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The implementation of [a safety culture to] the Vietnam Register (VR) for better service of the shipping industry

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THE IMPLEMENTATION OF THE VIETNAM REGISTER (VR) FOR BETTER SERVICE OF THE SHIPPING INDUSTRY

By

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Vietnam

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Dedicated to my beloved father and mother,
and to the memory of my two brothers, who
never returned to their study...

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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16 August 1999

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ABSTRACT

Title of dissertation: **The implementation of the Vietnam Register (VR) for better service of the shipping industry**

Degree: **MSc**

The dissertation is a study of activities of the Vietnam Register from inspection culture toward safety culture. Its objective is to achieve better service for the Vietnamese shipping industry.

A brief overview is given of Vietnam's people, resources, and shipping industry in comparison with other neighbouring countries in Southeast Asia as Chapter 2.

The study points out the advantages as well as difficulties of the Vietnamese shipping industry today in competition with other adjacent countries, especially after the recent crises in the region. Some statistics taken from Vietnam Maritime Organisations, the Internet, and inside the Vietnam Register have been used for illustration.

The study also analyses the historical features, resources and objectives of the Vietnam Register on the way towards industrialism and modernisation in collaboration with other foreign Classification Societies in the world.

The implementation of the Vietnam Register for better service of the shipping industry is investigated through these activities: foundation of the ISM Certification Department, the setting up of a quality management system, expansion of VR, and scheduled training for staff as in Chapter 5. The achievement during the recent years reflects in VR's newly established quality manual and general procedures, and broadens the serviced field of VR in offshore installation, in new built joint-venture Hyundai-Vinashin Shipyard.

The concluding Chapter 6 finalises the activities of VR, moving from inspection culture toward safety culture. A number of recommendations are made concerning the service and future activities of VR and Vietnam Marine Bureau. The author's strong belief is that in the near future, VR will be able to be a strong third-party certification body.

KEYWORDS: Vietnam Register, classification societies, shipping industry, quality management system, certification, training.

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LIST OF ABBREVIATIONS

ABS	American Bureau of Shipping
BV	Bureau Veritas
CLC	Civil Liability Convention
CCS	China Classification Society
DNV	Det Norske Veritas
GL	Germanischer Lloyd
IACS	International Association of Classification Societies
IMO	International Maritime Organisation
ISO	International Standard Organisation
ISM	International Safety Management
LR	Lloyd's Register of Shipping
NKK	Nippon Kaiji Kyokai
ODA	Official Development Aid
PSC	Port State Control
QSCS	Quality System Certification Scheme
STCW	Standards for Training, Certification and Watchkeeping
SMS	Safety Management System
STCW	Standards for Training, Certification and Watchkeeping
TCVN	Vietnam National Standards
TEU	Twenty-foot Equivalent Unit
VR	Vietnam Register
VINASHIN	Vietnam Shipping Industry
WMU	World Maritime University

CHAPTER I

INTRODUCTION

1.1 Introduction

Nowadays, the Vietnam Register (VR) is looking towards industrialisation and modernisation, and close co-operation with other foreign classification societies. The service fields of the VR have been widened not only in the shipping industry, but also in the oil industry, automobile industry, etc. By founding new departments, which are responsible for the VR Quality System and for International Safety Management Certification, the VR has been implemented for better service to the Vietnamese shipping industry. This started more than 15 years ago, when the Vietnam Register became a full member of the Ship Technical Supervision and Classification Association of the former socialist countries (OTHK). The VR has carried out technical research in co-operation with members of this organisation since 1984.

The international co-operation with other well-known foreign classification societies in the world, such as the American Bureau of Shipping (ABS) and other members of the International Association of Classification Societies (IACS), is growing and plays an important part in the development and expansion of the VR.

The other activities of the VR, which are also mentioned in this study, are the application of new national standards in 1997 in collaboration with Japanese Classification Society - NKK. They are active and effective tools for VR surveyors when carrying out their duties in the fields mentioned above, especially when surveying modern high - technology ships, and offshore structures. This indicates that the VR is joining the competition with other

foreign classification societies operating in Vietnam nowadays, most of which are members of IACS.

1.2 Aims of the study

In order to get a real understanding of the Vietnamese society in general and the Vietnamese shipping industry in particular, the author points out some major features of Vietnam's geography, the Vietnamese economy, the Vietnamese shipping industry and the Vietnam Maritime Administration. These features are mentioned by data from the past, and present and the plan for the year 2000 and beyond. The resources of the Vietnamese shipping industry as well as the Vietnam Register are also analysed with regard to:

- the situation of Vietnam after "Doi Moi" policy - more requirements for economic development and the sea born trade is growing;
- the situation of the Vietnamese fleet before and after the economic crisis in Southeast Asia;
- the situation of Vietnamese ports, their cargo throughput and comparison with other seaports in Southeast Asia;
- the situation of the Vietnam Register recently and in the near future. This includes training programmes, and research and development.
- exposing recommendations for the Vietnam Register to be a third party certification body of safety and strength of ships.
- exposing recommendations for the Vietnamese shipping industry in general and the VR in particular, in approaching the safety culture from inspection culture.

1.3 Approach

The author's knowledge gained in two years study at WMU and experiences gained during working time in the VR are mainly used in this study. By interviewing WMU visiting professors, students from other courses, as well as maritime administration authorities during field studies, the author concentrates on the actual implementation of the Vietnam Register towards safety and better service. Besides that, the study also analyses the actual activities of the Vietnamese shipping industry in competition with other regional shipping industries towards quality management in maritime fields.

In addition, information was obtained from relevant technical issues collected in WMU field studies, insights from relevant visiting professors and WMU's lecturers and WMU library information, which includes published periodicals, and books. Information was also obtained from reports, technical papers, magazines and bulletins of concerned governmental companies in Vietnam, which the author collected during the mid-term vacation in 1998.

Other daily information, gained through the internet, plays an important part for the up date of the study, especially the statistics of ships detained by Port State control in Asian-Pacific countries as well as other countries around the world.

Consequently, the author hopes that some proposals from this dissertation can be applied to the VR as well as to the Vietnamese shipping industry to achieve "cleaner ocean and safer shipping."

CHAPTER II

OVERVIEW OF VIETNAM SHIPPING INDUSTRY AND MARITIME ADMINISTRATION

2.1 Vietnam maritime industry background

2.1.1 Geographical situation

According to Kim, Tran Hoang, with S shaped strip, situated in Southeast Asia, ranging from 8^{o}02´to 23^{o}23´north latitude and from 102^{o}08´to 109^{o}28´east longitude, Vietnam has 3,730 kilometres of inland border. The neighbouring countries adjacent to the long borderline are: the People's Republic of China to the north, The People's Republic of Laos and the Kingdom of Cambodia to the west. It is surrounded on the east, the south and the south - west by the Gulf of Tonking, the South China Sea and the Gulf of Thailand. According to the World Fact Book, Vietnam has a long coast line measuring up to 3,444 kilometres, excluding the islands.

The ocean territory extends in the east-west direction from Myanmar to Papua New Guinea, and in the north-south direction from Vietnam to the southern coasts of the Indonesian islands. With almost 70% of its space consisting of marine areas, Vietnam and 9 other countries: Myanmar, Thailand, Laos, Kampuchea, Malaysia, Singapore, Indonesia, Brunei and the Philippines have their capital cities near the sea, except Kuala Lumpur (Malaysia) and Vientiane (Laos).

Furthermore, Vietnam has a large inland waterway network which is approximately 40,000 kilometres long, including 11,000 kilometres of sufficient depth for inland transportation

(United Nations, 1996). This can be very useful for the combined transportation in recent years (door to door transportation).

2.1.2 Vietnam shipping industry

2.1.2.1 Seaports

As mentioned above, with a long coastline from the north to the south, maritime commerce holds a large economic potential for Vietnam. The seaport system can be categorized into three types as below according to the regional geography.

2.1.2.1.1 Northern seaport system

Haiphong port. Situated in Haiphong city, Haiphong port consists of four ports. It is the largest port in Vietnam. It has four loading and unloading docks, the largest of which has elevent landing stages for ships of 10,000 d.w.t and a total length of 1,787 meters.

The Chua Ve dock has three chief landing stages, the largest of which is 530 meters long.

The Vat Cach dock features a 314-meter wharf, which is principally used for barges and small ships.

The Cua Cam dock has four landing stages from 80 to 104 meters.

The Bach Dang-Ha Long dock is the smallest of all.

Due to the geographical and technical features, the water level of Haiphong port is rather shallow. However, the throughput is approximately 7 million tons a year, including 200,000 TEU. The improvement projects funded by Official Development Aid (ODA) from Japan are expected to make Haiphong Port a major international port in the coming years.

Cai Lan port. Situated in Quang Ninh province, Cai Lan is the deep-seaport in Vietnam. It has a 166-meter wharf, allowing the ships of approximately 10,000 tons of capacity. Ships up to 30,000 d.w.t may enter the port. This port is expected to have from six to eight docking stages for ships from 10,000 to 30,000 d.w.t. Two of these stages will be used for containers with specialized appliances. The expected throughput by the year 2000 will be two million tons.

The last two ports of **Thanh Hoa** and **Nghe Tinh** province are of high regional importance, with the throughput approximate some hundred thousand tons per year, for ships under

5,000 d.w.t. However, they are very important because they are the only points of sea access for the land-locked Laos.

2.1.2.1.2 Central seaport system

According to the Vietnamese Port System in 2000, this system is expected to reach the throughput of ten million tons by the year 2000.

Da nang port. This is the biggest port in the system with the throughput in 1996 reaching 848,000 tons. Demand for port usage in Da Nang is growing rapidly. The throughput in the year 2000 is expected up to two million tons per year.

The deep-sea port **Van Phong** is of great important for the big ships from 30,000 to 50,000 d.w.t.

The ports at **Quy Nhon** and **Nha Trang** are also of regional significance. Docking stages for ships up to 10,000 d.w.t are under construction in Quy Nhon. The 340-meter wharf is expanded to reach the throughput of 800,000 per year in 2000.

2.1.2.3 Southern seaport system

Thanks to favourable geographic and economic circumstances, the southern seaport system is the real lifeblood in the nation's sea transport industry.

Saigon Port is the biggest of all, with three principle landing sites at **Khanh Hoi, Nha Rong** and **Tan Thuan**. The port has a total area of 500,000 square meters. The average sea depth from 8.5 to 11 meters allows ships from 20,000 to 30,000 d.w.t to enter the ports. According to statistics of the Southern Centre for Traffic and Transportation Economic Science, by the year 2000 the Port of Saigon will reach the throughput of thirteen to fifteen million tons per year.

Furthermore, some twenty other main municipal and provincial ports are being administered and operated independently by the local authorities. The cargo throughput of main seaports in Vietnam can be seen in **Table 1** on the next page.

CARGO THROUGHPUT OF MAIN SEAPORTS IN VIETNAM Table 1

No	Port	Vessels (Calls)		Cargo throughput - 1,000MT							
				Tons		Import		Export		Container (TEUs)	
		1995	1996	1995	1996	1995	1996	1995	1996	1995	1996
1	Hai phong	1,152	1,194	4,515	4,809	4,022	4,151	493	658	117,600	149,100
2	Cua cam	183	112	210	128	203	94	7	34		
3	Quang ninh	134	115	704	850	227	350	477	500		50
4	Thanh hoa	438	490	121	142	81	101	40	41		
5	Nghe tinh	356	397	310	462	251	367	59	34		500
6	Da nang	295	350	830	848	681	644	149	204	7,700	9,102
7	Nha trang	279	289	343	426	308	362	35	64		1,863
8	Qui nhon	376	412	447	554	246	308	201	246	4,200	8,500
9	Sai gon	1,379	1,435	7,212	7,340	4,903	3,798	2,308	2,692	76,987	106,000
10	Tan Cang	533	646	2,978	3,604	1,648	1,766	1,330	1,838	287,700	306,000

Source: Vietnam Seaports Association - 1997

2.1.2.2 Shipbuilding and ship repair yards in Vietnam

Most of the shipyards are located in the northern part of Vietnam. They are Bachdang, Benkien, Song Cam, Tambac shipbuilding and Pha Rung and Nam Trieu ship repair yards situated in Haiphong city.

The Ha Long shipbuilding is situated in Quangninh province.

In the central part of Vietnam, Dungquat is being constructed and expected to be the most modernized equipped shipbuilding in the region.

In the southern part of Vietnam, Bason and Hiepan repair shipyards are the biggest ones in the region and located in Saigon.

The shipbuilding and repair yards in Vietnam nowadays can build new ships up to 6,000 d.w.t and repair ships up to 17,000 d.w.t. These yards are controlled by the Vietnam Shipbuilding Industry Corporation (VINASHIN), established in 1996 under the direct management of the Ministry of Transportation and Communications.

2.1.2.3 Vietnamese merchant fleet

According to Mr.Vo Nhat Thang in "Target for National Fleet Development By 2000", a large scale plan for modernisation of the national fleet has been worked out by VINAMARINE, the State's controlling body for most of Vietnam's shipping activities. Container ships are at the top priority because most of the world's top container operators have their feeder services plying to and from Vietnam. Among these, the first companies are MAERSK, EVERGREEN, P&OCL, NOL, MOL, NYK, and HANJIN, and other latecomers are SEALAND, and APL of the USA, which found the Vietnam trade growth is sufficient to extend their services to and from Vietnam.

