664 anti-exposure suits	0938 damage to hull due to weather or ship operation
0135 minimum safe manning document	0370 sick bay	0666 thermal protective aids	0940 ballast, fuel and other tanks
0140 dangerous chemicals in bulk (CoF/BC Code)	0371 medical equipment	0669 Radio life-saving appliances	0945 emergency lighting, batteries and switches
0141 dangerous chemicals in bulk (CoF/IBC Code)	0380 Access / Structure	0674 emergency equipment for 2-way communication	0950 electric equipment in general
0150 prevention of pollution by oil (IOPP)	0382 Sleeping room	0676 public address system	0951 low level lighting in corridors
0155 prevention of pollution by NLS in bulk (NLS)	No direct openings into sleeping rooms from cargo / machinery areas	0680 embarkation arrangements - survival craft	0955 pilot ladders
0157 International Sewage Pollution Prevention Certificate	0384 Furnishings	0683 embarkation arrangements - rescue boats	0956 gangway, accommodation ladder
0158 Statement of Compliance (CAS)	0385 Berth dimensions, etc.	0684 means of recovery of lifesaving appliances	0960 means of escape
0159 Interim Statement of Compliance (CAS)	0386 Clear head	0686 buoyant apparatus	0970 location of emergency installations
0160 International ship security certificate	0387 Messroom location	0690 line throwing appliance	0972 Permanent means of access
0171 Special Purpose Ship Safety	0388 Oil skin locker	0692 operational readiness of lifesaving appliances	0981 beams, frames, floors - operational damage
0174 INF Certificate of Fitness	0389 Laundry	0694 evaluation, testing and approval	0982 beams, frames, floors - corrosion
0180 tonnage	0390 Record of inspection	0695 on board training and instructions	0983 hull - corrosion
0190 logbooks / compulsory entries	0399 other (accommodation)	0696 maintenance and inspection	0984 hull - cracking
0199 other (certificates)	FOOD AND CATERING (ILO 147)	0697 Decision support system for Masters on Passenger Ships	0985 bulkheads - corrosion
CERTIFICATION AND WATCHKEEPING FOR SEAFARERS	0400 galley, handling rooms	0699 other (life-saving)	0986 bulkheads - operational damage
0200 WATCHKEEPING FOR SEAFARERS	0411 Ventilation	0700 FIRE SAFETY MEASURES	0987 bulkheads - cracking
0221 certificates for master and officer	0412 Lighting	0710 fire prevention	0988 decks - corrosion
0222 certificate for ratings for watchkeeping	0413 Cleanliness	0711 inert gas system	0989 decks - cracking
0223 certificates for radio personnel	0420 Provisions (quantity)	0712 Division - main zones	0990 enhanced programme of inspection
0224 certificate for personnel on tankers	0421 Provisions (quality)	0713 Main vertical zone	0991 survey report file
0226 certificate for personnel on fast rescue boats	0430 water, pipes and tanks	0714 Doors within main vertical zone	0992 Thickness Measurement Report
0227 certificate for advanced fire-fighting	0440 Cold rooms	0715 fire detection	0999 other (stability/structure)
0228 Documentary evidence for personnel on passenger ships	0441 Cold room temperature	0716 Fire patrol	1000 ALARM SIGNALS
0229 documentary evidence for personnel on ro-ro passenger ships	0442 Cold room cleanliness	0720 readily availability of fire fighting equipment	1010 general alarm
0230 manning specified by the minimum safe manning document	0450 Food personal hygiene	0725 fixed fire extinguishing installation	1011 General emergency alarm
0241 certificate for medical first aid	0451 Food temperature	0730 fire fighting equipment and appliances	1012 Crew alarm
0250 certificate for personnel on survival craft and rescue boats	0452 Food segregation	0735 personal equipment	1020 fire alarm
0251 Certificate for medical care	0460 Record of inspection	0736 Emergency Escape Breathing Device	1030 steering-gear alarm
0252 Evidence of basic training	0499 other (food)	0739 Emergency Fire Pump	1040 engineers' alarm
0253 Schedules for watchkeeping personnel	0500 WORKING SPACES (ILO 147)	0740 fire pumps	1050 inert gas alarm
0260 rest period	0510 Ventilation	Means of control (opening, closure of skylights, pumps, etc. machinery spaces)	1060 machinery controls alarm
0261 Records of rest	0515 Heating	0743 Fire-dampers	1070 UMS-alarms
0270 Endorsement by flag States	0520 lighting	0745 Ventilation	1080 boiler-alarm
0272 Application for endorsement	0530 Safe means of access	0746 jacketed piping system for high pressure fuel lines	1090 Opening/closing watertight doors alarm
0299 other (STCW)	0531 Safe means of access Shore - Ship	0750 international shore connection	1099 other (alarms)
	0532 Safe means of access Deck -Hold/Tank, etc.	0755 Fire control plan - all ships	1100 CARRIAGE OF CARGO AND DANGEROUS GOODS
	0533 Obstruction/slipping, etc.	0760 Unattended Machinery spaces (UMS) evidence	1110 stowage of cargo
	0540 Protection machinery	0770 Doc of Compliance Dangerous Goods	1115 cargo securing manual
	0541 Electrical	0799 other (fire safety)	1120 grain
	0542 Machinery	0800 ACCIDENT PREVENTION (ILO 147)	1125 Authorization for grain carriage
	0543 Steam pipes and pressure pipes	0810 personal equipment	1130 stowage/packaging of dangerous goods
	0550 Danger areas	0815 Warning notices	1131 document of compliance on dangerous goods
	0551 Gas instruments	0820 protection machines/parts	1132 booklet for bulk cargo loading/unloading/stowage
	0552 Emergency cleaning devices	0830 pipes, wires (insulation)	1140 other cargo
	0599 other (working spaces)	0850 Structural features (ship)	
	0600 LIFESAVING APPLIANCES		
	0610 lifeboats		
	0611 lifeboat inventory		
	0613 stowage of lifeboats		
	0615 rescue boats		
	0616 rescue boat inventory		
	0617 fast rescue boat		
	0618 stowage of rescue boats		
	0620 inflatable liferafts		
	0625 rigid liferafts		

