2001

Port state control : review and assessment

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Malmö, Sweden

PORT STATE CONTROL
Review and Assessment

By

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The People's Republic of China

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

MASTER OF SCIENCE

In

MARITIME AFFAIRS
MARITIME ADMINISTRATION AND
ENVIRONMENTAL PROTECTION

2001

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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ACKNOWLEDGEMENTS

I world like to extend my hearty gratitude to the Chinese Maritime Safety Administration and the Department of International Cooperation of the Ministry of Communications, which nominated me to pursue a course of study at the World Maritime University. I am also most grateful to the Norwegian Technical cooperation fellowship for its generous sponsorship during my study in WMU.

I would like to express my sincere thanks to Professor Jan-Ake Jonsson, my course professor and supervisor of this dissertation, for his insightful guidance and assistance; and to Professor Robert Mcfarland for his encouragement and support of my research on this topic.

My sincere appreciation also extended to all the staff of World Maritime University, especially the staff at the library of the University, without whose great help this dissertation could not have been completed.

I also appreciate all the friends who have given me assistance in different aspects of my studies.

My particular gratitude goes to my leaders and colleagues in the Hebei Maritime Safety Administration for their nomination and great support for me to study in World Maritime University.

Finally, I wish to express my gratitude to my beloved wife, Ma Yuxin, who has supported and encouraged me all the time, and sacrificed a lot due to my study abroad. I also wish to express my special gratitude to my parents and other members of my family for their consistent support and help.

ABSTRACT

Title of Dissertation: **Port State control:** Review and assessment

Degree: **MSc**

The dissertation is a study of the effectiveness of port State control from a global perspective and its impact on the implementation of MARPLO and SOLAS, 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, growth and development of regional PSC MOUs are investigated. Eight existing regional PSC MOUs and USCG are compared to gain a general view of their development status and performance. The problems and defects existed in these MOUs are also investigated.

The PSC inspection results from Paris MOU, Tokyo MOU and USCG are collated and evaluated in order to get a general idea of the world's PSC regime performance. The effectiveness, limitation, fairness and cost-effectiveness of PSC are also examined.

The impact of PSC on the implementation of SOLAS and MARPOL is assessed mainly based on the inspection results from the Paris MOU during the last decades because of the limitation of availability of information.

The concluding chapter provide some recommendations and proposals, which may be useful in improving the effectiveness of the PSC regime. A conclusion was made that the PSC is a supplement to the flag State control. It is not yet effective enough to eliminate the substandard ships running around the world. The responsibility of flag States, shipowners and other industry players should never be neglected.

Key words: port State control, effectiveness, impact, flag State control, safety, MOU.

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List of Abbreviations

APCIS	Asia-Pacific Computerized Information System
BSIS	Black Sea Information System
CCSS	Caribbean Cargo Ship Safety
CDI	Chemical Distributions Institute
CIC	Concentrated Inspection Campaign
CIALA	Information Centre of the Latin American Agreement
CMSA	Chinese Maritime Safety Administration
EU	European Union
FOC	Flag of Convenience
FSI	Flag State Implementation
GCC	Gulf Cooperation Council
GT	Gross Tonnage
HS	High Seas
IACS	International Association of Classification Societies
ICONS	International Commission on Shipping
ILO	International Labour Organization
IMO	International Maritime Organization
INECE	The International Network for Environmental Compliance and Enforcement
INTERCARGO	International Association of Dry Cargo Shipowners
INTERTANKO	International Association of Independent Tanker Owners
IOMOU	The Indian Ocean Memorandum of Understanding
ISM	International Safety Management Code
ITF	International Transport Workers' Federation
ITOPF	International Tanker Owner Pollution Federation
LL	Load Line
MARPOL73/78	International Convention for the prevention of pollution from ships 1973, as amended by the 1978 Protocol thereto
MEMAC	Marine Emergency Mutual Aid Centre
MOU	Memorandum of Understanding
MSC	Maritime Safety Committee
NMFT	No More Favourable Treatment
OECD	Organization for Economic Co-operation and Development
OCIMF	Oil Companies International Marine Forum
OPA	Oil Pollution Act
PMOU	Paris Memorandum of Understanding on Port State Control
PSC	Port State Control
PSCO	Port State Control Officer
Qualship 21	Quality Shipping for the 21st Century
ROCRAM	Regional Maritime Co-operation among Maritime Authorities
ROWA	Regional Office for West Africa
SIRE	Ship Inspection Report

SIReNaC	Systeme d'Information Relatif aux Navires Controlles
SMC	Safety Management Certificate
SMS	Safety Management System
SOLAS74/78	Safety of Life at Sea Convention 1974, as amended by the 1978 Protocol thereto
SWG	Standing Working Group
UNCTAD	United Nations Conference for Trade and Development
USCG	United States Coast Guard

Chapter 1
Introduction

In the last several decades, the world has seen great advances in the public international law concerning safety at sea and marine environment protection. There exists a comprehensive legal regime regulating almost all aspects of the conduct of ships at sea. It has been developed mainly through conventions, such as UNCLOS 82, SOLAS74, MARPOL73/78, LL, Tonnage 69, STCW 95, ILO147, which are concluded by UN, IMO and ILO in order to improve the safety of ships, protecting the marine environment from ship-source pollution and raising the standards of crewing, training and accommodation on board ships. Conventions adopted in IMO account for the majority of conventions responsible for the safety at sea and marine environmental protection. A summary of status of IMO conventions is given in Table 1 in the Appendix B. It is generally agreed that conventions, even though they are widely accepted, would be effective only when they are effectively implemented and strictly enforced. (Sasamura, 2000)

However, many of these conventions are neither widely ratified nor as effectively enforced as is necessary to ensure the achievement of the goal of "Safer Ships and Cleaner Ocean". This is attributable to the long-standing supremacy of Flag State implementation (FSI). According to international law, it is the responsibility of the flag States to make sure that ships flying their flags are constructed, equipped, maintained and operated to comply with the standards laid

down by the relevant international organization. Unfortunately, certain flag States fail to fulfil their commitments contained in agreed international legal instruments for various reasons. Other tiers of control, which are also responsible for the ship safety, such as shipowners, classification societies, charterers frequently fail their obligations in ensuring the safe operation of ships. Subsequently, some ships are sailing around the world in unsafe condition, threatening the lives of all those on board as well as the marine environment. The booming of flag of convenience, where the Flag States may neither have available resources nor have the true intention to enforce these conventions they have ratified, makes the situation even worse.

The failure of all these tiers of control in preventing the operation of substandard ships agonize the international maritime regime. People realized that a back up system has to be established to eradicate these substandard ships, which have escape from other tiers of control. Attention has thus increasingly been paid in the last two decades to the role that can be played by the port State, which means the State whose port a vessel voluntarily enters, in enforcing international conventions or regulations ratified by the State. Several major pollution accidents happened in the late 70s and early 80s triggered the emergence of port State control (PSC), which really has attracted the world attention since the establishment of Paris MOU.

It should be pointed out that the PSC is never meant to be the first line of defence for eliminating sub-standard ships but a supplement to what some flag States fail to achieve. It usually enforces the same requirements imposed by relevant international conventions as mentioned for the flag State control without adding any additional requirements on foreign flag merchant shipping. (Hoopen, 1998)

The legal basis of PSC has been incorporated in the provisions of UNCLOS and other major conventions developed mainly by IMO and ILO, which enable the port States to inspect foreign vessels entering their ports or offshore terminals.

The important role PSC could play in eliminating substandard ships was recognized soon after the adoption of control procedures by the IMO Assembly in 1975. (Sasamura, 2000) The world began to move toward establishing a uniform

approach on regional basis on the implementation of the control provisions under various conventions on maritime safety, pollution prevention and working and living condition on board ships. The first and most important regional PSC agreement concluded was the Paris MOU, which was signed on 26 January 1982 and came into operation on July 1982. Since then, the world PSC regime has been developed very rapidly. So far seven other PSC MOUs have been signed, which cover most coast States of the world, even though the performance of the different MOUs varies significantly.

The PSC regime has gained world recognition as an alternative to eliminate substandard ships. However, some questions have always been under debate by the international maritime regime, such as the effectiveness of PSC, its impact on the implementation of the SOLAS and MARPOL conventions, and what we can do to improve the performance of PSC. In this dissertation, I have tried to answer these questions based on the information available mainly from the inspection results from Paris MOU, Tokyo MOU and USCG during the past decades. The research is primary based on the literatures of distinguished scholars and other documents from IMO as well as the above-mentioned three MOUs. The main difficulty encountered in this research is the lack of information from PSC inspections except the Paris MOU. Therefore, the analysis in this dissertation may not reflect the whole picture of the world PSC regime.

Chapter 2
The Background of Port State Control

Introduction

Historically, the control over ships mainly relies on the flag State. The other tiers of control of ships, such as shipowners, classification societies and insurers are all responsible for the safe operation of ships. Theoretically, these several tiers of control should act as a perfect net in preventing substandard ships from operation. However, for various reasons, this net has not worked so well as was expected. A back up system, which is now widely known as PSC, was established in order to achieve the goal of "safer shipping and cleaner seas".

2.1 Flag State Supremacy

The flag State is the State whose nationality is held by a ship. In international customary maritime law, the flag State has the primary jurisdiction over ships flying its flag, which is a principle based on the assumption that a ship is a floating part of the flag State's territory. Historically, international law as well as the shipping community relied mainly on flag States to maintain safety over the ships flying their flags. (United Nation, 1998) This principle is clarified in Article 92 of the UNCLOS (1982), which provides that: "Ships shall sail under the flag of one State only and, save in exceptional cases expressly provided for in international treaties or in this Convention, shall be subject to its exclusive jurisdiction on the high seas". The Article 94 of this Convention requires that "Every State shall effectively exercise its

jurisdiction and control in administrative, technical and social matters over ships flying its flag". The flag state is required to take such measures that each ship is appropriately surveyed as to condition, equipment and manning to ensure ships flying its flag are safe at sea and environment friendly. In addition, a duty is imposed on flag States to take any steps necessary to secure observance with generally accepted international regulations, procedures and practices, which is further repeated in relation to oil pollution in Article 217. The concept of flag State control is also embodied in all of the 30-odd maritime conventions and 700 or so related codes and regulations, which have been developed by the International Maritime Organization (IMO) since its beginning in 1959 in response to the growing awareness of the need for internationally accepted, effective and enforceable maritime safety and environmental standards for shipping. (Williamson, 1996)

Article 5 of the UN Convention on the Conditions for Registration of Ships (1986) says that:

> A flag state should have a competent and adequate national maritime administration…the maritime administration of the flag States shall ensure that ships flying the flag of such State comply with its laws and regulations concerning registration of ships and with applicable international rules and standards concerning, in particular the safety of ships and persons on board and the prevention of pollution of the marine environment.

Furthermore, its authorized surveyors should periodically survey such ships in order to ensure compliance with applicable international rules and standards.

Generally speaking, the flag State has the supreme responsibility and obligation to regulate the ships flying its flag. For a flag State who has acceded or ratifed a international convention, the flag State is legally bound by the convention and is obliged to establish legislation, such as Shipping Acts, Decrees, Guidelines and Instructions, to implement its provisions. These obligations are mainly fulfilled through the way of issuing certificates indicating compliance with the main

international conventions by the flag State or organizations on behalf of the flag State. (Hare, 1995) Flag States must also ensure themselves that their own ships have priority, which means that flag States must keep their own fleets in compliance with the relevant international conventions and regulations before they check others. (Ulstrup, 2001)

Theoretically, flag State control was the ideal mechanism to implement those standards, which have been developed for the protection of seafarers, passengers, cargo owners, the environment and responsible ship owners. There will be no necessity for the PSC to back up the system if the flag States had really enforced the safe operation of the ships entitled to fly their flags. (Williamson, 1996)

2.2 Expansion of Coastal 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, 1995)

According to UNCLOS (1982), the maritime zones under the jurisdiction of coastal State mainly include the following four zones: Internal waters, Territorial Sea, Contiguous zone, Exclusive Economic Zone (EEZ), within which the coastal State has varying jurisdiction power. A foreign ship is entitled to enjoy free passage outside the Territorial Sea, while inside the Territorial Sea the ship is limited to innocent passage as long as the voyage is kept innocent. According to Article 24 of UNCLOS (1982), the innocent passage of foreign ships through the Territorial Sea shall not be hampered, nevertheless it is by no means absolute. International law, through UNCLOS (1982) Article 21, provides coastal States specific powers to adopt laws and regulations, in conformity with international laws, which may limit the right of innocent passage through the Territorial Sea. The coastal State may regulate the safety of navigation, maritime traffic, protection of navigational aids, facilities, cables and pipelines, conservation of the living resources of the sea, prevention of infringement of the fisheries laws and regulations of the coastal State, marine scientific research and hydrographic surveys, prevention of infringement of the

customs, fiscal, immigration or sanitary laws and regulations of the coastal State. As far as pollution is concerned, the coastal State may regulate the preservation of the environment of the coastal State and prevention, reduction and control of pollution thereof. This authority provided to the coastal State may also extend to the EEZ according to the UNCLOS Article 211, provided that they conform to and give effect to generally accepted international rules and standards. All such laws and regulations must be given due publicity by the coastal State to enable foreign ships to comply with.

The coastal State may inspect foreign ships following generally accepted international regulations, procedures and practices according to Article 94. In exercising its rights, a coastal State should make sure that it does not go beyond internationally accepted norms of interference with foreign vessels, both from a perspective of comity and to remain within the limit of reality and practicality. Stopping a vessel during its voyage within the Territorial Sea is a drastic and potentially dangerous exercise. (Hare, 1995) On the whole, coastal state intervention to foreign ships within its maritime zone is limited in scope, and should be limited in use. However, some superpowers may challenge these norms in practice.

2.3 Impetus for the emergence of PSC

PSC is not necessary if the flag States and other tiers of control have fulfilled their obligations in ensuring the safety of ships and environmental protection. However, the deteriorating ship casualty records and increasing number of substandard ships make it unavoidable for the port States to strengthening their control over foreign ships in order to protect their own interests, particularly their marine environment. Generally speaking, factors contributing to the booming of the PSC regime can mainly be categorized as the growth of flag of convenience, the environment protection concern and the failure of other checks on safety and pollution prevention. (Rial, 2000)

2.3.1 Growth of flag of convenience

The nationality of a vessel comes from the country under whose flag it is registered. According to the regulation stipulated by the 1958 High Seas (HS) Convention (1958), each State is entitled to set its own conditions of registry. There was not any international convention on the registration of, or on the granting of nationality to merchant vessels until the United Nations Convention on the Conditions for Registration of Ships was adopted in 1986. This lack of international law and control was one of the main elements in tempting some small countries to set up their open registry fleets in order to make revenue by attracting significant amount of tonnage to their registries without providing adequate administrative or governmental facilities for regulation and enforcing the necessary standards at sea. (Kasoulides, 1993, p76)

There are many factors promoting the growth of these flags of convenience (FOC). From the flag State point of view, there are three main reasons to set up open registry (Rial, 2000):

1. The State has the ability to offer fiscal/tax concessions;
2. Attracting foreign ships to be registered under its flag can be a good source of revenue, though the profits are often maximized at the expense of little or no resources returned to the system to implement flag State control effectively;
3. Initial ineffective PSC makes it possible to continue this situation.

The Owners'/Operators' initiative in taking the advantage of open registry became the main impetus element in the growth of FOC. From the Owners'/Operator' point of view, there are several reasons for them to shift their maritime activities from their own country to a FOC (Rial, 2000):

1. Fiscal reasons, such as very low or no taxation policy; wage level and social security requirements are relatively low; freedom to man crews of

any nationality in the cheapest market; freedom in raising or transferring capital; freedom to buy, sell or charter ships;

2. Manning of ships by non-nationals is freely permitted;
3. No interest in exercising responsible and effective control over vessel construction, operation, certification of personnel qualifications, crew training and social conditions enables the less responsible operators to run substandard ships under FOC (Kasoulides, 1993, p76-88).

The Classification Societies also welcomed and promoted the development of the FOC in some way. It is the Classification Societies that provided most of the statutory survey and certification work, which most of the FOC States do not have the expertise and capacity to do so themselves. On the other hand, it is the Classification Societies that benefit from providing the service of survey and certification, which sustains and promotes the development of their own business.

The adoption of the UNCTAD Convention on Ship Registration in 1986 tried to regulate the registration of ships through the way of international legislation. However, its attempt to "grasp the nettle" regarding State responsibility and "genuine link" with the ship failed, (Rial, 2000) which makes the FOC continuing to exist.

The safety performance of world fleets should be quite uniform if all flag States enforce the requirements of international conventions with equal vigor. However, experience shows that most FOCs neither have the political will nor financial muscle and maritime knowhow to properly discharge those obligations. Furthermore, the fierce competition between the FOC States for registrations, which is not the case for most non-open registry States, makes them very unlikely to raise their level of enforcement by their own incentives. The owners who are not fully committed to quality but instead seeking to operate substandard ships are likely to be attracted by these flags, and by class societies not committed to performing well. (Blenkey, N. 1994) Hopefully, the flourishing PSC regime will make these States more difficult to run without proper enforcement of the international standards.

2.3.2 Failure of other checks on safety and pollution prevention

2.3.2.1 Flag State implementation

It is understood that the flag State has the primary responsibility to implement international standards, which is an obligation imposed upon the flag State when the State acceded or ratified international conventions. 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) With regard to the FOC, the existing regime of registration of vessels permit registration in States with no genuine link with the vessels and no effective powers of enforcement, since these vessels hardly have the opportunity to call at ports of these States, nor has that State the necessary infrastructure, administrative power and resources to implement and enforce existing international obligations or punish offences committed elsewhere. (Kasoulides, 1993) The increasing failure of the flag State control regime has led to the increased strengthening of the role of the port State as a policing mechanism for the shipping industry and a back up system for flag State control.

The lack of ratification of some essential conventions by flag States especially those small developing countries also weaken the flag State implementation regime. Convention standards can be effectively implemented only when accepted extensively by the world. On the other hand, it is a sine qua non condition for a State to be party to a relevant convention in order to be able to enforce it on a visiting foreign ship. The effectiveness of port State control in a particular region will be compromised until such time as the majority of the participating countries of a PSC agreement have ratified and are able to effectively implement the relevant instruments.

Establishing an efficient and effective maritime administration is essential to fulfill the flag State obligations imposed by the relevant international conventions. In this respect, the European Commission has set a very good example by taking the initiative in trying to ensure that the necessary administrative structures for flag states are in place in the relevant applicant countries as part of the ongoing EU accession negotiations. In the year 2000, IMO introduced a Flag State Self Assessment Form to assist countries in determining weak points in their administrations (INTERTANKO, 2000). The establishment of the FSI sub-committee in IMO, which specifically addresses matters relating to the implementation of the IMO conventions, is also an important initiative from IMO to promote flag State implementation. All these initiatives will surely improve the performance of the FSI, which will in turn improve the whole quality level of the shipping industry.

2.3.2.2. Failure of Owner/Operator control

It is self-evident that the owners have a primary responsibility in keeping their vessels in good condition complying with relevant international standards and carrying the duty of care every day, around the clock. However, during the past 30 years, the world fleets have undergone a significant change. Today, there is a highly fragmented pattern of vessel operation and ownership. The fleet is ageing and more vulnerable, facing intense market pressures that often seem to favor not the “quality” operators, but the cheap carriers. (Mathiesen, 1998) Shipowners tend to pay more and more attention to the economical aspects rather than the safety of their ships. Furthermore, lots of shipowners choose to register their ships in FOC so that they can have a more free choice of manning and usually a looser flag State control, which may enable them to run their ships in a substandard manner. It is essential that measures should be taken so that shipowners will have their own initiatives to keep their ships complying with international standards.

The ISM Code, which entried into force on 1 July 1998 for some categories of ships, marks a milestone in enhancing the shipowner responsibility in ensuring the

safety of ships and pollution prevention for the first time on a statutory basis. At the same time, the code enables the port States to scrutinize the performance of the shipowner.

2.3.2.3 Role of Classification Societies

Classification rules started to be developed more than 200 years ago with the aims of providing service for the benefit of shipowners and insurance companies. They define the "fitness for purpose" design, construction and lifetime maintenance of standards for a ship's structure and its essential engineering and electrical systems, which are an important foundation for all those concerned with safer ships and cleaner seas.

In the management of ship safety and pollution prevention, the Classification Societies hold a unique position not only because the class roles are enshrined in the relevant convention, but also because their role is delegated by many flag states in ensuring the ships flying the flag of these States are complying with the international standards and national legislation. The ISM Code enshrines the Class rules on structural and engineering "fitness for the purpose" recognized as the fundamental basis of the international maritime regulation. (Mathiesn, 1998) The SOLAS Convention makes it conditional on conformance with the structural and mechanical rules and standards of a vessel's classification society for ships to comply with its safety standards. In this respect, the International Association of Classification Societies (IACS), which is composed of several of the most prominent classification societies, play a key role in keeping the ships classed within these member societies complying with international standards. So far, well over 100 IMO member States have delegated a majority of their statutory surveying and certification to the IACS members. The classification societies therefore work for the ship owner, for individual Flag Administrations and in close partnership with the IMO, which obviously became a vital partner in the regulation of the shipping industry. (Mathiesen, 1998)

On the whole, classification societies, especially the members of IACS, do their job well and have gained world fame in the shipping industry in ensuring the safety and quality of shipping. However, experience shows that some classification societies failed to do their job properly for various reasons. One of the main reasons may be that they face high pressure in competing for their market shares. Some societies may be tempted to lower their class requirements in order to get more ships classed. Lots of accidents, which happened to ships classed by major members of the IACS, show that what they have done is not good enough. (Stoneley, 1999) Lloyds Register and DNV, BV and the Polish Register have sometimes faced (and hotly disputed) allegations that their surveyors sell forged safety certificates. (Hare, 1995) The accident of the Erika, which indicates the deficiencies in their routine jobs, makes people suspect their credibility in ensuring that ships are complying with international standards.

Something good to notice is that IACS has realized the seriousness of the situation and has taken some strong actions to improve the quality of the class regime, in which the most drastic action that has ever been taken is the suspending of the membership of the Polish Register who has been claimed being involved in some scandals and poor quality in fulfilling its jobs. The IACS member societies also agreed to implement a number of measures aimed at identifying substandard ships and removing them from service. These include more intensive inspection for older ships changing class; the computerization of class records and the transfer of these to new societies. (INTERTANKO, 2000) These measures have been welcomed by the industry and will surely improve its quality in ensuring the safety of ships and pollution prevention. However, there are still around 10 percent of the world fleets classed with non-IACS members and their quality systems are quite possibly worse.

2.3.2.4 Cargo interests/Charterers

The Cargo interests/Charterers have an obligation to recognize and support quality shipping by doing everything in their powers to identify substandard ships and avoid using them in their business.

The contribution of the Cargos/Charterers can be extremely significant in weeding out substandard ships if they can take more safety and quality consideration into account when they are considering their commercial interests. They can contribute to the safety regime by tightening their vetting and approval procedures. In addition, they can contribute in making a commitment to improved standards and criteria by introducing greater transparency into their chartering arrangements. (INTERTANKO, 2000) Without the cooperation of the Cargo interests/Charterers cooperation, the substandard ships can just not survive.

However, the real world does not seem to be so good as expected. Many Charterers are more interested in hiring the cheapest ship available in the market rather than the safety condition of the ship. As the shipping market has been in a quite bad situation most of the time during the last two decades, it is hardly possible to rely them to take too much attention to the quality. One feasible way of solving this problem is to expose the public to those Cargo interests/Charterers who have used or tried to use substandard ships or ships managed by poor quality shipping companies.

2.3.2.5 Insurers, Ship Management Companies

It is quite obvious that the insurers of ships should conduct proper inspection of the ships they want to insure, as this is for the benefit of the insurers themselves. Nevertheless, it looks like the insurers did not conduct their inspections properly, which has been indicated in lots of accident resulting in huge claims to insurers, partly because of the increasingly fierce market competition.

Ship management companies are often contracted to handle the day-to-day operation of a vessel, which is very important in the daily safety management of a vessel. However, a potential situation for corner cutting in ship safety exists since this is also a competitive market. Similarly, the recruitment of crews is often contracted out to crewing agents in the usual practice, which may lead to the possibility of compromising the quality of crew. (Rial, 2000) Unscrupulous

management of all these parties surely has a negative impact on the quality of the shipping industry.