Recently, Vietnam National Shipping Lines (VINALINES) and its subsidiary shipping units have looked for the way to develop the national fleet. VOSCO is the first company to acquire the first 450 TEU container ship "Marine Brave" from a Hongkong seller at a price of US$4.3 million. In the next two years, two other sister container ships, named "Van Lang" and "Hong Bang", with the capacity of 426 TEU, will be added to the national container carrier fleet.

However, the huge plan to the year 2000 is to acquire:

- container ships which aggregate 180,000 d.w.t for dedicated intra - Asia trades
- dry cargo ships with 140 d.w.t
- crude oil carriers.

The Ministry of Finance, the Ministry of Planning and Investment and the State Bank are given the duty to create facility credit for VINALINES so that they can buy or order newly built ships to ensure the carriage of 40% of export cargo transported in containers, 30% of export crude oil and 20 % of export bulk cargo.

The major national shipping companies are as below:

Vietnam Ocean Shipping Company (VOSCO)

Vietnam Sea Transport and Chattering Company (VITRANSCHART)

Vietnam National Shipping Company III (VINASHIP)

Vietnam Chattering and Shipbroking Co-operation (VIETFRACHT)

Vietnam Tanker Company (VITACO)

2.1.3 Vietnam economic development and trade on the way to renovation.

Before the reunification in 1975, in Vietnam there was a very small fleet with only a few ships from 1,000 to 2,000 d.w.t. such as “Hoa Binh”, “ Huu Nghi” and “Ben Thuy” respectively. The decade after the reunification up to 1986 was a period of serious economical difficulties and major challenges. The reforms to move from a centrally planned to a market-based economy, mapped out at the end of 1986, brought about profound changes in the pattern of socio-economic activity. These changes became more significant after 1989, when the tempo of reform was accelerated. A major achievement of great important is that Vietnam has been overcoming the socio-economic crises which emerged in the late 1970s and early 1980s with skyrocketing inflation. The economy has not only stood firm but also recorded outstanding achievements, ridden out stagnation and recession, and achieved a fairly high growth rate over the past three years. Inflation has been reduced from 67% in 1991 to 17.5% in 1992 and only 5.3% in 1993.

The growth of GDP has averaged 7.2% (the target for 1991 to 1995 was from 5.5 to 6.0%). Agricultural production has developed comprehensively and the problem of food supplies has been solved satisfactorily: food output was already in 1993 nearly 25 million tons, surpassing the target which is set for 1995. Industrial production has increased by an annual average of 13%, higher than the 1991-1995 target of 8-10%. Production capacity has also increased in certain major sectors and for particular items such as electricity, crude oil, steel and cement. The communication network has expanded rapidly, with new technological equipment. Construction, transport, commerce, tourism and other services have all been developed, and various other changes have taken place in the economic structure, including the emerge of new branches of production and businesses.

Economic relations with the rest of the world have been broadened through diversification and multilaterization. Vietnam has overcome the consequences of the sudden reduction of its traditional markets and found new surpluses. There has been important progress in integration into the world market and economy. During the three years 1991-1993, and in spite of a very difficult situation, foreign trade turnover increased from US$4.3 to US$6.3 billion (almost 50%) and the volume of exports rose by an average of 20%, which was relatively high.

The steady increase in export is particularly worthy of note: it rose in volume by 14% in 1991, 18% in 1992 and 21% in 1993. For the first time in many years, a favourable balance of trade was achieved in 1992. The commodity structure of exports, however, has been a matter of great concern. In 1993 agricultural and forest products accounted for 36.2% of total exports, marine products for 12.3%, light industrial products and handicrafts for 15.5%, and heavy industrial products and minerals (basically crude oil) for 37.0%. Rice (1.7 million tons) and wood and timber (including rough processing and products made of wood) predominate among the agricultural and forest products and crude oil (6.2 million tons) among heavy industrial products and minerals. The main items imported are raw materials for industry, fuel, equipment, machinery, and processed consumer goods.

ECONOMIC INDICATORS **Table 2**

Year	**1997**	**1996**	**1995**
GDP	US$25 billion	US$23.2 billion	US$20.3 billion
Average Per Capita GDP	US$301	US$275	US$214
Urban (Hanoi & HCMC)	US$950	US$778	US$491
Rural	n/a	US$200	US$178
Population	77 million	76 million	75 million
Inflation	3.3%	4.5%	12.7%
GDP (% Change)	9.0	9.3	9.5
Agriculture (% Change)	4.5	4.8	4.7
Industry (% Change)	13.3	15.6	13.9
Services (% Change)	8.6	8.9	10.9
Gross Domestic Investment (% of GDP)	n/a	29.5	27.1
Gross Domestic Savings (% of GDP)	n/a	17.7	17.1
Current Account (% Change)	n/a	-12%	-10%
Sources: World Bank, General Statistics Office, MPI and UNDP.			
Notes: Growth rates in 1989 prices and % shares in current prices.			

Vietnam has trade relation with 104 countries, its main trading partners being Singapore, Japan and Hongkong. In the 1980s, CMEA countries (mainly the former Soviet Union) accounted for 80% of its trade turnover, but in the past three years, Asian countries have accounted for up to 80% of the total trade turnover. This market reorientation has been a "must" for Vietnam, in view of the collapse of the former CMEA markets, and reflects also the results of the country's policy of multilaterization of its foreign economic relations.

With regard to foreign investment, in the five years since the promulgation of the Law on Foreign Investment in December 1987, more than 800 investment projects have been granted licences, with a total authorized capital of over US$8 billion, most of the capital coming from foreign companies in over 40 countries and territories.

Recent Vietnamese economic indicators are shown in **Table 2** on page 10.

2.1.4 Government objective and strategy

The strategy up to the year 2000 has been formulated in accordance with the following development approach, set out by the 6th Communist Party Congress:

"Socio-economic development along the road of consolidating national independence and building socialism in Vietnam constitutes the process by which the people become prosperous and the country strong, advancing towards modernization in a society where the people are master of their own destiny, where compassion, cultural values and decipline prevail, where oppression and injustice are banned and where everyone enjoys a prosperous, free and happy life."

The broad objectives of the strategy are the following:

- To overcome immediately the acute difficulties which emerge from the crisis and to stabilize the socio-economic situation;
- To strive to eradicate famine, reduce the number of the poor, solve the employment problem, guarantee basic needs, improve the people's material, cultural and intellectual life, gradually accelerate domestic capital accumulation, attract external resources to the maximum extent possible; strengthen infrastructure and radically transform the economy through industrialization.

The strategy notes that the achievements in recent years in the economic and social areas, with the broadening and intensification of the development of co-operation with other countries and international organizations, have enabled the country to take further steps to industrialize and modernize the economy, create more employment, accelerate economic growth and improve people's material and cultural life.

The specific targets have been set for the year 1990s are as follows:

- Annual GDP growth from 6.9 to 7.5%

- Annual growth of agricultural output from 4.0 to 4.2%
- Annual growth of industrial output from 10.0 to 12.5%
- Cumulative export value (1991-2000): US$37.0 billion
- Cumulative foreign investment : US$17.0 billion

The government's general target is to liberalize gradually foreign trade, which is mainly regulated by a reasonable tariff system, by abolishing non-tariff and administrative measures. The system of import-export licensing will also be further simplified, and there is no need for export licences for items which are encouraged for export. All that will be required is completion of a customs declaration.

Foreign-owned enterprises, including joint ventures and enterprises with 100% foreign-owned capital, are entitled to export their own products and to import the machinery, equipment and materials required for initiating production and for their annual own business needs. The leading exports and imports are in **Table 3** and **Table 4** below.

LEADING EXPORTS (in US$ million or thousand metric tons) Table 3

	1998*	**1997**	**1996**
Crude Oil	8.5m tons	9.7m tons	8.8m tons
Coal	2.3m tons	3.5m tons	3.8m tons
Rice	3.1m tons	3.6m tons	3.0m tons
Coffee	264,908 tons	404,000 tons	US$420m
Garments	US$998m	US$1.3bn	US$1.1bn
Marine Products	US$600m	US$760m	US$660m
Shoes	US$722m	US$955m	US$550m
Tea	14,645 tons	31,500 tons	n/a
Cashews	20,151 tons	n/a	n/a
Rubber	132,154 tons	197,000 tons	n/a
Source: Ministry of Trade, General Statistics Office and UNCTAD Database. ** Through 31 October 1998.*			

LEADING IMPORTS (in US$ or metric tons) Table 4

	1998*	**1997**	**1996**
Petroleum Products	5.3m tons	6m tons	5.8m tons
Steel	1.3m tons	1.9m tons	1.6m tons
Fertilizer	1.3m tons	3.9m tons	1.52 tons
Cement	43,291 tons	878,000 tons	1.27m tons

Clinker	n/a	855,000 tons	n/a
Cars (incl. CKD kits)	16,614 units	23,589 units	n/a
Motorcycles (inc. CKD kits)	266,718 units	244,300 units	467,000 units
Material for Textile/Garments/Leather	US$436m	n/a	n/a
Electronic Components	US$112m	n/a	n/a
Source: Ministry of Trade, General Statistics Office and UNCTAD Database. * *Through October 31.*			

2.1.5 Outlook for import/ export expansion to the year 2000

Experience from recent years shows that the country's comparative advantage can only be brought into full play by strong development in external economic relations. This will create good conditions for rapid growth on the basis of self-reliance. At present, Vietnam's traditional markets are gradually being restored, and imports now satisfy the fundamental consumption and development needs of the country. In addition, all means of promoting the exports of other goods have to be used. Units specializing in merchandise trade and services will be reorganized so as to move towards the establishment of strong state-run enterprises, large-scale multi-sector joint ventures, specialised trade associations and big co-operation, able to compete internationally. A continuous increase in exports is the only way to bring about capital accumulation for industrialisation and development. Besides giving widespread authorization to enterprises to export their products, there is a need to introduce favourable policies for credit and export-import insurance, and for investment in the production of export commodities, particularly agricultural and maritime products processed directly in rural areas.

The above-mentioned things would bring more demands for the marine transportation of Vietnam.

2.2 Overview of Vietnam maritime administration

In Vietnam, there are two organisations authorised by the Vietnamese Government to carry out the functions and roles of Vietnam Maritime Administration. These organisations are:

- Vietnam Maritime Bureau (VINAMARINE), and
- Vietnam Register (VR).

The structure of Vietnam Maritime Administration is given in **Figure 1**

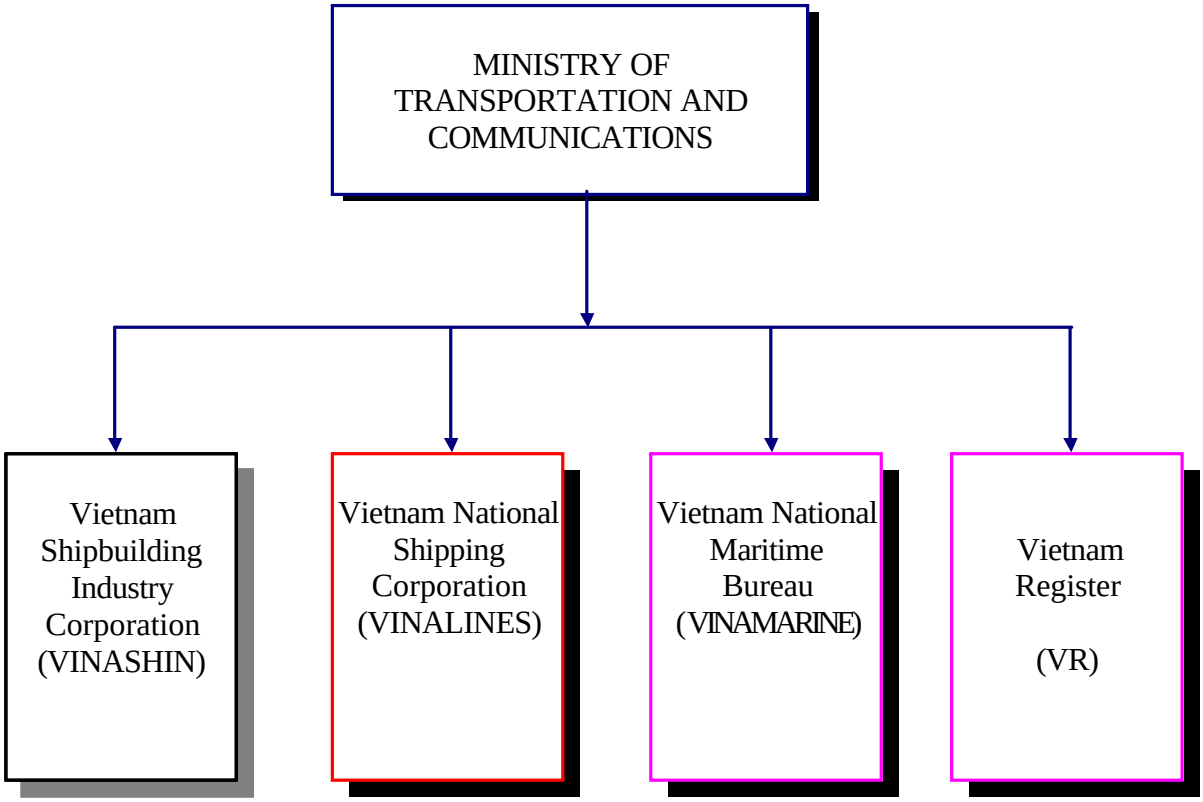


Figure 1. Structure of Vietnam Maritime Administration

2.2.1 Vietnam Maritime Bureau (VINAMARINE)

2.2.1.1 Main functions

The Vietnam National Maritime Bureau is the authority of state administration of shipping industry of Vietnam. The chairman of the bureau acts on behalf of the minister of transport and is responsible to the prime minister. He exercises the functions of the state administration over the maritime sector throughout the country, including all state-run

maritime units (belonging both to central and local authorities) and non state-run maritime enterprises, organisations and individuals (foreign organisations and individuals functioning in the territory of Vietnam included).

