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THE PRIVATIZATION OF SHIP SAFETY

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Abstract

Canada has proposed to delegate flag state ship inspections to approved classification societies in order to use resources to meet Port State Control obligations. This is a privatisation of a public duty. This paper compares the approaches of Canada, the US, Australia and the UK in examining the proposed policy.

INTRODUCTION

With the signing of the Paris 1982 *Memorandum of Understanding on Port State Control* (Paris MOU) the European Community took its first steps towards a goal of “safe ships and clean seas.” Since then the scope of Port State Control (PSC) activities has grown and more countries have implemented foreign ship inspection in a co-ordinated manner with more stringent rules for ships entering their waters. Canada has gradually implemented greater PSC control since the mid-1980s, joining both the Paris and Tokyo MOU groups in 1994. In late 1993 Transport Canada released a Discussion Paper proposing to delegate ship inspections for Canadian flag vessels to approved classification societies in order to use in-house resources to meet its PSC obligations for foreign flag shipping. In essence this is a privatization of a public obligation but the concept is not new as it is being done or contemplated in a number of countries. This paper intends to compare the policies and approaches of a number of countries including Canada, the US, Australia, and the UK to determine what safeguards are needed to ensure that the public interest is served from the point of view of Canadian policy-makers.

THE POLICY PROPOSED BY THE CANADIAN GOVERNMENT

In 1992, the previous Canadian Government under the Honourable Don Mazankowski, Minister of Finance, called for a review of the regulatory burden placed on Canadians. Transport Canada’s *Regulatory Review Initiative Volume 1* (1993) resulted in an overall report on transport regulations being presented to interested parties by the Minister of Transport Jean Corbeil prior to the party’s defeat in the elections in the fall of 1993. The initiative proposed, for the marine mode, principal changes including the use of standards and incorporation by reference in up to 40% of marine regulations; better harmonization of regulations and standards with the international community; a one-third net reduction in the number of marine regulations through consolidations; and more delegations of ship inspection activities to industry and classification societies. (See Appendix 1.) The interpretation by ship safety managers of the Canadian Coast Guard (CCG) was that the new role which needed to be developed for Ship Safety Branch (SSB) was one of audit and “quality assurance” rather than operational.

In November 1993 Transport Canada released *The Delegation of Ship Inspections: Discussion Paper* to provide background for public debate on the ship inspection delegation issue. In its opening paragraph, the document makes reference to the increasing debt load faced by Canada and the stress that places on the way in which the Public Service does business. In spite of the document being released a full half year before the Minister of Transport’s vision statement on the future shape of transport service provision in Canada, the issue never caught fire with the media. This does not mean that the issue died, only that it moved quickly to the stage of public consultation via regional advisory groups.

The Discussion Paper makes it quite clear that the purpose of delegating ship inspections for domestic shipping is “to enable the Branch to respond to increasing demands and new responsibilities without seriously overstressing its resource capabilities” (Transport Canada, 1993, p. 13). These new responsibilities arise with CCG commitment to greater PSC involvement. (Canada joined the Paris MOU in the fall of 1994 and is chair of the new Tokyo MOU of the Asia-Pacific region.) This proposal does not contemplate the delegation of PSC inspections, only those associated with already classed Canadian flag vessels.

The current system of inspection in Canada focuses on mandatory inspections for domestic shipping whereby the inspection is used to ensure compliance. Canada does not have a national classification society and such inspections are normally carried out by ship safety inspectors (of CCG), although Part V Section 319(4) of the *Canada Shipping Act* does permit some delegation to approved classification societies *with exclusive surveyors*. Classification Societies with exclusive offices in Canada include Lloyd’s Register of Shipping (LR), the American Bureau of Shipping

(ABS), Det Norske Veritas and Bureau Veritas. Germanischer Lloyd has recently opened a national office. The Department of Transport has Memoranda of Understanding with the ABS and LR for inspections for *certain classed vessels*. Such Memoranda of Agreement are not uncommon in maritime administration practice.

The Discussion Paper proposes differing treatments for various categories of domestic shipping. Formal agreements and an audit process would be implemented for vessels in certain groups in order that SSB might withdraw from hands-on inspection services for larger domestic vessels. CCG would continue to inspect the approximately 3600 vessels which are not classed and are between 15 and 150 GRT (mostly small fishing vessels), as the cost of such inspections is unlikely to be absorbed by the owners. Finally the proposal includes a qualification process for the individual inspector.

The principle of delegation in Canada is already established. The inspections of dry cargo ships and tugs, under 25 years of age and in the coasting trade, are already delegated to the two approved classification societies (interview with W. Scott, Canadian Coast Guard, Ship Safety Branch, January 1995). It is possible that the list of approved societies might be expanded but it is the intention of Transport Canada to retain the requirement for exclusive surveyors. In the summer of 1994, Transport Canada noted that it still intended to delegate some inspection activities to classification societies and this would require a quality assurance program plus legislative amendments to the *Canada Shipping Act*. A policy proposal went to the Minister of Transport in September 1994 and his response was discussed at Coast Guard Marine Advisory Council in November of 1994 (Interview with John Searle, *Ship Safety Branch*, Canadian Coast Guard, January 1995).