2.3.3 Impetus from concerns over the marine environment

People's concern towards the marine environment has increased especially during the last several decades. One reason is that the loss of one single oil tanker and its cargo can cause tremendous economic loss, such as the "Exxon Valdez" accident in Alaska in 1989, the most costly marine mistake that ever happened, where $5 billion claims have been generated so far. Another reason is that people care about the life at sea and the marine environment but often with decidedly misdirected priorities. There have been too many cases where people are outraged by the mess on their beaches and oil stained seabirds following a maritime casualty. But the tragic loss of life, which frequently accompanies pollution, is always neglected by much of the media in its quest for the most newsworthy elements of a marine disaster. (Williamson, 1996)

In the late 1960's there were several serious oil pollution accidents. The most memorable is the disaster of the 'Torry Canyon', which grounded and lost almost 120,000 tonnes of oil off the Scilly Islands, UK in 1967. (Bowring, 2000) These high profile oil pollution incidents increased the awareness of the need to protect the maritime environment by eradicating substandard ships, which have been the main factors leading to most of the accidents. States having a large interest in the protection of their marine environment began to think about extending the powers of coastal or port States and to change the traditional powers of the dominant flag States for legislating ship standards. (Kasoulides, 1993, pp113) As a response, the IMO developed the International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (Intervention Convention), which enables the coastal States to intervene on the high seas in oil pollution emergencies. In addition, the resulting International Convention on Civil Liability for Oil Pollution Damage (1969) and the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (1971) established a meaningful

civil liability and compensation regime for oil pollution damage. 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 (Williamson, 1996).

2.4 PSC entrenched through UNCLOS

The concept of PSC was finally entrenched in the part XII of UNCLOS. 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 anti-dumping 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 because a pollution threat always exists, although only bunkers from any unseaworthy ship. The only limitation is that the steps taken should be reasonable, public, and not discriminatory (Hare, 1994). Except UNCLOS, there are a lot of other conventions that provide most maritime authorities more modern, effective and direct powers of PSC inspection, which includes: SOLAS, MARPOL, the Loadline Convention, the Registration of Ships and the STCW Convention. All these conventions give powers (and duties) of inspection to ensure compliance.

2.5 Concept emerged as early as SOLAS 1929

Even though the PSC concept looks relatively new to the shipping industry and unfamiliar to most people outside the shipping regime, though much publicized in recent years, it is by no means a new idea. It was actually built into the 1929 SOLAS Convention. However, it was not really used as a tool in eliminating substandard ships until the establishment of the Paris PSC MOU where countries in Europe

decided to take advantage of PSC as an effective tool in eradicating substandard shipping and protecting their own interest.

2.6 Conclusion

The PSC is not a new concept. But it became known to the world only recently when the international maritime regime realized that something has to be done to improve the quality of the shipping industry. So far, PSC has been recognized as a normal practice to eliminate substandard ships. However, many people still are not clear about the legal basis of the PSC, which is very important to the port States if they want to conduct PSC in a proper and legitimized way.

Chapter 3
The legal background of PSC

3.1 Introduction

According to Hare (1997), the concept of PSC involves:

> The powers and concomitant obligations vested in, exercised by, and imposed upon a national maritime authority (or its delegee) by international convention or domestic statute or both, to board, inspect and where appropriate detain, a merchant ship flying a flag foreign to that State in order to ensure compliance by that ship with all applicable international safety at sea instruments and with any domestic legislative maritime safety requirements.

The emergence of the PSC concept seems to give the international maritime community a hope for a possible solution to the problem of substandard ships. It may not be a real solution, but rather one of the more positive steps being taken. (Hare, 1994)

The legal basis of PSC is established in most of the major IMO conventions, such as MARPOL 73/78, SOLAS, STCW and LL. The “blue print” for the PSC regime is prescribed in UNCLOS in respect of pollution from ships. PSC is

primarily exercised by inspection of certificates as a corrective measure, which aims at correcting non-compliance or non-effective flag State enforcement. Only if there are "clear grounds", can physical inspection of a ship and its equipment may take place. However, according to the new SOLAS regulation, since 1996 operational requirements can be checked if there are clear grounds that the crew is not familiar with essential shipboard procedures. If any PSC actions need to be taken after inspection, the flag State must be informed especially in case of detention. Any undue delay of unjustified detention may lead to civil liability. (Mukherjee, 2000)

3.2 UNCLOS 82

UNCLOS (82) is recognized as the umbrella convention for most of the other conventions concerning maritime safety and marine environmental protection. There are a lot of creative contributions in its latest version especially in part XII regarding "Protection and preservation of the marine environment", among which the most important innovations may be the entrenchment of the concept of PSC jurisdiction for the enforcement of international rules and standards concerning pollution of the marine environment from vessels. This innovation supplements the traditional jurisdiction of flag State and greatly strengthens the capability of the international community to enforce these rules and standards.

The concept of PSC is embodied in several provisions in this convention. Article 25 empowers States whose ports were used by vessels to take necessary steps to prevent any breach of the conditions for vessels calling at its ports. Article 218, which concerns the enforcement by port States, says that ship is subject to investigations when it is voluntarily within a port or at an offshore terminal of a State. Article 219 requires states to take administrative measures to prevent errant vessels from sailing. These provisions provide the legal basis for a port State to carry out PSC activities. Article 226, which concerns the investigations of foreign vessels, provides that foreign ships must not be delayed longer than is essential for purposes of investigation. Physical inspection must be limited to "an examination of such certificates, records or other documents the vessel is required to carry by

generally accepted international rules and standards or of any similar documents it is carrying". However, further physical inspection may be undertaken when:

> (i) there are clear grounds for believing that the condition of the vessel or its equipment does not correspond substantially with the particulars of those documents; (ii) the contents of such documents are not sufficient to confirm or verify a suspected violation; (iii) the vessel is not carrying valid certificates and records.

Further more, ship must not be released whenever it will present an unreasonable threat of damage to the marine environment, or made conditional upon proceeding to the nearest appropriate repair yard. The second part of this Article, which says that "States shall cooperate to develop procedures for the avoidance of unnecessary physical inspection of vessels at sea", provides the legal basis of the regional PSC memorandum of understanding (MOU).

3.3 MARPOL 73/78

MARPOL 73/78 Convention covers all the aspects of pollution from ships, including pollution by oil, noxious liquid substances in bulk, harmful substances carried by sea in packaged forms, sewage, garbage and the control of air pollution, except disposal of land generated wastes into the sea by dumping and pollution arising out of the exploration and exploitation of sea-bed mineral resources. The Convention applies to all ships engaged in commercial trading.

The control provision lies in Article 5 of the Convention (1997), which authorises port States to verify that there are valid certificates on board ships in ports or at offshore terminals. Further steps must be taken to ensure that the ship will not sail until it can proceed to sea without presenting an unreasonable threat of harm to the marine environment when there are clear grounds for believing that the condition of the ship or its equipment does not correspond substantially with the particulars of

that certificate. The "No more favourable treatment" (NMFT) Clause applies to ships of non-parties to the Convention.

The provisions of PSC on operational requirements are provided in respective Annex, which make it possible for a port State control officer (PSCO) to inspect operational requirements where there are clear grounds for believing that the master or crew are not familiar with essential shipboard procedures relating to the prevention of pollution of the marine environment.

3.4 SOLAS 74

SOLAS 74 Convention is recognized as the most important convention concerning the safety of ships and the people onboard. It lays down a comprehensive range of minimum standards for the safe construction of ships and for the basic safety equipment (e.g. fire prevention, navigational, life-saving and radio) to be carried on board. It also contains operational instructions, particularly on emergency procedures, and provides for regular surveys and certificates of compliance. The convention mainly applies to all passenger ships irrespective of size and all cargo ships of a gross tonnage of 500 and over engaged on international voyages. However, exceptions from the 500gt limit exist, for example, Chapter V concerning "Safety of Navigation" and Chapter VI concerning "Carriage of Cargoes" apply to all ships, and Chapter VII "Carriage of Dangerous Goods" also applies to ships with a gross tonnage less than 500.

Regulation 19 of Chapter I is the legal basis for PSC according to this convention, which contains a right but not an obligation for port States to verify that there are valid safety certificates held by the ship. (Ulstrup, 2001) The certificates should be accepted unless there are clear grounds for believing that the condition of the ship or of its equipment does not correspond substantially with the particulars of relevant certificates. Regulation 6 of Chapter IX concerns PSC on operational requirements with regard to the International Safety Management (ISM) Code, in particular the proper functioning of the ship's Safety Management System.

According to the new Regulation 4 of Chapter XI of the Convention, it is now also possible for PSCOs to inspect foreign ships for checking operational requirements “when there are clear grounds for believing that the master or crew are not familiar with essential ship board procedures relating to the safety of ships”. The focus is on the crew's ability to carry out safety functions on board ships. This new idea is a deviation from the previous constraints of PSC inspection, which was that they should normally be limited to checking certificates and documents. (Hare, 1997)

With respect to the ships of non-parties to the Convention, the NMFT Clause should be applied according to Article II of the Protocol of 1978.

3.5 LL 1966

The LL Convention establishes uniform principles and rules regarding the limits to which ships on international voyages may be loaded in the form of freeboard, which should ensure adequate stability and avoid excessive stress on the ship’s hull as a result of overloading. It deals with external weathertight and watertight integrity. Provisions are made for determining the freeboard of tankers including regulations for subdivision and damage stability calculations. For the structural strength requirement, the convention makes a reference to the requirements of the Classification Societies.

This Convention applies to all ships engaged in international voyages, except for ships of war, new ships less than 24 metres in length, existing ships of a gross tonnage less than 150, pleasure yachts not engaged in trade and fishing vessels.

According to Article 21 of the Convention (1966), ships holding valid Load Line certificates are subject to control by officers, duly authorised by the local government, when in the port of other contracting governments. Such control should be exercised as far as is reasonable and practicable with a view to verifying that there is a valid certificate on board and the contents stipulated in the certificate are complied with. Strangely enough, there is no NMFT Clause in this Convention. However, the privileges of the convention may not be claimed in favour of any ship unless it holds a valid certificate under the convention.

3.6 STCW 78/95

The STCW78/95 Convention (1996) establishes comprehensive certification and qualification requirements for senior officers, all officers in charge of watches on the deck and engine departments and ratings forming part of a watch on an international level. All such seafarers are required to have a certificate endorsed in a uniform manner. The Convention applies to seafarers serving on board seagoing ships entitled to fly the flag of a party except for those serving on board warships, fishing vessels, pleasure yachts not engaged in trade and wooden ships of primitive build.

The control regulation is in Article X of the Convention, which authorizes PSCOs to verify that:

> All seafarers serving on board who are required to be certificated by the Convention are so certificated or hold an appropriate dispensation. Such certificates shall be accepted unless there are clear grounds for believing that a certificate has been fraudulently obtained or that the holder of a certificate is not the person to whom that certificate was originally issued.

The NMFT clause is also included in this article. With the 1995 amendment, the general provisions of Chapter I provide enhanced procedures concerning the exercise of PSC, which have been developed to allow intervention in the case of deficiencies deemed to pose a danger to persons, property or the environment. (Ulstrup, 2001)

3.7 Tonnage 1969

The Tonnage (1969) Convention establishes a universal system of tonnage measurement for ships engaged in international voyage. It applies to ships of more than 24 metres in length engaged in international voyages except ships of war.

There is an “inspection” article in Article 12 of the Convention (1969) for the verification of the Tonnage Certificate. The Convention is not regarded as a “safety convention”, and it is seldom mentioned or used in connection with PSC. (Ulstrup,

2001). However, as the ship's tonnage is important to determine which convention regulations are applicable to a specific ship, the latest revision of resolution A.787 (19) concerning procedures for PSC added guidelines for PSC under the Tonnage Convention to the procedures.

3.8 ILO 147

The ILO 147 Convention is mainly a flag State instrument, which 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 (covering eg. minimum age, medical examination, accident prevention, crew accommodation, repatriation, social security and training). (Ulstrup, 2001) The Convention applies to every sea-going ship engaged in the transport of cargo or passengers for the purpose of trade or is employed for any other commercial purpose.

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. Based on their professional judgement, PSCOs should decide whether clearly hazardous conditions on board warrant a detention of the ship until any deficiency is corrected, or allow it to sail with certain deficiencies that are not clearly hazardous to the safety of the ship or to the safety and health of the crew. In the case of detention, the port State authorities should, as soon as possible, notify the flag State through its nearest maritime consular of diplomatic representative of the action taken and, as far as possible, have such a representative present.

3.9 Ships of non-parties

One of the PSC principles is that the port State recognizes international certificates issued by or on behalf of the flag State. It should be realised that such recognition is a privilege extended only to Parties to conventions. Non-parties are not entitled to issue these certificates, even though the Administrations of non-Party

States may issue, or authorize to issue certificates of compliance with the relevant provisions of conventions to their ships. The PSCO may take the form and content of these documents into account in the evaluation of these ships. An NMFT clause usually exists in a number of conventions, which have been mentioned above. In principle, the conditions of such ships and their equipment, the certification of the crew and the flag State's minimum manning standard should be consistent with the aims of the provisions of the conventions, or the ships should at least have a comparable level of safety and protection of the marine environment. (Hoppe, 2000)

3.10 PSC on non-convention size ships

Most maritime conventions have progressive limits of application for each category of size of ships in terms of tonnage, length or other ship parameters, and also of the construction time of the vessel and the trading area in some conventions. The limits of application involve ships certificates or even their equipment, which means that some ships may not necessary hold certain kinds of certificate or even be exempted from some design or equipment requirements. However, these ships are not exempted from being safe and environmental friendly. PSCOs should use their professional judgement to assess these ships whether they are of an acceptable standard with regard to safety, health or the environment, taking due account of such factors as the length and nature of the intended voyage or service, the size and type of the ship, the equipment provided and the nature of the cargo. Usually these ships are constructed following the flag State requirements, which may not be familiar to the PSCO who may have to use his discretion in assessing these ships, possibly with the assistance of some forms of certification issued by the flag State or on its behalf. PSCOs should take due action including detention to make sure these ships will not be allowed to sail with unreasonable hazard to safety, health or the environment. (Hoppe, 2000)

Some regional PSC MOUs have achieved some good results in regulating ships of non-convention size. The Tokyo MOU has developed the Asia-Pacific Small Ship Regulations and a similar set of rules has also been developed in the South Pacific

Island countries. The Caribbean MOU has successfully developed the Caribbean Cargo Ship Safety Code, which is recognized by the United States Coast Guard (USCG). This is extremely important in maintaining the proper trading of those non-convention size ships between the Caribbean Islands and the United. In most of these processes, IMO has been actively involved and plays a key role in the success of these developments.

3.11 Procedures for PSC

In the early 1970, the United Nations Conference for Trade and Development (UNCTAD) and the Organization for Economic Co-operation and Development (OECD) recognized the seriousness of substandard ship problem, which had been mainly caused by the transfer of ships to the flag of convenience registries, and referred the question of sub-standard ships to IMO. Considering this matter, the Maritime Safety Committee (MSC) recognized that IMO is concerned with the elimination of sub-standard ships whatever flags they fly, and agreed that detailed procedures for PSC should be adopted. (Sasamura, 1997) The first PSC procedure was developed by the MSC and adopted by the Assembly in 1973 in Resolution A.321 (IX). After that, several PSC procedures under the SOLAS, Load Line and MARPOL Convention were adopted in Resolutions A.466 (XII), A.542(13) and MEPC.26(23). The PSC was further extended to cover operational requirements under Resolution A. 742(18). In 1995, these PSC procedures were amalgamated into a single document named "Procedures for Port State control" in Resolution A. 787(19) adopted by the Assembly, which was again amended by Resolution A. 882(21) to cover also the ISM requirements (See Appendix H for detail).

These Procedures aims at providing basic guidance on how PSC inspections should be conducted and how to identify deficiencies in a ship, its equipment, or its crew, with the purpose of ensuring that convention control provisions are consistently applied across the world from port to port. The Procedures are not legally binding and only offer guidance to port States, although they have been developed and agreed internationally. While port States are expected to use the

Procedures when exercising PSC, they have been interpreted and applied in different ways in practice. For example, if the convention control provisions were strictly interpreted, a routine or general inspection should be limited to an inspection on the validity of the ship's certificates, except in cases where clear grounds were found, which deserve a more detailed inspection. However, people often argued that the presence of certificates is only evidence of, and not conformation of convention standards being met. For this reason, some PSCOs may choose to inspect more than just the ship's certificates while undertaking routine PSC inspections. (INTERCARGO, 2000)

The detailed procedures for PSC (1999) are described in the IMO Resolution A. 787(19) as amended by Resolution. A.882(21), which are mostly consolidated in all the regional PSC agreements. Generally, they can be summarized as follows: Selection of ship to be inspected; Initial inspection; Detailed inspection; Detention; Reporting; Follow-up action. These procedures should be observed in all the States carrying out PSC in order to achieve consistency all over the world. The detailed provisions regarding the procedure of port State control can be found in the Appendix H: Procedures for port State control.

3.12 Implementation of international conventions

International conventions are legally binding for member States who have ratified or acceded the conventions. They have an obligation to give effect to such conventions through national legislation. Obviously, with reference to a certain convention, the PSC is only possible if the port State itself is a party to it and has fully implemented the convention in question.

The international legislation regime regarding PSC seems to have provided adequate equipment for port States to make sure the foreign ships calling their ports are in compliance with the international conventions. However, it is still up to the individual State parties to adopt domestic legislation in consistency with the international conventions so that all those fancy requirements in the conventions can be effectively enforced.

Many States have promulgated domestic legislation to give effect to the notion of PSC. It should be noted that for State parties to the various conventions mentioned above, implementing the requirements of the conventions is not an option, but an obligation in international law.

It is recognized that Parties may entrust surveys and inspections of ships entitled to fly their own flag either to surveyors nominated for this purpose or to recognized organizations, such as classification societies. However, according to applicable conventions, PSC inspections of foreign ships, including boarding, inspection, remedial action and possible detention, can only be conducted by officers duly authorized by the port State. The authorization of these PSCOs can be either a general grant of authority or may be specific on a case-by-case basis. (Hoppe, 2000)

3.13 Conclusion

It is clear that the international legislation has provided adequate legal instruments for port States to conduct PSC. However, PSC can be conducted only when the port State has accepted the relevant international instruments and enforced them through national legislations.

Chapter 4

Comparison of regional PSC MOUs

4.1 Introduction

Since the inception of Paris MOU in the early 1980s and the adoption of IMO resolution A.682(17) called "Regional Cooperation in the Control of Ships and Discharges" in 1991, the world PSC regime has been progressing steadily and has almost achieved a global coverage. This has been achieved largely through coordination by IMO and the dedicated commitments of responsible maritime authorities implementing PSC activities. PSC is now widely accepted as a major driving force in maritime safety and marine environment protection, and an effective method for eradicating substandard ships running around the world (AMSA, 2000).

4.2 Rationale for growth in PSC regional agreements

While national PSC alone will strengthen the safety of ships and the marine environmental pollution prevention, working on a regional basis will achieve a better result in excluding substandard ships from operating in the region. Without a regional approach, operators will just divert their ships to ports in a region where no or less strict PSC inspections are conducted, which will result in unfair competition vulnerability for ports of those countries that do conduct proper inspection (Hoppe, 2000). The Caribbean in the 1980's was a good example of this (Rial, 1999). To

avoid this problem and to improve the effectiveness of inspections, many maritime authorities of the world have already entered or are about to enter into regional PSC agreements. Some countries even joined more than one MOU (e.g. Canada, Cuba, Australia) for various reasons, for example geography, language, culture, trading patterns.

According to Hoppe (2000), there are basically three benefits in reaching a regional agreement. The first is the exchange of information about ships, their records and the result of inspections carried out. This information is important as it enables subsequent ports of call to concentrate their limited resources on ships that have not been recently inspected, while ensuring ships of prudent shipowners will not be interfered by unnecessary multiple inspections. As a general principle, ships inspected within the last six months should not be re-inspected unless there are clear grounds to do so. The second benefit is that identified sub-standard ships are effectively monitored. This is important especially for ships allowed to sail with certain minor deficiencies on the condition that these are rectified in the next port of call, which may be successful only if effective information exchange is available between relevant ports. The third and also the most important benefit is ensuring that PSC inspections are conducted in a uniform and harmonized manner, especially with regard to applicable standards in the detention of ships and the training standards of PSCOs. Some MOUs has been successful in achieving this by conducting joint seminars for PSCOs in order to harmonize the procedures (Paris MOU Annul Report 2000).

Having been driven out from a region or regions having an effective PSC regime, some unscrupulous operators will try to find other areas where their substandard ships can operate without being effectively inspected. Therefore, regional PSC MOUs should cover the entire world as far as possible, so that such grey areas will not exist. Fortunately, so far eight regional PSC agreements have been signed and cover most of the coastal States of the world, which makes it extremely difficult for those unscrupulous shipowners to find a place to operate their sub-standard ships without being inspected.

4.3 Existing regional agreements on PSC

Eight regional PSC agreements have been signed around the world to date. The distribution of these regions can be seen in Appendix A. A general description of these MOUs is given in Appendix D Table 3. USCG is not really a regional MOU but may also be seen as, in essence, a regional MOU. The Persian Gulf region agreement is still under development.

Except the Paris MOU, most of the regions' Maritime Administrations development levels are significantly different. There is no doubt that it is impossible to launch a PSC program without the necessary structures and expertise in place. However, though desirable, it does not mean each and every coastal State in a region has to have a fully developed maritime administration before a regional PSC program can start, as long as there is a "critical mass" of appropriately developed Administrations, strategically located geographically and lying within the main trading routes of the vessels to be inspected. For some regions, it may be desirable to pool the regional resources, with the more developed Administrations assisting and supporting the less developed ones for the purpose of bringing all the Administrations of the region to the required level within a reasonable time frame (Rial, 1999).

4.4 Paris MOU

4.4.1 General profiles of Paris MOU

The first and perhaps most prominent regional PSC MOU ever developed is the Paris MOU signed in 1982 by 14 European countries. The ancestor of the Paris MOU is the Hague Memorandum signed by a number of maritime authorities in Western Europe, which was initially developed to enforce the shipboard living and working condition requirement stipulated in ILO147. However, a massive oil spill resulting from the grounding of the supertanker "Amoco Cadiz" off the coast of Brittany (France) in March 1978 incurred a strong political and public outcry in

Europe for far more stringent regulations with regard to the safety of shipping. The pressure finally resulted in the adoption of a more comprehensive Paris MOU covering safety of life at sea, prevention of pollution by ships and living and working conditions on board ships (Kumpumaki, 2001). The Paris MOU laid down for the first time the groundwork for effective international co-operation in PSC regime.

Since then, the Paris MOU has been amended several times to accommodate new safety and marine environment requirements stemming from the IMO as well as other important developments such as the various EU Directives addressing marine safety and environmental protection. The PSC in EU has now become a legal obligation, as EU Directive 95/21/EC now places a legal requirement on all EU member States to carry out PSC inspections.

The number of member States has also increased to 19 mainly due to the increase in the number of member States of the European Union (EU). Canada to the west and the Russian Federation to the east also participate as members of the Paris MOU (INTERCARGO, 2000). It now covers the European coastal States and the coastal States of the North Atlantic basin from North America to Europe.

4.4.2 Paris MOU structure

The executive body of the Paris MOU is the PSC Committee, which is composed of the representatives of the nineteen participating maritime authorities and the European Commission. The PSC Committee normally meets once a year with representatives of IMO, ILO, USCG, and with other regional PSC MOUs such as the Tokyo MOU and the Caribbean MOU as observers. The main role of the Committee is to deal with matters of policy, finance and administration with the assistance of technical bodies established within the organization. A diagram describing the Paris MOU organization can be found in Appendix E.

4.4.3 Regional information center

An advanced central computer database called *Systeme d'Information Relatif aux Navires Controlles* (SIReNaC) was established in Saint Malo, France. Details of

each inspection report will be entered in this system whether or not deficiencies are found. This database is accessible by all the PSCOs in the ports of the Paris MOU region to consult inspection files, to insert new inspection reports or to use the electronic mail facility. A detention list is published monthly on the Paris MOU website, which contains ship's name, the owner, the classification society and the place and date of detention. This website also publishes a list of banned ships who run detention or fail to sail to the agreed repair port.

4.4.4 Rationale of Paris MOU

Recognizing the prime obligations of the owner and flag state, the Paris MOU (PMOU, 2000) realized that "effective action by port states is required to prevent the operation of sub-standard ships". This goal may be better achieved through an improved and harmonized system of PSC and through strengthening co-operation and exchanging information, while at the same time avoiding distorting competition between ports.