2.2.1.2 Responsibility of Vinamarine

The bureau has the following duties and powers:

1. To work out strategy, five year programme and long term plans for development of the Vietnamese shipping industry throughout the country and submit to the minister of transport for his consideration, and thereafter, to the prime minister, for approval.
2. Together with state competent authorities to joint in domestic and foreign investment projects of maritime infrastructure development in Vietnam. The bureau also acts as investor/sponsor or as administrative agency for the maritime construction projects envisaged in the state plan and authoritatively managed by it.
3. To make out draft laws, ordinances, under-law circulars, regulations, policies, rules of management, procedures and legal norms on maritime activities and report them to the minister of transport for his decision, as empowered, or for his submission to the government, and to proclaim the circulars, giving guidelines on their implementation.
4. To carry out the international co-operation in shipping, to propose to the minister of transport and the prime minister to join (or not to join) the international conventions or to sign the shipping acts and protocols; under the authorisation by the prime minister or by the minister of transport to sign the shipping agreements with foreign countries and join in the international shipping organisations and conventions. Together with other competent authorities of the government to consider the issuance of licences on co-operation and investment as well as operation permits in shipping field.
5. By authorisation of the minister of transport to promulgate the statutes of seaports and declare their opening for navigation. The bureau also issues the entry permits to the foreign ships and boats entering into the territorial waters of Vietnam in accordance with the law of the Socialist Republic of Vietnam and international shipping customs.
6. To issue the certificates of registry for sea-going vessels with dead weight capacity of over 100 tons. To issue or withdraw the professional working permits in shipping, register cards and seapasses of the crew working onboard ships over 1000 d.w.t. belonging to enterprises and individuals throughout the country. The bureau also

presents to competent authorities for approval or approves as empowered the new formation or upgrading of seaports and navigation aids systems throughout the country and delivers permits, guidelines and control over the statutory activities of shipping agents, shipbrokers, pilotage, maritime service agents and shipping representatives at home and abroad.

7. To coodinate and co-operate with domestic and regional countries' organizations to effectively carry out the search, rescue and salvage operations for vessels involved in distress at sea.
8. To perform the procedures of shipping public notary as provided by laws.
9. To undertake and give guidances on research and application of shipping technology as well as training, examination and certification of ship officers.
10. To furnish leading, inspection and control over the execution of laws, regulations and state provisions in shipping. To investigate and settle the violations regarding shipping activities as empowered

The organisation of VINAMARINE is as on the next page, **Figure 2**.

Figure 2. Organisation chart of VINAMARINE

2.2.2 Vietnam Register (VR)

2.2.2.1 Historical features of VR

The start of activities of ship registration in Vietnam was in the 1880s when the first dry dock for repair and building of sea-going ships came into existence at Bason shipyard in Ho Chi Minh City. Later on, the Craft Registration Department of the ministry of transport was founded on 27 April 1962. Two years later, on 25 April 1964, the Section of Vietnam Register of Shipping located in Haiphong City was officially founded according to decision No 345/TL of the ministry of transport.

Up to now, this day is accepted as the day of founding of the VIETNAM REGISTER. After the reunification in 1975, this Section was upgraded as VIETNAM REGISTER OF SHIPPING (VIRES) on 19 January 1979. Before the decision of the Vietnamese prime minister to remove VIRES HEAD OFFICE from Haiphong City to the capital Hanoi, it is necessary to mention some other related legal instruments/decisions:

1. Decision No 84/QD-CT dated 11 January 1980 by the ministry of transport on the functions, jurisdictions and organisation of the Section of the VIETNAM REGISTER OF SHIPPING;
2. Articles 13, 18, 24 in the Vietnamese Maritime Code on the technical registration of sea-going ships;
3. Government ordinance No 86/CP, dated 8 December 1995, on the allocation of responsibilities of state management for goods quality;
4. Decision No 203/Ttg of prime minister, dated 28 December 1992, on the technical registration and classification of ships and offshore installation.
5. Decision No 75/Ttg of prime minister, dated 3 February 1997, on the functions, jurisdictions and organisation of the VIETNAM REGISTER. As defined in this decision, the English assignment of the organisation is VIETNAM REGISTER (VR).

On the one hand, VR is the only organisation in Vietnam which is authorised by the Vietnamese government to carry out technical certification and classification of sea-going ships in compliance with the national standards, rules and regulations or the requirements of the international conventions to which Vietnam has signed.

On the other hand, VR is permitted to carry out surveys and issue required safety certificates and tonnage certificates to foreign sea-going ships under the authorisation of

foreign classification societies, or at the request of a competent Vietnamese authority or of a shipowner.

Foreign ship registers are only permitted to carry out their services in Vietnam under co-operation agreements with VR and with the acceptance of the ministry of transport-as stated in Articles 2 and 6 of the prime minister's decision No 203/Ttg dated 28 December 1992.

Furthermore, the prime minister's decision No 75/Ttg dated 3 February 1997 states that:

> "VR, which is under direct control of the ministry of transport, is to carry out the professional management functions of technical safety and quality registration and certification for all kinds of transport means, offshore installations, floating structures and their equipment, relating to the transport field, which are intended for seaway, railway, roadway, inland waterway and offshore sector. "

2.2.2.2 Main functions of VR

Among other things, VR functions can be summarised as follows:

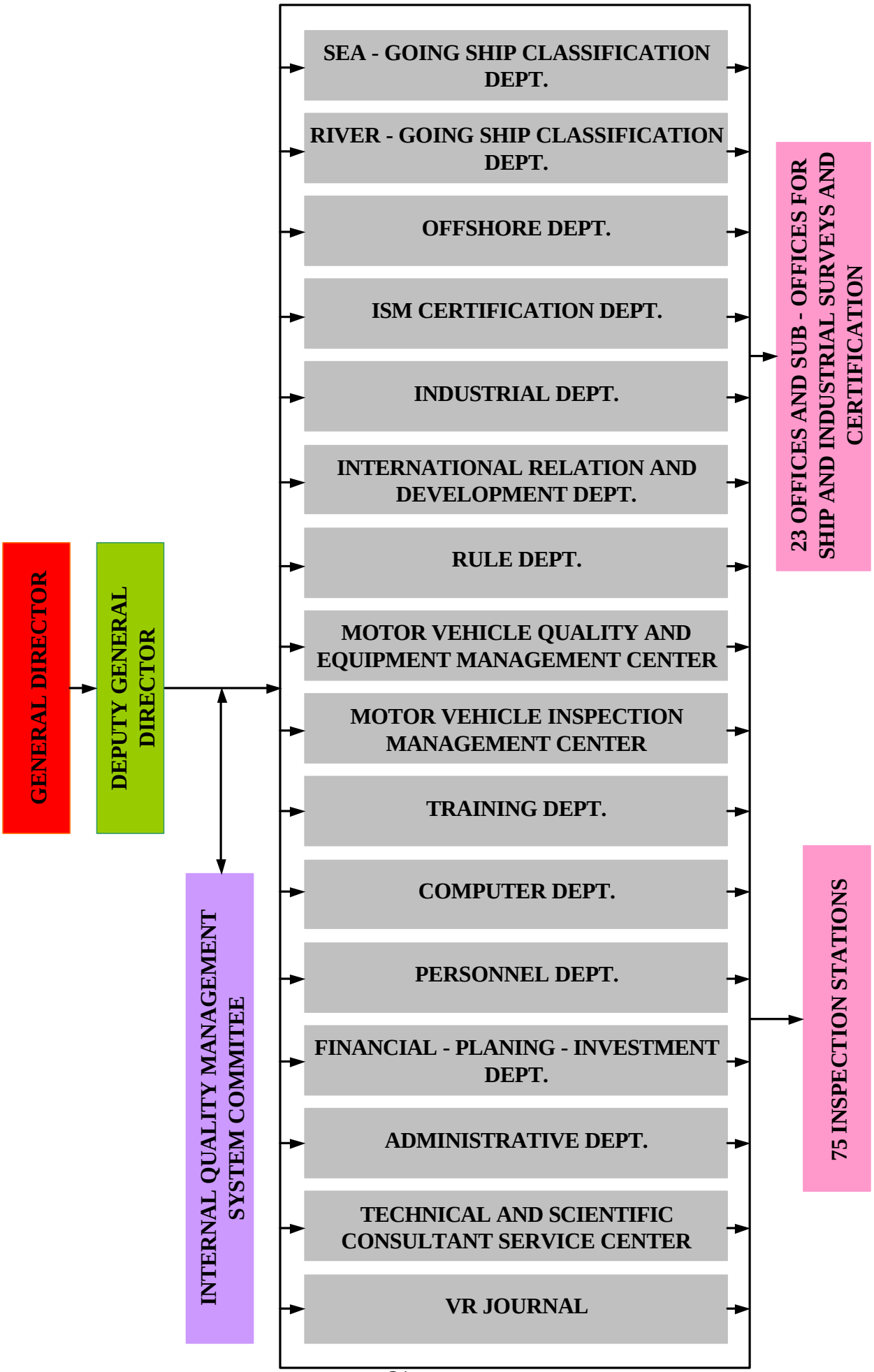
- Management,
- Organisation, and
- Performance of technical supervision for safety and quality certification of the following:
    1. River-going ships
    2. Sea-going ships
    3. Offshore installations and their related equipment and systems
    4. Road-way vehicles and work machines
    5. Locomotives and carriages
    6. Lifting appliances, boilers and pressure vessels
    7. Containers, and
    8. Material, machinery, equipment and component intended for installation on above-mentioned objects.

2.2.2.3 Responsibilities and obligations of VR

1. To organise and carry out technical and scientific research;
2. To draft rules and regulations, and other related technical legal documents for safety and quality of the objectives which are under scope of service of VR, to submit to the ministry of transport or ministry of science-technology and environment for consideration, approval and promulgation;
3. To review and approve technical designs for new building construction, repair, renewal or reinstallation of sea-going ships as well as river-going ships;
4. To carry out inspections/testings and issue relevant certificates to materials, equipment and components intended for the objects which are under scope of service of VR;
5. To carry out surveys/inspections to river-going ships, sea-going ships, floating structures, offshore installations, motor vehicles, work machines, locomotives and carriages, boilers, pressure vessels, lifting appliances, containers, etc. , under construction/manufacture, conversion, repair or assemblage;
6. To carry out surveys/inspections to the above objects in service;
7. To issue relevant certificates in compliance with the requirements of the rules and regulations, technical standards and the international conventions;
8. To measure, calculate and issue the tonnage certificate according to the international convention on tonnage measurement of ship 1966 or the national regulation;
9. To publish the register books for these means of transport and projects which are under inspections/surveys;
10. To carry out audit and issue certificates as required by ISM Code and in conformity with ISO 9000.

2.2.2.4 Organisation chart of VR

The organisation chart of VR can be seen on the next page, **Figure 3**.


GENERAL DIRECTOR
DEPUTY GENERAL DIRECTOR
INTERNAL QUALITY MANAGEMENT SYSTEM COMMITEE
SEA - GOING SHIP CLASSIFICATION DEPT.
RIVER - GOING SHIP CLASSIFICATION DEPT.
OFFSHORE DEPT.
ISM CERTIFICATION DEPT.
INDUSTRIAL DEPT.
INTERNATIONAL RELATION AND DEVELOPMENT DEPT.
RULE DEPT.
MOTOR VEHICLE QUALITY AND EQUIPMENT MANAGEMENT CENTER
MOTOR VEHICLE INSPECTION MANAGEMENT CENTER
TRAINING DEPT.
COMPUTER DEPT.
PERSONNEL DEPT.
FINANCIAL - PLANING - INVESTMENT DEPT.
ADMINISTRATIVE DEPT.
TECHNICAL AND SCIENTIFIC CONSULTANT SERVICE CENTER
VR JOURNAL
23 OFFICES AND SUB - OFFICES FOR SHIP AND INDUSTRIAL SURVEYS AND CERTIFICATION
75 INSPECTION STATIONS

CHAPTER III

INTERNATIONAL SAFETY FRAMEWORK

3.1 Background of international framework

The industrial revolution of the eighteenth and nineteenth centuries, and the upsurge in international commerce, led to the adoption of a number of international treaties related to shipping, including safety.

By the end of the nineteen century, suggestions had even been made for the creation of a permanent international maritime body to deal with these and future measures. The plan was not put into effect, but international co-operation continued in the twentieth century, with the adoption of still more internationally developed treaties.