A subsequent policy document has been prepared by CCG but has not yet been publicly released. The plan is to delegate some inspections for larger, classed vessels. Two groups of those larger vessels would be established with alternate treatments for each. For higher risk vessels, such as passenger ships and chemical and gas carriers, Load Line inspections would continue to be undertaken by approved classification societies; hull and machinery inspections would be delegated, with the exception of the first inspection (which would be undertaken jointly by CCG and the classification society). CCG would retain equipment and safety inspections without delegation. The second group of approximately 290 ships would have both Load Line inspections and hull and machinery inspections delegated to classification societies; CCG would also delegate *periodic* safety equipment inspections, but retain plan approval and first inspections of equipment and safety items.

Although a flag state can delegate authority to conduct inspections, it remains both responsible and accountable for the outcome of such delegation. Therefore it is incumbent upon the SSB of CCG, in any delegation of authority for the conduct of ship inspections, to enforce clear and unequivocal guidelines as to the standards to be applied and met. The Generally Accepted Accounting Principles concept of auditing will need to be rigidly enforced if the public interest is to be served.

Concurrently with the development of the CCG Discussion Paper in the fall of 1993, the Assembly of the IMO adopted Resolution A.739(18), put forward by IMO Sub-Committee on Flag State Implementation. This resolution contains guidelines for the authorization of organizations acting on behalf of maritime administrations. Its purposes are to develop unified procedures and a mechanism for the delegation of inspection authority, and minimum standards for recognized organizations acting on behalf of the Administration. The guidelines emphasize the importance of delegated organizations having adequate resources to carry out the delegated duties and of the delegating administration instituting a system to verify the adequacy of the work performed. The IMO views formal agreements as the foundation of a monitoring and control program and therefore an integral part of flag state maritime safety administration; Canada supported the Resolution and CCG is currently working to put a monitoring and audit division in place (*Ibid.*)

Therefore, it is clear that the Canadian government does not intend to privatize all its ship safety inspections. Port state control inspections will continue to be undertaken by CCG personnel and only some flag state inspections will be commercialized. On the surface it appears that the

Canadian government has developed a reasonable approach to flag state inspection. Before we leap to this conclusion there are a number of issues to be explored—the concept of commercialization, the general issue of ship safety and the role to be played by government and industry in this matter, the policies of other countries and the lessons they might offer, and the implementation details of such a commercialization.

WHAT IS COMMERCIALIZATION?

The privatization of government services is controversial, with those in favour arguing that free market competition improves services, lowers costs and generates revenue for the government from real estate sales and corporate income taxes. Its detractors argue that benefits accrue as a result of wage cuts and greater use of part-time labour with the private sector catering only to those already having a better standard of living. (For a more complete discussion of the benefits and costs of privatization of government assets, see S.B. Butler and P. Starr (1992), “Does Privatization Improve Services and Lower Costs?” and R.L. Warsnop (1992), “The Issues,” both in *CQ Researcher*, November 13, 2, 42).

The term privatization is freely used but seldom specific. Sometimes it is taken to mean the direct transfer of assets from the public to the private sector. Broader definitions include deregulatory measures opening up former public sector monopolies to private sector competition. Button and Rietveld (1993) brought franchising of services to the private sector within the remit of privatization. Equally, there are franchising arrangements which involve private companies tendering for transport services formerly directly provided by local or central government. The franchising system can also extend beyond simply providing operating services to the construction of major pieces of infrastructure under, what the French term, ‘concessionaire’ arrangements. Publicly defined infrastructure is built and operated by a private company but reverts to public ownership under pre-agreed terms. The nature and division of public and private sector participation is central to the debate about what constitutes privatization. The Canadian government has chosen to sidestep the definition question by coining a new term “commercialization,” in which privatization may be one form of commercialization.

In the case of airports, and likely seaports, commercialization will entail withdrawal of the state from the operation of transportation infrastructure while retaining ownership of it. The commercialized entity will be managed and operated as a not-for-profit entity with lease payments to the landlord, the state, for the use of the infrastructure. Commercialization is, therefore, often accompanied by the devolution of operational control and management from the national to the local level, increasing the flexibility of the entity to respond to local needs and situations. In the case of ship inspections, there will be even less commercialization, with some inspection activity continuing under CCG. The debate in Canada has moved beyond the point of whether or not privatization/ commercialization will take place; it has concentrated on the implementation details.

WHAT IS THE STATE OF SHIP SAFETY WORLDWIDE?

To quote the Donaldson Inquiry report *Safer Ships, Cleaner Seas* (p. 135, para 11.4):

One can imagine, for example, the public outcry if it was revealed that 6 percent of foreign aircraft landing at UK airports were so unsafe that they were not allowed to take off until they had been repaired. The situation is just as intolerable for shipping.

It is clear from any examination of ship safety in recent years that many flag states and shipowners have failed to discharge their responsibilities adequately, at least from the point of view of port states. The particularly poor record of flag states such as Romania, Iran, Malta, Lebanon, Cyprus, Panama, India and Liberia is well-documented by the EC’s *A Common Policy on Safe Seas* (fig. 14, p. 40).

Australia’s *Ships of Shame* report has quantified the dismal deficiency record of Nigeria (90.48%), Bangladesh (83.33%), Romania (78.88%), India (77.89%), Pakistan (73.33%), Algeria (62.79%),

Honduras (62.79%), Malta (60.58%), Egypt (59.09%), and Panama (58.43%). Some would go so far as to say that nearly three-quarters of the world's fleet is deficient (Unknown, 1993). Most recently Lord Donaldson's inquiry into the foundering of the *Braer* has called for international pressure on flag states which do not adequately deliver on their IMO Convention responsibilities. Canadian experience with substandard bulk carriers is also quite telling; of all vessels detained in one 14-month period, 48% were bulk carriers (see Table 1).