The PSC work in the Paris MOU region has been organized quite reasonably and consistently. According to the agreement, each contracting state is required to establish an effective system of PSC to make sure that foreign merchant ships calling in its ports comply with the international instruments listed in the MOU. They are also required to inspect a minimum of 25% of all foreign ships entering its ports in a year, which will in practice result in an inspection rate of approximately 90% of all foreign ships using the ports of the region (Hoopen, 1998). Each authority (PMOU, 2000) will "consult, co-operate and exchange information' with other authorities" and "seek to avoid inspecting ships that have been inspected by any of the other authorities within the previous six months unless they have clear grounds for inspection." Ships having been inspected in any participating port within the last six months will not be reinspected. No more favorable treatment will be given to ships flying the flag of a state not party to the memorandum.

One of the most important and effective provisions of the Paris MOU is the obligation imposed upon each authority to publish quarterly information about

detentions under the PSC procedures. This information is required not only to contain the name of the ship, but also the name of her owner and operator, her flag state and her classification society. The reasons for the detention are provided as well. The latest innovation introduced was the publication of "Rust Bucket of the Month", which gives people an idea on how bad condition a ship can be operated despite the great effort of the world PSC regime.

It is interesting to notice that the PSC has been made mandatory under the EU legislation despite the fact that the Paris MOU itself is not a legally binding agreement. This has been done through the EU Directive 95/21/EC to achieve harmonization, which has been implemented in the national legislations of the EU Members. Consequently, the Paris MOU has been adjusted accordingly to meet the requirements of the Directive and to incorporate the relevant parts of the IMO Resolution 787 "Procedures for Port State Control"(Hoopen, 1998).

As most of the member States have well developed Administrations with relatively better funds and resources, the Paris MOU has been running quite well. Seminars within the Paris MOU have been organized regularly to discuss some specific problems and update information. A program of advanced training of PSCOs sponsored by the European Commission has been established in order to keep abreast of the technological change in the maritime area and of corresponding regulatory developments (Paris MOU Annual Report 2000). The PSC inspections have been conducted in the Paris MOU in a harmonized and consistent way during the last several years, thanks to the great effort of the Paris MOU in training and coordinating the PSCOs of different countries.

4.4.5 Targeting system

Somewhat idealistically, the Paris MOU initially stated that there would be no discrimination against either owners or flags, which is in conformity with the Convention on the Conditions for the Registration of Ships. However, realizing the stark reality that some ships pose more problems than others, an amendment was signed requiring port states to target certain kinds of ships and ships or their owners

with a known poor history in July 1993, which is now quite popularly accepted by most regional MOUs as a normal practice. Certain flags were also targeted for special attention by means of a 3 year "rolling average" table of above average delays and detentions in the MOU's annual report. (Hare, 1995)

An enhanced targeting system was launched in 2000 in order to achieve a more selective targeting against potentially high-risk ships while at the same time ease the burden on bonafide shipping. Ships are now selected for inspection according to the targeting factor of the ship. The detailed targeting factor may refer to “Paris MOU targeting factor” in Appendix F. Statistics shows that this initiative has resulted in more inspections of high priority ships, in particular of ships registered with flag States considered as very high risk, and in a greater number of detentions. (Paris MOU Annual Report 2000)

4.5 Tokyo MOU

4.5.1 General profile of the Tokyo MOU

Following the lead of the Paris MOU, the Tokyo MOU for the Asian-Pacific Region was established in 1993. So far, the Memorandum has been accepted by 17 full member States of the Asia-Pacific region, which now covers much of the Far East and the Pacific and is in the pipeline for the Indian Ocean basins and for the South Atlantic. The Tokyo MOU is up-and-running even though many of the participating states have yet to establish effective PSC facilities and procedures. (Hare, 1997)

The structure of the Tokyo MOU is relatively simple in comparison to the Paris MOU. It is governed by a PSC committee with a secretariat in charge of its routine work. For the purpose of attaining more effective operation of the MOU and resolving important issues raised during intersessional periods, the Committee decided to establish the MOU Standing Working Group (SWG) to facilitate the work of the Committee. The SWG carries out its functions through Internet forum correspondence.

4.5.2 Rationale of Tokyo MOU

The Tokyo MOU closely follows the Paris MOU in general except that the target regional inspection rate is 50% of the foreign ships entering the Asia-Pacific region. (Sasamura, 1997) This goal was achieved in 1996. The PSC Committee considered and adopted a new set of amendments to the Memorandum, including the adjustment to the regional inspection percentage from 50% to 75% and a new annex of qualitative criteria for members in February 2000. The effective date of the amendments was 1 November 2000.

Recognizing the fact that many maritime authorities in the Asia-Pacific region are still in the early stage of development of PSC activities, the PSC Committee paid special attention towards the education and training of PSCOs, and approved the integrated strategic plan for training PSCOs in order to harmonize the PSC activities in the Asia-Pacific region. (Sasamura, 1997) This plan consisted of PSCO training program, PSCO exchange program and seminar for PSCOs. According to Tokyo MOU Annual Report (2000), this program goes quite well. A total of 216 PSCOs from 14 Authorities have received 3-week training course as well as some on-the-job training and technical visits. Seminars for PSCOs have been organized regularly. A new technical cooperation program, fellowship training, was initiated in 2000 in which two fellowship training courses were organized. In addition, three expert mission training programs were organized during the same year. Continuous progress has also been made in the PSCO exchange program. Four further PSCO exchange missions among the Authorities of Australia, Canada, Hong Kong (China), Japan and New Zealand were implemented in 2000. All these technical cooperation programs have greatly improved the PSCO's professional ability especially those from developing PSC Authorities, while at the same time promoted the harmonization of PSC activities in the region.

4.5.3 Regional database network

A new computerized database system, the Asia-Pacific Computerized Information System (APCIS), which is located in Vladivostok, Russian, was

established in accordance with the Memorandum on 1 January 2000. It is used for reporting and storing PSC inspection results and facilitating exchange of information in the region. Most of the member authorities have been connected to the system. The project of providing data to the EQUASIS and exchanging information with the Paris MOU and the United States Coast Guard is also progressing smoothly.

4.5.4 Targeting System

A ship targeting system under the Tokyo MOU is still in the process of development. The Committee established an inter-sessional group, led by the Republic of Korea, to pursue this matter further. The inter-sessional group would prepare proposals on development of the ship targeting system based on a study of the targeting systems used by the Paris MOU and the United States Coast Guard.

4.6 Viña del Mar MOU

The Viña del Mar MOU was signed when the regional meeting took place in Viña del Mar, Chile, in early November 1992. So far 12 member States have signed the MOU, most of which have a developing Maritime Administration and have a resource problem. (Rial, 2000) Some training programs for PSCOs in the region have been organized with the help of the Canadian Administration to improve their professional ability.

The executive body of the MOU is the PSC Committee. The Maritime Authorities of this Agreement pursue the objectives of the Operative Network of Regional Maritime Co-operation among Maritime Authorities (ROCRAM) strategy adopted in 1989 for the protection of the marine environment, and for adoption of an effective ship control system and development of a coordinated system of inspections.

This MOU follows the Paris MOU very closely but has adapted to the specific circumstances of the Latin American region. It recognizes the objectives of a further regional maritime co-operation scheme and then again repeats the provisions of the

Paris MOU to a large extent. However, the Viña del Mar MOU put some additions in Annex IV and Appendix I, which seek to establish a 'Trade data interchange director' and a computer system to include the data base records of the participating states. (Hare, 1997) The problem of incorporating the ILO 147 Convention in the agreement as a relevant instrument is still on the agenda. This is mainly due to the fact that many of the member States are not yet the party to ILO 147.

The Secretariat and the Information Center was established in Buenos Aires, Argentina. Daily PSC inspection results of the Member State Authorities are submitted to the Information Center of the Latin American Agreement (CIALA). The database is used by the Maritime Authorities of the region for permanent consultation and information purposes to co-ordinate and plan their supervisory activities. (Latin American Agreement Secretariat, 2000)

The MOU agreement requires each Maritime Authority to conduct a minimum of 15% of inspections of the total foreign ships entering their ports in a period of 12 months. There is also a very simple targeting system, the details of which can be found in Table 3 in Appendix D.

4.7 Caribbean MOU

The Caribbean MOU was concluded by the maritime authorities of twenty Caribbean States and territories in Barbados on 9 February 1996 in terms practically identical to the Paris MOU. There is a mixed level of development of the Maritime Administrations within the region, from fully developed to little developed. The funding of the secretariat is currently fairly well organized on an equal cost sharing among the full members, though some individual members/observers lack both fiscal and technical resources. (Rial, 2000) The Caribbean MOU has been working quite closely with the USCG.

The main purpose of the Caribbean MOU is to enhance the safety of small ships, which form the main part of the regional fleet, both from flag and port States points of view. To improve the performance of small ships operating in the region, the MOU successfully developed the Caribbean Cargo Ship Safety (CCSS) Code in

cooperation with the USCG. The code was recognized by the USCG as an alternative to US requirements for such ships in the absence of the Convention requirements. (Rial, 1999) This code is intended to cover all aspects of commercial cargo ships of under 500 gross tonnage operating regionally.

The regional Secretariat is provided by Barbados and a regional information centre is set up in Curacao.

The Member States are expected to inspect 15% of visiting ships within 3 years after joining the MOU. The details of the targeting system can be found Table 3 in Appendix D.

4.8 Mediterranean MOU

The Mediterranean MOU on PSC was concluded on 11 July 1997 in Valletta, Malta, which basically follows the Paris MOU pattern. So far 11 Maritime Authorities have signed the MOU. The Mediterranean MOU and most of its member Maritime Authorities are still in the early developing stage. Expertise and resources are highly needed.

The executive body of the MOU is the PSC Committee, which is composed of the representatives of the participating maritime authorities and the European Commission. The Committee meets once year, or at shorter intervals if necessary. Representatives of IMO, ILO and the European Commission, as well as representatives of several cooperating maritime authorities and other regional MOU, participate as observers in the meetings of the Committee. The Committee deals with matters of policy, finance and administration and is assisted by technical bodies established within the organization.

PSCO training seminars have been organized to ensure that effective and harmonized inspection procedures are followed throughout the regions. These seminars keep PSCOs informed of new technical developments and amendments to the MOU.

The information center is located in Casablanca, Morocco. All details from each inspection report are entered in the database whether deficiencies are found or not.

This database can be accessed by all PSCOs in the ports of the region to consult inspection files, to insert new inspection reports or to use the electronic mail facility.

The Member States are expected to reach a 15% annual inspection rate of visiting ships within 3 years of joining the MOU. The details of the targeting system can be found in Table 3 in Appendix D.

4.9 Indian Ocean MOU

The Indian Ocean PSC MOU (IOMOU) for the Indian Ocean Region was signed in Pretoria, South Africa on 5 June 1998. So far, the MOU is composed of 18 participating Maritime Authorities and associate members, however 10 of 18 are still pending acceptance. The Indian Ocean MOU stretching westwards from India to South Africa also includes Australia.

Even though most of the member States realized the need for strong PSC, many of them do not have strong Maritime Administrations. The expertise and resources for conducting PSC are rather limited. The Australia Authority also joined the MOU, which is good news for the MOU to improve the member States performance by learning the experience of Australia Authority. Mutual cooperation and interaction between the IOMOU and the Tokyo MOU is progressing in the same manner as is being done between the Paris MOU and the Tokyo MOU. This is a good start as it is extremely important for the IOMOU to have a harmonized PSC regime with other MOU right from the beginning. The MOU is still in its infancy stage compared with the other relatively developed MOUs. The weak financial situations of most of the member States also undermine their performance and their ability to fulfill their commitment in establishing an effective PSC regime. (Mehrotra, 2000)

The executive body of the MOU is the PSC Committee, which is composed of the representatives of the participating maritime authorities. An Inter-Sessional Management Group was established to represent the Committee during intersessional periods and it is charged with a range of responsibilities.

The Member States are expected to reach a 10% annual inspection rate of visiting ships within 3 years after joining the MOU. The PSC Committee is expected to consider proposals for an Indian Ocean Computer Information System, based on the IT procedures of the Tokyo MOU. (IMO, 2000) The details of the targeting system can be found in Table 3 in Appendix D.

4.10 West & Central Africa MOU

Sixteen West and Central African States signed the West & Central Africa MOU on 22 October 1999. Angola, Cameroon and Equatorial Guinea attended the meeting and agreed to sign at a later date. The member States promised to make every effort to put in place competent maritime administrations where they do not already exist, and to strengthen existing maritime administrations in order to implement an effective PSC regime. The MOU basically follows the Paris MOU. It emphasized the urgent need for training of PSCOs in the region. The South Africa Maritime Authority has very kindly provided some PSCO training programs for other member States, most of which do not have the expertise and resources to conduct an effective PSC inspection.

The executive body of the MOU is the PSC Committee, which is composed of the representatives of the participating maritime authorities. The Regional Secretariat for the MOU is located in Lagos, Nigeria, while a regional Information Center has been established in Abidjan, Cote d'Ivoire. This MOU also conducts PSC inspections on ships below 500GT, as these vessels tend to trade inter-regionally.

The MOU requires that within three years of the MOU becoming effective, each signatory must establish an effective PSC system inspecting at least 15 per cent of foreign merchant ships entering the region's ports. The details of the targeting system can be found in Table 3 in the Appendix D. As the information concerning the performance of the MOU is quite limited, it is very difficult to make further comment on this MOU.

4.11 Black Sea MOU

Six Maritime Authorities in the Black Sea region signed the Black Sea MOU in April 2000. The IMO and the ILO are associated with the Black Sea MOU as observers. The objective of the Black Sea MOU is to ensure effective action by the port states concerned to prevent the operation of substandard ships while harmonizing inspection, strengthening co-operation and the exchange of information. The MOU was established following the model of other MOUs with the active involvement of IMO. Recognizing the need for an efficient system of inspections, the Black Sea MOU allows for an interim period of two years prior to its full functioning and implementation. (Hardin, 2000)

An Interim Secretariat was established in Istanbul by the Turkish Maritime Administration in accordance with the decision of the signatory meeting of the MOU. An Interim Information Center of the Black Sea Information System (BSIS) for the MOU will be provided by the Russian Federation with the same system as being used in the Tokyo MOU, and located in Novorossiysk. The functional requirements for the Information Center have not yet been decided.

The Member States are expected to reach a 15% annual inspection rate of visiting ships within 3 years after joining the MOU. The details of the targeting system can be found table 3 in Appendix D.

4.12 Persian Gulf region

The first draft of the PSC agreement for the Regional Organization for the Protection of the Marine Environment (ROPME) sea Area and the complementary training programs for its implementation was discussed in July 1999 in Manama, Bahrain, at a meeting organized by the Marine Emergency Mutual Aid Center (MEMAC) Bahrain, in cooperation with the GCC (Gulf Cooperation Council) and IMO. Delegates from Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates attended the meeting, with UNEP/ROWA (Regional Office for West Africa) as observers. (IMO, 2000)

A second meeting (venue and date not yet fixed) is expected to see the signature of MOU on PSC and also to decide on the location of the secretariat and information center.

4.13 USCG

Even though most of the world's developed maritime authorities have joined in one or two regional PSC MOUs, the United States has, however, chosen to remain outside of any regional MOU grouping. Under the US PSC program, it undertakes control measures on a unilateral basis.

The United States formally started its PSC inspection on 1st May 1994 by the USCG, which prior to 1994, concerned itself mainly with limited aspects of navigation safety and pollution prevention, particularly in relation to tanker and passenger vessels. It was unusual for the USCG to intervene to enforce the compendium of international instruments embraced by PSC.

The objective of the USCG PSC program is to eradicate the presence of substandard ships in US waters, and to this extent it parallels to that of the American Oil Pollution Act (OPA). All vessels of 1600 GRT or more are required to give advanced notice of their arrival. The USCG then checks the vessel's details against its own records and that of its register and assigns points to each ship for compliance with international conventions, previous track records and those of sister ships in the same ownership or management, and the rating of the flag and classification society involved. Through this way the USCG may identify high-risk vessels, their owners and their classification societies and can then take appropriate action. Flags, owners & operators and classification societies are assessed to help assigning the priority rating to a vessel under inspection upon the declared policy. 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.

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. A detailed Boarding Priority Matrix is given in Table 2 in Appendix C.

One of the USCG PSC's most important policies is the publication of 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.

The USCG launched the Qualship 21 (Quality Shipping for the 21st Century) on January 1, 2001 (See Appendix G for detail), which is an initiative to identify high quality non-U.S. flagged vessels, and then reward them with incentives. Quality ships are such vessels that are managed by well-run companies, classed by organizations with a quality track record, having an outstanding PSC record in U.S. waters, and are registered with Flag States that have a superior PSC record. So far around 800 ships were found eligible for the program, and 379 of them were awarded Qualship 21 status in March 2001, the first month that incentives began. Incentives for Qualship 21 vessels include Qualship 21 Certificates, vessel names posted on the Coast Guard PSC web site, Qualship designation on EQUASIS files, and less frequent PSC examinations (USCG annual report 2000). This new USCG initiative supplements the old PSC regime, which has mainly used a penalizing policy, with some incentives to the prudent shipowners. Hopefully, this program will accelerate the progress of eliminating substandard ships and create a favorable atmosphere for the quality shipowners in this world. It is too early to predict how successful the program will be at this moment. However, this could be the right direction for the international maritime regime to achieve its goal of quality shipping. In the author's opinion, the IMO should give more attention on this program and may recommend this program to be applied in other region if it turns out to be a successful program.

4.14 Conclusion

The existing eight regional PSC MOUs and USCG have constituted a global PSC regime, in which the Paris MOU, the Tokyo MOU and USCG have developed into a relatively grown-up stage. The other six MOUs are still in a relatively undeveloped stage. Most of the maritime authorities in these MOUs lack the necessary resources and expertise to conduct proper PSC inspections. Great effort still needs to be taken by these MOUs and IMO to upgrade the PSC quality in these MOUs so that the global PSC regime may be more harmonized and consistent.

It has been generally acknowledge that PSC is a good alternative in eliminating substandard ships. The rapid development of the regional PSC MOUs reflects this belief to some extent. However, whether this belief is correct or not and how effective has it been? These questions will be answered in the next chapter.

Chapter 5

An assessment of the PSC regime

5.1 Introduction

Since the inception of PSC in the Paris MOU in 1982, the institution of PSC has attracted more and more attention as an effective mechanism for implementing various IMO and ILO standards in the areas of safety and marine environmental protection. It has gradually become an accepted fact in today's shipping world, which complements, and to some extent overshadows, the role of the flag state in the implementation of international maritime legislation. In short, the PSC regime is becoming an indispensable component in the drive towards a goal of "safer ships and cleaner seas". (Payoyo, 1994)

So far, the Paris MOU has been conducting PSC inspections for around 20 years. Tokyo MOU and USCG have also worked diligently on the PSC regime for more than 7 years. The recent development of other regional PSC MOUs has almost covered the whole world coastal area. What has the PSC regime around the world achieved and how successful have they been in eradicating substandard ships? This chapter tries to research the effectiveness of the PSC regime and some other problems in conducting PSC.

5.2 General profile of PSC inspections

According to Paris MOU secretariat (Paris MOU, 2001), the quantity of PSC inspections is one indicator that can be relied upon in measuring the impact of PSC in the region.

Number of inspections under Paris MOU

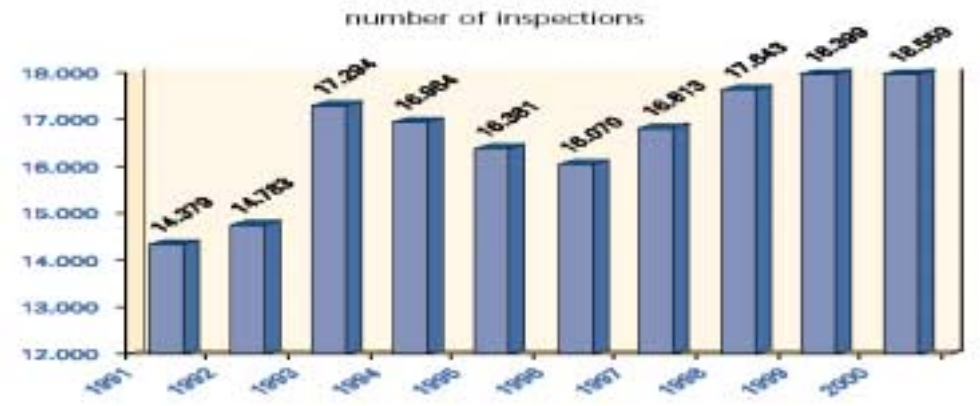

Fig. 1. (Source: Paris MOU annual report 2000)

Number of inspections under Tokyo MOU

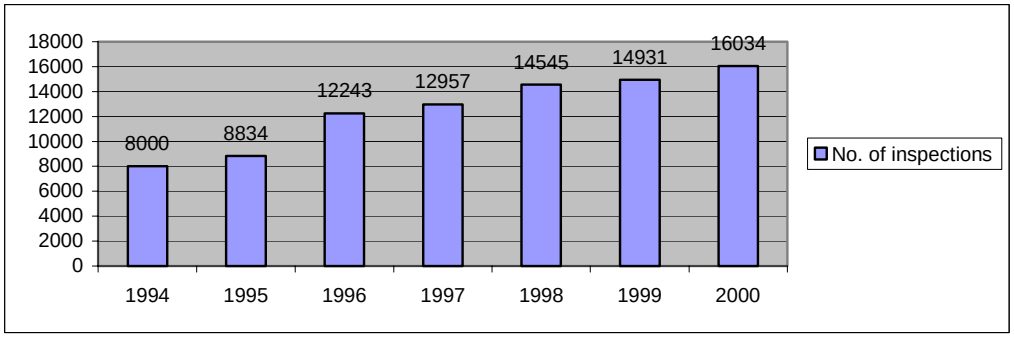

Fig. 2. (Source: Tokyo MOU annual report 2000)

Figures 1 and 2 show the number of inspections conducted by the Paris MOU and the Tokyo MOU respectively. The statistics show that the number of inspections in the Tokyo MOU increased very fast during the early years of the MOU and became relatively stable in the last three years, which indicates that the Tokyo MOU has come close to a grown up stage. The number of inspections conducted in the

Paris MOU has been quite stable since 1993, even though it shows a small trend of increasing magnitude in recent years. This is quite understandable, as the Paris MOU was established in 1982 and most of its member states have a developed maritime Authority.

Deficiency rates in respect of inspection under Paris MOU

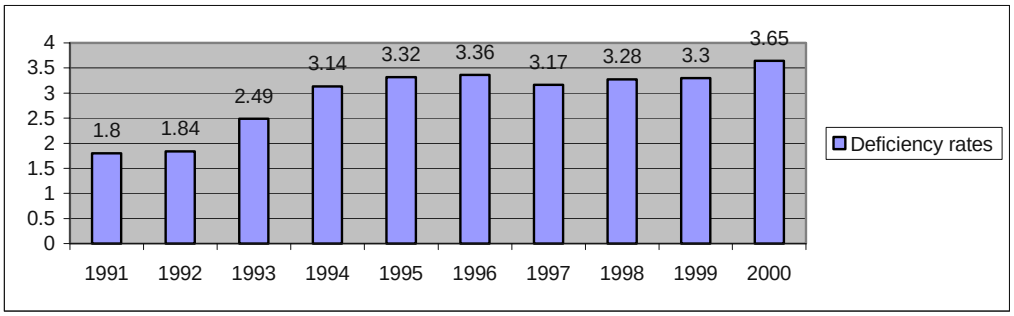

Fig. 3. (Source: Paris MOU annual report 2000)

Deficiency rates in respect of inspections under Tokyo MOU

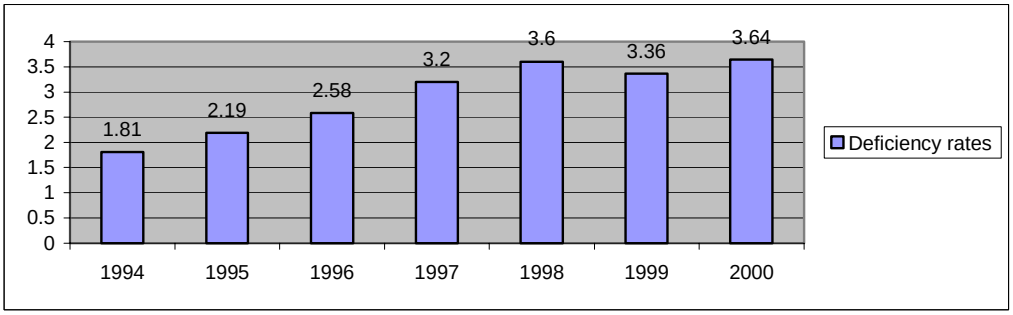

Fig. 4. (Source: Tokyo MOU annual report 2000)

Figures 3 and 4 give the deficiency rates in respect of ships inspected in the Paris MOU and the Tokyo MOU. Most people believe that the overall performance of the shipping industry has been improved because of the increasingly rigorous PSC regime. However, the deficiency number in respect of ships inspected was actually increasing in the early stages and has stabilized in recent years. One reason people have argued is that measures to concentrate PSC efforts on potentially sub-standard ships by using a targeting system are being implemented in order to use resources

effectively and to benefit ships with a good safety record. Thus most of the potentially risky ships are inspected while the good ships are left undisturbed. (Paris annual report 2000) The outstanding increase of deficiency rates in the Paris MOU in the year 2000 because of the new enhanced target system launched in the same year is a good example of the effort of PSC and its effectiveness.