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1150 loading and unloading equipment	1585 rate-of-turn indicator	1850 fire protection cargo deck area	2299 other (MARPOL/Annex III)
1160 holds and tanks	1590 international code of signals	1860 personal protection	2300 MARPOL - ANNEX V
1170 dangerous goods codes	1591 Life-saving signals	1870 special requirements	2310 placards
1190 Lashing material	1592 Use of the automatic pilot	1880 cargo information	2320 garbage management plan
1199 other (cargo)	1593 Record of testing and drill of steering gear	1885 tank entry	2330 garbage record book
1200 LOAD LINES	1594 Voyage or passage plan	1886 emergency towing arrangements	2399 other (MARPOL/Annex V)
1210 overloading	1595 Navigation bridge visibility	1887 Safe access to tanker bows	2500 ISM RELATED DEFICIENCIES
1220 freeboard marks	1596 Navigation records	1899 other (oil tankers)	2510 safety and environmental policy
1230 railing, cat walks	1597 Distress messages: obligations and procedures	1900 MARPOL - ANNEX II	2515 company responsibility and authority
1240 cargo and other hatchways covers (hatchway-, portable-, tarpaulins, etc.)	1599 other (navigation)	1910 cargo record book	2520 designated person(s)
1250 windows, side scuttles	1600 RADIOCOMMUNICATIONS	1911 p & a manual	2525 masters responsibility and authority
1260 doors	1611 functional requirements	1920 efficient stripping	2530 resources and personnel
1275 ventilators, air pipes, casings	1620 main installation	1925 residue discharge systems	2535 development of plans for shipboard operations
1280 machinery space openings	1621 MF radio installation	1930 tank-washing equipment	2540 emergency preparedness
1282 manholes/flush scuttles	1623 MF/HF radio installation	1940 prohibited discharge of NLS slops	2545 reports and analysis of non-conformities, accidents and hazardous occurrences
1284 cargo ports and similar openings	1625 INMARSAT ship earth station maintenance/duplication of equipment	1960 cargo heating systems - cat. B substances	2550 maintenance of the ship and equipment
1286 scuppers, inlets and discharges	1645 Performance standards for radio equipment	1970 ventilation procedures/equipment	2555 documentation
1288 freeing ports	1651 VHF radio installation	1980 pollution report	2560 company verification, review and evaluation
1290 lashings (timber)	1655 facilities for reception of marine safety information	1990 ship type designation	2565 certification, verification and control
1299 other (load lines)	1671 satellite EPIRB 406MHz/1.6 GHz	1992 Shipboard marine pollution emergency plan for noxious liquid substances	2599 other (ISM)
MOORING	1673 VHF EPIRB	1999 other (MARPOL/Annex II)	BULK CARRIERS -
1300 ARRANGEMENTS (ILO 147)	1675 radar transponder	2000 SOLAS RELATED OPERATIONAL DEFICIENCIES	2600 ADDITIONAL SAFETY MEASURES
1310 ropes, wires	1677 reserve source of energy	2010 muster list	2610 bulkhead strength
1320 anchoring devices	1680 radio log (diary)	2015 communication	2620 endorsement of cargo booklet
1330 winches and capstans	1685 Operation/maintenance	2020 fire drills	2630 triangle mark
1340 adequate lighting	1686 Homing device	2025 abandon ship drills	2640 cargo density declaration
1399 other (mooring)	1699 other (radio)	2030 damage control plan	2650 loading instrument
PROPULSION AND AUXILIARY MACHINERY	1700 MARPOL - ANNEX I	2035 fire control plan	2660 Water level indicator
1410 propulsion main engine	1705 shipboard oil pollution emergency plan (SOPEP)	2040 bridge operation	2699 other (bulk carriers)
1420 cleanliness of engine room	1710 oil record book	2041 operation of GMDSS equipment	ADDITIONAL MEASURES TO ENHANCE MARITIME SECURITY