Table 1 Bulk carrier inspection regime (for period 1/7/92—31/8/93)
Inspections and detention by class

Class	Inspected	# Detained	% Detained
Lloyd's Register of Shipping *	35	15	43
American Bureau of Shipping *	35	15	43
Det Norske Veritas *	23	16	50
Bureau Veritas *	15	8	53
Korean Register of Shipping *	5	3	60
Nippon Kaiji Kyokai *	20	3	15
Hellenic Register	1	1	100
Germanischer Lloyd *	3	2	67
Registro Italiano Navale *	3	2	67
China Classification Society *	3	2	67
RNR (Romania)	1	-	-
Total	144	67	46
(+1 Unknown)	1		
	145		

Note: * Member of the IACS

Source: Canadian Coast Guard as reported in Captain Allen H. Irons M.N.I. (November 1993), Australia's "Ships of Shame" Conference, *Australasian Ships and Ports*, p. 10.

There is certainly plenty of interest on the part of developed countries in tackling the problem of substandard shipping, and ship safety in general, through increased port state control activities. One of the more thorough assessments of substandard shipping and port state control, outside of those completed as part of a government inquiry, was undertaken by Payoyo (1994). Relying heavily on Paris MOU data, he notes the rising deficiency rates in evidence since 1987. He concludes that this is evidence of the continuing problem of flags of convenience in the wake of the failure of the *UN Conference on Conditions for Registration of Ships* to establish adequate measures to deal with the flag state problem. Although this paper is not about port state control and the problems of foreign substandard shipping, the two issues are as difficult to separate as opposite sides of the same coin. This paper intends to focus on the very real problems of flag states, their delegation of ship inspection activities in an era of scarce resources and increasing port state control obligations with its consumption of those resources. Therefore an examination is needed of the roles of classification societies and insurers in ship inspections, exploring how delegation can be implemented in order to ensure flag state responsibilities are met.

Classification societies

The International Association of Classification Societies (IACS) is a non-profit association representing the world's major Classification Societies with the objectives of promoting the highest standards in ship safety and preventing marine pollution. Although there are more than 50 classification societies worldwide, the eleven IACS members account for over 90% of the world's merchant fleet and are bound by ISO-based Quality Assurance standards for the service they render, whether for ship classification or for statutory work undertaken for maritime administrations. The IACS notes that over 100 IMO Member States have delegated statutory surveys to its members.

In recent years, the restructuring of vessel ownership and management have put increasing pressure on the relationships between owners and classification societies. Owners have been accused of abandoning standards of vessel maintenance while the societies have been branded as failing to aggressively monitor vessel operations (Mathieson, 1991).

It is important to note that the classification societies traditionally play two roles—the attestation of a vessel's structural integrity and mechanical ability for its intended purpose (the classification of ships) and the certification of vessels as agent under delegated authority from a national maritime administration (statutory certification). In the case of the former role, the *Society Member uses its own criteria and procedures, and its own interpretation of the criteria*. In the case of the latter, the *Society Member uses the criteria and interpretation of the flag state*. According to the IACS, responsibility in the case of the former rests with the classification society and with the flag state in the case of the latter (Reilly, 1993).

This was not always the case. The history of the role of the classification societies is well-documented in Boisson (1994). Traditionally, classification societies served one master—the marine insurance industry. Classification enabled insurers to quantify risk and improved risk management was a benefit accruing to all. Over time this traditional role changed. Owners wanted to be certain of the class given to a vessel upon delivery, and to be sure that the class would last a known period of time; similarly shipyards wanted to be sure that the vessels they delivered could meet a guaranteed standard as this made the product more marketable. The classification societies had acquired more than one type of client and a new balancing act. When governments became interested in regulating the safety of maritime transport, and the maritime administration found itself incapable of meeting the demands of rigorous ship inspections, the delegation of ship inspections to classification societies added one more to the number of parties employing the services of independent classification societies.

This begs the question: do classification societies exist to ensure that ships meet the standards set by those ordering the service and therefore issue a certificate to attest that the standard is met, or should they assess the quality of the ship as well? As Boisson (1994: 372-3) points out:

The main complaints were about the very system of classification, embodying an insoluble conflict of interest. A shipowner, as a client of a classification society, may be required by it to increase safety on his/her ships, inevitably involving loss of profits and reduced earning capacity. In a highly competitive situation, certain classification societies might be tempted to reduce their demands based on current standards, thereby maintaining the class for ships that were possibly unreliable.

To illustrate this case for Canada, ABS is the classification society for 111 Canadian flag ships (ABS, 1992). ABS is authorized to issue certificates pertaining to Load Line. If ABS is also authorized to conduct inspections to ensure compliance, there needs to be a monitoring system by the flag state to ensure that the ABS conducts its activities as required by the flag state. This requires CCG to establish guidelines for such conduct as well as an audit and monitoring program to ensure ABS compliance.