Detention rates in respect of inspections under Paris MOU

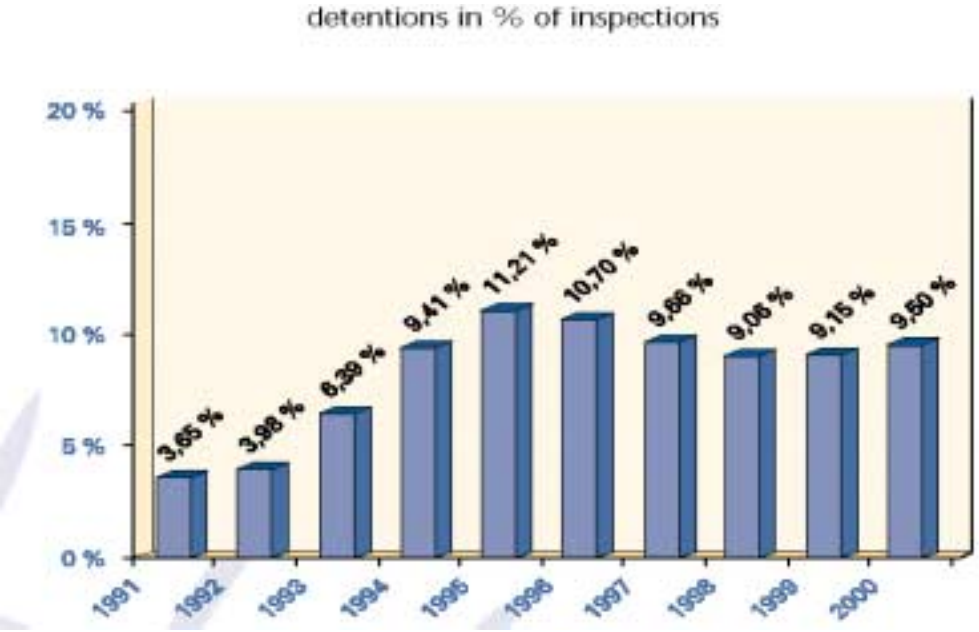

Fig. 5. (Source: Paris MOU annual report 2000)

Detention rates in respect of inspections under Tokyo MOU

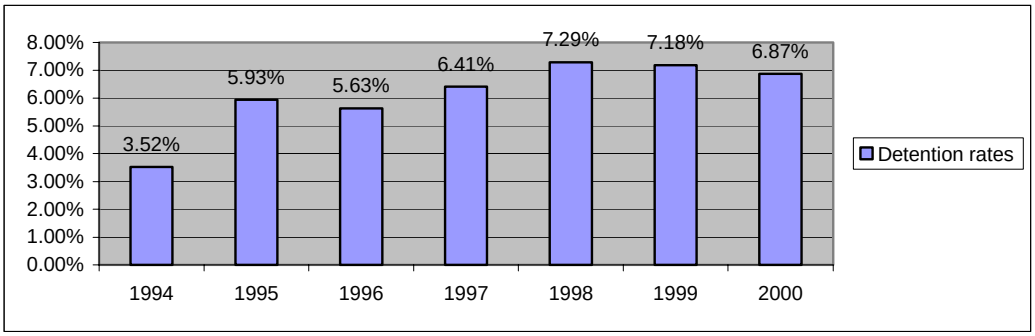

Fig. 6. (Source: Tokyo MOU annual report 2000)

Detention rates in respect of individual ships under USCG

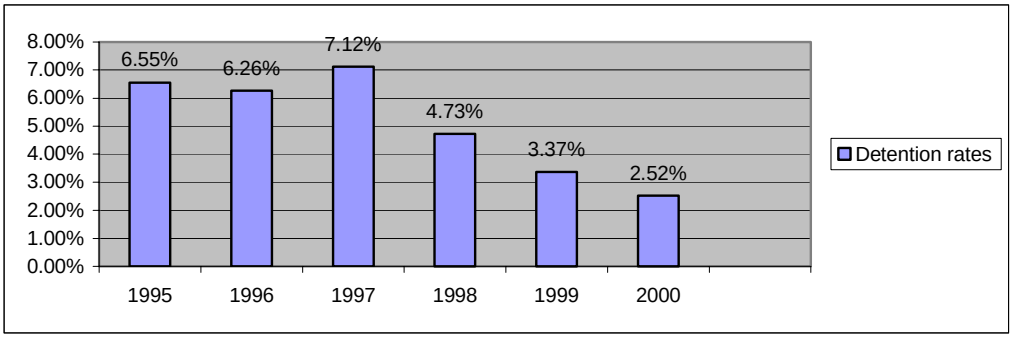

Fig. 7. (Source: USCG annual report 2000)

Ship rates found to have deficiencies under Paris MOU

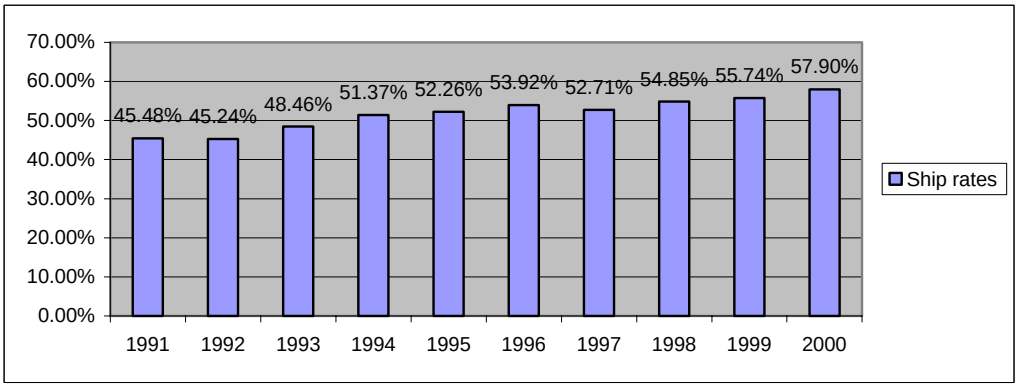

Fig. 8. (Source: Paris MOU Blue Book 1999)

Figures 5, 6 and 7 show the detention rates in respect of ships inspected in the Paris MOU, the Tokyo MOU and USCG. It is interesting to notice that the detention rate trend do not follow the deficiency rate trend as indicated in Figure 8. In fact, detention has been consistently decreasing after reaching a peak in year 1995, 1998 and 1997 in the three regions respectively except the Paris MOU in 2000 when the Paris MOU launched the new enhanced targeting system. This trend has been most remarkably demonstrated in the US, which is supposed to have one of the strictest PSC regimes. Considering the increasingly rigorous and reasonable targeting system, this trend provides further evidence that the quality of vessels visiting this

area is improving. (USCG annual report 2000) This also indicates to some extent that the PSC inspections in these regions have been working effectively.

Overall summary of total number of ships lost since 1994

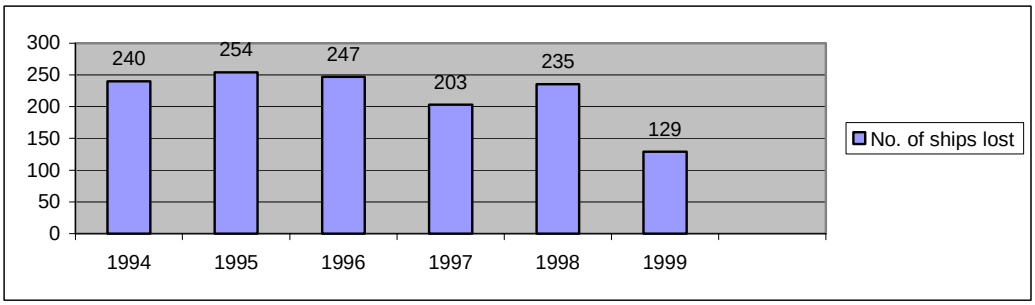

Fig. 9. (Source: World Casualty Statistics 1999)

Overall summary of total gross tonnage lost since 1994

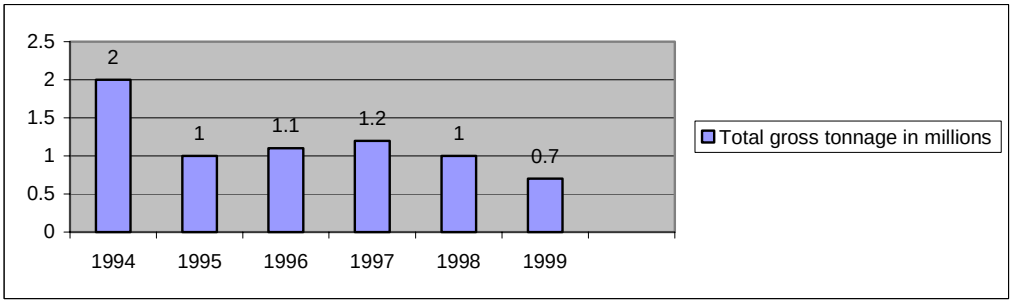

Fig. 10. (Source: World Casualty Statistics 1999)

Figures 9 and 10 show the overall summary of total losses of ships since 1994. From the statistics it is clear that the number of ships and the total gross tonnage lost during the period 1994 to 1999 have decreased, which follows the trend of the ships detained in the same period. This is also a piece of evidence of the success of the world PSC regime. The slight increase of detention rates in 2000 in the Paris MOU is mainly due to the more stringent and focused targeting system adopted in this year. (Paris MOU annual report 2000) Despite the fact that the ship rates found to have deficiencies under the Paris MOU increased steadily as shown in Figure 8, the deficiency ratios for inspections in which deficiencies were found (see Figure 11) has

decreased. The only exception is observed in year 2000 (with the same reason explained above), which is an increase for the first time during the last five years. Obviously, only ships with deficiencies are responsible for the total number of deficiencies. Thus, it can be concluded that the overall ship quality has improved.

Deficiency ratios for inspections in which deficiencies were found

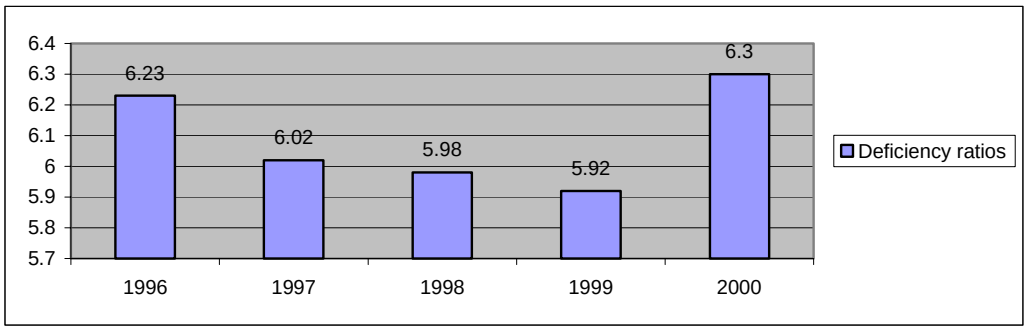

Fig. 11. (Paris MOU, 2001)

A concentrated inspection campaign (CIC) on bulk carriers undertaken from 1 April to 30 June 1999 in the Paris MOU also provides evidence of the same conclusion as mentioned in the previous paragraph (Paris MOU annual report 1999). Inspection results revealed that serious defects are still being found. The detention rate of bulk carriers during the campaign was 10% compared with a rate of 13.9% for all bulk carriers inspected in 1998. Taking into account the greater scrutiny that the ships received during this campaign, the results indicate that the situation is improving. The recent decline in loss figures for this type of vessel has also been encouraging.

However, the results (Paris MOU annual report 1999) from the CIC campaign on oil tankers over 3,000 gross tonnages and more than 15 years old that recently took place in ports across the Paris MOU region from 1 September to 30 November 2000 may make some optimistic people a little upset. During the campaign 11.2% of the ships inspected were detained, a significant increase compared with the detention rate of 5.9% and 5.5% for tankers in 1999 and 1998 respectively. All 23 detained ships had been surveyed by IACS members. Five detentions (21%) involved items

for which class is responsible. Alan Cubbin (2001), chairman of the Paris MOU PSC Committee comments on the results of the campaign, saying:

> The number of oil tankers detained during the campaign highlights the fact that the rate of detention of tankers has increased since 1998 when the International Safety Management (ISM) Code was introduced on these vessels. The campaign also shows that poorly maintained oil tankers with structural defects and deficient fire fighting capacity continue to operate in the region. This is clearly a cause for concern, especially since the sample may not be representative of vessels that regularly trade to the region, as the worst ships may have stayed away when the campaign was announced.

On the whole, it can be concluded that the shipping quality in the Paris MOU, the Tokyo MOU and the US has improved during the past several years, which leads to the conclusion that the world PSC regime has achieved partial success. However, despite the diligent efforts of the PSC regime, a large number of substandard ships still running around the world leave no room for complacency. (Paris MOU, 2001) Some ship owners and flag States still avoid their responsibility by operating or condoning substandard ships and continue to be caught in the PSC safety net.

5.3 Concentrated Inspection Campaigns

A very useful concept initiated by the Paris MOU is the Concentrated Inspection Campaigns (CIC), which is now more and more frequently being used in the Paris MOU, the Tokyo MOU and USCG in order to promote the implementation of international standards, especially those newly enforced. Several CICs have been conducted in the Paris MOU and Tokyo region in recent years. These campaigns mainly focus on a particular area of compliance with international regulations with the aim of gathering information on, and enforcing, the level of compliance. Each campaign is prepared by experts and focuses on a number of specific items/areas for

inspection. Specific guidelines have been developed to assist the PSCOs in these inspections. Experience shows that they serve to draw attention to the chosen area of compliance and promote the enforcement of some new regulations in an effective manner. (Paris MOU annual report 2000) For example, before the entry into force of the ISM Code on 1 July 1998, many people predicted that a substantial number of ships would not be able to meet the deadline for compliance. However, the prediction of wide scale non-compliance did not materialize. (Paris MOU annual report 1998) One of the main reasons for such a relatively high proportion of enforcement is because of the strong message of enforcement of the ISM requirements, which was sent by the Paris MOU, the Tokyo MOU and USCG, who jointly agreed to mount a CIC of the ISM compliance. Ships not complying with the ISM requirements would surely be detained or refused entry into ports of these regions.

The CIC as a way of promoting compliance and enforcement in certain areas, which usually appears to attract the public attention, has been more and more frequently used. Apart from the CIC mentioned above, a CIC against bulk carriers over 30, 000GT and older than 15 years was launched between 1 April and 30 June 1999 with special attention to the structural problems for these ships, which have been one of the main reasons for the failure of these kinds of ships. The Paris MOU also started on 1 March 2001, a three-month CIC on securing arrangements for all ships in the Paris MOU region carrying freight units on deck to inspect for compliance with the international regulations. This is initiated in recognizing the fact that proper securing of cargo is often neglected by ship owner, as indicated by several incidents of cargo loss in recent years that may present a serious hazard for shipping and harm to the environment.

All these CICs have attracted special attention from the shipping industry and have obviously improved the compliance of regulations to some extent. According to Rose (2001), several benefits obtained from CICs have been observed. Firstly, they raise the awareness for all PSCOs to particular areas/items of concern, which should generally be taken into account during all PSC inspections. Secondly, they

increase the uniformity of inspections and consistency of actions between PSCOs within the same region. Thirdly, they enable new requirements or items of particular concern to be addressed in a timely manner.

However, the CICs have mostly been conducted in the Paris MOU, usually within a three-month period, which may limit their effectiveness, as some imprudent ship owners may evade inspection by avoiding operation of their ships in this area for just that period. Therefore, it is more preferable for all the existing PSC MOUs to coordinate their actions by adopting a coincident CIC program so that those substandard ships will find nowhere to hide, which will surely multiply the effectiveness of the PSC regime.

5.4 Detention rate by ship types

Figure 12 shows the detention rate by ship type under the Paris MOU for 1999 and Tokyo MOU for 2000. The figures under the Paris and the Tokyo MOUs show similar trends, which means the statistics in these two regions reflect the global situation to some extent.

Detention rate by ship type

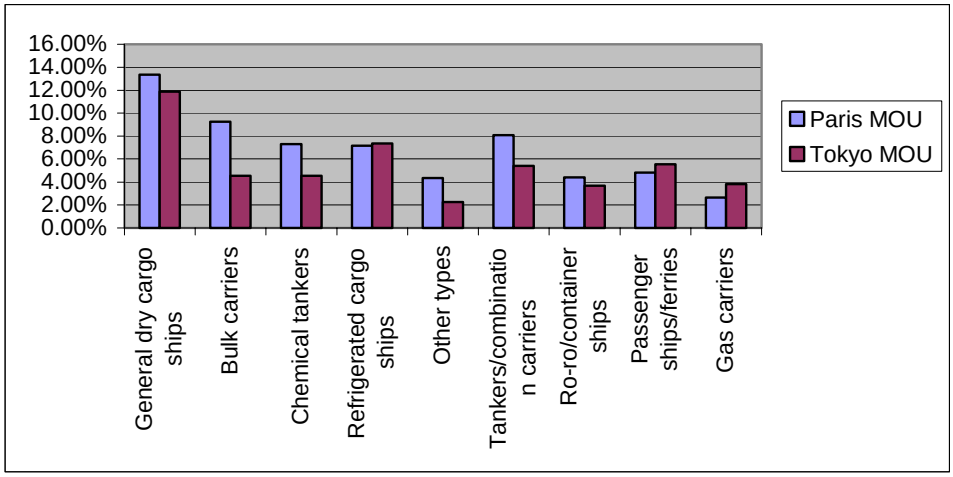

Fig. 12. (Source: Paris MOU annual report 2000, Tokyo MOU annual report 2000)

The fact that different types of ships have significantly different detention rates indicates that some type of ships do have a higher potential risk than other kind of

ships. Therefore it is justifiable to include the ship type as a factor in the regional MOU targeting systems. On the other hand, it is important for Maritime Administrations and PSCOs to know that different types of ships have different areas necessitating attention in their management and inspections. Mounting CICs against some types of relatively high risk ships as done in the Paris MOU is a good alternative in eliminating substandard ships with limited resources, which can be recommended for use in other regional MOUs where resource are relatively limited.

5.5 Detention by flags

Figure 13 shows flag States with high detention percentages for the three-year rolling average for the period 1998-2000 in the Paris MOU, the Tokyo MOU and USCG. The data given here in this figure only include those countries with at least 60 PSC inspections during the relevant three years and with relatively higher detention rates in all the three regions. Countries such as Albania and the Democratic People's Republic of Korea are not listed here as these countries have very high detention rates within one region but very few in other regions because of the unique trade patterns of ships flying these flags.

Detention rate by flags

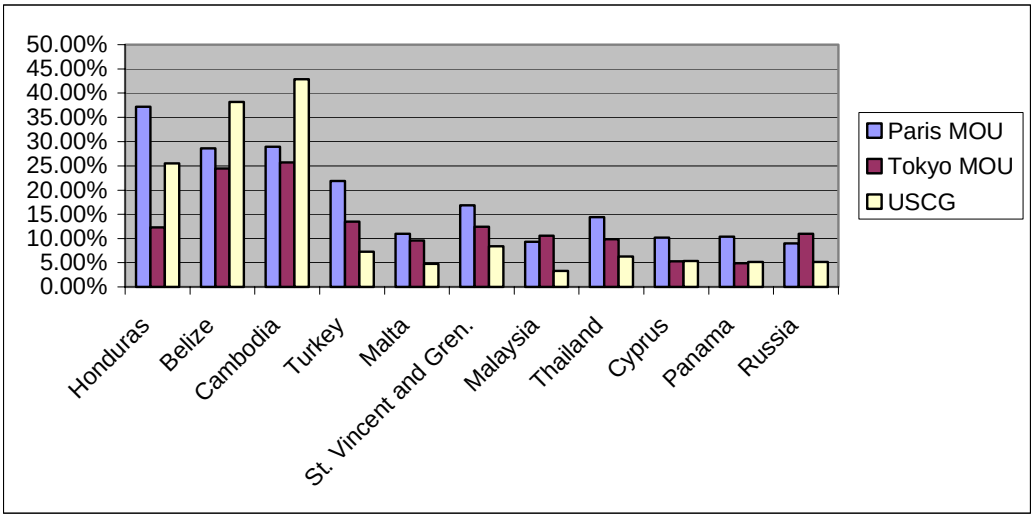

Fig. 13. (Source: Paris MOU, Tokyo MOU and USCG annual report 2000)

This figure shows that some countries have detention rates significantly higher than the average detention rates of at least one region, or in the entire three regions, such as Honduras, Belize and Cambodia in the last three years. If tracing back the inspection data concerning these countries, it can be found that these countries have bad records almost all the time. This is a clear indication that some maritime administrations, which are more and more frequently called substandard maritime administrations by some people, really do not have the ability or willingness to keep the ships flying their flags in a standard of compliance with international conventions.

According to international law principles, ships should be inspected without discrimination to their flag. However, as some countries obviously do not fulfil their flag State responsibility properly, and many shipowners actually choose to register their ships in these substandard administrations intentionally in order to avoid strict flag State control of their own countries, why should the international PSC regime treat these flags equally as if nothing has happened? In fact, in the author's opinion it would prejudice the interests of those prudent flag States especially ships flying their flags by putting these shipowners in a vulnerable competition situation.

According to an OECD report (1996), the shipowners operating their ships in a substandard manner would save themselves approximately 15% of their cost (OECD, 1996), which is a difference big enough to decide the success or failure of a shipowner in such a fierce competitive shipping market. It is therefore completely justified for some targeting systems to give more emphasis on the flag State factor such as in the Paris MOU and USCG. It also justified the IMO's effort in promoting flag States implementation (FSI), even though so far it still does not seem to be very successful. One main hindrance of promoting FSI is that IMO does not have "teeth" to challenge the old principle of sovereignty. However, more and more people have acknowledged that PSC may work as "teeth" of the international maritime regime to force those substandard Maritime Administrations to live up to a quality standard.

5.6 Case study

It is clear that flag States holds the prime responsibility of ensuring the compliance with international standards. The PSC regime is only a supplement to the flag States control as the last defence for eliminating substandard ships. It is impossible to eliminate substandard ships without the commitment of the flag States.

The experience of the Chinese shipping industry proved this theory. The detention rates of Chinese flag ships were pretty high in the Paris MOU region before 1997. Actually the detention rates had been consistently rising despite the stricter PSC inspection and action taken in the Paris MOU. This situation was unchanged until 1997 when the Chinese Maritime Safety Administration (CMSA) realized that the Chinese government should fulfil its obligation imposed by international conventions to keep its fleet in compliance with international standards. In addition, the CMSA realized that doing this was not only for the safety of ships and marine environmental protection but also for the sake of the Chinese government as a responsible government in the world community. Since then the CMSA has taken a series of measures in raising the standards of the Chinese fleet and the results shown in Figure 14 is clear. The situations in the Tokyo MOU and USCG are very similar to that of the Paris MOU.

Three years rolling average detention percentage of Chinese ships in Paris MOU

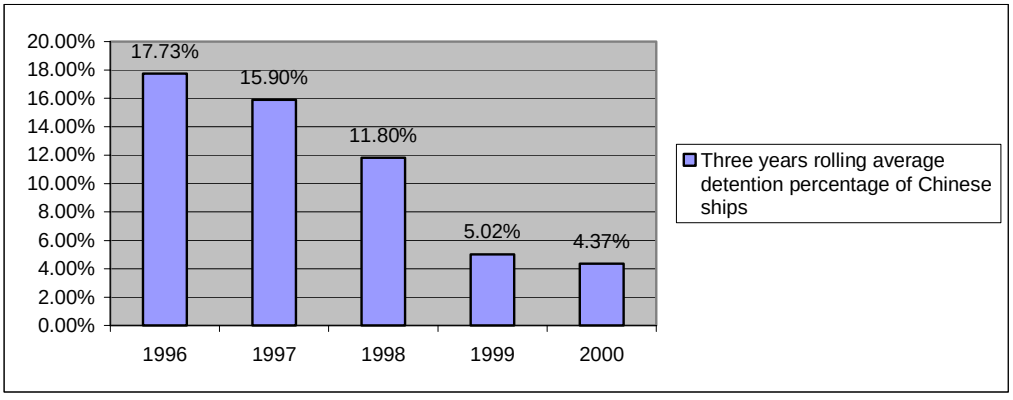

Fig. 14. (Source: Paris MOU annual report)

From this case, it should be recognized that adopting a strict PSC regime is just not enough. Some kind of incentives for flag States to strengthen their own control are extremely important and of course more effective. The role of the flag States in keeping their fleet quality up to standards should never be neglected.