1430 auxiliary engine	1720 control of discharge of oil	2042 HSC operation	2705 Ship security defects
1435 Gauges, thermometers, etc	1721 retention of oil on board	2043 Monitoring of voyage or passage plan	2715 Ship security alert system
1440 bilge pumping arrangements	1725 segregation of oil and water ballast	2045 cargo operation	2720 Ship security plan
1450 UMS-ship	1730 oil filtering equipment	2050 operation of machinery	2725 Ship security officer
1460 guards/fencing around dangerous machinery parts	1735 discharge arrangements of oil tankers	2055 manuals, instructions, etc.	2730 Access control to ship
1470 insulation wetted through (oil)	1740 oil discharge monitoring and control system	2056 establishment of working language on board	2735 Security drills
1499 other (machinery)	1745 15 PPM alarm arrangements	2060 dangerous goods or harmful substances in packaged form	2799 Other (Maritime security)
1500 SAFETY OF NAVIGATION	1750 oil/water interface detector	2070 Operation of Fire Protection Systems	ADDITIONAL MEASURES TO ENHANCE MARITIME SAFETY
1510 Type approval equipment	1760 standard discharge connection	2071 Maintenance of Fire Protection Systems	2815 Marking of IMO number
Operational limitations for passenger ships	1770 SBT, CBT, COW	2080 Operation of Life Saving Appliances	2820 Continuous synopsis record
1512 SAR coordination plan for passenger ships trading on fixed routes	1771 COW operations and equipment manual	2081 Maintenance of Life Saving Appliances	2899 Other (Additional maritime safety)
1514 radar	1772 double hull construction	2090 Evaluation of Crew Performance	2900 MARPOL ANNEX IV
1530 radar	1773 hydrostatically balanced loading	2099 other (SOLAS/operational)	2910 Sewage treatment plan
1540 gyro compass	1775 Condition Assessment Scheme	MARPOL RELATED OPERATIONAL DEFICIENCIES	2920 Sewage comminuting system
1541 magnetic compass	1780 pollution report	2100 OIL, CHEMICAL TANKERS AND GAS CARRIERS	2930 Sewage discharge connection
emergency steering position	1790 ship type designation	2110 oil and oily mixtures from machinery spaces	2999 Other (MARPOL-Annex IV)
1542 communications/compass reading	1795 suspected discharge violation	loading, unloading and cleaning procedures for cargo spaces of tankers	9900 ALL OTHER DEFICIENCIES
1543 Compass correction log	1799 other (MARPOL/Annex I)	2115 loading, unloading and cleaning procedures for cargo spaces of tankers	deficiencies clearly hazardous to safety, health or environment, specified in clear text
1544 Automatic radar plotting aid (ARPA)	1800 OIL, CHEMICAL TANKERS AND GAS CARRIERS	2120 garbage	deficiencies not clearly hazardous to safety, health or environment, specified in clear text
1546 direction finder	1810 cargo area segregation	2130 Shipboard marine pollution emergency operation	
1550 lights, shapes, sound-signals	air intakes/openings to accommodation-, machinery- and control station spaces	2199 other (MARPOL/operational)	
1551 signalling lamp	1815 wheelhouse door, -window	2200 MARPOL - ANNEX III	
1560 charts	1820 cargo pumproom/handling spaces	2210 packaging	
1561 Electronic charts (ECDIS)	1825 spaces in cargo areas	2220 marking and labeling	
1565 Automatic Identification System (AIS)	1830 cargo transfer	2230 documentation	
1566 Voyage data recorder (VDR)	1835 cargo vent system	2240 stowage	
1567 GNSS receiver	1836 temperature control		
1570 nautical publications	1840 instrumentation		
1575 echo-sounding device			
1580 speed and distance indicator			
1581 rudder angle indicator			
1582 revolution counter			
1583 variable pitch indicator			