Although classification societies will argue that statutory inspections are only a snapshot in time, they are certifying class for a particular period—the time between one survey and the next statutory survey. Therefore, their certification should indicate reasonable confidence that the vessel, if adequately maintained, will continue to stay in class. This indicates a level of confidence in “quality” of the ship—something currently in doubt. The societies are members of the IACS and therefore arguably representatives of quality class vessels. But Exhibit 1 is only an illustration; any review of the recently published inspection lists of US or UK authorities do not present a significantly different picture. Clearly many IACS members are responsible for issuing certificates to vessels which subsequently are detained by the authorities as substandard. To provide a further example, of the 17 foreign vessels detained in UK ports in June 1994, 13 were classed by the five IACS members with offices and exclusive surveyors in Canada (Thorpe, 1994). By the next month this ratio had dropped to 12 in 21.

In addition to the issue of conflict of interest, it must be noted that classification societies are not bound to act in a prescriptive manner; the individual society is not responsible for the actions of the owner nor can it interfere with the owner's conduct of business. The classification society can only provide advice and make recommendations. Its power resides in its role as certifying agent

for the flag state of the vessel, if it is empowered by the flag state to withdraw statutory certificate(s) (Reilly, 1994). This will absolutely be so in the terms of the agreement CCG is currently drafting (John Searle, *Op.Cit.*).

To address the generalized loss of confidence in its members, the IACS has developed a Transfer of Classification Agreement which has been adopted by Members of the IACS. The system under this agreement has safeguards which will require a vessel desiring to transfer class to another member to satisfactorily deal with all outstanding recommendations. The information in the associated database is available to port states and the underwriting community (*Ibid*). Although CCG does have the ability to access this database, the fact of the matter is that ships are dropping out of IACS to avoid the situation (Interview with W. Scott, Ship Safety Branch, Canadian Coast Guard, Dartmouth, NS, Canada, January 1995). The database is not published widely, causing complaints about a lack of transparency. The *ABS Annual Report 1992*, for example, declares that 759 vessels were dropped from class by ABS in 1992, 558 for non-compliance. But it does not indicate to which other classification societies these vessels went or if the transfer also resulted in a change of flag. Perhaps IACS members could further improve their reputation through broadcast of this information.

The IACS has also introduced a Quality System Certification Scheme (QSCS) and continuing Member status requires audited compliance with a set of formal requirements, possession of a valid IACS QSCS Certificate of Conformity (valid for three years), and willingness to undergo intermediate audits. The IACS argument that the QSCS assures quality is somewhat misleading. ISO 9000 series programs only assure that the organization has the elements in place from document processing and management systems point of view; the interpretation that products or services from ISO 9000 certified organizations are of the highest quality does not necessarily follow. What is important, therefore, is the relationship between classification societies and insurers.

Insurers and charterers

Boisson (1994) examines the insurance companies' response to the classification society conflict of interest. The incredible loss rate experienced by bulk carriers in 1990 and 1991 encouraged the London Salvage Association, an association of underwriters, to conduct independent surveys. Its 1993 report on 200 surveys indicates that 80% of vessels required extensive repairs (Boisson, 1994, p. 373). And insurers are not the only group to seek independent surveys. Charterers, oil companies, companies shipping hazardous chemicals, and bankers have all seriously questioned the quality of ships they must use and/or undertake some type of associated financial risk.

Stressing that the views he expressed were not necessarily shared by other clubs or other insurers, Peter Donnellan of Thomas Miller P&I (p. 103-5) recently communicated considerable erosion of confidence held in classification societies by some in the insurance industry:

We welcome the concerted efforts by IACS and others to improve their performance, but there is a considerable way to go. ... It is our task to find and identify those owners and manager who are in fact sub-standard, so that they can be excluded from our club.

Moreover, class surveyors are engineers and evaluation of the quality of shipping encompasses more than engineering. The assumption in safety circles has been that certificates and systems indicate safety and classification societies have traditionally focused on certification. There has been a realization over the past decade that certificates do very little to address the human element in ship safety. Private inspectors, such as those hired for the purpose of vetting tankers, will have a day to examine the vessel with a checklist of as many as 400 elements but, in the final analysis, they still rely on the classification society to ensure seaworthiness (interview with Barry Scott of Vela Marine Services, Dartmouth, NS, Canada, January 1995). To be fair, the classification societies are responding to the challenge. The formation of the IACS and the implementation of the QSCS are intended to address the credibility gap. Classification Societies will have to do more; they will eventually have to decide whether their primary role is one of certification or one of quality evaluation. Until this has been resolved, should the Canadian Government delegate its flag state inspections to classification societies? If the answer is yes, it is best that the proposal

currently being developed clearly leaves the approval of the classification society in the hands of a monitoring government agency.

APPROACHES OF OTHER GOVERNMENTS

Countries other than Canada have undertaken research or have experience in the delegation of ship safety inspections. For example, in 1991 Australia transferred its ship safety program to a business-oriented, government-owned corporate entity called the Australian Maritime Safety Authority (AMSA), managed by a Board appointed by the Minister for Transport, but there are no plans to contract out either flag state or port state inspections to classification societies (communication with Sue Elderton, Bureau of Transport and Communication Economics, Canberra).

New Zealand, a country that has faced fiscal restraints not unlike those currently facing Canada, has reorganized inspection responsibilities. A new not-for-profit Crown entity, the Maritime Safety Authority, was established in 1994 and operates under a Performance Agreement with the Minister of Transport. The Authority is responsible for both flag and port state control inspections. Under its legislation, the Authority may appoint competent persons to be marine surveyors. The MSA issues certificates of survey based on surveyors' declarations. MSA also currently authorises six (major) classification societies to undertake surveys on its behalf for the purpose of issuing Safety Construction Certificates to NZ SOLAS Convention ships. In line with IMO resolutions on the recognition, under SOLAS, of competent organisations by Administrations, the MSA is negotiating memoranda of agreements with a number of societies in New Zealand. A new commercial entity, Ministry of Transport's Marine and Industrial Safety Inspection Services (M&I), a privately owned company, was created on 1 June 1994 from the Maritime Transport Division. M&I conducts ship survey activities (although the actual survey certificate is issued by the Authority) and supplements this with survey and certification of industrial equipment (correspondence with John Anderson, Marine and Industrial Safety Inspection Service Limited).