5.7 Effectiveness of PSC

It is obvious that PSC can be effective in eliminating substandard ships only when it is exercised properly by qualified PSCOs (Sasamura, 2000). However, it should be recognized that PSC alone couldn't eliminate substandard ships. PSC is exercised during the short period when a ship stays in port and normally at the same time as loading, unloading or other operations are being carried out. Therefore, it is not appropriate to expect PSCOs to examine the conditions of the ship as thoroughly as the flag State surveyors can do.

However, PSC has proved to be effective by those jurisdictions that are taking their PSC obligations seriously (and that are fortunate enough to have the means to do so) in narrowing the trading options of substandard ship: such as Australia, which was once a favoured destination for them, and the US. This is true as Lloyds List editor pointed out (Hare, 1997):

> You would have to be mad or terminally ignorant to fix a marginal ship out of an Australian port, and if you have an oil cargo to ship to the US you would need quality tonnage operated by demonstrably high quality managers.

According to the Paris MOU annual report (2001), the flags of Mauritius, Bangladesh and Pakistan, which were on the black list for some time, do not appear on any list in 2000. Apparently these registers have withdrawn most of their fleets from the region, quite possibly because their fleets have been the top priority in PSC inspection. In fear of the rigorous inspection for ships of these flags, the shipowners of these ships have no choice but to withdraw their ships from this region. However, it should be remembered that these ships did not disappear but just move to other

regions. That is one reason why we have to emphasize the importance of the uniformity of PSC inspections.

One thing that should not be forgetten is that the PSC was not designed to work as a tool for eliminating substandard ships, but as a supplement to the work of flag State control. Its effectiveness should be assessed not on the basis of its ability in eliminating substandard ships but its ability in influencing the flag States to implement their obligations imposed by accepted international conventions. In this respect, the PSC regime has been effective to some extent based on the analysis mentioned above.

5.8 Limitation of PSC

PSC inspection is limited by time scale and access available to ships and shipowners. Usually the statutory surveys are announced and arrangements are made for access to equipment, the ship's structure and construction records. However, the short time in port of most vessels combined with problems of physical access to the structure of the vessel limits the extent of PSC inspections and also limits assessment of the human element.

Deficiency rate by main categories in relation to inspections of ships in Paris MOU

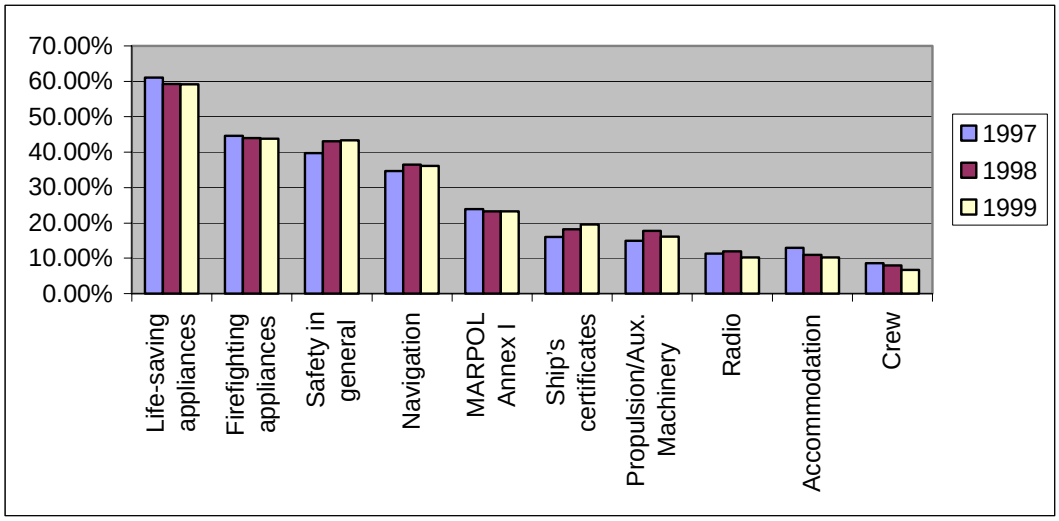

Fig. 15. (Paris MOU annual report 1999)

Figure 15 shows the deficiency rate by main categories in relation to inspection. From this figure, it can be noticed that the highest numbers of the deficiencies identified by the PSC inspections relate to life-saving appliances and fire fighting appliances, as these deficiencies are usually easier to detect.

No doubt the lifesaving and fire fighting appliances are essential for the safety of the ship and people on board. The absence of or defects in these appliances would pose a threat to the ship, people on board or the marine environment. However, unseaworthy conditions of ships carrying large quantities of hazardous and noxious substances would pose a much bigger threat to the port and coastal States. The problem is that it is much more difficult to check the seaworthiness of ships, particularly the structural integrity of ships, as PSC inspections are mainly limited to visual external inspections of the ships. (Sasamura, 2000)

The concern about ensuring the structural integrity of ships has been increasing, especially after recent casualties of oil tankers such as “Nakhodka” and “Erika”. Both of them were caused by insufficient structural integrity, which resulted in huge damages to the coastline of Japan and France. The results of these accidents indicated that the structural integrity of ships deserve more attention not only from the flag State control but from the port State as well.

However, people have agreed that the structural defects leading to the “Erika” accident could not have been detected by PSCOs. (Freudmann, 2000) The limitation of PSC makes it impractical for the port States to thoroughly assess the longitudinal strength of all the ships. The responsibility of ensuring the structural integrity of ships should still rely on the flag State control and it should be carried out during the enhanced programme of inspections under resolution A.744(18). What the port States can do is to verify that the above-mentioned assessment has been carried out by the flag States and that ships with insufficient strength have undergone renewal or reinforcement work. The availability of information on the assessment is important to the port States, as the port States may carry out their own assessment of the structural integrity of the ship if the relevant information is not available and the visual condition of the ship warrants a new assessment.

Most people will agree that around 80% of maritime casualties may be attributed to human errors. PSC of operational requirements under the SOLAS and MARPOL conventions authorizes the PSCOs to verify that the master and crew are familiar with essential shipboard procedures relating to the safety of the ships and prevention of pollution. Unlike the deficiencies in the ship and its equipment, which is visible and relatively easy to detect, inspection of operational requirements requires the PSCOs to have a very high knowledge and experience of ship's equipment, operation as well as management. Unfortunately, many of the PSCOs in developing maritime authorities and even in some developed maritime authorities still have great difficulties in acquiring adequate knowledge in these areas to conduct a proper operational inspection. The compromised requirement on PSCOs qualification and training, which is included in the IMO resolution on PSC procedures, also compromised the overall ability of the international PSC regime in identifying deficient operations by crew and promoting their operational competence.

The last limitation of PSC is that PSC action is basically post facto inspection, which means it is reactive to a situation that has already developed. The only ones who can influence the situation are the owner and the flag State. In addition, the PSC inspection is mainly a spot check, even though an increasingly targeted and informed checks have been adopted, and the reports of defects will be correspondingly limited to those that are readily observable.

5.9 Targeting ships

Even though inspecting more ships is always a goal of regional PSC MOUs, it would be more efficient and cost-effective if the potentially high-risk ships could be identified and inspected with priority. All the existing regional PSC MOUs have included guidances for selecting ships to be inspected with priority. The USCG has a complicated numerical targeting factor system (see Appendix C: USCG Boarding Priority Matrix) based on its own inspection records. The Paris MOU also launched an enhanced targeting system in 2000 (see Appendix F: Paris MOU targeting factor),

which seems to have worked quite effectively from the inspection results analysed in this Chapter. The Tokyo MOU is still in the process of establishing a similar system.

The numerical values assigned to each element, including the type and age of ship, flag, classification society and previous detention, are to some extent determined in an arbitrary way. (Sasamura, 2000) Nevertheless, the resulting targeting factor seems to have reflected the actual condition of ships to some degree and has worked quite well in selecting potentially risk ships to be inspected. So far, the targeting systems are mainly based on individual databases. It would be more reliable and comprehensive if a global database can be used, such as the EQUASIS system.

One thing that should be pointed out is that the targeting factor only provides guidance for selecting ships. The targeting factors of different regions do not have to be exactly the same. Each region or each State may have its own priority list of ships to be inspected depending on their own unique trading patterns and prime concerns. For example, the EU countries may think it most important to keep the safety of ro-ro passenger ships in order to protect the life of their citizens, while the countries in the Asian-Pacific region may take the oil tanker and bulk carrier as the highest priority because of the large amount of oil and bulk cargoes traded in this region. What is important is that the respective targeting system should be effective in identifying substandard ships operating in the region. So far, most of the targeting systems established in other MOUs actually copied the model of the Paris MOU, which may not reflect the unique factor of their regional characteristics. Considering the actual status of these MOUs, in which most of the Maritime Administrations lack adequate resources and expertise to conduct effective PSC inspection, it will be better if these MOUs could establish their own unique targeting system based on their own regional characteristics.

5.10 Fairness of PSC

The fairness of PSC may be related to two major areas. Firstly, there is the uniformity in the application of PSC inspection standards. Secondly, there is in the interest of the State or the port to carry out PSC inspections (Tupper & Chick, 1999).

The problem of uniformity in the application of PSC inspection standards mainly involves the standards applied by individual Maritime Authorities and the professional ability of PSCOs in applying these standards. As most of the maritime authorities have joined in one or two PSC MOU, it is important for all the regional MOUs to adopt a harmonized and consistent inspection standard. So far, most of the regional MOUs have adopted the same or similar standard to that of the Paris MOU. The problem of standard difference between individual regional MOUs is not very large anymore. However, it is within individual MOUs where most of the standard differences exist because of the different conventions each State has accepted and the different capabilities in applying these standards. The solution to this problem relies on the commitment of the governments of each State and the effort of IMO and the relevant regional MOUs.

The quality of PSCOs has been one of the main concerns not only for the IMO but also for the shipping industry. According to IMO Resolution A.787(19), the final judgement on whether the ship is up to the standard or is sub-standard rests upon the professional judgement of PSCOs. Therefore, it is extremely important that the PSC is exercised by qualified and trained PSCOs. Nevertheless, the professional ability of PSCOs in applying these standards may vary significantly, which is not desirable especially for the shipping industry. Quality ship operators do not consider PSC inspections as harassments to their operation, but are concerned with the quality of PSCOs and their unjustifiable detentions. Sometimes PSCOs detain ships for deficiencies such as: officers not wearing uniform; failure to amend the old ship name on one trading certificate; and refusal to escort the PSCO on his inspection, which is very difficult to justify as detainable deficiencies. However, in most cases it is the ship owners who have to suffer from the unjustifiable detentions, even though

most of the conventions have a provision saying that the ship owners are entitled to compensation for any loss or damage suffered when a ship is unduly detained or delayed.

The recent proliferation of regional MOUs is a good trend in globalising the PSC regime. However, some of the States seem to have difficulty in fulfilling flag State obligations (Sasamura, 2000). It is difficult to make people believe that these States can exercise proper PSC inspections. To be responsible port States, these States should first exercise their flag State control properly and train their flag State control officers properly. A qualified PSCO should be a qualified flag State control officer first.

The problem of PSCO quality in different countries depends on the government's commitment and the resources and expertise available to them. This problem can be partly solved by education and training of PSCOs through the cooperation between countries in the same MOU. The Tokyo MOU has worked very hard to improve the quality of PSCOs and to avoid unjustifiable detentions by organizing basic training courses and seminars for PSCOs. PSCO seminars are organized each year to discuss and analyse problems or differences in practising PSC inspections. A PSCO Exchange Programme has also been established to harmonize PSC procedures. The Paris MOU has been successful in ensuring the quality of PSCOs, as most of the member States in the region have a developed maritime authority. The Paris MOU also conducts seminars periodically and has initiated an advanced PSCO training program aiming at harmonizing inspection procedures and updating the professional ability of PSCOs. However, one emerging problem for the Paris MOU countries is the availability of highly qualified PSCOs because of the declining shipping industry and the unwillingness of people to work at sea.

Other regional MOUs have also carried out some PSCO education and training programs. As most of the maritime authorities of these MOUs are still in a developing stage and many of them have limited financial support from their governments, the PSCOs' ability to conduct a professional PSC inspection is still quite limited. Even though the qualification and training requirements of PSCOs

have been stipulated in the IMO resolution A.787(19), as amended by Resolution A.882(21) and have been adopted in all the regional PSC MOUs, some countries still do not have the ability or willingness to follow these requirements, which may become a loophole in the international PSC regime.

PSC inspection was initiated mainly for the interest of the State or ports at which foreign ships calls. Different States may have different perspectives on the implementation of PSC. Unavoidably, political decisions will always affect the decision on PSC inspections. (Tupper & Chick, 1999) Nations who strongly advocate safety of life at sea and the protection of the environment tend to take a tougher stance on PSC inspections on substandard ships, while nations with strong competition from neighbouring ports might take a softer line in PSC inspections to attract more businesses to their ports. Whatever interest a nation may have, national interests do affect the way PSC inspections are carried out. Therefore, a strong commitment from the government of each country should be encouraged so that the goal of eliminating substandard ships can be achieved, and unfair competition between ports of different countries can be avoided. Consequently, no country will suffer from taking a strong stance in PSC inspection.

5.11 Cost Effectiveness of PSC

Whether the cost of PSC should be covered by the shipping industry or not has always been a topic of argument. According to Lord Donaldson (1994), charging ships for the cost of PSC inspection is justified on the basis that it is the shipping industry that puts sub-standard ships to sea, and therefore it is the shipping industry that should cover the costs of policing these ships. However, the shipping industry has obvious concerns in this regard. The most representative idea is articulated by Mr. Hunter, Vice President of Administration, Petroleum Shipping, in response to Lord Donaldson's report (Douglas, 1999):

> On the idea that port-state inspections should be funded by a charge on shipping the owners again have their doubts. While there is some sense in questioning why UK taxpayers should foot the bill for the failures of flag

> states, making the responsible and law-abiding shipowner pay also has its problems. Current port-state control thinking is that ships should only pay when a discovered deficiency requires a second or further visit. 'We see no reason why this basic approach should be changed – innocent until proved guilty and then the guilty must pay.

The author believes that the idea of Mr. Hunter is more justifiable and reasonable. If all the costs of PSC inspections are levied on the ship, some countries may see this as an opportunity to increase the State's revenue, which may quite possibly abuse the rationale of PSC and put the quality shipowners in a bad position.

Obviously, the cost of carrying out PSC inspections is proportional to the inspection rate. The more inspections a country conducts, the more costs will incur. For countries with higher labour costs, as in developed countries, the cost of PSC inspection will be much higher than in a developing country. According to Payoyo (1994), approximately US$25M was spent to conduct about 125,000 inspections on 95,000 individual ships before 1994, which means 200US$ may be spent for each inspection. Today the amount must be much higher than the 200US$ cost before 1994. For the developed countries, this amount of money is affordable even though it may not be reasonable for the port States to bear the cost, which should obviously be the cost of the flag States. However, this cost may be a heavy burden for those developing countries that stick to their commitment in eliminating substandard ships. Therefore, it is justifiable for the port States to charge those ships that have been found to be deficient and require further inspection, especially in the case of detention. On the other hand, levying those unscrupulous shipowners may serve as an incentive to encourage them to use money in raising the quality of their ships.

The adoption of the regional mechanism in conducting the PSC is surely a good choice in the cost sharing and cost recovery of PSC inspections. However, it is important for all the member States to fulfil their commitment in the MOU. For example, in the Paris MOU, each member is committed to inspect 25% of the internationally trading vessels visiting their ports each year whereas the Tokyo MOU only sets a regional target of 75%, which means each member is free to commit

whatever percentage it wishes to inspect. Statistics show that the inspection rates vary from over 85% to less than 1% among the Tokyo MOU members. (Tupper & Chick, 1999) It is not fair to have some countries bear most of the burden. Another problem that should be noticed is that increasing resources for PSC inspections alone cannot improve the cost effectiveness of PSC inspections. Merely having a high inspection rate only improves the effectiveness of PSC but not its efficiency. Using a scientific targeting system will not only optimise the use of limited resources, but also limit the cost of inspection by avoiding the inspection of quality ships.

5.12 Conclusion

From the analysis made in this chapter, it is clear that PSC has been successful in improving the ship quality operating in those regions where PSC has been carried out seriously. However, it has not been very successful in changing many shipowners' mind to upgrade the quality of their ships. Many ships are still operating in a substandard manner. The PSC regime itself still has lots of problems to be solved before a really effective PSC regime can be established in the whole world. PSC can only be a supplement of flag State control, and will never supersede the key role of flag State in keeping their fleet up to international standard.

Chapter 6
The impact of PSC regime on the implementation of SOLAS and MARPOL

6.1 Introduction

PSC as a way of promoting the implementation of international standards in the areas of safety and marine environmental protection has attracted more and more attention from the maritime regime. It supplements, and many times overshadows, the role of the flag State in the enforcement of international maritime legislation, even though the PSC regime never means to replace the role of flag States and is mainly regarded as the last defence line in case other tiers of defence failed.

The rapid development of the regional PSC MOUs is surely changing the shipping industry in its implementation of international standards, but how far the impact of PSC has made it is still difficult to determine. Due to lack of information availability, the assessment of the PSC impact on the implementation of SOLAS and MARPOL conventions is mainly based on the statistics and other empirical data published by the Paris MOU.

6.2 Enforcement of MARPOL 73/78 standards under the Paris MOU

The jurisdictional issues relevant to the power of the port States regarding marine environmental protection has been elaborated in Chapter 3. It is generally agreed that port State enforcement is a promising solution to the problem of ship-source pollution, even though hardly any evidence has been offered to prove this claim. (Payoyo, 1994) The impact of the PSC regime on the implementation of MARPOL 73/78 has never been determined, despite some empirical studies in favour of the enforcement of the convention by port States.

The MARPOL deficiencies are mainly categorized into deficiencies specified under the "MARPOL Annex I" and "MARPOL Annex II". Figures 16 and 17 show the ratio of deficiencies to individual ships under Annex I and Annex II of MARPOL respectively. These figures show that the deficiencies under MARPOL Annex II have been decreasing consistently despite the increasingly stricter PSC inspections. It seems the PSC has been quite effective in eliminating substandard chemical tankers. However, the deficiency rate under MARPOL Annex I has been stable since it reached its peak in 1996 until 1999, which follows the general pattern of overall deficiency rates describe in the previous Chapter 5. The year 2000 saw a sharp increase in deficiency rates under Annex I, probably due to the enhanced targeting system launched in 2000.

Ratio of deficiencies to individual ships x 100 marine pollution Annex I

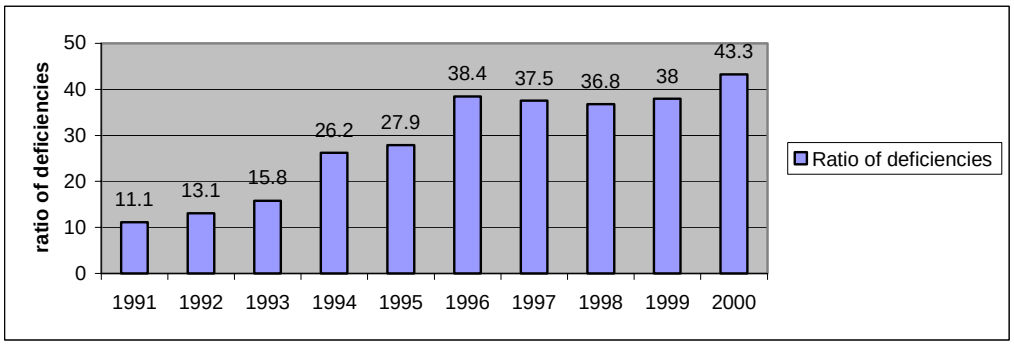

Fig. 16. (Source: Paris MOU blue book 1999 and annual report 2000)

Ratio of deficiencies to individual ships x 100 marine pollution Annex II

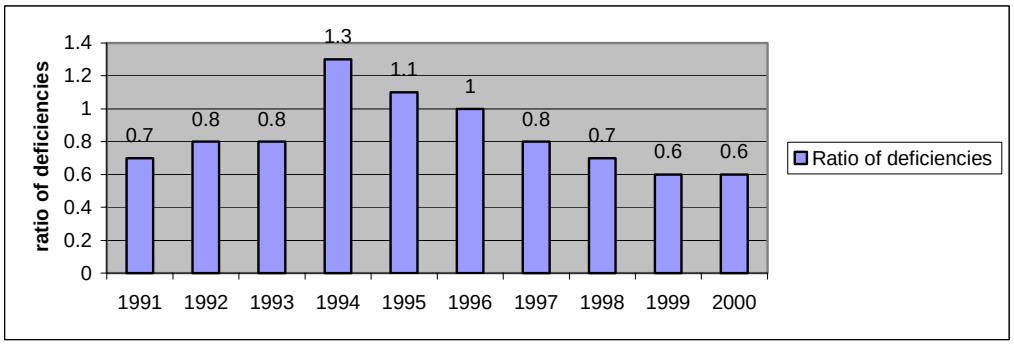

Fig. 17. (Source: Paris MOU blue book 1999)

Figure 18 shows the ratio of deficiencies to individual ships related to MARPOL operational control. The deficiency rate has more than doubled during the past several years. It is difficult to conclude that the crew's operational ability has deteriorated so badly, but at least it proves that the crew's operational ability has not improved much. One explanation of this big increase of the deficiency rates may be that the Paris MOU has given more and more attention to the inspection of operational procedures relating to safety and environmental protection during the past several years.

Ratio of deficiencies to individual ships x 100 MARPOL operational control

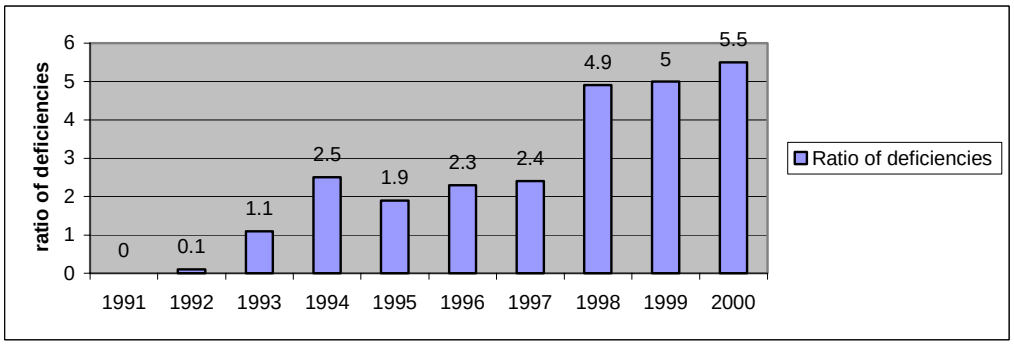

Fig. 18. (Source: Paris MOU blue book 1999)

Figures 19 and 20 give a general idea of the annual number and quantity of oil spills over 7 tons in the past 30 years. From these two figures, it is obvious that both the number of ships who spilt oil and the quantity spilt have decreased consistently.

Table 4 gives the cause of oil spill incidences. This table clearly indicates that most of the oil spill incidences result from routine operations such as loading, discharging and bunkering, which normally occur in ports or at oil terminals. According to the International Tanker Owner Pollution Federation (ITOPF) (2001), the vast majority of accidents have been reported are less than 7 tons spill category, mostly due to operational problems of the ships involved. In most of the past years, the operationally spilt oil actually exceeded the accidental spillage. Considering the increasing number of operational deficiencies of crew under MARPOL Annex I identified in the PSC inspections, people may be more convinced of the importance of operational inspections. Stricter inspection on crew's operational competence will surely have an even more significant impact on the implementation of the MARPOL Convention. It is obvious that PSC in operational areas should be one of the main areas for all the regional PSC MOUs to pay more attention.