The sinking of the White Star liner Titanic in April 1912 marked a great shock to humankind by the loss of more than 1,500 passengers and crew on her maiden voyage. The disaster raised so many questions about the safety standards in force that the government of the United Kingdom proposed holding a conference to develop international regulations. It woke up the world's shipping industry to take the maritime safety system under careful consideration. Two years later, on 20 January 1914, representatives of 13 countries of the world maritime nations gathered together to develop the first international shipping safety convention, focusing not only on preventing shipping accidents but also on improving the chances of survivals if one should occur. That conference resulted in the adoption of the International Convention for the Safety of Life at Sea (SOLAS), which included regulations on provision of life-saving equipment and the safety of navigation. This was the most important convention of all international conventions dealing with maritime safety.

The year 1948 was particularly significant because a conference held in Geneva under the auspices of the United Nations adopted a convention which entered into force on 17 March 1958, establishing the Inter-Governmental Maritime Consultative Organization (IMCO), as it was then known. The name of the organisation was changed to the International Maritime

Organisation with an amendment to the Convention which entered into force on 22 May 1982.

By the time IMO came into existence in 1958, several important international conventions had already been developed, including the International Convention for the Safety of Life at Sea of 1948, the International Convention for the Prevention of Pollution of the Sea by Oil of 1954 and treaties dealing with load lines and the prevention of collision at sea. IMO was made responsible for ensuring that the majority of these conventions were kept up to date. It was also given the task of developing new conventions as and when the need arose.

The creation of IMO coincided with a period of tremendous change in world shipping, and the Organization was kept busy from the start developing new conventions and ensuring that existing instruments kept pace with changes in shipping technology.

The purposes of IMO, as summurized by Article 1(a) on the Convention, are " to provide machinery for co-poration among Governments in the field of governmental regulation and practices relating to technical matters of all kinds affecting shipping engaged in international trade; to encourage and facilitate the general adoption of the highest practicable standards in matters concerning maritime safety, efficiency of navigation and prevention and control of marine pollution from ships." The Organisation is also empowered to deal with administrative and legal matters related to these purposes. Now IMO has 156 Member States and two Associate Members.

Consequently, a great number of international conventions and codes have been signed, accessed, ratified and implemented in many countries. Among them are those of great concern listed below.

Maritime safety

1. International Convention for the Safety of Life at Sea (SOLAS), 1960 and 1974 and Amendments
2. International Convention on Load Lines (LL), 1966
3. Special Trade Passenger Ships Agreement (STP), 1971
4. Protocol on Space Requirements for Special Trade Passenger Ships, 1973
5. Convention on the International Regulations for Preventing Collisions at Sea (COLREG), 1972
6. International Convention for Safe Containers (CSC), 1972

7. Convention on the International Maritime Satellite Organisation (INMARSAT), 1976
8. The Torremolinos International Convention for the Safety of Fishing Vessel (SFV), 1977
9. International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), 1978, amended 1995
10. International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F), 1995
11. International Convention on Maritime Search and Rescue (SAR), 1979

Marine pollution

1. International Convention for the Prevention of Pollution of Sea by Oil (OILPOL), 1954
2. International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (INTERVENTION), 1969
3. Convention on the Prevention of Marine Pollution by dumping of Wastes and Other Matter (LDC), 1972
4. International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL 73/78)
5. International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC),1990

Liability and compensation

1. International Convention on Civil Liability for Oil Pollution Damage (CLC), 1969
2. International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (FUND), 1971
3. Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Materials (NUCLEAR), 1971
4. Athens Convention relating to the Carriage of Passengers and their Luggage by Sea (PAL), 1974
5. Convention on Limitation of Liability for Maritime Claims (LLMC), 1976
6. International Convention on liability and compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (HNS), 1996

Other subjects

1. Convention on Facilitation of International Maritime Traffic (FAL), 1965
2. International Convention on Tonnage Measurement of Ships (TONNAGE), 1969
3. Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation (SUA), 1988
4. International Convention on Salvage (SALVAGE), 1989

3.2 International conventions implemented in Vietnam

The purpose of the international conventions is to maintain the safety of ship and property at sea and to protect the marine environment. Up to now, Vietnam has ratified and implemented the following instruments:

1. IMO convention 1948
2. IMO amendments 91
3. The International Convention for the Safety of Life at Sea 74(SOLAS 1974) as amended
4. SOLAS Protocol 78
5. The International Convention on Load Lines of 1966
6. The International Convention on Tonnage Measurement of Ships of 1969
7. The Convention on International Regulations for Preventing Collisions at Sea (COLREG of 1972 as amended 1981 and 1983)
8. The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW 1978) as amended 1995
9. Convention on the International Maritime Satellite Organisation (INMARSAT), 1976
10. The International Convention for Prevention Pollution from Ships-MARPOL 73/78 (Annex I/II)
11. The United Nations Convention on the Law of the Sea of 1982

3.3 Port State Control (PSC) in Vietnam

3.3.1 Port State Control in general

In general, all countries have the right to inspect ships visiting their ports to ensure they meet IMO requirements regarding safety and marine pollution-prevention standards. The experience in practice has shown that Port State Control works best when it is organized on a regional basis. The first Port State Control started in the European Region on 1 July

1982 on the basis of European Memorandum of Understanding on Port State Control (MOU), generally known as " Paris Memorandum of Understanding" (Paris MOU). Its target is 25% of foreign ships to be inspected in each country. The combined effect of inspections in all countries means that approximate 85% of all ships entering the region are inspected. Administrations are responsible for taking the necessary measures to ensure that ships flying their State's flags comply with the provisions of relevant conventions, including surveys and certification.

The procedure for PSC is required by IMO Resolution A787 (19) adopted on 23 November 1995. 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 Internationnal Convention on Load Lines, 1966 (Load Lines 1966), the International Convention for the Prevention of Pollution from Ships, 1973, as amended (MARPOL 73/78), The International Convention on Standards of Training, Certification and Watchkeeping for Seafareres, 1978, as amended (STCW 78), and the International Convention on Tonnage Measurement of Ships, 1969 (ITC 69). Ships of non-parties or below convention size shall be given "No More Favourable Treatment." In exercising PSC, Parties will only apply those provisions of the conventions which are in force and which are accepted. If a port State exercises port State control based on International Labour Organization (ILO) No 147, "Merchant Shipping (Minimum Standards) Convention, 1976," guidance on the conduct of such control inspections is given in ILO publication, "Inspection of Labour Conditions on board Ship: Guidelines for Procedure."

Under the provisions of above applicable conventions, the administration 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. In some cases it may be difficult for the administration to exercise full and continuos control over some ships entitled to fly the flag of its State. If so, the administration can appoint inspectors or authorise recognised organisations to act on behalf of the administration. **The PSC procedure** 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 administration in securing compliance with convention provisions in safeguarding the safety of crew, passengers and ships, and ensuring the prevention of pollution.

However, for many years there has been a dispute between administrations and organizations (classification societies) about how to act when a ship is detained in a port or if a port State intervenes in some way or another. This means that if the administration nominates a classification society to carry out the inspection on its behalf, it must give the authority to the organization to require repair etc. If a port State notifies for instance the classification society in connection with PSC, this organization must come on board immediately without waiting for orders from the master or owner in the Flag State.

The shipowner himself or through the shipmaster must ensure that the ship always complies with all regulations. Whenever an accident occurs to a ship or a defect is found, the master or owner of the ship must report at the earliest opportunity to the administration or the regconized organization responsible for issuing the relevant certificate. This means that it is unacceptable if a ship comes into a port and afterwards when the ship is found to be unseaworthy, the certifying authority, often the classification society, is reproached for not having fulfilled its obligations. In this situation, it is first of all the shipowner and the master and only they who are responsible for the ship's maintenance, etc. Furthermore, that the ship in all respects always complies with all regulations, and that it is always fit to proceed to sea without danger to the ship or persons on board. Secondly the responsibility falls on the Flag State who issued the certificates, especially just after an inspection. It is the inspection body who must make sure that the shipowner has ensured that everything is in order. If during the inspection the inspection body does not observe a deficiency, then it can be blamed for not having observed it, but the owner is responsible if something is wrong.

Therefor, it is very important when talking about PSC that any party involved is fully aware of what the regulations cover.

IMO has encouraged the establishment of regional PSC Organizations in many parts of the world. The Port State Control Agreements are as follows:

- The Latin-American Agreement was signed in 1992 (Acuerdo de Viña del Mar);

- The Tokyo Memorandum of Understanding (Tokyo MOU) was signed in 1993;
- The Caribbean Memorandum of Understanding (Caribbean MOU) was signed in 1996;
- The Mediterranean Memorandum of Understanding (Mediterranean MOU) was signed in 1997; and
- The Memorandum of Understanding on PSC for the Indian Ocean Region (Indian Ocean MOU) was signed recently on 5 June 1998 in Pretoria, South Africa.

The Organization Structure under the Memorandum of Understanding of PSC can be exemplified by the Paris MOU in **Figure 4** on the next page.

3.3.2 Port State Control in Vietnam

The PSC concept in Vietnam has been exercised successfully in recent years since Vietnam became a State member of MOU Tokyo on 1 December 1993. Since then, the PSC has developed a pace throughout the region by 16 Asia Pacific maritime nations and Canada. The Tokyo MOU Committee has suggested an annual inspection rate target of 50% of the ships operating in the region by the year 2000. Traditionally, Australia and Japan have led the way on inspections made, and have good co-operation with Thailand, Papua New Guinea, Malaysia, Singapore and the Russian Federation in this respect.

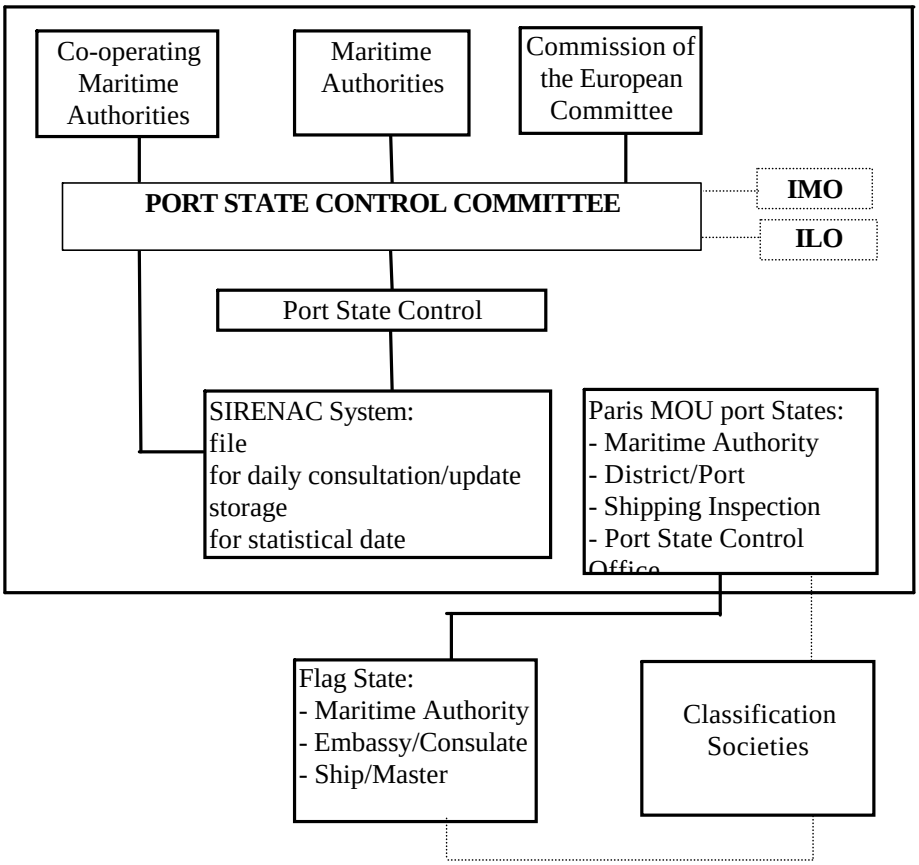


Figure 4. Organisation chart of Paris MOU

When carrying out the inspection, a PSCO has the right to check all of the ship's certificates including:

1. International Tonnage Certificate (1969)
2. Passenger/Cargo Ship Safety/Construction Certificates
3. International Certificates of Fitness for the Carriage of Liquified Gases in Bulk
4. International Certificates of Fitness for the Carriage of Dangerous Chemicals in Bulk
5. International Oil Pollution Prevention Certificate
6. International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk
7. International Load Lines Certificate (1966)
   International Load Lines Exemption Certificate
8. Oil Record Book parts I and II

9. Cargo Record Book
10. Minimum Safe Manning document; Certificate of Competency
11. Medical certificates, cf. ILO Convention No 73 concerning Medical Examination of Seafarers
12. Stability information
13. Safety Management Certificate, and Copy of Document of Compliance (DOC) as required by ISM Code
14. Certificates as to the ship's hull strength and machinery installations issued by the classification society if the ship is classed
15. Document of compliance with the special requirements for ships carrying dangerous goods
16. High Speed Craft Safety Certificate and Permit to operate High Speed Craft
17. Dangerous goods special list of manifest, or detailed stowage plan
18. Ship's log book with respect to the records of tests and drills and the log for records of inspection and maintenance of life saving appliances and arrangements
19. Special purpose Ship Safety Certificate
20. Mobile Offshore Drilling Unit Safety Certificate
21. For tankers, the record of oil discharge monitoring and control system for the ballast water handling
22. The muster list, the fire control plan, and for passenger ships, a damage control plan
23. Shipboard Oil Pollution Emergency Plan
24. Survey Report Files (in the case of bulk carriers or oil tankers)
25. Reports of previous port State control inspections
26. Information on the A/A-max ratio (for ro-ro passenger ships)
27. Document of authorization for the carriage of grain
28. Cargo securing manual
29. CLC-certificate (applies for ships carry more than 2000 tonnes of oil in bulk).