In the UK, the Marine Safety Agency (MSA), an executive agency within the Department of Transport, conducts *both* flag state and port state inspection obligations. The MSA role is based on four elements: (1) a formal agreement between the Department of Transport and the classification societies; (2) monitoring by the societies of the statutory work performed on behalf of the Department; (3) periodic audit of the societies' statutory work; and (4) random inspection of ships as a quality assurance activity. The MSA Business Plan allocates survey and certification work as follows: 46% to classed vessels, 28% to unclassified and specialized ships, 20% to fishing vessels and 6% to other surveys (Donaldson (1994), *Op. Cit.*, London: HMSO, p. 66 para 6.39-6.41). The Department of Transport in the UK issued a discussion document in December 1992 examining greater options for private sector involvement (an earlier study had concluded that the Surveyor's General Organization should not be privatized) and in August 1993, approximately 25% of the MSA's *surveying and certification* workload was delegated to the recognized classification societies (Donaldson (1994), *Op. Cit.*, p. 66, para 6.17 and 6.41). The UK's MSA delegates a number of functions, such as surveys of ships for the issue of Safety Construction and Load Line certificates, to five classification societies, namely Lloyd's Register of Shipping, The American Bureau of Shipping, Det Norske Veritas, Bureau Veritas and Germanischer Lloyd.). According to Donaldson (1994), the MSA is more involved with initial survey work than periodic or renewal surveys.

In the US, the focus of US Coast Guard (USCG) ship safety inspections has been to perform compliance verification. They have adopted a rating scheme, not unlike those found in some sectors of the insurance industry. The scheme separates vessels into four categories, each subject to a different relationship with ship safety inspectors. In the lowest tier would be those vessels not classed and not in a "quality program," such as ISO 9000 or an in-house one approved by the USCG; these ships would be subject to full USCG inspection. In the next tier are ABS classed ships not in a quality program; these vessels are subject to periodic inspection after initial ABS inspection. In the third tier are ABS classed ships qualified under the IMO Safety Management Code; these non-critical inspections, such as inspections of electrical systems, heating boilers,

refrigeration and so on may be carried out by a third party agent, such as a qualified professional engineer or ABS inspector. In the fourth tier are ABS classed ships operated by companies certified to ISO 9000 standards; these ships would be subject to regular document review and occasional verification inspections (Transport Canada, 1993b).

Lately, the USCG inspection process has had a philosophical change of direction. Where the previous focus was on certificate conformance, "prevention through people" has meant that all inspections, PSC and statutory, are conducted by teams with greater expertise and more attention is paid to the human element aspects of ship safety. Risk management principles and greater devolution of responsibility to local levels in resource deployment are part of this new approach to vessel inspection. Classification societies in the US have been seeking to play a greater role in flag state inspections while concerns about their foreign flag inspections grow (interview with Cmdr. E. Fink, USCG). On the PSC side, the USCG has begun naming offending companies (names of 137 owners of substandard ships appeared, for example, in *Lloyd's List*, September 1995 and the UK published detention lists with owners named monthly since June 1994), and is using lists of these companies, flag state and classification societies to set priorities in a new elaborate PSC scheme. In 1995, the USCG intends to develop a "blacklist" of classification societies (Unknown, 1994a).

It appears that none of these countries has fully privatized flag state inspections, although the New Zealand model is the closest. Although classification societies are increasing the pressure on governments to delegate flag state obligations more completely, resistance is varied depending on both philosophy and political will. Given the widespread concern throughout the industry about the performance standards of some classification societies, it is important not to repeat the casualty experience of the Norwegian International Ship Register, which delegated all flag state responsibilities. Donaldson (1994, p. 66, para 6.44) points out that "registers which delegate a very large proportion of survey and classification work to classification societies have a worse safety record than registers which delegate less."

TOOLS FOR CONSIDERATION

The literature currently available on ship safety and inspections focuses predominantly on port state control as a solution for substandard shipping. A number of ideas arise from that literature and merit discussion, although not all of these concepts are directly applicable to the maintenance of quality standards from a flag state perspective.

Self-targeting (for vessel owners)

Donaldson (1994, p. 143, para 11.37) argues that shipowners weigh up their risks of detection and detention, and that a planned process of self-targeting would at least encourage operators flagged in MOU states on bringing their ships up to the standard if they knew that an inspection was, through this process, essentially inevitable. The proposed self-targeting approach has a benefit for owners: if no deficiencies are found, owners are blessed with a 12-month period of freedom from inspection. Conversely, if deficiencies are severe enough to warrant detention, under Donaldson's proposed system the shipowner will face the possibility of repeated inspections throughout the 12 months even if subsequent inspections are free of defect. The Donaldson inquiry advanced the concept that those not meeting standards should follow a different process from those found deficiency-free. This risk management approach to substandard shipping is intended to replace the existing system of PSC quotas (*Ibid*, p. 148, para 11.59).