Source: Port State Control Manual of Tokyo MOU 2004

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Appendix E: The remedial actions in PSC inspection

Codes for action taken
Code

Deficiency action code

- 10 deficiency rectified
- 15 rectify deficiency at next port
- 16 rectify deficiency within 14 days
- 17 rectify deficiency before departure
- 18 rectify deficiency within 3 months
- 30 detainable deficiency
- 99 other (specify in clear text)

PSC inspection action code (tick as applicable)

- 40 next port informed
- 45 rectify detainable deficiencies at next port
- 50 flag State/consul informed
- 55 flag State consulted
- 70 recognized organization informed
- 85 investigation of contravention of discharge provisions (MARPOL)

Source: Port State Control Manual of Tokyo MOU 2004

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Appendix F: Table 3 The status of the relevant instrument in Tokyo MoU

Authority	TONNAGE		LOAD		LOAD LINE		SOLAS 74		SOLAS PROT 78		SOLAS PROT 88		MARPOL 73/78		STCW 78		COLREG 72		ILO 147**	
	E 69	LINE 66	LINE 66	LINE 66	PROT 88	PROT 88	PROT 88	PROT 88	PROT 88	PROT 88	PROT 88	PROT 88	PROT 88	PROT 88	PROT 88	PROT 88	PROT 88	PROT 88	PROT 88	PROT 88
Australia	21/05/82	29/07/68	29/07/68	29/07/68	07/02/97	07/02/97	17/08/83	17/08/83	17/08/83	17/08/83	07/02/97	07/02/97	14/10/87	14/10/87	07/11/83	07/11/83	29/02/80	29/02/80	-	-
Canada	18/07/94	14/01/70	14/01/70	14/01/70	-	-	08/05/78	08/05/78	-	-	-	-	16/11/92	16/11/92	06/11/87	06/11/87	07/03/75	07/03/75	25/05/93	25/05/93
Chile	22/11/82	10/03/75	10/03/75	10/03/75	03/03/95	03/03/95	28/03/80	28/03/80	15/07/92	15/07/92	29/09/95	29/09/95	10/10/94	10/10/94	09/06/87	09/06/87	02/08/77	02/08/77	-	-
China	08/04/80	05/10/73	05/10/73	05/10/73	03/02/95	03/02/95	07/01/80	07/01/80	17/12/82	17/12/82	03/02/95	03/02/95	01/07/83	01/07/83	08/06/81	08/06/81	07/01/80	07/01/80	-	-
Fiji	29/11/72	29/11/72	29/11/72	29/11/72	28/07/04	28/07/04	04/03/83	04/03/83	28/07/04	28/07/04	28/07/04	28/07/04	-	-	27/03/91	27/03/91	04/03/83	04/03/83	-	-
Hong Kong, China*	18/07/82	16/08/72	16/08/72	16/08/72	23/10/02	23/10/02	25/05/80	25/05/80	14/11/81	14/11/81	23/10/02	23/10/02	11/04/85	11/04/85	03/11/84	03/11/84	15/07/77	15/07/77	28/11/80	28/11/80
Indonesia	14/03/89	17/01/77	17/01/77	17/01/77	-	-	17/02/81	17/02/81	23/08/88	23/08/88	-	-	21/10/86	21/10/86	27/01/87	27/01/87	13/11/79	13/11/79	-	-