The expanded inspection of a ship may happen when a PSC Officer (PSCO) finds onboard the ship:

- Invalid certificates or relevant doccuments

- Clear ground for believing that the condition of the ship or its equipment does not correspond substantially with the particulars of the certificates
- The ship master or crew is not familiar with essential shipboard procedures
- Other non-conformities aboard ship.

The PSCO then prepares and submits the inspection report to higher authorities for approval before further action is taken to safeguard the safety of the ship, passengers and crew, and eliminate any threat to the marine environment, before permitting the ship to sail. Obviously, a PSCO does not have enough power to inspect, finalise or detain the ship immediately. He sometimes stays in the middle because of waiting for final decision made by the maritime administration. As mentioned in Chapter II, the maritime safety surveyors or inspectors of VR or VINAMARINE respectively will review the problems before the final decision of MARAD top manager. Ofcourse, this needs the good co-operation among port authorities as well as related organizations.

3.3.3 The detention of ships in the Asia-Pacific region

According to the annual report of Port State Control in the Asia-Pacific region, in 1996, 12,243 ships registered in 101 countries were inspected in the Asian-Pacific ports, which represents an increase of 39% compared with 1995. As a result, among them 5920 ships were not satisfactory; 689 ships registered in 50 countries were detained to correct their 31,600 deficiencies (8,310 deficiencies were due to life saving appliances and 5,222 deficiencies were due to fire extinguishing appliances).

In 1997, 830 detentions were warranted to ships registered in 53 countries because of serious deficiencies found on board. The rate for detention compared with the number of inspections carried out was about 6.41 %.

CHAPTER IV

THE IMPLEMENTATION OF VIETNAMESE SHIPOWNERS

4.1 The present situation of Vietnamese shipowners

4.1.1 Sea going ships

Sea-going ships (here after called ships), which play an important part in the shipowners' daily activities can be divided into two types, namely

1. Ships built by Vietnamese shipyards.
2. Ships built by foreign shipyards.

The details of each type are shown in detail as follows:

- Ships built by Vietnamese shipyards

This type includes 506 ships, which are the major part of Vietnamese ships (61,65%). Most of them sail on national routes in order to transport goods from the north to the south and vice versa. The average age of these ships is 8.96 years.

- Ships built by foreign shipyards

This type includes 316 ships, which are the minor part of Vietnamese ships (38.5%). These ships sail on international routes as well as on national routes. Some of them are newly bought ships of all types, for example bulk carriers, container ships and very large crude carriers (VLCC). They are owned by the Vietnamese government and joint-venture companies such as: the Ministry of Transportation and Communication, Vietnam Soviet Petroleum Joint Venture Company (VIETSOPETRO), Vietnam Petroleum Import & Export Company (PETROLIMEX), and Vietnam Shipping Transport and Shipbroker Company (VITRANSCHART). The average age of the ships is 20 years and the average transport efficiency is 1.65 tons per horsepower of main engine (1.65 T/HP).

(Source: The annual report of VIRES - 1997)

4.1.2 Technical condition of ships

It is obvious that there is a clear link between accidents and the age of ships; for example, two of the ships lost in 1990 were over eighteen years old. However, in Vietnam the foreign built ships are to be scrapped in two or three years. At the moment, the Asian crisis is making ship operations less efficient, so the owners get less money to repair and to maintain ship class, and in turn ships are put in more dangerous situations. That is why many ships are restricted to operating in certain operating regions and under restricted weather conditions. Thus, some of them can not operate on international routes. Furthermore, ships which do not comply with the new requirements of SOLAS will have to be rebuilt in shipyards in order to satisfy the safety conditions before sailing to sea.

4.1.3 Vietnamese shipowners

Vietnamese shipowners have from one to over eleven ships as stated in **Table 5** below.

In fact, there are only fifteen large shipping companies, which have ships with over ten thousand d.w.t. The total gross tonnage of this type constitutes 79% of all ships. The other 254 owners have only 21% of the total gross tonnage of all ships (approximately 250,000 d.w.t). They have fewer advantages than the larger ones, which are financed by the government. This situation can be seen in **Table 5**.

VIETNAMESE SHIPOWNERS **Table 5**

Shipowners	Total number of ships
136	01
46	02
22	03
21	04
11	05
22	From 6-10
9	≥ 11
Total: 269	

(Source: The annual report of VIRES - 1997)

4.2 How to face international competition in the shipping industry

4.2.1 General situation in the region

The financial crisis affecting the main Asia Pacific economies has been worse than most feared at the outset. Gross domestic product has contracted in the great majority of countries. Taiwan and mainland China have bucked the trend but only at growth rates far lower than their historical average.

The shipping industry has been affected as expected: reduced volume of trade and shipping movements, more vessels being laid up, some older ships retired earlier than planned, greater competition between owners for charters, lower margins and cash flow squeezes. This in turn has adversely affected investment in refits and new building. The tanker market has been hard hit by the Japanese slide into recession while the dry cargo market is said by some to be in a tailspin.

Despite this gloomy picture, Asia Pacific still continues to be the most important region for shipping growth in the long term. Led by the United States, the next cyclical upswing should also encompass the key Asia Pacific trade generating economies, allowing the region to resume its role as primary source of incremental seaborn oil and dry bulk trade.

4.2.2 Higher rate of fleet expansion in the Asia Pacific region

While the world merchant fleet can be expected to grow by over eight percent in 1998-2003 as forecast by P&I Club, nearly all the main Asia Pacific countries will add tonnage at a greater rate. We can look at some major shipping nations in the region as follows:

1. **Japan** remains the biggest shipping nation in the western Pacific with a steady rise in vessel numbers over the period 1990-1997, while the average size has grown by a greater margin. Some 43 million gross tonnes were spread across 1600 units at the start of the decade, compared with 58 million tonnes across 1700 eight years later. The country's container fleet expanded by over 50 percent. The total fleet is expected to top 1800 vessels, totalling some 66 million g.t, by mid-2002 - a rise of about 13 percent in five years.

2. Over the same period, the share of world tonnage accounted for by mainland **China and Hongkong** grew from around 7.5 to more than 9 percent. By 2002, over 2000 ships are expected to aggregate around 53 million tonnes. Only in mainland China, registered vessels have risen from a little over 1000 to 1300, with an even greater rise in tonnage from 13.5

to over 21 million. Dry bulk has accounted for over half this tonnage growth. Over the next five years, the aggregate fleet could expand by well over 25 percent, with container ships making a major contribution. A near doubling in oil imports should provide a huge stimulus to tanker ownership.

Hongkong too has seen a market rise in the average size of vessels over the last eight years. A 40 percent rise to over 20 million tons has come from just over five percent more ships. Again, container ships and the tanker sector will underpin further fleet expansion, which should amount to about 20 percent by 2003. **Taiwan** should add around 25 percent to its tonnage by then.

3. The number of **South-Korean**-owned vessels has increased steadily in recent years and should post a further improvement by the year 2002. Again, the tonnage increase has been relatively greater - from 8 million in 1990 to a shade under 14.5 million by 1998, reaching perhaps 22 million in 2002. Most of the forecast of 13 percent increase over the next five years will come from conventional shipping sectors.

4. **Singapore** has nearly doubled its tonnage to 8 million since 1990. Growth over the next five years could see numbers and tonnage increasing by a further 50 per cent. The share accounted for by crude tankers may fade in line with the growing market for smaller flexible counterparts. Interest in handy/panamax bulk carriers should also be sustained.

5. **Malaysia**'s 40 percent rise in the number of vessels over the eight-year period amounted to a doubling of tonnage. With continuing government support for domestic shipowning and direct investment from overseas, the fleet may expand by an additional one million tonnes across most ship types over the next five years.

6. In **Indonesia**, vessel numbers have risen by 40 percent to around 200 and the tonnage by 75 percent to 2,25 million by mid-1998. By 2002, the fleet should have posted a modest growth.

(Source: Asian Shipping February - 1999)

4.2.3 Expansion of ports and ship yards in the region

Among all the big shipping nations in the region, **Singapore** has the mantle of "world's busiest container port" by handling more than 15 million TEU in 1998. As reported by the PSA Corporation, in 1998 its terminals at Brani, Keppel, Tanjong Paga and Pasir Panjang handled 15.1 million TEU, an increase of 1 million TEU above the 1997 throughput, representing a seven per cent growth in container traffic. The PSA terminals have been achieving outstanding vessel rate performance of more than 100 moves of containers per vessel and hour in their daily operations.

Moreover, shipbuilding in Singapore, which now accounts for almost a third of the total turnover of the city state's marine industry, continued to progress in 1998 despite the region's recessionary trend. The figure of 130 vessels delivered and the total turnover for shipbuilding S$3404 million in 1998 can be seen, although the official statistics for the year are not yet completed. The bulk of completions have been barges and tugs, but increasingly Singapore's shipbuilders are taking on more intricate, value-added projects, and deliveries over the past year have arranged from bitumen and product/chemical tankers to cable ships, small containerships, cement carriers, catamarans and offshore supply vessels.

However, The Keppel Group of Singapore has decided to dispose of its Australian shipyard, Keppel Cairncross, as well as has already disposed of its 60 percent stake in the Keppel Bason Shipyard in Vietnam. By early 1999, Keppel Corporation Ltd and Hitachi Zosen Singapore Ltd completed merging their shipyard operation, renamed Keppel Hitachi Zosen Ltd (KHZ).

Meanwhile, **Hongkong**'s container throughput for 1998 is estimated to be 14.7 million TEU, a 1.2 percent increase over 1997. The minimal growth was due to the Asian economic crisis and increased competition from the new terminals in southern China.

A second 15-metre deep berth is almost complete under phase 2 at Yantian International Container Terminal (YICT), Shenzhen, and southern **China**. The first berth under this phase began operation in September 1998, and a new gatehouse and container yard of 115,000 m^2 have been completed. The first berth is served by two super post-panamax cranes with an outreach of 52.1 metres and able to handle vessels with 18 rows of containers across. These are the first container quay cranes of this size at a Chinese port. Moreover, YICT

has also taken delivery of a 48-metre outreach quay crane. The terminal now has eleven quay cranes in use at phase 1 and phase 2. Another major seaport at Dafeng on the coast of China's Jangsu Province is expected to have the first phase construction in use by September 2000, with annual handling capacity reaching 1.83 million tons and 150.000 TEUs. The second phase construction will include a multi-purpose wharf for ships of 30,000 tons and a feeder railway. It will add 4.3 million tons in annual handling capacity and is scheduled for completion in 2005.

In **Malaysia**, a joint venture between the Wilhelmsen and Hydro organisation-West Fertiliser Terminal Sdn Bhd, has completed construction of an integrated warehouse in Port Klang. The 14,000 m^2 bulk terminal has eight separate compartments of 50 x 14.8 m to receive different kinds of products. It is fitted with a dehumidification system and has a storage capacity of about 50,000 tons. The ship unloader and conveyor systems are designed to discharge and convey bulk cargo at a rate not less than 700 tons per hour. The discharge berth has sufficient draft to cater to panamax size vessels.

(Source: Asian Shipping February - 1999)

4.3 Getting DOC and SMC before the 1 July 1998 deadline

As required by the new Chapter IX of SOLAS, Management for the Safe Operation of Ships (ISM Code), the Vietnamese shipowners have made great efforts in order to get a Document of Compliance (DOC) and a Ship Safety Management (SMS) Certificate before the deadline of 1 July 1998. In order to get these certificates from the VR, the Vietnamese shipping companies must have completed a full set of internal safety audits in all parts of the office, and all vessels that deal with safety. These audits must have been carried out, reported, and followed up, and the effectiveness of any corrective action should have been verified. Furthermore, the top management of the company must have completed a fully effective review of the safety management system; so must the masters of the company's ships.

The provisions of ISM Code apply initially to passenger ships, oil and chemical tankers, bulk carriers and cargo high-speed craft of at least 500 gt. All other categories must comply by 1 July 2002.

By doing this, the Vietnamese shipowners have established safety management objectives which are the following:

- to provide for safe practices in ship operation and a safe working environment;
- to establish safeguards against all identified risks;
- to continuously improve safety management skills of personnel ashore and aboard ships, including preparing for emergencies related both to safety and environmental protection.

The companies have established a safety management system (SMS), which is responsible for the operating of ships in order to achieve the above-mentioned objectives. The functional requirements of the SMS are as follows:

1. a safety and environmental protection policy;
2. instruction and procedures to ensure safe operation of ships and protection of the environment in compliance with relevant international and Vietnamese legislation;
3. defined levels of authority and lines of communication between, and amongst, shore and shipboard personnel;
4. procedures for reporting accidents and non-conformities with the provision of the International Safety Management (ISM) Code;
5. procedures to prepare for and respond to emergency situations; and
6. procedures for internal audits and management reviews.