The question then arises as to whether self-targeting as a concept has any role in Canada's flag state inspections. Canadian flag vessels are, as already explained, subject to mandatory inspections. The only outstanding issue is one of timing and whether or not control of that timing is better in the hands of shipowners or those of the regulatory authority. Human nature may be to delay inspections to the latest possible date unless there are incentives for early inspection.

Quality rating for owners/managers

If one ship in a fleet is defective, the chances are that others with the same ownership or management will have evidence of similar neglect. As pointed out by Donaldson (1994, p. xxvii.), "Once shipowners find that they are being discriminated against in the marketplace because of their safety records, they are likely to change their attitudes towards standards." This is further assisted by benefits accruing to those who improve standards, such as are likely under the new USCG regime. This concept moves closer to that of experience rating found, for example, in workers' compensation insurance schemes in North America. Experience rating, a system of identifying problem companies by their history of claims activity, is a concept worthy of consideration in any auditing process implemented in conjunction with a delegation of ship inspection activity.

Perhaps it is worth contemplating a flag state inspection model that reflects some type of quality rating for owners, with inspection regimes less rigorous for those owners or managers adopting the IMO International Ship Management (ISM) Code and or ISO 9002 (Donaldson's Recommendation 18 promoted that the shipping industry, charterers and insurers encourage widespread use of the IMO International Safety Management Code and ISO 9002. The ISM lays out procedures and documentation for ship safety but does not necessarily set out standards). The ISM Code will not be mandatory for high risk vessels until 1 July 1998 but prompt earlier use by some would prod speedier adoption.

Quality ratings for vessels

A port state may carry out a certain number of inspections of vessels visiting its ports to ensure that they comply with particular international conventions *without discrimination as to flag*. However, the Paris MOU was revised in July 1993 to include the express provision that, in selecting ships for inspection, the state will pay particular attention to particular types of ships known from previous inspections to have deficiencies but also to "ships flying the flag of a state appearing in the 3-year rolling average of above average delays and detentions in the annual report" (Clarke, 1994). MOU states (including Canada) currently pay special attention to vessels of a specific type: passenger and ro-ro vessels, ships carrying oil, gas or chemicals and bulk carriers.

With respect to targeting certain types of vessels for enhanced monitoring, the Australian Maritime Safety Authority proposed a point system rating scale for PSC, targeting ships at greatest risk. The system focuses on age, changes of class, changes of name, changes of ownership and type of vessel (see Appendix 2). *The Institute of London Underwriters 1993 Casualty Statistics* indicates that age is, although not necessarily a causal factor, an indicator to be taken into account when targeting vessels for inspection; older vessels are more likely, for whatever reason, to become casualties. Even more interesting is the recent Bureau of Transport and Communications Economics (BTCE) study on structural failure of bulk carriers that concludes that ship age, flag state, commodity carried and voyage route are all significant factors in bulk carrier structural failure (Bureau of Transport and Communications Economics (1994), *Structural Failure of Large Bulk Ships*, Canberra: Australian Government Publishing Service). Using a logit analysis the study concluded that 93% of the ships that failed could have been identified in an inspection program of one in three vessels. Because of data availability limitations, the study was unable to include data on changes of name, owner, flag or classification society in the analysis, although these are suggested in Appendix 2 as targeting elements. It is particularly interesting to note that the BTCE study found that a ship registered with a flag state with a high casualty rate was found to have the same risk of failure as one five years older registered with a flag state with a low casualty rate.

There is sufficient research available to contemplate the design of a quality rating scheme, be it for flag state or port state inspection monitoring/auditing or for the setting of insurance premiums. There are clearly higher risk categories of shipping and precedence has now been established through MOU revisions to recognize this. The US, Canada and Australia are all exploring or embarking on this approach.

Log books

Survey History Files will be required for tankers after mid-1995 under Annex I Regulation 13G of MARPOL. Donaldson (1994) also recommends (Recommendation 4 (d)) that this requirement be extended to vessels other than oil tankers. The Australian *Ships of Shame* report recommended that all dry bulkers carry a Survey History File consisting of all documents relating to a ship's structure, inspections and repairs and that the file be mandatory for port entry. This recommendation was accepted by the government and Australia is prepared to contemplate unilateral action if multilateral action through IMO is not forthcoming (IMO is not forthcoming, Collins, 1993).

The concept of a log book as a tool for monitoring transport entities is well recognized in the US trucking industry and serves as an intermediate step to the full availability of a computer network of this type of information. It is not inconceivable that flag states should require these as a condition of maintaining registration and that they would become the key document in an experience rating system and in targeting audits in a performance audit system for delegated surveys.

Log books could also be expanded to include surveys conducted by other organizations, such as those conducted by oil companies inspecting vessels for potential charter (to include the voluntary inspections entered into the new Ship Inspection Report Exchange), surveys undertaken on behalf of underwriters or P&I clubs, and those undertaken by the classification societies on behalf of flag states, shipowners and potential ship purchasers. A log book approach would overcome the limitations of the Paris MOU's SIRENAC database which does not record the nature and extent of the inspection or a detailed description of the deficiencies. There is nothing to prevent the Canadian government from implementing such a requirement as a condition of Canadian flag registration as there is already a detailed survey record on Canadian flag vessels. Logbooks are really more appropriate to PSC inspection programs in the short-term. It is only a matter of time before logbooks become the prerequisite for port entry throughout the world or are replaced by a Global Positioning System based database offering even greater transparency to a vessel's history.