Number of oil spills over 7 tons in the past 30 years

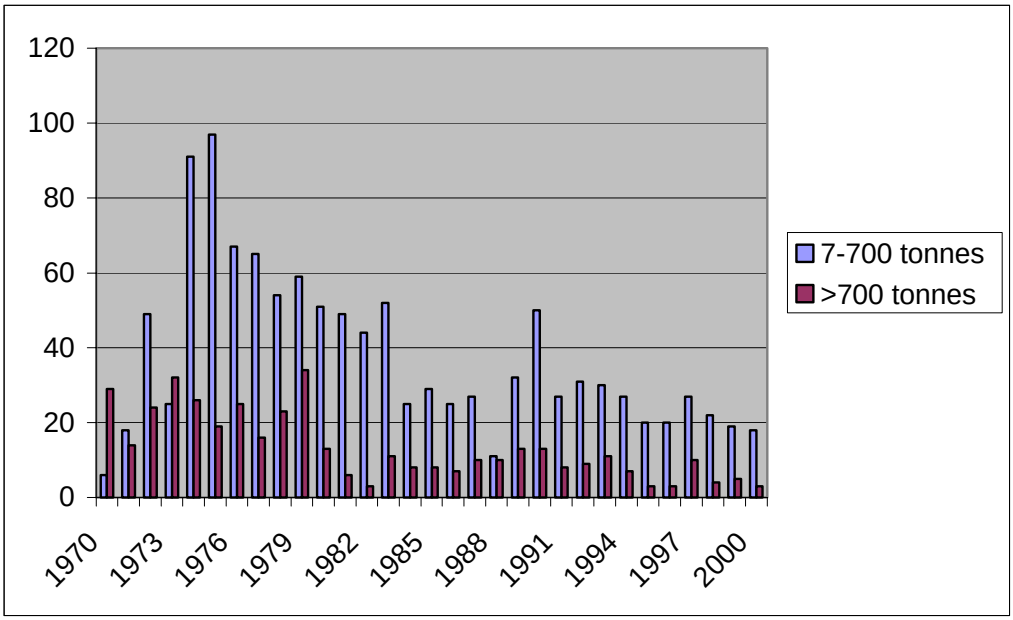

Fig 19. (Source: ITOPF, 2001)

Annual quantity of oil spilt in the past 30 years

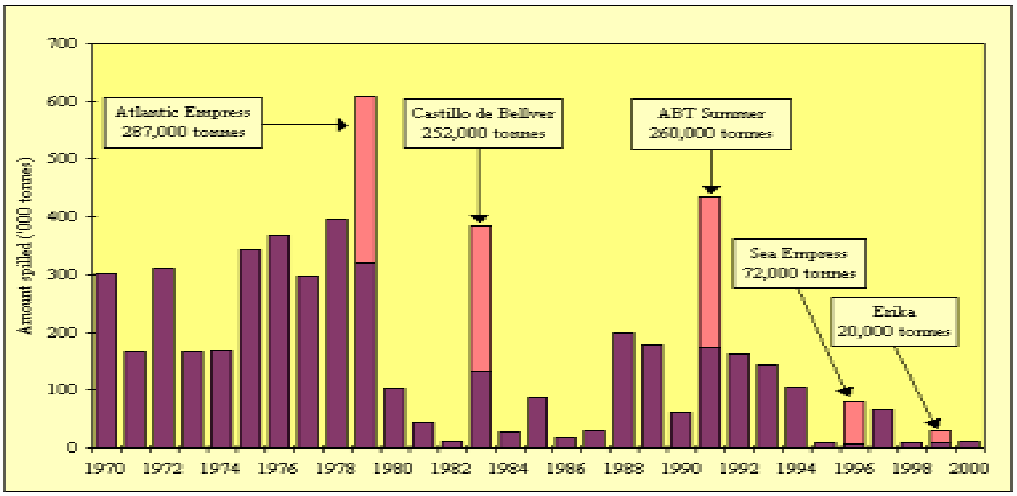

Fig. 20. (Source: ITOPF, 2001)

Table 4: Incidence of spills by cause, 1974-2000

	< 7 tonnes	7-700 tonnes	> 700 tonnes	Total
OPERATIONS				
Loading/discharging	2763	297	17	3077
Bunkering	541	25	0	566
Other operations	1165	47	0	1212
ACCIDENTS				
Collisions	159	246	86	491
Groundings	221	196	106	523
Hull failures	561	77	43	681
Fires & explosions	149	16	19	184
OTHER/Unknown	2217	163	35	2415
TOTAL	7776	1067	306	9149

(Source: ITOPF, 2001)

The PSC inspection results obviously prove the effectiveness of the Paris MOU. The fact that an increasing amount of deficiencies (as the inspections number has

increased) is discovered by PSC proves that the PSC regime has sustained its ability to enforce MARPOL standards. The casualty and pollution statistics, which shows an improving standard, (O'neil, 2000) also prove that the PSC regime has exerted a positive impact on the implementation of MARPOL. However, the deficiencies under Annex I, especially the increasingly higher rate of deficiencies for MARPOL operational procedures exists in the Paris MOU, show that the PSC regime has not completely changed the implementation of MARPOL standards. In addition, the high violation rate in the Paris MOU region, which is already rigorously policing MARPOL violations, also gives a glimpse of the magnitude of MARPOL violations happening in the rest of the world.

6.3 Enforcement of SOLAS standards under the Paris MOU

The SOLAS Convention is generally regarded as the most important Convention of all international treaties concerning the safety of merchant ships. The main objective of the SOLAS Convention is to specify minimum standards for the construction, equipment and operation of ships, compatible with their safety. The effective implementation of this convention is the key to the success of the international maritime regime in achieving its goal of protecting the safety of life and property at sea.

The PSC concept was entrenched as early as 1929 in the SOLAS Convention. Nowadays, ensuring the proper implementation of the standards in the SOLAS Convention on board ship has always been the main job of PSC and will continue to be so in the future.

The safety standards are included in the eleven technical chapters of the convention. All these chapters are related to some areas of ship safety and should be fully complied with by applicable ships. The following five figures from 21 to 25 illustrate the deficiency ratio in some main areas related to the safety of ships, which were found in the Paris MOU. Figure 21 and 22 show that the deficiency ratios

relating to fire fighting and life saving appliances have decreased since 1994 until 1999. The reasons for this trend are not only because these two areas have been the main concerns of PSC where deficiencies are relatively easier to find, (Sasamura, 2000) but they are also the main areas where detainable deficiencies are detected. (Paris MOU blue book 1999) The decreasing deficiency ratio indicates that the observance level in these areas has improved and the PSC efforts have been rewarded. One important observation from this result is that the PSC can be effective in promoting the implementation of safety standards if the PSC regime is really concerned. People may also noticed that almost all the deficiency rates increased significantly in 2000, when the enhanced targeting system was launched in the Paris MOU in order to target more specifically to those potentially high risk ships.

Ratio of deficiencies to individual ships x 100 fire fighting appliances

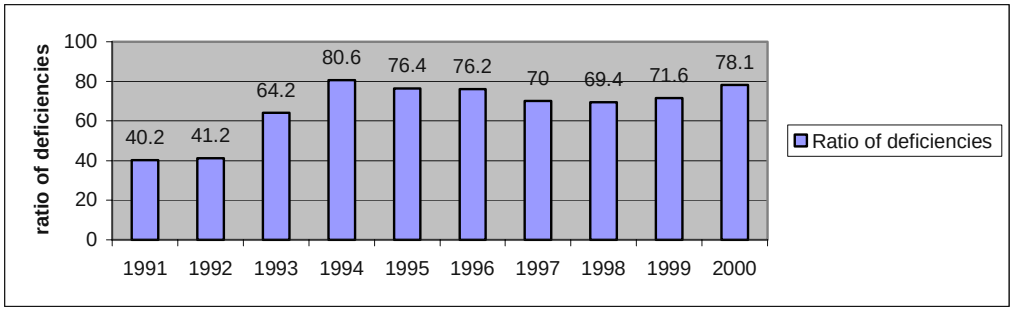

Fig. 21. (Source: Paris MOU Blue Book 1999 and Annual Report 2000)

Ratio of deficiencies to individual ships x 100 life saving appliances

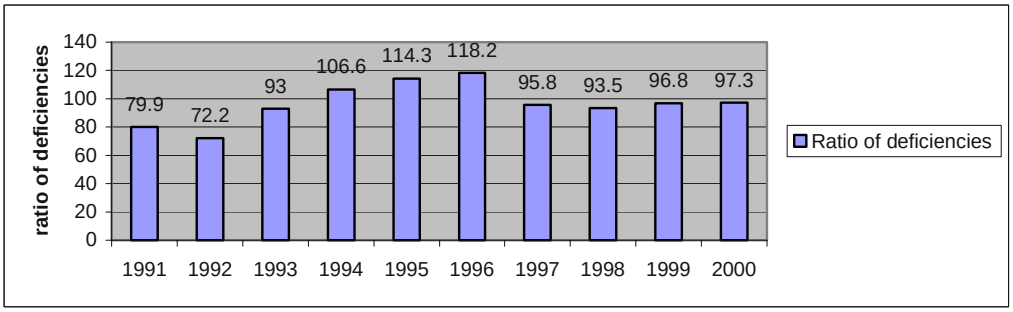

Fig. 22. (Source: Paris MOU Blue Book 1999 and Annual Report 2000)

The deficiency ratios relating to safety in general and navigation equipment are not encouraging. From Figure 23 and 24, it is clear that the deficiency rates in these two areas fluctuate to a very small extent but increased sharply in 2000 due to the same reasons explained above. The fact that the deficiency rates remain at a high level indicates that the shipping industry has not endeavoured much to improve its performance in these areas. It seems the shipping industry has been working hard to eliminate deficiency in those areas where PSCOs have paid much attention, but does not make much effort to raise the whole quality level of the shipping industry. Obviouly, it is not a good idea for the shipping industry only to care about something the PSCOs have paid attention to because what the PSC regime is working for is to improve the quality level of shipping and not just expect the shipowners to rectify deficiencies PSCOs have detected. It is time for the shipping industry to change its attitude towards PSCOs from the image of police at sea to a partner helping the shipping industry to improve the quality level of shipping.

Ratio of deficiencies to individual ships x 100 safety in general

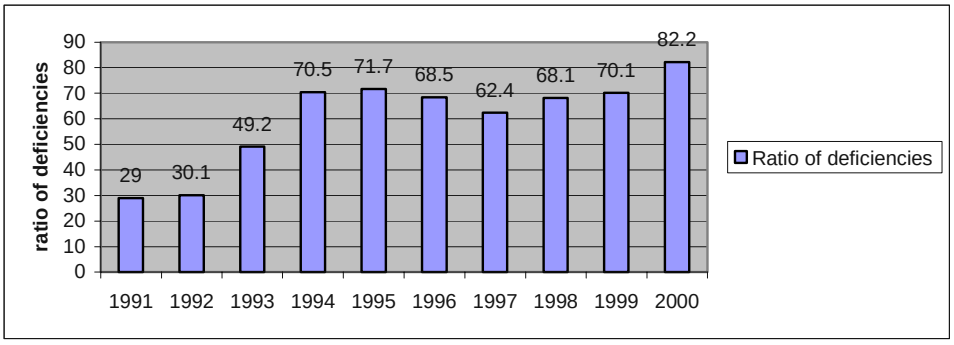

Fig. 23. (Resource: Paris MOU Blue Book 1999 and Annual Report 2000)

Ratio of deficiencies to individual ships x 100 navigational equipment

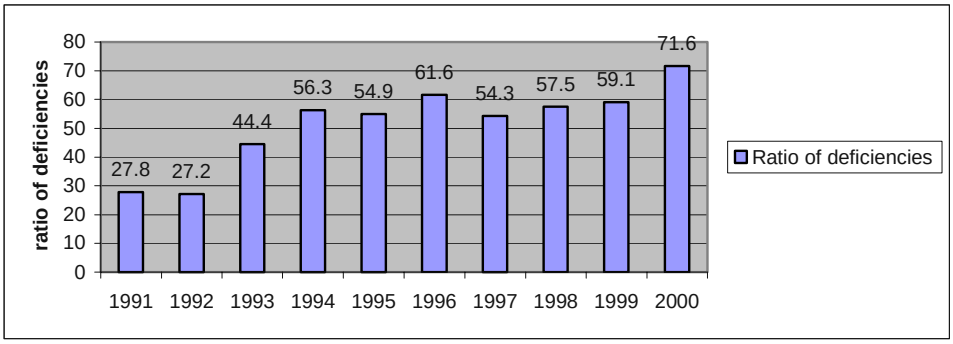

Fig. 24. (Source: Paris MOU Blue Book 1999 and Annual Report 2000)

Figure 25 gives a clear indication of the rapidly increasing operational deficiencies detected by the Paris MOU. The consistently increasing records of operational deficiencies related to safety, which has increased 83.6% during the last five years, should remind the shipping industry and flag States to recognize the seriousness of these figures and take sufficient measures to improve the operational safety on board ship. It is generally recognized that human elements account for 80% percent of accidents. If this is true, the PSC regime should really exert much more effort in policing the crew's competence in maintaining proper watch and in operating key equipment related to safety. In doing this, it is important to raise the professional level of PSCOs first, as the inspection on crew's competence is rather subjective and need a high level of knowledge and practical experience in the relevant areas. The IMO resolution A.787(19) has given the minimum qualification requirements for PSCO in conducting operational control, which is essential for port States to follow if they want to conduct a proper PSC in operational procedures, even though these requirements were obviously compromised in the process of negotiation.

Ratio of deficiencies to individual ships x 100 SOLAS operational control

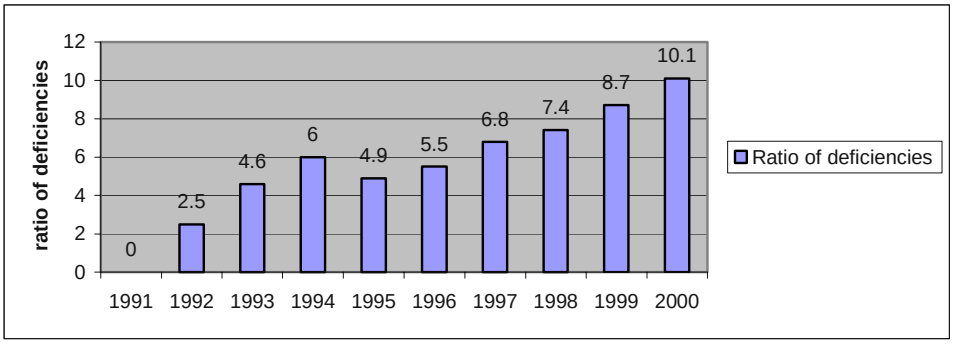

Fig. 25. (Source: Paris MOU Blue Book 1999 and Annual Report 2000)

6.4 PSC impact on the implementation of SOLAS and MARPOL

It is clear that the effort of the PSC regime has promoted the implementation of MARPOL and SOLAS conventions to a significant extent. However, this impact does not seem to be big enough to change the industry's attitude towards implementation of international standards. Lots of shipowners still try to operate their ships at the lowest acceptable level. Quality shipping has not become a globally accepted idea. The PSC regime itself does not seem to have worked so well as was expected. Room still exists for the PSC regime to improve its performance and effectiveness. To achieve the goal of a quality shipping, the PSC regime still has a long way to go in the future.

Chapter 7
Recommendations and conclusion

7.1 Introduction

The world PSC regime has achieved partial success. Nevertheless, room still exists for the PSC regime to improve its performance and effectiveness. The improvement of PSC can be achieved in many ways, such as those areas discussed hereafter. The main idea of these proposals and recommendations is to have all these regional PSC MOUs working together in a coordinated manner so that a worldwide PSC network can be established, which would effectively prevent the operation of substandard ships anywhere in the world. The effectiveness of all these proposals and recommendations rely on the commitment of individual States and good cooperation between them.

7.2 Uniformity of PSC

It is generally recognized that inspection standards and procedures vary greatly throughout the world and even among members of regional MOUs for various reasons. This non-uniformity of PSC standards and procedures has not only brought a lot of inconvenience to the shipping industry, but also has undermined the reputation of the world PSC regime as an effective means in promoting the implementation of international standards. The Paris MOU has been in a much

better position in this respect, since the MOU has been operating for about twenty years successfully and its member States are mostly developed countries. The Tokyo MOU has been progressing quite well in this respect, as much of the work done since the inception of the Asia-Pacific MOU has been directed towards the training of PSCOs and the development of inspection standards and procedures to establish uniformity of inspection and consistency of decisions and actions by member states. Other regional MOUs are still progressing with the assistance of IMO through its technical cooperation programs. (Rose, 2001)

To promote the uniformity of PSC, some measures should be taken. First, each region should produce a consistent PSC manual, preferable based on the Paris MOU manual. Second, the regional MOUs should take advantage of the guidelines, standards and model courses for PSC inspections, which are produced and continuously updated by the IMO and ILO in training their PSCOs. Third, technical cooperation such as PSCO training and exchanging should be encouraged and strengthened among individual regional MOUs and inter-regionally.

No doubt there is still a long way to go before the world PSC regime can work in a harmonized and uniform manner and its success will largely depend on the political commitment and support of all the relevant State governments. However, the importance of uniformity of PSC should never be underestimated. The PSC regime can never be fully effective if the PSC cannot be carried out in a harmonized and consistent way.

7.3 Promoting the exchange of information

Promoting the information exchange will greatly improve the performance of PSC in some way. 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. The second advantage of information exchange is to increase the knowledge of substandard shipping. This knowledge is not only useful in itself, but will also benefit the maritime community with the opportunity to better analyse the

causes of incidents and casualties and to make sure, more accurately than ever before, how they can be prevented from occurring again. The third advantage of improved information exchange is the potential of working towards the change of attitude within the shipping industry, where a long tradition of secrecy has frequently resulted in problems being hidden and ignored rather than revealed and solved. Hopefully, there may be the chance to challenge this culture and replace secrecy with transparency and openness. (Hoppe, 2000)

The information exchange can be enhanced mainly 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. The first and the most important step to achieve this goal is the establishment of regional databases. So far only half of the MOUs have a 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 (Rose, 2001). The technical and financial limitations, especially for those newly established MOUs, are the main reasons for this situation. The second important step that needs to be taken is facilitating the exchange of data between individual regional MOUs. A limited facility for exchange of data between the Paris MOU and the USCG and the Asia-Pacific MOU has been achieved. Preliminary discussion between the Paris MOU and the USCG has initiated on interchange of data. According to the progress made over past years with the development of MOU databases and computer networks and the establishment of interregional exchange, it is difficult to see a satisfactory interchange of PSC inspection data between all of the MOUs that will be in place in the near future.

To promote information exchange, all the regional computer databases should be accessible to their member states and preferably be compatible with all the other MOUs. Those MOUs which are now in the process of establishing databases or not yet started really should notice this problem, so that they do not have to refurbish their system in the future. The Black Sea MOU is a good example that has adopted

the same system from the Tokyo MOU. An alternative is to establish a central database at the IMO, which is a good choice but difficult to agree by those MOUs.

The objective of these databases is to provide all administrations with an easy access to all PSC inspection results in a timely manner. To make these accesses useful, the information in these databases should be kept as accurate as possible by means of appropriate procedures and audit arrangements as well as extensive training programmes. (Rose, 2001)

In June 2000 the IMO held a workshop discussing common experiences in the implementation of PSC, harmonization and co-ordination of PSC procedures, exchange of information between MOUs and technical co-operation matters. (IMO, Oct. 2000) The secretaries and database managers of all the regional MOUs, USCG, ILO and EQUASIS attended the workshop. Some recommendations were adopted to be considered by the MOU committees aiming at developing closer ties and cooperation between the regional MOUs. These recommendations include:

1. Admit the secretariats of other MOUs as observers in order to ensure a continuous exchange of information, expertise and practices in the implementation and co-ordination of PSC activities;
2. Consider sharing regional information exchange systems with other PSC regions;
3. Develop a common coding system for recording inspection and action data;
4. Establish a "Contact Group on the Harmonization of Information Exchange" with the following terms of reference:
    - To exchange views and information on PSC information systems.
    - To prepare proposals to facilitate the exchange of interregional information;
    - To contact the ISO Working Group on Product Structure Directory Standard for Ships ISO/NP 16917 in order to be associated with its on-going work on the harmonization of PSC related data;
    - To review and compare existing PSC coding systems;

- To explore the possibilities whether or not existing codes could be combined, harmonised or otherwise modified to form a common coding system;
- To share progress and results on the development of a common coding system with the FSI Correspondence Group on Certain Aspects of PSC.

Obviously, the individual MOUs have recognized most of the problems that existed with regard to information exchange and have worked out quite comprehensive measures in promoting the information exchange. However, the most difficult problem is to implement these measures in all the MOUs.

7.4 Promoting Transparency

For the success of the PSC, there is an urgent need for more transparency. The shipping industry has a long tradition of secrecy culture, which has frequently resulted in problems being hidden and ignored rather than revealed and solved (Hoppe, 2000). To solve this problem, the PSC regime should work hard to challenge this culture and replace secrecy with transparency and openness.

The goal of promoting transparency can be achieved by making more relevant information available to the public, especially to those interested parties. Just as what Cubbin (2001) has said, transparency could not be the solution in eliminating substandard ships but surely it is a step in the right direction. 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. First, enhanced transparency will give the quality operators a better playing field, as many charterers will under pressure not choose 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. Second, it provides an opportunity for cooperation between administrators and responsible

industry players in improving standards on health, maritime safety and marine environmental protection, because of the availability of more information on the problems identified. Third, it will press the industry to pay more attention to its self-regulating mechanism so that bad quality ships will be eliminated by their own initiatives.

The information accessible to the public should be as much as possible. Preferably it should include the records and the results of the flag State surveys. Other information may include the names of all the parties involved in the ships' business, for example the owner, class, shippers, charters, cargo owners, insurers and P&I clubs. (Ulstrup, 2001) Just as Mr. Hare (1997) says:

> Let the brokers of the world know what ships have been detained and why. Let the world's insurers know who the miscreants are. Let the consumer, passenger or cargo shipper, know who the delinquents are and let them avoid using substandard ships as an effective means of ridding the oceans of their scourge.

One of the important measures that have been taken to improve transparency is to publish detention information. Initially port States were reluctant to publish detention information in fear of damage suits by agonized ship-owners. (Hare, 1997) However, this method has been so popularly adopted that now it has become a norm in getting more transparency. People are now quite used to getting information of ships detained, which are regularly published in *Lloyds List* (UK, Australia, Canada and the US, on a monthly basis) and even on the Internet.

An important step towards increased transparency is the launching of EQUASIS system on 23 May 2000. The system now contains basic details about the ship, its classification, its SMC, its P&I cover, ship owner memberships (Intertanko and Intercargo, in the near future ISMA, as well), the existence of an ITF agreement and both current and historical details about its name, flag, owner, manager and class society on most of the worlds merchant ships (about 66, 000 ships over 100GT). Information of other ships in the same manager's fleet is also accessible in the same

way. PSC information from the Paris MOU, Tokyo MOU and USCG are input into this system, which includes the date and place of inspections, details of the type and number of deficiencies and whether the vessel was detained. Additional information on the number and type of the detainable deficiencies and the duration of detention is given in case of detention. Unfortunately only the Paris MOU is currently providing all of the inspection information weekly. The USCG provides inspection information quarterly and detention information monthly. The Asia Pacific MOU has supplied data relating to inspection information only. (Rose, 2001) The management unit of the system is continuously working on increasing the reliability as well as the type and extent of information being recorded. The implementation of a more comprehensive "human element module" in the database (with PSC information and connections to ILO and ITF databases) is now being taken into account. The unit also discussed with the Oil Companies International Marine Forum (OCIMF) and the Chemical Distributions Institute (CDI) earlier this year with regard to providing PSCOs access through EQUASIS to information in the OCIMF and CDI databases. Furthermore, closer co-operation with IACS is in the process of discussion.

Current usage of the system is increasing slowly but steadily: about 1,600 users consult the database each month, which means more than 60,000 hits a month (Rose, 2001). However, so far it is not popularly used in the PSC regimes. One feasible way of using this system by the PSCOs to obtain information about substandard ships may be to first gain an overview of the ship from EQUASIS, then to obtain this from the regional MOU's databases if greater detail is needed. This facility is sure some time away, but may be something to work towards.

The EQUASIS is now developing into a genuinely international system where currently France, Japan, Spain, Singapore, the United Kingdom, the USCG, IMO and the European Commission are participating in the establishment and supervision of the system. It is essential to promote the EQUASIS so that it may become an international system, which can be accessed by all sectors of the industry in the identification of substandard ships and shipping. Hopefully, this database will provide an overview of the history of each particular ship in the future. The

EQUASIS website gives detail information about the system (www.equasis.org). Surely enough, the EQUASIS project is a positive action towards the improvement of information transparency relating to ship safety and environmental protection. However, this project still needs to improve the coverage of the information resources such as the PSC information from other regional MOU where the IMO may play a more active role in promoting this project.