The procedures required by the ISM Code are documented and complied in a safety management manual, of which a copy is kept on board the ship.

The Vietnamese shipowners' implementation can be seen in the following:

- to establish a safety and environmental protection policy, and to provide the necessary resources and shore-based support;
- to designate a person or persons ashore having direct access to the highest level of management
- to "define and document the responsibility, authority and interrelation of all personnel who manage, perform and verify work relating to and affecting safety and pollution prevention."(ISM Code).

Up to now some of the biggest shipping companies have received the DOC from the Vietnam Register. These companies include Vietnam Ocean Shipping Company (VOSCO), Vietnam Sea Transport and Chartering Company (VITRANSCHART), Vietnam Chartering and Shipbroking Co-operation (VIETFRACHT), and Vietnam Tanker Company (VITACO).

4.4 Maintaining the technical condition of ships

As mentioned above, to maintain good technical condition of ships, Vietnamese shipping companies have to carry out the planned objective in two ways:

- Buying ships (new or second hand) to reduce the average age of the fleet;
- Spending more of the budget for maintenance and new installations as required by the international conventions as well as national regulations.

These companies are good shipowners supported by quality standards and efforts to protect the marine environment. Considerable funds have been expended to develop better vessel design standards, improved structural analysis, better train staff and crew members and make use of sophisticated information technologies while rigorously implementing enhanced survey requirement.

In 1997, the Vietnamese shipowners bought five ships, among them:

- two ships of VOSCO with more than 13,000 d.w.t;
- one ro-ro ship of VINALINES with 2,069 d.w.t;
- one ship of VITACO with 2,648 d.w.t;
- one ship of VIETNAM PETROLEUM IMPORT& EXPORT (PETROLIMEX).

In 1998, the number of newly bought ships increased up to ten belong to VINALINES, VOSCO, FALCON, PTSC (Petroleum Technical Service Company), and PETROLIMEX. Most of these ships are classed by foreign classification societies. This figure shows that the Vietnamese shipping fleet is rising in quantity (4.51%), dead weight (7.80%), and power of main engine (12.68%). Consequently, the average age of ships in the national fleet has been reduced almost one year. This comparison can be seen in **Table 6**.

VIETNAMESE SEA - GOING SHIPS **Table 6**

UP TO DECEMBER 1997				UP TO DECEMBER 1998			
TOTAL	Compared with last year (%)	VR CLASS	Foreign CLASS	TOTAL	Compared with last year (%)	VR CLASS	Foreign CLASS
SHIPS-796	101.91	770	26	832	+ 4.51	801	31
G.T (Tons) 838,912	100.7	654,865	184,047	905,792	+7.97	651,856	253,936
D.W(Tons) 1,220,750	103.2	980,788	239,962	1,316,035	+ 7.80	962,589	347,058
M.E (H.P) 770,049	101.1	635,112	134,937	867,730	+ 12.68	695,668	171,702
Average age (year) 14.05	+ 0.37	13.94	17.38	13.12	- 0.93	13.04	16.53

(Source: The annual report of VIRES - 1998)

Due to the better technical condition of the Vietnamese shipping fleet, at present the detention of Vietnamese ships is less compared with the past few years, as mentioned in **Chapter 3**.

CHAPTER V

THE IMPLEMENTATION OF THE VIETNAM REGISTER (VR) FOR BETTER SERVICE OF THE SHIPPING INDUSTRY

5.1 Preparing and submitting draft norms to the ministry of transport

The three main powers of government are the legislative, the executive and the judiciary. The first is the legislating body or authority, which creates the necessary laws. The second is the government and the last is the court of law. The development of a country is based on the effective performance of these main powers. If they have effective performance, then the society will have more progress and achievements. In the maritime field, the government body is maritime administration (MARAD), which has core functions dealing with maritime matters, not only within, but also outside the country. The level of maritime administration structure is different from country to country. It may be at the level of ministry, such as ministry of merchant marine or ministry of sea affair. It may also be at the level of maritime administration directorate or other levels under the ministry of transport. Therefore, the government can decide the functions, competencies and size of the maritime administration.

In general, the main functions of the maritime administration deal with the following activities:

Planning and definition of a maritime policy

Maritime safety

Maritime pollution

Maritime traffic (such as removal of wrecks, aids to the navigation, pilotage, and vessel traffic services)

Registration of ships

Accident investigation

Training of seafarers

International relations.

Among other important functions, MARAD is responsible for advising the government during the foundation and the implementation of the maritime policy and for providing or supporting national representation at the international negotiations on international maritime instruments or arrangements. The MARAD personnel are responsible for the proposals which are to be submitted to the ministry cabinet and later on to the parliament for the adoption and implementation of IMO conventions. Furthermore, MARAD is also responsible for the implementation of international conventions by preparing and transferring the requirements stated in international conventions. These draft rules and regulations are to be integrated into the national legislation.

The MARAD structure is different in every country. For example Denmark has its MARAD within the department of commerce, while Norway puts it in the division of the ministry of foreign affairs (the ministry of foreign affairs has fourteen departments, one of which is the shipping department).

In Vietnam, MARAD is under the ministry of transportation and communications, which consists of more than ten divisions: maritime bureau, inland waterway bureau, railway traffic bureau, ship design institute, classification society (VIETNAM REGISTER-VR), scientific and technical bureau, personnel bureau, legal bureau, civil air line, road traffic bureau and telecommunications bureau, etc.

The Vietnam maritime bureau is responsible for the safety administration of ports, vessel traffic services, shipyards, shipping companies (national and joint-venture companies), pilotage, rescue and salvage, and training of crew (as shown in **Figure 2**). The officers of crew are trained in the two centres in the Vietnam maritime university in the northern and southern parts of Vietnam, which are under the ministry of higher education.

The national legislation is prepared and submitted by the legal bureau to the ministry council and later on to the national assembly for adoption. Other matters occurring in the implementation are centralised to the legal bureau for adoption of amendment. The

Maritime code of Vietnam was published in 1990 by Decree No 42-LCT/HDNN8, dated 12 July 1990, by the president of the State Council.

The classification society (VR) is responsible for the implementation for safety conditions of design, newbuildings, existing ships as well as offshore structures and other navigational and marine productions (as shown in **Figure 3**). The implementation is integrated in VR rules for the safe construction and classification of ocean-going ships and offshore structures as well as other relevant rules required by the international conventions, amendments and codes (VR carries out its function by preparing and submitting a draft norm to the minister of ministry of transport). The new Maritime Safety Management Code is one among other examples. It is also expressed by the quality supervision of VR concerning the navigational and maritime productions. The quality division has been set up for more than three years. Up to now, it has effective activities in controlling the quality of the whole maritime safety system. It is expected that, in a few years, Vietnam Register will be externally assessed by a well-known third party. This is due to the decentralising to VR regional offices which "can expedite and make more visible the work of particular offices." (Harold, 1987).

5.2 Foundation of the new ISM Certification Department

At a conference of IMO, held in May 1994, the International Safety Management (ISM) Code was formally included in Chapter IX of the SOLAS Regulations. The requirements of the ISM Code became mandatory to vessels as follows:

- Passenger ships including passenger high speed craft, not later than 1st July 1998
- Oil tankers, chemical tankers, gas carriers, bulk carriers and cargo high speed crafts of 500 gross tonnage and over, not later than 1st July 1998
- Other cargo ships and mobile offshore drilling units of 500 gross tonnage and over, not later than 1st July 2002.

However, a number of member states had complied with these requirements before the deadline.

The ISM Code was developed by IMO in response to the pressure applied by society in general as a result of the loss of life and the environmental pollution associated with

accidents of ships such as “Herald of Free Enterprise,” “Exxon Valdez,” “Haven,” “Aeegean Sea,” and “Maersk Navigator.” The first recommendation issued by IMO was resolution A.647 (16), subsequently amended to A.647 (17). These resolutions imposed the need for owners and operators to “control” those activities, which could have an adverse effect on the environment. Many foreseeing companies have voluntarily accepted the need for the controls that are defined in them. IMO has now defined a Safety Management System, which when complied with, will reduce accidents, minimise the possibility of pollution, and protect the environment. It was recognised at an early stage that the management controls defined in ISO 9002 were applicable to the shipping industry, but the document itself was not “user friendly.” Although the ISM Code does not completely incorporate the requirements of ISO 9002, it is very close, and hence can be said to be a safety management system.

The culture of ship inspection by a third party is deeply effected within our industry. Conversely, with the exception of financial audits, and those already certificated to a Management or Safety Assurance System, the culture of external examination of our office systems and their interface with shipboard operations is not something that we are probably comfortable with or have experience in. In short, when we have an understanding and acceptance of a ship being held in port because there is a hole in the lifeboat, but the philosophy of a ship being held in port because of a hole existing in its management system is perhaps a novelty to us.

The overall objective of the code can be stated as follows:

- To minimise the scope for poor human decisions which contribute directly or indirectly to a casualty or pollution incident.

Furthermore, IMO has quoted three other objectives of the code:

- provide for safe practices in ship operations and a safe working environment
- establish safeguards against all identified risks
- continuously improve safety management skills of personnel both ashore and afloat, including preparing for emergencies related both to safety and environment protection.

IMO recommended that governments on a national basis shall apply the new code as soon as possible to vessels, which are flying their flag. The code’s enforcement is envisaged to

be the prime responsibility of flag states. In addition, it is intended to be subject to port State control.

VR recognised that there will be a difference of interpretation of the code from one port State to another. Consequently, the new **ISM Certification Department** of VR was founded after the decision No 90/QDNS dated 1 March 1996 by the General Director of VR. Among other objectives, the new ISM certification department is to help the shipping companies to set up their project for the documentation and implementation of the safety management system that must:

- be owned and managed by the company itself, and crucially by the company's staff;
- be practical and effective on operation, that is, steadily improving the safety of the company's operations, whilst enhancing pollution prevention and environmental protection;
- improve management controls;
- provide tangible benefits, that is, reduce costs by reducing accidents; and by reducing accidents have fewer people injured or killed and less damage done to the environment;
- be accepted by the company's workforce.

5.3 Issuance of new rules for the new Safety Management Code and establishment of new forms for certification.

According to Decision No 2922 QD/PC dated 2 November 1996, of the ministry of transport, the International Safety Management Code was officially applied for ships registered in Vietnam, operating on international routes, right after the signature.

Once again, VR is responsible for the implementation of the code, and for the issuing of relevant certificates required by the ISM Code. In order to achieve these objectives, VR made a great effort to establish a new rule for ship safety management as well as other procedures for carrying out the said duties before the 1 July 1997 deadline (as stated in the above-mentioned decision of the ministry of transport).

The new rule was drafted by a group of experienced surveyors, experts, etc. inside and outside VR, to gain an overall view of the shipping safety management system. It was

based on the requirements of the ISM Code and national legislation, and then submitted to the minister of the ministry of transport for higher consideration and promulgation.
Specifically, the new ISM Code seeks to address the issues of human error and human omissions. To accomplish its objectives, the ISM Code requires owners of ships, or other organisations such as the managers or bare boat charterers, who have assumed responsibility for ship operations, to implement a safety management system (SMS) for their companies and ships.

Certification of a SMS for a ship requires two determinations be made by VR's ISM certification department:

1. That the company responsible for the ship has implemented a SMS that complies with the requirements of the ISM Code
2. That the ship is being operated in accordance with the approved SMS.

Upon approval of its SMS, the company will get a DOC. For individual ships that have been found to be operating in accordance with an approved SMS, a Safety Management Certificate (SMC) is issued. However, in the VR's requirements for the issuance of these certificates, there are also guidelines for issuance of interim certificates.

- The **DOC** is issued to an owner, manager, or bareboat charterer following an audit of the company's safety management system. The audit determines whether the SMS complies with the requirements of the ISM Code, is effectively implemented and is in use by the company's personnel. The DOC is valid for the type of ship on which the company's initial verification was based. It should be issued for no more than five years and is subject to annual verifications, which should be recorded through an endorsement on the DOC within a three-month window of each anniversary of the issuing date.
- The **SMC** is issued to a ship following an initial verification that its SMS is in compliance with the requirements of the ISM Code and that the DOC of the responsible company is applicable to that ship type and that the SMS has been effectively implemented and is in use. The SMC is valid for five years and requires an intermediate endorsement at two and a half years.

- An **interim DOC**, valid for no more than twelve months, may be issued to facilitate implementation of the ISM Code when a company is newly established, there is a change of flag or new ship types are added to an existing DOC. The interim DOC certificate should be issued only after the company has demonstrated that is has an SMS that, at a minimum, meets the objectives for an SMS provided in Section 1.2.3 of the ISM Code and that the company plans to implement an SMS meeting the full requirement of the ISM Code within the period of validity of the interim DOC certificate.
- An **interim SMC**, valid for no more than six months, may be issued to new ships on delivery and when a company takes responsibility for an existing ship, which is new to the company. The validity of an interim SMC may be extended for an additional six months by VR in special cases, for example, the alternation of ship. The interim SMC should only be issued when VR has verified the following:
    1. The responsible company's DOC, or interim DOC, is relevant to that ship.
    2. The SMS includes key elements of the ISM Code, and has been assessed during an audit for issuance of the responsible company's DOC or demonstrated for issuance of the responsible company's interim DOC.
    3. The master and relevant senior officers are familiar with the SMS and the plans for its implementation.
    4. Instruction identified as essential to be provided prior to sailing has been given.
    5. The responsible company has plans for an audit of the ship within three months.
    6. The relevant information of the SMS is in the working language, understood by the ship's crew.