Quality rating for classification societies

The BTCE Study found that there is little association between the classification society and the risk of structural failure of bulk ships. However, the number of classification societies has grown rapidly and, given the nature of the work, many of them are viewed to have an insufficient resource base to meet the demands of worldwide inspection. Although the IACS was formed, and has limited its membership to those with the necessary resources, the credibility gap has not completely closed. Donaldson (1994, p. 78, para 7.35) notes that 10% of ships visiting UK ports are classed with a non-IACS member, yet 19% of ships detained by UK ports are classed by IACS members. Australia's Standing Committee also agreed that IACS detention levels are still too high and was of the opinion that until non-IACS members were required to conform to IACS quality standards, the opportunity to avoid responsibility remains available by change of class (House of Representatives, 1992). There also remains the problem of those societies which are not members of the IACS as they outside any effective regulatory body. Liberia has resolved this issue by only recognizing, for flag state purposes, surveys undertaken by IACS members (Unknown, 1994b). For insurance purposes, the Standard Steamship Owners P&I Association will only accept vessels classed by IACS members beginning February 1995 (Unknown, 1994c).

The Australian Standing Committee recommended (Recommendation 3(b)) that the IMO devise guidelines for classification society operations and that only certificates issued by those classification societies which comply with the guidelines be recognized as valid internationally. This recommendation has received the support of the Australian government (Collins, 1993). It has been pointed out that classification societies have refused to class large numbers of ships because they were substandard and unprepared to remedy their condition. These vessels avoid public scrutiny unless caught in a detention web. Donaldson (1994) did not contemplate imposing regulations on ships classed by societies with a poor record whereas the CCG strategy already recognizes the quality of classification society at least with respect to flag state inspections

through its recognition, at this time, of only two of the societies for statutory work. How broad the recognition of a society should be given is one issue CCG must address and, at present, this recognition is limited by memoranda of agreement and the requirement for exclusive surveyors. But the CCG will require an in-depth examination of these societies if it is to make “good” choices of others eligible for statutory work.

Quality rating for inspectors

The Australian *Ships of Shame* inquiry (para 4.27) called into question the quality of PSC inspectors. Donaldson (1994) was also concerned about the quality of inspectors and suggested secondments as one method of improving knowledge (Donaldson, 1994, p. 67). The USCG, to improve the quality of inspections, has introduced teams while private firms are developing their own best practices, independent of classification and insurance company inspectors. The Canadian proposal’s inclusion of a qualification process for the individual inspector is a key public interest element in a delegation of inspection to class societies. Moreover, an auditing system could identify inspectors with lower standards and their work would cease to be recognized.

In many countries inspector qualification is not given adequate consideration, although the principles of monitoring and auditing of the classification societies to which the inspection has been delegated are.

Improved data systems and information-sharing

Poor information exchange exacerbates the problem of monitoring substandard shipping. The EC’s *A Common Policy on Safe Seas* concluded that insufficient data are collected and communicated, so that it is not known if deficiencies found on a second detention are the same as found on the first. Solutions proposed include on-line information databases on ships and regular publication of information on sub-standard ships. It has been suggested that Canada, with its participation in two PSC systems (Tokyo MOU was signed April 1, 1994, between 14 Asia-Pacific countries, most of the major trading powers of the region), is well placed to serve as the information database home. The immediate implementation of a log book (or Survey History File) for all Canadian flag vessels coupled with a pilot information system could initiate an international database useful for both PSC and statutory inspection.

ISSUES AND CONCERNS

There are three issues to be dealt with: (1) clarification of the optimal role of classification societies in flag state inspections; (2) implementation details of the monitoring/auditing system for delegated inspections; and (3) the adequacy of resources to ensure safety.

Recommendation 5 by Donaldson (1994: 365) focuses on the first of these elements:

The UK Government should work through IMO to press for: (a) a review of the IMO guidelines and minimum standards for classification societies; and (b) swift implementation of minimum standards for all work delegated by Flag States to classification societies. Classification societies which do not meet these international standards should not be granted international recognition.

This recommendation provides a clear policy direction to all countries concerned about substandard shipping, but Canada is already limiting recognition of suitable societies for purposes of statutory inspections.

The relationship between the government (as the statutory organization responsible for ship safety) and the classification society is at the heart of the matter. There is no economic reward for the classification society to strictly enforce standards. They have two clients: the shipowner seeking classification (or maintenance of classification for insurance purposes) of his/her vessel and the government delegating statutory inspection responsibilities. The incentive for maintaining standards on the part of the owner is the deterrent of potential fines and criminal penalties imposed

by the government. In a system where the government does not conduct its own inspections, monitoring and audit functions take on critical importance as the bi-directionality of the classification society's goals increases the potential for lax enforcement of the standards.

It is worth noting that the shipowner has the duty to use due diligence to make a vessel seaworthy and that this duty is not delegable, even if a classification society is contracted to assist the shipowner in discharging this responsibility (Cane, 1994). Likewise, the flag state has a duty to meet its safety obligations and delegation of this activity does not delegate the responsibility for its outcome. The key to an effective delegation policy is its implementation plan.

As was the conclusion in the Donaldson Inquiry, the delegation of survey and classification work must not compromise maritime safety. From a Canadian point of view, the implementation of a ship inspection service focusing on quality assurance and audit to meet public interest criteria necessitates a system of identifying inspectors who will ensure the quality standards required are met with an audit process in place to assure quality among those implementing such standards.