Relevant parties should be encouraged to take advantage of this greater transparency, especially for charterers and insurers, in discriminating ships when they were contemplating business. (BIMCO, 1998). If all the relevant parties can make full use of this valuable transparency of information, and avoid using bad quality ships, the substandard ships will surely be eradicated much easier.

7.5 Tougher target system

PSC is a strong medicine to cure a sick industry, (Hare, 1997) however, it is nothing less than a confounded nuisance to the operator of a well-founded ship and her officers (Tougher targeting, 1998). PSC inspections without distinguishing between the responsible and the rogue operator is a weakness in terms of both safety enforcement and the provision of a level playing field for good shipowners. (Cubbin, 2001) The targeting systems practised in the Paris MOU and USCG are good examples for identifying high risk ships for priority inspections while leaving ships of prudent shipowners “in peace” as a reward for their good performance. At the same time the precious PSC resources can be utilised more productively. 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. Of course, this goal will rely on the availability of a better database, which will enable the more precise targeting to take place. The IMO should take measures to encourage the developed MOUs to help those undeveloped MOUs in establishing globally compatible inspection databases and developing tailored targeting system, which are sensible to their specific situations.

The goal of the targeting system is to develop a new PSC culture of qualitative rather than quantitative inspections.

7.6 Maintain a balance

It is important for the PSC regime not to go extreme whether it is too strict or too loose. There is a natural tendency for a system to continuously raise the stands aimed for once it is established and the first level objectives have been achieved, partly to justify the perpetuation of the system. In terms of PSC, there exists a danger that PSC may be used for trade sanction purposes, or as a way of extortion by unscrupulous authorities if the PSC regime goes too far away from its original objective of promoting the implementation of international standards.

On the other hand, it should be noticed that the PSC regime should not be developed into another tier of "loose net", which will not effectively improve the quality level of shipping but impose another burden to shipowners. So far as an emergent MOU is concerned, a phase-in period should be provided for the owners and operators, during which local and regional shipping not hitherto subjected to standards and inspections have an opportunity to come up to the required levels. The individual maritime authority in the region should sensitise, encourage and, where appropriate, assist the regional shipping community during the phase-in period. The length of the phase-in period will depend on the regional conditions, but typically this would be at least six months, once the regional administrations have the capability to commence effective PSC activities. (Rial, 1999)

7.7 Human factor

As most people agree that human element accounts for the majority of maritime accidents, it is important for the PSC regime to address the human factor properly. The human factor problem should be addressed in two facets. The first is how to improve the competence and performance of the crew who are directly responsible for the safety of the ship. This should be done by enhancing the operational

inspection of the crew especially those in charge of key operations. A more detailed and standard guidance for operational inspection should be adopted to help PSCOs to conduct the operational inspections.

The second is to improve the professional capability of PSCOs in conducting professional PSC inspections. Internationally agreed training and qualification requirements for PSCO are important in harmonizing the standards applied and improve the professional level of PSC inspection especially in those newly emerged MOUs. People are not only the main cause of most accidents, but also the best means to prevent them when procedures are learned and effectively applied (Plaza, 2000). In this respect, the IMO should take a more active role in encouraging the regional MOUs to pay more attention to the professional capability of PSCOs so that the effectiveness of PSC will not be undermined and abused by unqualified PSCOs.

7.8 Incentive to shipowners

It is clear that shipowners have the ultimate responsibility to keep their ships up to international standards. However, many of them obviously did not fulfil their obligation for various reasons. Some incentives to shipowners should be developed to encourage them to live up to the requirements. Historically, the PSC regime has mainly used the "stick" policy in penalizing the shipowners of substandard ships in order to instigate their motive in improving their safety performance. Experience shows that this method does not seem to work very effective. Sometimes a "carrot" policy may work better. A positive way is to differentiate between good and bad ships and owners. Incentive should work in such a way that the prudent shipowners will find it worthwhile to run their ships in a continuously quality manner, while the substandard shipowners will find it not sensible to run their ships in a substandard manner anymore. Rotterdam's "Green Ship" program (See detail from http://www.greenaward.org/defaulthome.htm) is a good example.

One of the main reasons why so many ships are managed in substandard condition is for financial concern. The shipping industry as a whole has been running in deficit since 1973 because of the huge surplus, initially of tankers and

then ships of actually all types. (Gray, 2000) A losing industry has a high pressure to cut costs, so cutting corners become ferocious. According to an OECD report (1996), the margin of substandard operation can be up to a 15 per cent saving on the annual running cost for a vessel at the common practice level, which is a significant margin in such a competitive and unprofitable shipping market nowadays. Giving some financial advantage to those honest shipowners, who have invested large amounts of money in keeping their ships in a high standard, and discouraging those substandard shipowners by strict and frequent PSC inspections so that they will not get an advantage by running their ships in a substandard condition may be a good solution to improving the shipping quality. The Qualiship 21 (see Appendix G for detail) program initiated by the USCG, which has been devised according to the above-mentioned principle, seems to be a very good idea and should be recommended to other PSC MOUs. In this respect, IMO should take measures to encourage port States to investigate initiatives to substantially offset any commercial advantage accrued by the operation of substandard ships, preferably at a regional basis or even in a globally consistent initiative, so that shipowners will not be tempted to run their fleet in a substandard manner in order to get financial advantage. This is important just as Mr. Williamson (1996) pointed out: "substandard ships and crew will continue to ply the world's seaways until it is made uneconomic to operate them".

7.9 Incentive to flag States

Almost everybody agrees that the prime responsibility of ensuring the quality of ships lies with the flag States. However, so far the world PSC regime has mainly taken a "stick and carrot" policy towards the shipping industry and not the flag States. Not many effective measures have been taken towards the flag States, probably because of political concerns. To encourage the flag States to fulfil their responsibility imposed by the accepted international legislations, some incentives to flag States should be considered.

In the Paris MOU report to the International Commission on Shipping (ICONS) (2001), some radical but probably feasible suggestions were provided as follows:

1. The flag States are suggested to suspend the registration of any ship that is detained twice within a year. While at the mean time the port States should be authorized to notice those flag States below an acceptable level of quality that ships flying their flags will no longer be allowed to load or unload cargo in their ports.
2. Flag States in flagrant disregard of their responsibilities should be publicly criticised for example in IMO. Member States whose PSC performance are consistently in the category of high risk may be suspended of their membership as these countries contribute nothing except enjoying their rights and privileges and continuously ignore their corresponding responsibilities.
3. Flag States with consistently high-risk detention rates may be further penalized by refusing recognision of certificates issued by them.

These measures may be difficult to adopt in IMO because some States may strongly be against these proposals. However, it should be remembered that the mission of eliminating substandard ships would not succeed without the commitment of flag States. Radical measures will not be welcomed by many people but sometimes they really work, such as the OPA 90, which was opposed by most of the world, but it produced excellent results. (Gray, 2000) A “stick and carrot policy” should also be used against flag States consistently ignoring their responsibilities so that one day these States may realize that fulfiling their responsibilities is something worth doing.

More pressure should be put to encourage the flag States to complete the IMO self-assessment form. Theoretically, it is a very good idea in improving the performance of flags States. Nevertheless, so far very few countries have completed this form for various reasons. Of course one of the main reasons is that it is not a compulsory requirement. It is advised that IMO should take measures to make this

requirement compulsory by putting it in the relevant conventions, just as the self-assessment requirement entrenched in the STCW 78/95 Convention.

7.10 Implementing ISM Code

The ISM Code came into force for certain categories of ships 1 July 1998 and will be fully applicably to all ships after 1 July 2002. So far it is still too early to conclude whether the ISM Code has succeeded in its long-term aim of raising standards of safety management on board ships and providing transparent accountability stretching back to the operator. (Cubbin, 2001) However, it surely provides the port States a tool to assess the shipowners whether they have fulfiled their responsibility in maintaining a quality fleet complying with international standards by operating an effective safety management system. For example, in the "Amoco Cadiz" accident, which happened in March 1978, the ship spilled 220,000 tons of crude oil cargo because of the seriously deficient steering gear right from delivery. Further, her management knew it and deliberately decided not to repair it twice because of economical concerns. (Gray, 2000) The unseaworthiness of the obvious substandard ship is very unlikely to have been detected even if the PSC system had been existing at that time, since it was nearly a new ship operated by a US major oil company, with clearly well trained Italian crew of probably 28 or 30 on time charter to a European oil major. It is a ship hardly being targeted, or to become suspicious about even with a fairly thorough "walk around" PSC inspection in port. Obviously this problem could have been solved if the company were operating an effective Safety Management System (SMS).

From the PSC point of view, what the PSC regime should do is to inspect the ship's SMS more strictly to make sure the SMSs are running properly in the ships and their company. Despite the fact that the ISM Code contributed to the overall improvement in ship quality to some extent, there were notable exceptions indicating that some managing companies still did not take the ISM Code seriously. (USCG annual report 2000) People are worrying that the ISM could lead to paper work if it is not implement properly. The Paris MOU annual report (2001) says that in the year

2000, 929 ISM related deficiencies were recorded, an increase of 87% when compared with 1999. This is a clear indication that many shipowners still consider the ISM as a burden imposed by IMO but not regard it as a good opportunity and tool to improve their safety management level. The ISM Code is good, but worth nothing if it cannot be implemented properly. According to the Paris MOU (2001), a new CIC is going to be carried out when the second stage of ISM implementation begin, which is 1 July 2002. Surely it will promote the implementation of ISM, but it will be more effective if all the existing regional MOUs can coordinate together to carry out a similar CIC as the Paris MOU, so that those substandard shipowners and their ships will find nowhere to hide.

7.11 Conclusion

The ultimate responsibility of keeping the ship in compliance with international standards lies with the shipowner, flag States and other relevant industry players. The development of the PSC regime is the world reaction to the failure of shipowners and flag States in fulfiling their responsibilities. PSC is only a supplement 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 legality and procedures of PSC are clearly developed. It is most effective 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 regime as a more and more effective means of ridding the world's ports and oceans of sub-standard, unseaworthy and dangerous ships. So far, the PSC regime has achieved partial success in promoting the quality level of shipping, and has had an impact on the implementation of the SOLAS and MARPOL Conventions. However, the success is not good enough to satisfy the public hope of eliminating substandard shipowners and their ships.

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 harmonized inspection and detention procedures, enhanced transparency through increased information exchange within regions and inter-regionally and incentives for the shipowners and flag State to encourage them in improving their performance. In doing this, IMO can play a more active role so that all these measures can be taken in a globally harmonized manner.

After all, until such time as owners, operators, other industry players and flag States accept and fulfil their responsibilities, the most viable alternative in eradicating substandard shipping is an effective world PSC regime.

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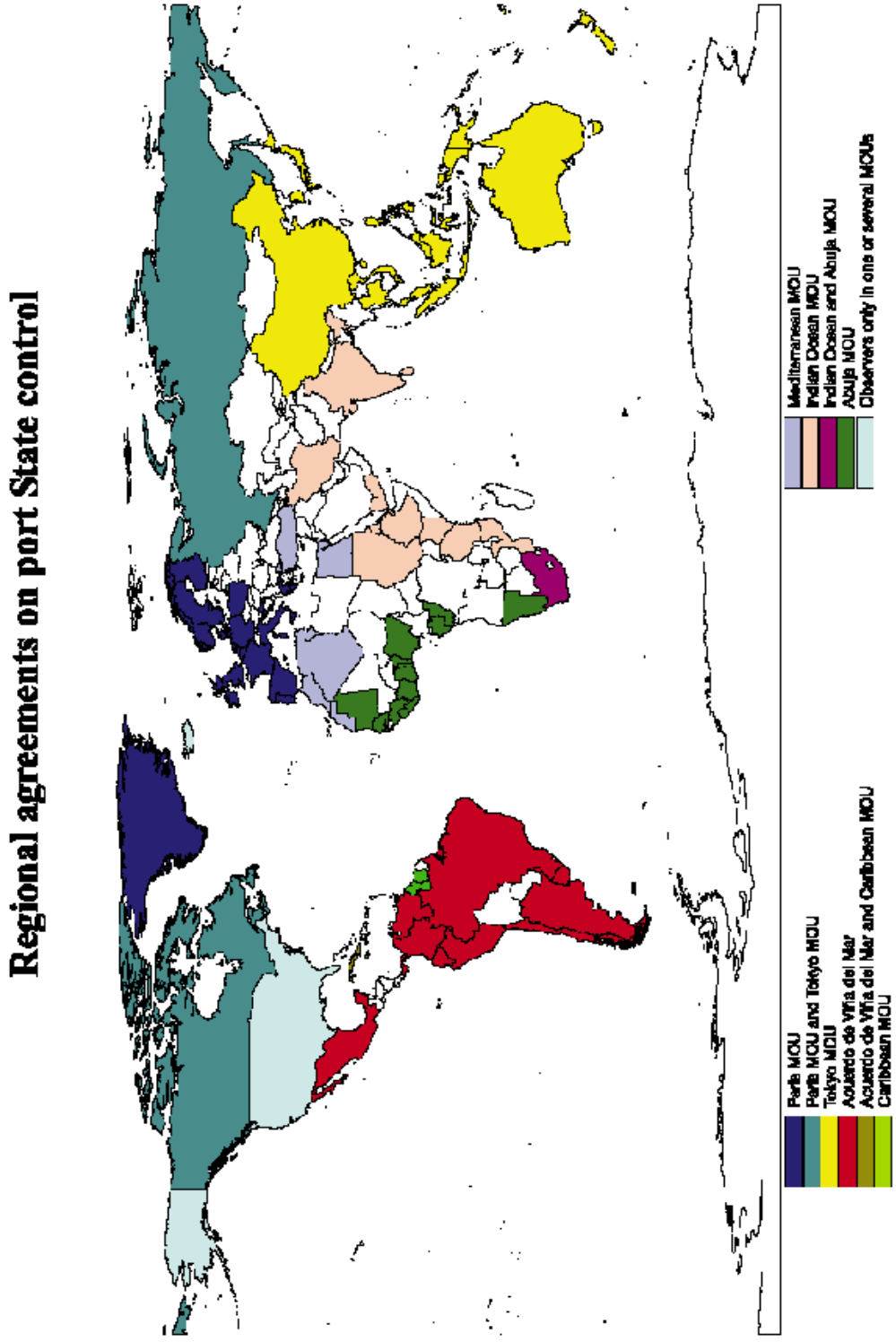
Appendix A: Regional agreements on port State control



Appendix B

Table 1. **Summary of status of conventions**
as at 31 May 2001

Convention	Entry into force date	No. of Contracting States	Percent of world tonnage
IMO Convention	17-Mar-58	158	98.57
SOLAS 1974	25-May-80	144	98.45
SOLAS Protocol 1978	01-May-81	98	94.37
SOLAS Protocol 1988	03-Feb-00	50	61.59
LL 1966	21-Jul-68	146	98.44
LL Protocol 1988	03-Feb-00	47	61.34
TONNAGE 1969	18-Jul-82	129	98.18
COLREG 1972	15-Jul-77	138	97.05
SFV Protocol 1993	-	7	7.53
STCW 1978	28-Apr-84	136	97.96
STCW-F 1995	-	2	3.12
MARPOL 73/78 (Annex I/II)	02-Oct-83	114	94.43
MARPOL 73/78 (Annex III)	01-Jul-92	96	80.20
MARPOL 73/78 (Annex IV)	-	80	44.94
MARPOL 73/78 (Annex V)	31-Dec-88	100	86.39
MARPOL Protocol 1997 (Annex VI)	-	3	8.42
OPRC 1990	13-May-95	59	48.11
CLC 1969	19-Jun-75	56	8.49
CLC Protocol 1992	30-May-96	68	87.55
FUND 1971	16-Oct-78	32	4.35
FUND Protocol 1992	30-May-96	64	83.53

Appendix C: Table 2 USCG Boarding Priority Matrix

Appendix 2 - Boarding Priority Matrix

OWNER	FLAG	CLASS	HISTORY	SHIP TYPE
5 Points Listed Owner or Operator	**7 Points** Listed Flag State	**Priority 1** ≥10 arrivals with detention ratio more than 4 times the average OR <10 arrivals and involved with at least one detention in the previous 3 years. **5 Points** ≥10 arrivals with a detention ratio between 3 & 4 times the average. **3 Points** ≥10 arrivals with a detention ratio between 2 & 3 times the average. **1 Point** ≥10 arrivals with a detention ratio between the average and twice the average. **0 Points** ≥10 arrivals with a detention ratio below the average **OR** <10 arrivals with no detentions in the previous 3 years.	**5 Points Each** Detention within the previous 12 months. **1 Point Each** Other operational control within the previous 12 months **1 Point Each** Casualty within the previous 12 months. **1 Point Each** Violation within the previous 12 months. **1 Point Each** Not boarded within the previous 6 months.	**1 Point** Oil or chemical Tanker **1 Point** Gas Carrier **2 Points** Bulk Freighter over 10 years old. **1 Point** Passenger Ship **2 Points** Carrying low value commodities in bulk.

Priority I vessels:

- 17 or more points on the Matrix, or
- ships involved in a marine casualty that may have affected seaworthiness, or
- USCG Captain of the Port determines a vessel to be a potential hazard to the port or the environment, or
- ships whose classification society has ten or more arrivals the previous year and a detention ratio more than four times the average, or
- ships whose classification society has less than ten arrivals the previous year and have been associated with at least one detention.
- Port entry may be restricted until vessel is examined by the Coast Guard.

Priority II vessels:

- 7 to 16 points on the Matrix, or
- outstanding requirements from a previous boarding in this or another U.S. port, or the vessel is overdue for an annual tank or passenger exam.
- Cargo operations may be restricted until vessel is examined by the Coast Guard.

Priority III vessels:

- 4 to 6 points on the Matrix, or
- alleged deficiencies reported, or
- the vessel is overdue for an annual freight examination, or quarterly passenger vessel re-exam.
- No operational restrictions imposed; vessel will most likely be examined at dock.

Priority IV vessels:

- 3 or fewer points on the Matrix.
- Vessel is a low risk, and will probably not be boarded.

Appendix D: Table 3

PORT STATE CONTROL AGREEMENTS: COMPARATIVE TABLE

	Paris MOU	**Acuerdo de Vina del Mar**
Participating Maritime Authorities and associate Members	18 Belgium, Canada, Croatia, Denmark, Finland, France, Germany, Greece, Iceland,Ireland, Italy, Netherlands, Norway, Poland, Portugal, Russian Federation, Spain, Sweden, UK	12 Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, Ecuador, Mexico, Panama, Peru, Uruguay, Venezuela
Observers	Japan, USA, IMO, ILO, Tokyo MOU, Caribbean MOU, Slovenia	IMO, ROCRAM
Target inspection rate	25% annual inspection rate per country	15% annual inspection rate per country within 3 years
Relevant instruments	LL 1966 and LL PROT 1988 SOLAS 1974 SOLAS PROT 1978, 1988 - MARPOL 73/78 STCW 1978 COLREG 1972 TONNAGE 69 ILO Convention No. 147	LL 1966 SOLAS 1974 SOLAS PROT 1978 MARPOL 73/78 STCW 1978 COLREG 1972 TONNAGE 69
Inspection priorities	**Overriding priority** - ships which have been reported by pilots or port authorities as being deficient - ships which have been subject of a report by the master, a crew member, etc. - ships carrying dangerous or polluting goods which have failed to report relevant information - ships which have been suspended from class during the preceding 6 months **Target factor** Generic element -flag State on Black list -targeted ship type -Non EU recognized classification society -age of the ship -class deficiency ratio -above average -flag **Historic Element**: -Entering region for the first time in the last 12 months -not inspected in the last 6 months -previous detention in the last 12 months -number of deficiencies during last 12 months	- passenger ships, ro-ro ships, bulk carriers - ships which may present a special hazard - ships which have had several recent deficiencies
Amendments	will take effect 60 days after acceptance or at the end of any different period determined unanimously by the representatives of the authorities in the Committee	will take effect 60 days after acceptance or at the end of any different period determined unanimously by the representatives of the authorities in the Committee
Information Centre	Centre Administratif des Affaires Maritimes (CAAM), Saint-Malo, France	Centro de Informacion del Acuerdo Latinoamericano (CIALA), Prefectura Naval Argentina, Buenos Aires
Committee	a representative of each of the authorities and the EC Commission	a representative of each of the authorities
Secretariat	The Hague, The Netherlands Mr. R.W.J. Schiferli Secretary of the Paris MOU Nieuwe Uitleg 1 2514 BP The Hague, The Netherlands Tel: +31 70 351 1509 Fax: +31 70 351 1599	Buenos Aires, Argentina Mr. Juan Jose Beltritti Prefecto Mayor Vina del Mar Agreement Secretariat Prefectura Naval Argentina Buenos Aires, Argentina Tel: +54 1 318 7455 Fax: +54 1 318 7547
Signed	1 July 1982	5 November 1992
Official Languages	English, French	Spanish, Portuguese

	Tokyo MOU	Caribbean MOU
Maritime Participating Authorities and Associate Members	18--Australia, Canada, China, Fiji, Indonesia, Japan, Republic of Korea, Malaysia, New Zealand, Papua New Guinea, Philippines,* Russian Federation, Singapore, Solomon Islands*, Thailand, Vanuatu, Viet Nam, Hong Kong(China)	23--Anguilla*, Antigua & Barbuda, Aruba, Bahamas, Barbados, Bermuda*, British Virgin Islands*, Cayman Islands, Cuba, Dominica*, Dominican Republic*,Grenada, Guyana, Haiti*,Jamaica, Montserrat*, Netherlands Antilles, Saint Kitts & Nevis*, Saint Lucia*, Saint Vincent& the Grenadines*, Suriname*, Trinidad & Tobago, Turks & Caicos Islands*
Observers	Brunei, USA, IMO, ILO, ESCAP, Paris MOU, Indian Ocean MOU, Solomon Islands*	IMO, ILO, CARICOM, IACS, Canada, USA, Paris MOU, Vina del Mar MOU, Tokyo MOU
Target inspection rate	75% annual regional inspection rate by the year 2000	15% annual inspection rate per country within 3 years
Relevant instruments	LL 1966 and LL PROT 88 SOLAS 1974, SOLAS PROT 1978 and 88 MARPOL 73/78 STCW 1978 COLREG 1972 ILO Convention No. 147	LL 1966 SOLAS 1974 , SOLAS PROT 1978 MARPOL 73/78 STCW 1978 COLREG 1972 ILO Convention No. 147
Inspection priorities	- passenger ships, ro-ro ships, bulk carriers - ships which may present a special hazard - ships visiting a port for the first time or after an absence of 12 months or more - ships flying the flag of a State appearing in the 3-year rolling average table of above-average detentions - ships which have been permitted to leave the port of a State with deficiencies to be rectified - ships which have been reported by pilots or port authorities as being deficient - ships carrying dangerous or polluting goods which have failed to report relevant information -ships which have been suspended from their class for safety reasons in the course of the preceding six months -ships proceeding to sea without complying With the conditions set by the port State -type of ships identified by the Committee from time to time as warranting priority inspections	- ships visiting a port for the first time or after an absence of 12 months or more - ships which have been permitted to leave the port of a State with deficiencies to be rectified, upon expiry of such period - ships which have been reported by pilots or port authorities as being deficient - ships whose certificates are not in order - ships carrying dangerous or polluting goods which have failed to report relevant information - ships which have been suspended from class in the preceding 6 months
Amendments	will take effect 60 days after acceptance or at the end of any different period determined unanimously by the representatives of the authorities in the Committee	will take effect 60 days after acceptance or at the end of any different period determined unanimously by the representatives of the authorities in the Committee
Information Centre	Asia-Pacific Computerized Information System (APCIS), Vladivostok, Russia	Information Centre Curagao, Netherlands Antilles
Committee	a representative of each of the authorities	a representative of each of the authorities
Secretariat	Tokyo, Japan Mr. Y. Sasamura Secretary, Tokyo MOU Secretariat Tomoecho Annex Building 6F 3-8-26, Toranomon Minato-Ku, Tokyo Japan 105 Tel: +81 3 3433 0621 Fax: +81 3 3433 0624	St. Michael, Barbados Mrs. Valerie Browne Secretary of the Caribbean MOU International Transport Division Herbert House Fontabelle St. Michael, Barbados Tel: +246 430 7507 Fax: +246 436 4828
Signed	2 December 1993	9 February 1996
Official languages	English	English

*Acceptance pending.