5.4 Foundation of the Quality Management System

5.4.1 Why VR needs a Quality Management System?

The concept of ship classification-formulating and setting building rules, surveying and evaluating ships for their quality of construction and seaworthiness-proved crucial to the development of modern commerce. In the early and mid-nineteenth century, as maritime trade expanded, the need arose for a new and specific set of shipbuilding standards. In

consigning valuable cargo to wooden sailing ships, traders and insurers had to confront the rising number of risks. From this emerged the idea of ship classification.

What is the relationship between classification societies and flag administrations? Nowadays, more than 100 governments have authorised the classification societies, in view of their expertise and the worldwide availability of highly qualified surveying staff, to implement the statutory regulations of the conventions and related codes and resolutions, either wholly or in parts, and issue statutory certificates on their behalf. Such delegation is permissible under the IMO convention system. However, it is important to note that delegating administrations still retain their responsibilities and obligations under the conventions they have ratified.

Delegating administrations must have some means of monitoring the organisation to which they have delegated, to ensure that the work is being adequately and satisfactory performed. It therefore follows that each of those organisations should have a satisfactory quality system to demonstrate, to all concerned, the quality of its service. For example, IACS has set up a Quality System Certification Scheme (QSCS) implemented by the IACS quality secretary. The quality secretary is responsible to the IACS council via the IACS quality committee. The quality system requirements of IACS have been based upon the applicable requirements of ISO 9001: 1994, adopted and applied as stated in ISO 9004. Additionally, however, in order to confirm efficient application of a quality system in practice, the IACS QSCS incorporates a requirement for vertical audit. This is carried out on a sample basis in various areas of work selected by the IACS quality secretary, and goes beyond the ISO requirements. Each member society has been audited by an IACS audit team led by the quality secretary, on the basis of which, IACS quality system certificates of conformity have been issued. IMO participates in the audits through a consultant/observer, who reports to the IMO secretary-general. IMO also participates in an IACS QSCS advisory committee of independent industry representatives.

It is also of interest to note that at the sixty-sixth session of IMO during 28 May to 6 June 1996, the maritime safety committee expressed the view that, through the IACS QSCS, an administration may accept that IACS societies meet the requirement of Appendix 1 to IMO resolution A.739 (18) concerning minimum standards for recognised organisations acting on behalf of administrations, (Smith, 1998).

5.4.2 What is quality?

The quality of a product or service is a characteristic, which is sometimes obvious by its presence, but always conspicuous when it is absent. Whether we define quality as "customer satisfaction", "fitness for purpose" or "compliance with specification" it can only be achieved if it is planned and managed to be achieved.

According to ISO 8402: 1994, quality is "the totality of characteristics of an entity that bear on its ability to satisfy stated or implied needs."

In a contractual situation, stated needs are specified in contracts and translated into product features and characteristics with specified criteria. In other situations, implied needs are identified by the company, based on the knowledge of its marketplace. The needs of the customer, of course, change with time. Thus, companies should review quality requirements periodically.

Generally, quality in a product or service refers to "fitness for use" or "fitness for purpose." Most organisations produce products to meet specific criteria, such as technical specifications. As ISO 9000-1 notes, however, "specifications may not in themselves guarantee that a customer's requirements will be met consistently," (Robert, 1995).

In particular, the level of quality is measurable, and through being measurable it can be managed and controlled, (Michael, 1993).

If a company with several departments is able to coordinate their activities and achieve total fitness for purpose and total compliance with specification, it has achieved a signal success. Can it hope to do this without a quality assurance department? The answer is "very unlikely", except in a very small, or extremely quality-aware and quality-professional company.

In an ideal environment, where each department or functional activity was perfectly discharged, quality activities would be "part and parcel" of everything that was going on. As for VR, for example, this would be when:

1. Marketing was always dependant on the customer's requirements;
2. Engineering was always designed according to these requirements;
3. Manufacturing always produced products to the defined specification.

Then in this case the achievement of quality would be intrinsic to the company's activities. From the cost-efficiency point of view, this would be a very desirable state of affairs. However, it is a goal that can only be approached if it is positively planned for. This means prescribing the intentions for quality achievement, and appointing a manager responsible for establishing the means to achieve them. The task for this individual, whom ISO 9000 refers to as the "Management representative responsible for quality", is to ensure that quality goals are reached through the active involvement of all departments.

Clause 4.5 of ISO 9000-1 looks at the following four facets of quality:

- Quality due to definition of needs for the product
- Quality due to product design
- Quality due to conformance to product design
- Quality due to product support

An effective quality system will address all four facets of quality.

5.4.3 What is a quality system?

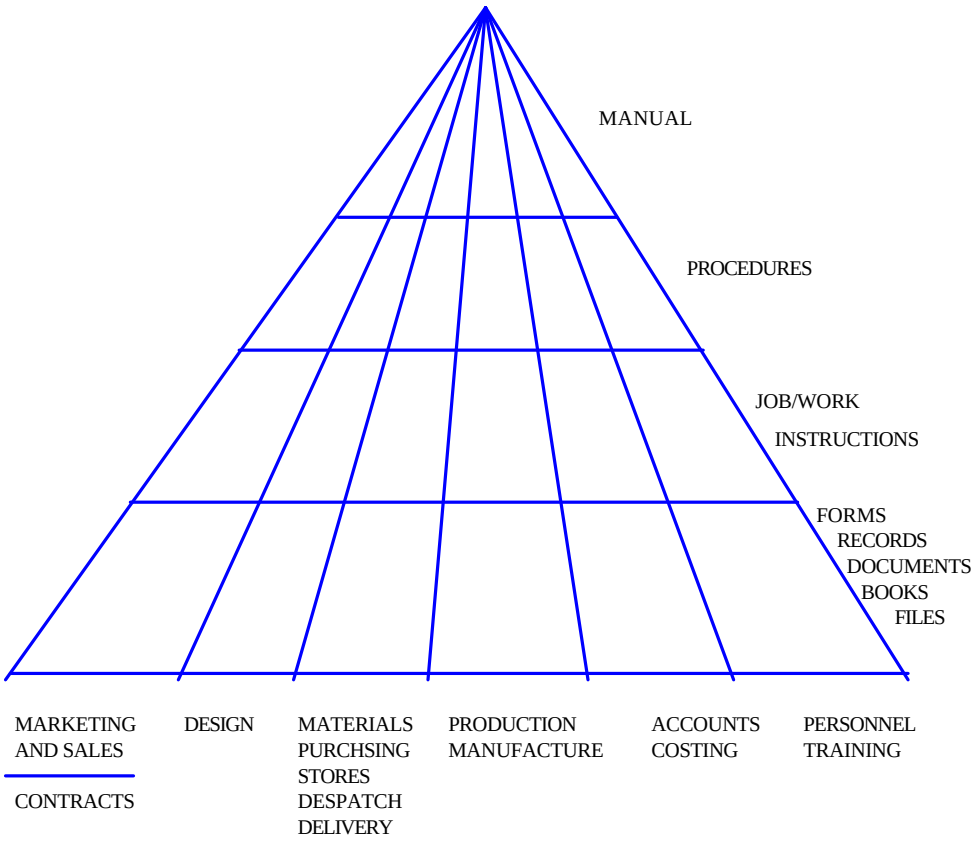
A quality system is "the organisational structure, procedures, processes and resources needed to implement quality management" as defined by ISO 8402: 1994, clause 3.6. It should only be as comprehensive as needed to meet quality objectives.

Earlier in the industrial era, product quality was associated only with final inspection. To improve quality control and prevent problems from occurring, manufacturers developed tools such as statistical process control and installed quality control departments. Quality standards such as ISO 9000 are based on the idea of building quality into every aspect of the enterprise, with an integrated quality management system. Clause 5, quality system elements of ISO 9004-1, states that the quality system involves all processes in the life cycle of a product that effect quality, from initial identification of market needs to final satisfaction of requirements, (Robert, 1995).

A model system should be flexible enough to cope with both simple and complex tasks within its framework, and that is what guidance documents such as the ISO 9000 Series of

quality system standards have to accomplish. A quality system designed within the rules of ISO 9001 or 9002 would identify and document the appropriate level of planning to perform the particular task.

Ideally one should strive to plan once, and use the plan many times for different tasks. Such an approach constitutes a quality system. **Figure 5** indicates a hierarchy of planning activities and documentation.



(Source: Michael, 1993)

Figure 5. Documentation structure for quality systems

Most quality systems are based on, and demonstrate, certain basic concepts:

1. The quality of products and services depends on the supplier's control of design, manufacturing, inspection/testing and all other operations, which effect quality.

2. Suppliers should not only be able to deliver products and services on schedule at an agreed price, but also be able to substantiate by objective evidence that they have maintained control over those aspects which affect quality, and verify the acceptability of the products or services.

Customers also have obligations which they need to perform in order to ensure the quality of the products or services they receive. They must make sure that their statement of requirements is full and clear. They should stipulate the degree of assurance required, in order to ascertain that the supplier has control over his own activities and outputs.

5.4.4 Quality management and quality assurance

Quality management refers to "all activities of the overall management function that determine the quality policy, objectives and responsibilities and implement them by means such as quality planning, quality control, quality assurance and quality improvement within the quality system (ISO 8402: 1994).

Quality management is not separate from general management. When used effectively, quality management should be an integral part of an organisation's overall management approach.

Quality assurance includes "all the planned and systematic activities implemented within the quality system and demonstrated as needed to provide adequate confidence that an entity will fulfil requirements for quality." (ISO 8402: 1994).

The entity here is anything that can be "individually described and considered." For example, an entity can be a process, a product, an organisation, a system, a person or any combination of these.

The purpose of quality assurance is to prevent problems from occurring, detect them when they do, identify the cause, remedy the cause, and prevent reoccurrence. A more succinct summary is given by Ian Durand. "The basis of a quality system," he says, "is to say what you do, do what you say, record what you did, check the results, and act on the difference."

5.4.5 The VR quality management system

The general director of VR, Mr Nguyen Van Ban, decided to establish a quality management system in 1996, in order to set out in a formal framework the basis of controlling critical activities that effect quality in the organisation.

The quality management system was documented to communicate to everyone in the organisation:

- The objectives of the system
- The policies of the organisation
- Employee's responsibilities within the organisation
- The operational procedures (work instructions).

Consequently, VR improvements in quality can be seen in the following examples:

First of all, VR collaborated with BV quality division in writing its first quality manual and general procedures. On 25 September 1998 the VR director signed Decision No 325/DK98 to issue VR's **Quality Manual** and some **General Procedures**. This decision came into force 15 days after the signature.

The quality manual consists of 9 chapters, including the Director's general statement, concerning the growth and development of the organisation and the decision by management to formalise and document the commitment to achieve better service in the shipping industry. The chapters are as follows:

VR Quality Manual

Chapter 1: General introduction

Chapter 2: Objectives, policies, and quality management system

Chapter 3: VR organisation and responsibility

Chapter 4: Quality documentation system

Chapter 5. Employee's capability and training

Chapter 6: Performance

Chapter 7: Corrective, and preventive action procedure

Chapter 8: Control of inspection, measuring and test equipment

Chapter 9: Contract review

The **General Procedures** following this quality manual are shown in **Table 7**.

VR General Procedures **Table 7**

No	General procedure	Control number
1.	Employee's records and training	QTC/01
2.	Design control	QTC/02
3.	Foreign subcontractors' agreements	QTC/03
4.	Document and data control	QTC/04
5.	Inspection and testing	QTC/05
6.	Control of Subcontractor - Supplied Product	QTC/06
7.	Control of Inspection, Measuring and Test Equipment	QTC/07

(Source: VR Quality Manual – 1998)

Secondly, VR set up a regional office in the newly opened Hyundai-Vinashin Shipyard before its opening ceremony on 26 April 1999. The shipyard is a joint venture between the Hyundai Group (Republic of Korea) and Vinashin. It is the largest shipyard in Southeast Asia, featuring a total investment of US$ 140 million. In its first year of operation, the shipyard plans to repair 100 vessels and earn US$ 110 million. The next stage will be fabrication of steel structures for offshore projects, civil engineering works such as bridges and complete construction of sea-going vessels. In order to cope with this task, VR has sent

27 senior surveyors, who have been trained by other foreign classification societies, to carry out the relevant supervision in the shipyard. This contributes to strong and effective quality in the Vietnamese shipping industry.

5.5 Co-operation with other foreign classification societies

5.5.1 International co-operation activities

Recently, VR has been the deputy secretary-general of the IMO bureau in Vietnam. VR is authorised by the Vietnamese government to draw up guidance to implement IMO conventions in Vietnam.

VR is also authorised to carry out surveys and issue certificates to Vietnamese ships in compliance with the conventions, which Vietnam has ratified.