Japan	17/07/80	15/05/68	15/05/68	15/05/68	24/06/97	24/06/97	15/05/80	15/05/80	15/05/80	15/05/80	24/06/97	24/06/97	09/06/83	09/06/83	27/05/82	27/05/82	21/06/77	21/06/77	31/05/83	31/05/83
Republic of Korea	18/01/80	10/07/69	10/07/69	10/07/69	14/11/94	14/11/94	31/12/80	31/12/80	02/12/82	02/12/82	14/11/94	14/11/94	23/07/84	23/07/84	04/04/85	04/04/85	29/07/77	29/07/77	-	-
Malaysia	24/04/84	12/01/71	12/01/71	12/01/71	-	-	19/10/83	19/10/83	19/10/83	19/10/83	-	-	31/01/97	31/01/97	31/01/92	31/01/92	23/12/80	23/12/80	-	-
New Zealand	06/01/78	05/02/70	05/02/70	05/02/70	03/06/01	03/06/01	23/02/90	23/02/90	23/02/90	23/02/90	03/06/01	03/06/01	25/09/98	25/09/98	30/07/86	30/07/86	26/11/76	26/11/76	-	-
Papua New Guinea	25/10/93	18/05/76	18/05/76	18/05/76	-	-	12/11/80	12/11/80	-	-	-	-	25/10/93	25/10/93	28/10/91	28/10/91	18/05/76	18/05/76	-	-
Philippines	06/09/78	04/03/69	04/03/69	04/03/69	-	-	15/12/81	15/12/81	-	-	-	-	15/06/01	15/06/01	22/02/84	22/02/84	-	-	-	-
Russian Federation	20/11/69	04/07/66	04/07/66	04/07/66	18/08/00	18/08/00	09/01/80	09/01/80	12/05/81	12/05/81	18/08/00	18/08/00	03/11/83	03/11/83	09/10/79	09/10/79	09/11/73	09/11/73	07/05/91	07/05/91
Singapore	06/06/85	21/09/71	21/09/71	21/09/71	18/08/99	18/08/99	16/03/81	16/03/81	01/06/84	01/06/84	10/08/99	10/08/99	01/11/90	01/11/90	01/05/88	01/05/88	29/04/77	29/04/77	-	-
Thailand	11/06/96	30/12/92	30/12/92	30/12/92	-	-	18/12/84	18/12/84	-	-	-	-	-	-	19/06/97	19/06/97	06/08/79	06/08/79	-	-
Vanuatu	13/01/89	28/07/82	28/07/82	28/07/82	26/11/90	26/11/90	28/07/82	28/07/82	28/07/82	28/07/82	14/09/92	14/09/92	13/04/89	13/04/89	22/04/91	22/04/91	28/07/82	28/07/82	-	-
Viet Nam	18/12/90	18/12/90	18/12/90	18/12/90	27/05/02	27/05/02	18/12/90	18/12/90	12/10/92	12/10/92	27/05/02	27/05/02	29/05/91	29/05/91	18/12/90	18/12/90	18/12/90	18/12/90	-	-
Brunei Darussalam	23/10/86	06/03/87	06/03/87	06/03/87	-	-	23/10/86	23/10/86	23/10/86	23/10/86	-	-	23/10/86	23/10/86	23/10/86	23/10/86	05/02/87	05/02/87	-	-
DPR Korea	18/10/89	18/10/89	18/10/89	18/10/89	08/08/01	08/08/01	01/05/85	01/05/85	01/05/85	01/05/85	08/08/01	08/08/01	01/05/85	01/05/85	01/05/85	01/05/85	01/05/85	01/05/85	-	-
Macao, China	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Solomon Islands	-	-	-	-	-	-	30/06/04	30/06/04	-	-	-	-	-	-	01/06/94	01/06/94	12/03/82	12/03/82	-	-
Entry into force date	18/07/1982	21/07/1968	21/07/1968	21/07/1968	03/02/2000	03/02/2000	25/05/1980	25/05/1980	01/05/1981	01/05/1981	03/02/2000	03/02/2000	02/10/1983	02/10/1983	28/04/1984	28/04/1984	15/07/1977	15/07/1977	28/11/1981	28/11/1981