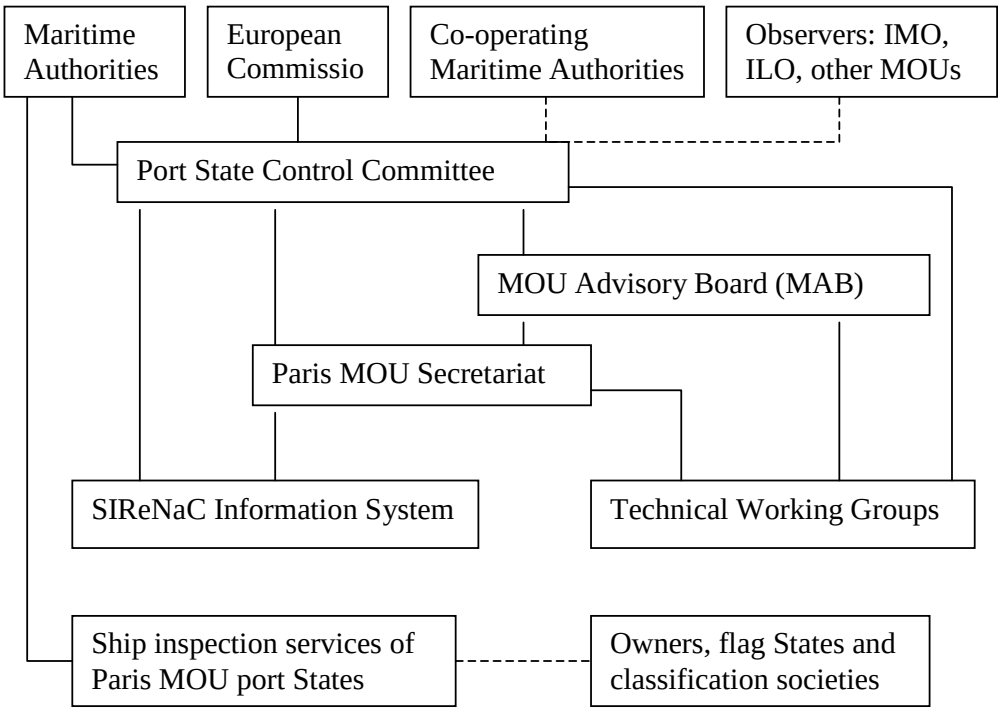
	Mediterranean MOU	Indian Ocean MOU
Participating Maritime Authorities and Associate Members	11 Algeria*, Cyprus, Egypt, Israel, Jordan, Malta, Lebanon, Morocco, Tunisia, Turkey and the Palestinian Authority*	18 Australia, Bangladesh*, Djibouti*, Eritrea, Ethiopia, India, Iran, Kenya, Maldives, Mauritius,Mozambique*, Myanmar*, Seychelles*,South Africa, Sri Lanka, Sudan, Tanzania,Yemen*
Observers	IMO, ILO, EC	IMO, ILO, PMAESA
Target inspection rate	15% annual inspection rate per country within 3 years	10% annual inspection rate per country within 3 years
Relevant instruments	LL 1966 SOLAS 1974 SOLAS PROT 1978 MARPOL 73/78 STCW 1978 COLREG 1972 ILO Convention No. 147	LL 1966 SOLAS 1974 SOLAS PROT 1978 MARPOL 73/78 STCW 1978 COLREG 1972 TONNAGE 69 ILO Convention No. 147
Inspection priorities	- ships visiting a port of a State for the first time or after an absence of 12 months or more - ships which have been permitted to leave the port of a State with deficiencies to be rectified - ships which have been reported by pilots or port authorities as being deficient - ships whose certificates are not in order - ships carrying dangerous or polluting goods which have failed to report relevant information - ships which have been suspended from class in the preceding 6 months	- ships visiting a port of a State for the first time or after an absence of 12 months or more - ships which have been permitted to leave the port of a State with deficiencies to be rectified - ships which have been reported by pilots or port authorities as being deficient - ships whose certificates are not in order - ships carrying dangerous or polluting goods which have failed to report relevant information - ships which have been suspended from class in the preceding 6 months
Amendments	will take effect 60 days after acceptance or at the end of any different period determined unanimously by the representatives of the authorities in the Committee	will take effect 60 days after acceptance or at the end of any different period determined unanimously by the representatives of the authorities in the Committee
Information Centre	Information Center Casablanca, Morocco	Information Centre Goa, India
Committee	a representative of each of the authorities	a representative of each of the authorities
Secretariat	Alexandria, Egypt Adm. Hani Hosni Secretary, Mediterranean PSC Secretariat 27 Admiral Hamza Pasha Street Roushdy Alexandria, Egypt Tel: +203 544 6538/5446537/5427949 Fax: +203 546 6360	Goa, India Mr. B. Ganguli Secretary I.O.M.O.U. Secretariat Head Land, Sada Near Antarctic Study Centre Vasco-da-Gama Goa 403 804, India Tel: +91 834 519383 Fax: +91 834 519383
Signed	11 July 1997	5 June 1998
Official languages	English, French and Arabic	English

*Acceptance pending.

	West and Central African MOU	Black Sea MOU
Participating Maritime Authorities and associate Members	16 Benin, Cape Verde, Congo, Cote d'Ivoire, Gabon, Gambia, Ghana, Guinea, Liberia, Mauritania, Namibia, Nigeria, Senegal, Sierra Leone, South Africa, Togo	6 Bulgaria, Georgia, Romania, Russian Federation, Turkey, Ukraine
Observers	IMO, ILO, MOWCA	IMO, ILO
Target inspection rate	15% annual inspection rate per country within 3 years	15% annual inspection rate per country within 3 years
Relevant instruments	LL 1966 SOLAS 1974, SOLAS PROT 1978 MARPOL 73/78 STCW 1978 COLREG 1972 - TONNAGE 69 ILO Convention No. 147	LL 1966 SOLAS 1974 MARPOL 73/78 STCW 1978 COLREG 1972 TONNAGE 69 ILO Convention No. 147
Inspection priorities	- ships visiting a port of a State for the first time or after an absence of 12 months or more - ships which have been permitted to leave the port of a State with deficiencies to be rectified - ships which have been reported by pilots or port authorities as being deficient - ships whose certificates are not in order - ships carrying dangerous or polluting goods not reporting all information - ships suspended from class for safety reasons in the course of the preceding six months	- ships visiting a port of a State for the first time or after an absence of 12 months or more - ships which have been permitted to leave the port of a State with deficiencies to be rectified - ships which have been reported by pilots or port authorities as being deficient - ships carrying dangerous or polluting goods not reporting all information - ships suspended from class for safety reasons in the course of the preceding six months - ships which have been subject of a report o notification by another authority -ships which have been: .Involved in a collision, grounding or stranding on their way to the port .accused of an alleged violation of the provisions on discharge of harmful substances or effluents . maneuvered in an erratic or unsafe manner whereby routing measures, adopted by the IMO, or safe navigation practices and procedures have not been followed, or . otherwise operated in such a manner as to cause a danger to persons, property or the environment
Amendments	will take effect 60 days after acceptance or at the end of any different period determined unanimously by the representatives of the authorities in the Committee	will take effect 60 days after acceptance or at the end of any different period determined unanimously by the representatives of the authorities in the Committee
Information Centre	MOWCA Headquarters, Abidjan, Cote d'Ivoire	Black Sea Information System(BSIS), Novorossiysk, Russian Federation
Committee	a representative of each of the authorities	a representative of each of the authorities
Secretariat	Lagos, Nigeria Mrs. B.O. Williams Director, Maritime Services Department Federal Ministry of Transport Federal Secretariats Complex Abuja, Nigeria Tel: +234 9 523 0879 Fax: +234 9 523 3705	Istanbul, Turkey
Signed	22 October 1999	7 April 2000
Official languages	English, French	

Appendix E.

Paris MOU structure



Appendix F

Paris MOU targeting factor

The Paris MOU targeting factor is made up of two parts: generic, which was changed in year 2000 to increase dramatically the weighting given to poor flag performance, and historic, which is the history of the ship's performance.

The generic factor is made up of various elements and the weighting is given to flags considered to be very high risk. These flags are now automatically awarded 20 points, which make it the most significant element in this area.

The historic factor, on the other hand, is primarily aimed at ships which have not been inspected, or which have a particularly bad record of inspection. For instance a ship that has not been inspected in the last 12 months draws 20 points towards the target factor, and one which has, say 25 to 30 deficiencies receives 15.

Port State control is criticized for inspecting too many good ships, which are generally lower target value ships. It is also true that inspection of a bad ship will take longer than a well managed one. There has to be some benefit to the port state control regime in inspecting high target factor ships. Under the proposals discussed in May 2000, they will be credited with more than one inspection to count towards the 25 percent inspection commitment. The advantage of carrying out an inspection on vessels whose target factor is 35 plus is a credit of 1.8 inspections for one actual inspection.

The frequency of inspections is determined to some degree by the historic elements. A vessel that has not been inspected for 12 months automatically draws 20 points, one not inspected for six months automatically draws 10 points. If it has outstanding deficiencies then clearly it needs to be re-inspected. The UK is particularly keen to follow through outstanding deficiencies.

With the latest change to the flag state targeting list and the increased value given to high-risk flags, the flag state is now one of the main drivers of the frequency of inspection. While there has been some concentration on older tankers and gas carriers, the value given to a ship over 25 years of age - three points on the generic scale, or to a ship of 20 years of age – one point, does not in fact make much difference. The targeting system does not treat older ships as bad ships.

The position with class is slightly more complicated in that clearly if a vessel is withdrawn from class it will almost certainly be subject to a priority inspection. On the other hand, a ship classed with a classification society that is not EU recognized will only draw an additional five points. All of these factors for the generic and historic elements are brought together to indicate the frequency of inspections.

Table 5 Generic factor of Paris MOU targeting system

Generic factor	
Element	Target factor value
3 year detention record above the allowable limit	
Flag of very high risk	+20
Flag of high risk	+14
Flag of medium to high risk	+8
Flag of very medium risk	+4
Targeted ship type (subjected to expanded inspection)	+5
Non EU recognized class society	+5
Age of ship:>25 years	+3
21-24 years	+2
13-20 years	+1
Not all conventions ratified	+1
Class deficiency ratio above average	+1

Table 6 Historic factor of Paris MOU targeting system

Historic factor	
Element	Target factor value
Not inspected in last 12 months	+20
Not inspected in last 6 months	+10
Detained	+15
Number of deficiencies:	
0	-15
1-5	0
6-10	+5
11-20	+10
21+	+15
Outstanding deficiencies	+1 for each deficiency to be rectified before departure or next port of call
	+1 for every two deficiencies with other specified conditions
	-2 if all deficiencies rectified
The inspection history over the last 12 months is added to the generic factor	

Source: (Cubbin, 2000)

Appendix G

United States Coast Guard Port State Control Quality Shipping Initiative

1 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

2 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.

3 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 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 3-year 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 investigations

4 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.

5 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.

6 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 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.

7 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 ineach of the previous 3 years.

Appendix H

Procedures for Port State Control

(Resolution A.787(19), as amended by Resolution A.882(21))

CHAPTER 1- GENERAL

1.1 PURPOSE

This document is intended to provide basic guidance on the conduct of port State control inspections and afford consistency in the conduct of these inspections, the recognition of deficiencies of a ship, its equipment or its crew, and the application of control procedures.

1.2 APPLICATION

1.2.1 The procedures apply to ships which come under the provisions of the International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS 74), the Protocol of 1988 relating to the International Convention for the Safety of Life at Sea, 1974 (SOLAS Protocol 1988), the International Convention on Load Lines, 1966 (Load Lines 66), the Protocol of 1988 relating to the International Convention on Load Lines, 1966 (Load Line Protocol 88), the International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 relating thereto, as amended (MARPOL 73/78), the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended (STCW 78), and the International Convention on Tonnage Measurement of Ships, 1969 (Tonnage 69), hereafter referred to as the applicable conventions.

1.2.2 Ships of non-parties or below convention size shall be given no more favourable treatment (see section 1.5).

1.2.3 In exercising port State control, Parties will only apply those provisions of the conventions which are in force and which they have accepted.

1.2.4 If a port State exercises port State control based on International Labour Organization (ILO) Convention No. 147, "Merchant Shipping (Minimum Standards) Convention, 1976", guidance on the conduct of such control inspections is given in the ILO publication "Inspection of Labour Conditions on board Ship: Guidelines for Procedure".

1.3 INTRODUCTION

1.3.1 Under the provisions of the applicable conventions listed in section 1.2 above the Administration (i.e. the government of the flag State) is responsible for promulgating laws and regulations and for taking all other steps which may be necessary to give the applicable conventions full and complete effect so as to ensure that, from the point of view of safety of life and pollution prevention, a ship is fit for the service for which it is intended and seafarers are qualified and fit for their duties.

1.3.2 In some cases it may be difficult for the Administration to exercise full and continuous control over some ships entitled to fly the flag of its State, for instance those ships which do not regularly call at a port of the flag State. The problem can be, and has been, partly overcome by appointing inspectors at foreign ports and/or authorizing recognized organizations to act on behalf of the flag State Administration.

1.3.3 The following control procedures should be regarded as complementary to national measures taken by Administrations of flag States in their countries and abroad and are intended to provide assistance to flag State Administrations in securing compliance with convention provisions in safeguarding the safety of crew, passengers and ships, and ensuring the prevention of pollution.

1.4 PROVISIONS FOR PORT STATE CONTROL

Regulation 19 of chapter I, regulation 6.2 of chapter IX and regulation 4 of chapter XI of SOLAS 74, as modified by SOLAS Protocol 88; article 21 of Load Lines 66, as modified by Load Line Protocol 88; articles 5 and 6, regulation 8A of Annex I, regulation 15 of Annex II, regulation 8 of Annex III and regulation 8 of Annex V of MARPOL 73/78; article X of STCW 78; and article 12 of Tonnage 69 provide for control procedures to be followed by a Party to a relevant convention with regard to foreign ships visiting their ports. The authorities of port States should make effective use of these provisions for the purposes of identifying deficiencies, if any, in such ship which may render them substandard (see 4.1), and ensuring that remedial measures are taken.

1.5 SHIPS OF NON-PARTIES AND SHIPS BELOW CONVENTION SIZE

1.5.1 Article II(3) of the Protocol of 1978 to SOLAS 74, article 5(4) of MARPOL 73/78, and article X(5) of STCW 78, provide that no more favourable treatment is to be given to the ships of countries which are not Party to the Convention. All Parties should as a matter of principle apply the procedures set out in this document to ships of non-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.

1.5.2 As ships of non-parties and ships below convention size are not provided with SOLAS, Load Line or MARPOL certificates, as applicable, or the crew members may not hold valid STCW certificates, the Port State Control Officer (PSCO), taking into account the principles established in this document, should be satisfied that the ship and crew do not present a danger to those on board or an unreasonable threat of harm to the marine environment. If the ship or crew has some form of certification other than that required by a convention, the PSCO may take the form and content of this documentation into account in the evaluation of that ship. The conditions of and on such a ship and its equipment and the certification of the crew and the flag State's minimum manning standards should be compatible with the aims of the provisions of the conventions; otherwise, the ship should be subject to such restrictions as are necessary to obtain a comparable level of safety and protection of the marine environment.

1.6 DEFINITIONS

1.6.1 C*lear grounds:* Evidence that the ship, its equipment, or its crew does not correspond substantially with the requirements of the relevant conventions or that the master or crew members are not familiar with essential shipboard procedures relating to the safety of ships or the prevention of pollution. Examples of clear grounds are included in section 2.3.

1.6.2 *Deficiency*: A condition found not to be in compliance with the requirements of the relevant convention.

1.6.3 *Detention*: Intervention action taken by the port State when the condition of the ship or its crew does not correspond substantially with the applicable conventions to ensure that the ship will not sail until it can proceed to sea without presenting a danger to the ship or persons on board, or without presenting an unreasonable threat of harm to the marine environment, whether or not such action will affect the normal schedule of the departure of the ship.

1.6.4 *Inspection*: A visit on board a ship to check both the validity of the relevant certificates and other documents; and the overall condition of the ship, its equipment, and its crew.

1.6.5 *More detailed inspection*: An inspection conducted when there are clear grounds for believing that the condition of the ship, its equipment, or its crew does not correspond substantially with the particulars of the certificates.

1.6.6 *Port State Control Officer (PSCO):* A person duly authorized by the competent authority of a Party to a relevant convention to carry out port State control inspections, and responsible exclusively to that Party.

1.6.7 *Recognized Organization*: An organization which meets the relevant conditions set forth by resolution A.739(18), and has been delegated by the flag State Administration to provide the necessary statutory services and certification to ships entitled to fly its flag.

1.6.8 *Stoppage of operation*: Formal prohibition against a ship to continue an operation due to an identified deficiency(ies) which, singly or together, render the continuation of such operation hazardous.

1.6.9 *Substandard ship*: A ship whose hull, machinery, equipment, or operational safety is substantially below the standards required by the relevant convention or whose crew is not in conformance with the safe manning document:

1.6.10 *Valid certificates*: A certificate that has been issued directly by a Party to a relevant convention or on its behalf by a recognized organization and contains accurate and effective dates, meets the provisions of the relevant convention and with which the particulars of the ship, its crew and its equipment correspond.

CHAPTER 2 - PORT STATE INSPECTIONS

2.1 GENERAL

2.1.1 In accordance with the provisions of the applicable conventions, Parties may conduct inspections by PSCOs of foreign ships in their ports.

2.1.2 Such inspections may be undertaken on the basis of:

.l the initiative of the Party;

.2 the request of, or on the basis of, information regarding a ship provided by another Party; or

.3. information regarding a ship provided by a member of the crew, a professional body, an association, a trade union or any other individual with an interest in the safety of the ship, its crew and passengers, or the protection of the marine environment.

2.1.3 Whereas Parties may entrust surveys and inspections of ships entitled to fly their own flag either to inspectors nominated for this purpose or to recognized organizations, they should be made aware that under the applicable conventions, foreign ships are subject to port State control, including boarding, inspection, remedial action, and by officers duly authorized by the port State. This authorization of PSCOs may be a general grant of authority or may be specific on a case-by-case basis.

2.1.4 All possible efforts should be made to avoid a ship being unduly detained or delayed. If a ship is unduly detained or delayed, it should be entitled to compensation for any loss or damage suffered.

2.2 INSPECTIONS

2.2.1 In the pursuance of control procedures under the applicable conventions, which, for instance, may arise from information given to a port State regarding a ship, a PSCO may proceed to the ship and before boarding gain, from its appearance in the water, an impression of its standard of maintenance from such items as the condition of its paintwork, corrosion or pitting or unrepaired damage.

2.2.2 At the earliest possible opportunity the PSCO should ascertain the year of build and size of the ship for the purpose of determining which provisions of the conventions are applicable.

2.2.3 On boarding and introduction to the master or the responsible ship's officer, the PSCO should examine the vessel's relevant certificates and documents, as listed in Appendix 4. When examining 1969 International Tonnage Certificates, the PSCO should be guided by Appendix 4A.

2.2.4 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.

2.2.5 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, taking into consideration chapter 3.

2.2.6 In pursuance of control procedures under chapter IX of SOLAS74 on the International Management Code for the Safe Operation of Ships and for Pollution Prevention (ISM Code), the PSCO should utilize the guidelines in section 3.7

2.3 CLEAR GROUNDS

"Clear grounds" to conduct a more detailed inspection include:

.1 the absence of principal equipment or arrangements required by the conventions;

.2 evidence from a review of the ship's certificates that a certificate or certificates are clearly invalid;

.3 evidence that documentation required by the Conventions and listed in appendix 4 is not on board, incomplete, not maintained or falsely maintained;

.4 evidence from the PSCO's general impressions and observations that serious hull or structural deterioration or deficiencies exist that may place at risk the structural, watertight or weathertight integrity of the ship;

.5 evidence from the PSCO's general impressions or observations that serious deficiencies exist in the safety, pollution prevention or navigational equipment;

.6 information or .evidence that the master or crew is not familiar with essential shipboard operations relating to the safety of ships or the prevention of pollution, or that such operations have not been carried out;

.7 indications that key crew members may not be able to communicate with each other or with other persons on board;

.8 the emission of false distress alerts not followed by proper cancellation procedures;

.9 receipt of a report or complaint containing information that a ship appears to be substandard.

2.4 PROFESSIONAL PROFILE OF PSCOs

2.4.1 Port State control should be carried out only by qualified PSCOs who fulfil the criteria specified in section 2.5.

2.4.2 When the required professional expertise cannot be provided by the PSCO, the PSCO may be assisted by any person with the required expertise acceptable to the port State.

2.4.3 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

2.4.4 A PSCO should carry a personal document in the form of an identity card issued by the port State and indicating that the PSCO is authorized to carry out the control.

2.5 QUALIFICATION AND TRAINING REQUIREMENTS OF PSCOs

2.5.1 The PSCO should be an experienced officer qualified as flag State surveyor.

2.5.2 The PSCO should be able to communicate in English with the key crew.

2.5.3 Training should be provided for PSCOs to give the necessary knowledge of the provisions of the applicable conventions which are relevant to the conduct of port State control, taking into account the latest IMO Model Courses for port State control.

2.5.4 In specifying the qualifications and training requirements for PSCOs, the Administration should take into account, as appropriate, which of the internationally agreed instruments are relevant for the control by the port State and the variety of types of ships which may enter its ports.

2.5.5 PSCOs carrying out inspections of operational requirements should be qualified as: .a master or chief engineer and have appropriate seagoing experience, or have qualifications from an institution recognized by the Administration in a maritime related field and have specialized training to ensure adequate competence and skill, or be a qualified officer of the Administration with an equivalent level of experience and training, for performing inspections of the relevant operational requirements.

2.5.6 periodical seminars for PSCOs should be held in order to update their knowledge with respect to instruments related to port State control.

2.6 GENERAL PROCEDURAL GUIDELINES FOR PSCOs

2.6.1 The PSCO_should us professional judgment in carrying out all duties, and consider consulting others as deemed appropriate.

2.6.2 When boarding a ship, the PSCO should present to the master or to the representative of the owner, if requested to do so, the PSCO identity card. This card should be accepted as documented evidence that the PSCO in question is duly authorized by the Administration to carry out pert State control inspections.

2.6.3 If the PSCO has clear grounds for carrying out a more detailed inspection, the master should be immediately informed of these grounds and advised that, if so desired, the master may contact the Administration or, as appropriate, the recognized organization responsible for issuing the relevant certificate and invite their presence on board.

2.6.4 In the case that an inspection is initiated based on a report or complaint, especially if it is from a crew member, the source of the information should not be disclosed.

2.6.5 When exercising control, all possible efforts should be made to avoid a ship being unduly detained or delayed. It should be borne in mind that the main purpose of port State control is to prevent a ship proceeding to sea if it is unsafe or presents an unreasonable threat of harm to the marine environment. 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, having regard to the particular circumstances of the intended voyage.

2.6.6 It should be recognized that all equipment is subject to failure and spares or replacement parts may not be readily available. In such cases, undue delay should not be caused if, in the opinion of the PSCO, safe alternative arrangements have been made.

2.6.7 Where the grounds for detention are the result of accidental damage suffered on the ship's voyage to a port, no detention order should be issued, provided that:

.1 due account has been given to the convention requirements regarding notification to the flag State Administration, the nominated surveyor or the recognized organization responsible for issuing the relevant certificate;

.2 prior to entering a port, the master or company has submitted to the port State authority details on the circumstances of the accident and the damage suffered and information about the required notification of the flag State Administration;

.3 appropriate remedial action, to the satisfaction of the port State authority, is being taken by the ship; and

.4 the port State authority has ensured, having been notified of the completion of the remedial action, that deficiencies which were clearly hazardous to safety, health or environment have been rectified.

2.6.8 Since detention of a ship is a serious matter involving many issues, it may be in the best interest of the PSCO to act with other interested parties. For example, the officer may request the owner s representatives to provide proposals for correcting the situation. The PSCO may also consider co-operating with the flag State Administration s representatives or recognized organization responsible for issuing the relevant certificates, and consulting them regarding their acceptance of the owner s proposals and their possible additional requirements. Without limiting the PSCO s discretion in any way, the involvement of other parties could result in a safer ship, avoid subsequent arguments relating to the circumstances of the detention, and prove advantageous in the case of litigation involving "undue delay."

2.6.9 Where deficiencies cannot be remedied at the port of inspection, the PSCO may allow the ship to proceed to another port, subject to any appropriate conditions

determined. In such circumstances, the PSCO should ensure that the competent authority of the next port of call and the flag State are notified.

2.6.10 Detention reports to the flag State should be in sufficient detail for an assessment to be made of the severity of the deficiencies giving rise to the detention.

2.6.11 The company or its representative have a right of appeal against a detention taken by the Authority of a port State. The appeal should not cause the detention to be suspended. The PSCO should properly inform the master of the right of appeal.

2.6.12 To ensure of consistent enforcement of port State control requirements, PSCOs should carry an extract of 2.6 (General Procedural Guidelines for PSCOs) for ready reference when carrying out any port State control inspections.