Finally, it is clear that the CCG must have sufficient resources to enable it to audit properly the increasing amount of survey and certification work delegated to classification societies. This implies some form of cost recovery for ship inspections. Flag state inspections are undertaken to put a vessel into service and should be paid for by the owner. Donaldson (1994) in his PSC discussion recommends (Recommendation 98(d) p. 401, para 23.141) "higher charges for ships found to be seriously deficient than for those found to be free of or with only minor deficiencies." This is a concept worthy of flag state contemplation. The intention by CCG to create a level playing field between delegated organizations and CCG in the cost of inspections (interview with John Searle, *Op. Cit*) is to be lauded, although this principle deserves further discussion.

FINAL COMMENTS

Consolidation of ship inspection activity for the economic benefit of owners requires an audit/monitoring function by government on classification societies. A secondary monitoring function improves the system through insurance industry monitoring of classification societies. Multi-state port state control inspection systems can then monitor all interested parties.

The issue in Canada is not Canadian commitment to PSC principles, already demonstrated by increased inspection, joining the European MOU and chairing the Asia-Pacific one, but rather how to allocate the necessary resources to this commitment while retaining sufficient resources to meet flag state obligations for safe ships. Whatever Canada's decision, it will continue to face the dilemma of balancing flag state obligations and port state obligations in an era of limited public resources. It may, however, take the opportunity to provide a valuable role model for others.

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APPENDIX 1: RECOMMENDATIONS OF THE MODAL REVIEW (CANADA)

The Marine Regulatory Review Advisory Panel had reported to the Minister of State for Transport in April 1993 making a number of recommendations. The most relevant for this paper are:

Recommendation 2: a) CCG Regulations should provide for the incorporation of standards which should contain all or most of the technical, procedural and operational provisions; b) Whenever possible such incorporation should utilize standards which have been accepted internationally, bilaterally, nationally and/or which reflect industry practices. CCG in-house standards should be utilized only when there are no standards as set out above or if such standards are clearly inadequate or inappropriate; c) Regulators, industry and the interested/affected public should be represented during the development of CCG standards and consulted on the adoption of other standards; d) The CCG should form a knowledgeable “standards working team” with responsibility to identify and develop appropriate standards; assist in the incorporation process; draft an information document describing the relationship between regulations and standards; obtain assistance from expert government and/or private sector standard writing organizations in the conversion of regulations into standards; and provide the necessary consultation mechanism for the standards process.

Recommendation 3: The CCG should fully explore: a) transferring certain, non-marine regulatory responsibilities to other, more appropriate ministries; b) transferring certain regulatory responsibilities to maritime sector industry self-regulation, subject to CCG audits; and c) transferring certain regulatory responsibilities to appropriate private maritime sector interests, subject to CCG audit and maritime sector industry consultation.

Recommendation 6: That the CCG ensures that the regulatory system meet industry expectations by: a) ensuring that regulatory compliance and enforcement is administered equitably, with minimum delay and maximum predictability throughout Canada.

Recommendation 8: That Transport Canada, in conjunction with the Department of Justice and the Privy Council Office, clarify and, where appropriate, reorganize and simplify the necessary legal authority required for the regulatory process generally, and for legal process expediting systems, such as incorporation by reference and delegation of authority, specifically.

Recommendation 11: That Transport Canada/CCG examine and study the necessary policy changes required to more realistically represent all Canadian shipping, coastal and port state interests in positions taken at the International Maritime Organization.

The panel received 80 submissions from external interested parties and concluded that almost half of the 113 regulations reviewed needed parts replaced, that delegation of parts of the regulation were appropriate in 25 cases and that the balance, with the exception of 6, needed to be changed through amendments to their respective Acts. Changes proposed by the Advisory Panel such as those to the certification of able seamen to bring requirements in line with the Convention of Standards of Training Certification and Watchkeeping are not at this core of the paper while those to Classed Ship Inspection Regulations are. The Advisory Panel and the stakeholders consulted were clearly concerned about the duplication of effort between the classification societies and the CCG.

TOPIC 2

MARITIME TRANSPORT (SIG)

APPENDIX 2: AMSA'S EXPERIMENTAL TARGETING SYSTEM

Type	Description	Target Inspection Rate
A	Eligible cargo ships with points > or = 27 All cargo ships without information available All passenger ships Ships subject of report	95%
B	Eligible cargo ships with 15-26 points	50%
C	Eligible cargo ships with <15 points	10%
D	Non-eligible ships	0%

Eligible vessels are those which have not had a PSC inspection within the previous six months.

Points are calculated as follows:

$$\text{Age} * \text{Type Factor} + 2 * \text{NameChanges} + 3 * \text{ClassChanges} + 4 * \text{ClassCategories}$$

Where:

Age	=	Years since entry into service
TypeFactor	=	1.6 for bulk and combination carriers; 1.3 for oil, gas and chemical tankers; and 1.0 for all other types
NameChanges	=	number of changes of name listed in Lloyd's Register Book
ClassChanges	=	number of changes of classification society listed in Lloyd's Register Book
ClassCategory	=	1.0 for ships currently in class with ABS, DNV, GL, LRS, or NK; 2.0 for other ships including those in joint class with a society listed above.

Source: House of Representatives' Standing Committee on Transport, Communication and Structure (1992), *Ships of Shame: Inquiry into Ship Safety*, Canberra: Australian Government Publishing Service, December, Appendix 10.