Source: Tokyo MoU 2004 Annual Report

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Appendix G: Table 4 Port State inspection statistics of Tokyo MoU in 2004

Authority	No. of individual ships inspected	No. of inspections	No. of inspections with deficiencies	No. of deficiencies	No. of detentions	No. of individual ships visited ¹⁾	Inspection rate (%) ²⁾	Detention percentage (%) ¹⁾
Australia	2,628	3,228	1,781	7,509	177	3,532	74.41	5.48
Canada ³⁾	374	388	243	1,012	29	1,514	24.70	7.47
Chile	519	576	246	643	28	1,232	42.13	4.86
China	3,017	3,897	3,073	16,040	194	7,956	37.92	4.98
Fiji	7	7	2	5	0	135	5.19	0
Hong Kong, China	697	745	643	3,244	169	3,742	18.63	22.68
Indonesia	32	32	4	20	1	4,006	0.80	3.12
Japan	3,260	4,896	3,735	22,781	459	6,862	47.51	9.38
Republic of Korea	2,550	3,309	1,878	5,911	106	6,522	39.10	3.20
Malaysia	340	353	131	630	5	3,652	9.31	1.42
New Zealand	420	520	278	956	14	771	54.47	2.69
Papua New Guinea	0	0	0	0	0	307	0	0
Philippines	342	378	240	1,395	9	1,730	19.77	2.38
Russian Federation ³⁾	607	983	780	5,563	110	799	75.97	11.19
Singapore	1,322	1,612	1,011	5,223	64	7,762	17.03	3.97
Thailand	134	153	117	474	3	2,151	6.23	1.96
Vanuatu	6	6	4	18	0	32	18.75	0
Vietnam	290	317	230	1,739	25	1,153	25.15	7.89
Total	10,922	21,400	14,396	73,163	1,393	Regional 15,838	Regional approx. 69%	Regional 6.51%

1) LMIU data for 2004.

2) Method for calculation of inspection rate is changed from 2004. See also second paragraph in page 12.

3) Data are only for the Pacific ports

Source: Tokyo MoU 2004 Annual Report

Appendices

Appendix H: Table 5 The number of inspected ships per PSC officer in APEC economies

Economies	Ships inspected	Number of PSC officers	Ships inspected per PSC officer
Australia	2,753	-	-
Canada	350	200	1.75
Chile	-	6	-
China	1,510	450	3.36
Hong Kong	900	13	69.23
Indonesia	853	26	32.81
Japan	3,579	-	-
Korea	1,846	10	184.60
Malaysia	338	n.a.	-
Mexico	-	20	-
New Zealand	743	20	37.15
Papua New Guinea	0	n.a.	-
Peru	-	50	-
Philippines	135	100	1.35
Russia	428	57	7.51
Singapore	1,019	-	-
Taipei	-	200	-
Thailand	83	6	13.83

Source: KMI and KIMFT(2002), p.63.