VR is one of the national organisations actively taking part in IMO convention enforcement activities in Vietnam. In collaboration with IMO, VR has held many professional seminars/workshops in Vietnam, not only inside but also outside VR's Headquarters Office. VR experts are delegates in the Vietnamese missions to IMO meetings of MSC, MEPC, FAL, etc.

VR has collaborated with other organisations and companies at home and abroad, holding many seminars and workshops on environment, motor vehicles, and passenger ship safety in Vietnam.

VR is a full member in the Vietnamese delegation to ASEAN meetings of the specialised-transport group.

5.5.2 Co-operation with foreign classification societies

The Vietnam Register has been a full member of the Ship Technical Supervision and Classification Association of the former socialist countries (OTHK) since 1984. It has carried out technical research in co-operation with members of this organisation.

Furthermore, the Vietnam Register has signed agreements for mutual co-operation and substitution in the field of ships/offshore classification and certification with almost all members as well as associate members of IACS below:

Members:

- American Bureau of Shipping (ABS)
- Bureau Veritas (BV)
- China Classification Society (CCS)
- Det Norske Veritas (DNV)
- Germanischer Lloyd (GL)
- Korean Register of Shipping (KR)
- Lloyd's Register of Shipping (LR)
- Nippon Kaiji Kyokai (NKK)
- Registro Italiano Navale (RINA)
- Russian Register of Shipping (RMR)

Associate Members:

- Croatian Register of Shipping (CRS)
- Indian Register of Shipping (IRS)
- Polski Rejestr Statkow (PRS)

5.6 Training schedule for surveyors

As at 31 January 1998, VR personnel staff in total was 574, among them 475 technical staff, and 99 administrative staff. The site surveyors and inspectors in total were 398, of which 235 were for sea-going ships and 72 for river-going ships.

Right after joining with the VR, every staff member has had to undergo the required training courses held at VR Headquarters or at premises of the manufacturers/builders or assemblers. Training time required for staff to be a marine surveyor or inspector is 120 hours at Headquarters, and from two to three years at site/on-job.

VR has established a set of training course materials for all kinds of different surveyor grades on the basis of the IMO Model Course. Training courses, seminars and workshops are organised at the Headquarters or at regional offices to maintain and update staff knowledge, such as COW, ISM code, ISO 9000, enhanced survey program, and financial management.

Many VR surveyors and inspectors have been appointed to joint training/seminars abroad, held by international organisations, IMO or IACS members. As at December 1997, the numbers of VR staff have been trained abroad can be seen in **Table 8**:

VR staff has been trained abroad **Table 8**

International organisations/institutions	Number of VR surveyors/inspectors
LR	**9**
BV	**6**
GL & DSRK	**16**
DNV	**3**
NK	**15**
RMR	**8**
PRS	**4**
IMO	**11**

(Source: VR annual report – 1998)

Up to now, under the help of IMO, five VR surveyors have studied at the World Maritime University since 1994; among them three had already graduated. Some others are still studying English, and expecting to get access to joint in studies at WMU in the coming years. Annually, from 5% to 7% of VR turnover is spent for staff training and training materials/equipment.

5.7 Research and development

5.7.1 Research

Annually, another 5% to 7% of VR turnover is spent for technical and scientific research and development. The objectives of this work are focused on such areas as statistics, casualty investigation and analysis, and pollution prevention.

In addition, VR has collaborated with other institutes, colleges, and offices inside the country to expedite technical and scientific themes, for example, a definition of sheltered waters for ships.

5.7.2 Development of rules and regulations for ship construction and classification.

VR is endeavouring to develop and produce some software programs on management, training, design review, ship status, offshore structure strength, and ship stability.

Based on technical research and owing to the advance in technology application, VR has complied and published the following rules and regulations:

- TCVN 6259-1: 1997 Rules and regulations for construction and classification of steel sea-going ships, including the following parts:

  - General
  - Hull construction and equipment
  - Machinery systems
  - Electrical equipment
  - Fire detection, protection and fighting
  - Welding
  - Material and equipment
  - Steel barges
  - Specialised ships and barges
  - Submarines
  - LNG carriers
  - Dangerous bulk cargo carriers
  - Sub-division
  - Stability
  - Loadlines

- TCVN 6272: 1997 Rules and regulations for construction and survey/testing of lifting appliances fitted on board sea-going ships

- TCVN 6273: 1997 Rules and regulations for construction and certification of containers carried at sea

- TCVN 6274: 1997 Rules and regulations for construction and classification of floating docks

- TCVN 6275: 1997 Rules and regulations for construction and certification of refrigerating plants

- TCVN 6276: 1997 Rules and regulations for construction and certification of anti-marine pollution equipment fitted onboard ship

- TCVN 6277: 1997 Rules and regulations for construction and certification of automation and remote control equipment

- TCVN 6278: 1997 Rules and regulations for construction and certification of sea-going ship safety equipment

- TCVN 6279: 1997 Rules and regulations for preventive machinery maintenance systems

- TCVN 6280: 1997 Rules and regulations for navigation bridge systems

- TCVN 6281: 1997 Rules and regulations for diving systems

- TCVN 6282: 1997 Rules and regulations for construction and survey of GRP ships

- Rules and regulations for construction and classification of HSCs

- Rules and regulations for construction and survey of wooden ships-1984

- Rules and regulations for construction and survey of river-going ships-1993

- TCVN 5309-5319: 1992 Regulations for construction and classification of mobile offshore units

- Rules and regulations for sea-going ship tonnage measurement-1983

- Rules and regulations for transportation of dangerous goods by sea-1988

- Other instructions and guidelines.

These rules and regulations are real powerful instruments for surveyors/inspectors in carrying out their duties.

5.7.3 Development of off shore classification and certification

VR has had involvement with offshore classification and certification activities since 1990. VR services are specified in the following activities:

- Design review and approval
- Survey/inspections or testing
- Issuance of relevant certificates as required by the national rules and regulations after satisfactory survey/testing

- Carry out statistics, investigation and analysis of casualties/risks
- Publication of “Offshore Register Book.”

Recently, to fulfil these activities, priority is being given to offshore surveyor training in order to qualify VR surveyors to be competent to carry out design review and all kinds of surveys of classification and certification. However, VR continuously strengthens the collaboration with other classification societies in offshore fields in Vietnam.

The serviced objectives of VR in offshore classification/certification activities are the following:

- Fixed offshore units
- Mobile offshore units
- Mooring buoys
- Storage tankers
- Pipelines
- Chemical and refineries.

Tools for these activities are the following:

- TCVN 5309-5319-1992: Regulations for construction and classification of mobile offshore units;
- TCVN 6171-1996: Regulations for technical supervision and classification of fixed offshore units.

Consequently, the achievements of VR during the last eight years can be seen in the offshore classification and certification activities dealing with the following:

Fixed Offshore Units

- 20 (MSP) and Light Units (BK) of VIETSOVPETRO at White Tiger, and Dragon Fields
- 1 Unit at Ruby Field
- 1 Unit at Rang Dong Field.

Mobile Offshore Units

- 2 Jack-up Units: Tam Dao 01 and Cuu Long
- 1 Semi-submerged Unit: Big Tiger (partially involved).

Storage tankers

- 3 Tankers with the capacity 150-160 thousand d.w.t each: Chi Lang, Chi Linh, and Ba Vi
- Mooring Buoys and Anchorage Systems.

Oil/Gas Pipelines

- 125 kilometres of co-gas pipeline from White Tiger Field to Ba Ria Province
- 2 Units and 370 kilometres of natural gas pipeline from Nam Con Son Field to Phu Mi Province (partially involved).

These activities have been performed in collaboration with other classification societies, such as LR, DNV, GL, and NK.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

6.1.1 Toward safety culture from inspection culture

In general, the traditional regulatory approach in shipping has been based on prescriptive rules, with mainly technical requirements that are easy to apply and verify. New regulations have been developed as a reaction to accidents. In-service verification of compliance is based on inspection of all items to which requirements apply. Lack of compliance is met with corrective action related to the immediate cause of non-compliance, followed by a renewed inspection. This approach has not worked to the full satisfaction of the industry and has caused parties, external to the formal safety regime, to start conducting their own inspections.

The core of the current maritime safety regime is the **inspection culture**, which in itself represents a lack of confidence and even suspicion. It disregards responsible management, which is the main characteristic of the industry today. The inspection culture depends on the passive correction of deficiencies-the symptom of problems-while little is done about real causes. The present safety regime does not support responsible management. It is not congruent with the current move toward self-regulation and improvement of standards within the industry.

With the implementation of the ISM Code, IMO's stated aim is that application of the Code should support and encourage the development of a **safety culture** in shipping. The ISM

Code is the bridge from an inspection culture to a safety culture. The successful development of a safety culture in shipping depends on the commitment, values and attitudes of all concerned parties in the shipping industry. None of these factors can be enforced through legislation. It is imperative, therefore, that the application of mandatory rules and regulations is based on proactive support and encouragement, rather than the current reactive enforcement of prescribed minimum standards. Hence, the VR should improve its service with an ISM certification department as soon as possible.

The difference between the philosophy of the inspection culture and the safety culture is that: one is reactive and the other is proactive: one focuses on the immediate causes of defects-the symptoms, while the other focuses on the root causes of the problem itself. The inspection culture focuses on the technical hardware. Is it there or is it not there? Does it work or doesn't it? The safety culture focuses on the human factor and the areas of management control that must be in place to ensure that the ship will be operated safely; that is there must be an adequate safety program in place, with measurable standards and compliance with those standards. Bridging the gap between the inspection culture and the safety culture, that is application of the ISM Code, also means that most parties concerned must learn a new skill: **auditing**.

It should be noted here that ***an inspection is not an audit***. Although inspection of the ship structure, work places and critical equipment can reveal symptoms of poor maintenance, the adequacy and effectiveness of the overall safety management system can never be determined through inspection alone. Whereas inspections tend to focus on the technical requirements, an audit is a systematic examination to determine if operations are being carried out to standards, which have been implemented and are suitable to meet the objectives.

An audit requires, therefore, a review of relevant documentation and records. But more importantly, an audit means talking to people in order to ascertain their roles and their knowledge of the operations in which they take part. Under the safety culture, the surveyor/auditor must be able to ask the right questions and be an active listener in order to get the information needed. One of the biggest difficulties with the development of a safety

culture in shipping has been the lack of uniformity and consistency in the application of the ISM Code by flag administrations and their approved organisations, that is, lack of auditor competence. Consequently, the poor audits are due to having no audit program or schedule in place, having no audit checklist in place, not all relevant personnel being interviewed and non-conformities being reported as observations only.

The present traditions in Vietnam represent a major threat if one approaches the ISM Code with the attitudes of the inspection culture, because the result will be negative. Safety management will degenerate to just another certificate and inspections will merely be extended to include company management.

Many of those involved in classification societies, flag state authorities and port State control, whose beliefs and values have been firmly set in the inspection culture, will be unable or unwilling to make the transition to the safety culture. One should learn to use the best of both cultures, because the need to carry out thorough, frequent and intensive inspections on increasingly more sophisticated technical requirements is not allowed to decrease.

In the safety culture, once an incident or accident is reported, the responsible authority should work with the operator to conduct a thorough investigation and causal analysis, with the view to prevention of a recurrence of the event. The focus should be on long-term corrective action that is dove-tailed back into the operator's safety management system. Lessons learned are shared with other operators to assist in their continuous improvement process. The proactive authority should then assist the operator in the follow-up process, to review the implemented corrective action to evaluate its effectiveness and adequacy, making further recommendations where necessary.

In the inspection culture, the authorities approach the reported event with an attitude of suspicion that the operator has not exercised due diligence. They conduct their own investigation, independent of the operator's, with the focus on the immediate causes only,

and hence the apportioning of blame. Senior management may end up in a court of law, defending their procedures and trying to prove that they have been duly diligent.

The consequence of all this is that even the most responsible management, when forced into this situation, will lose confidence in their system. They will modify their procedures in attempt to close legal loopholes, rather than use the lessons learned to improve their safety management system in a meaningful way. However, it is imperative that the safety culture approach is equally adopted in order to measure and evaluate the evidence of responsible management.

6.1.2 The need and the means for change, ISM Code

It is now universally accepted that the development of a safety culture in shipping is imperative. Consistent with this development, there is a need for a total approach in safety standards that takes into account ship and equipment design as it impacts on shipboard operation.

There is need for a clear definition of safety objectives and goals by all parties, rather than a strict compliance to minimum standards. There must also be uniform and consistent application and enforcement of safety and technical standards already in place.

It has long been recognised that the weak link in the safety chain has been the lack of effective and adequate flag state implementation of international standards, that is, administrations which lack the ability or interest to meet their responsibilities. However, all that IMO has been empowered to do in this regard is to issue guidelines to administrations and to organisations authorised to conduct surveys/audits and issue certificates on their behalf. As of 1 August 1998, the contracting parties to the 1978 STCW Convention had to submit to IMO details of their organisation and their training and certification procedures. Those, which meet the requirements of 1995 amendments to the convention, will be placed on IMO's white list. Those, which fail to meet the requirements, could find that certificates issued by them are not recognised elsewhere.

This is a radical improvement, because for the first time in IMO's history safety has been placed ahead of national interest. It is hoped that this change in the attitude of the member states is only the thin edge of the wedge, and that a resolution will be developed which

clearly defines the responsibilities of administrations, and gives IMO the mandate to monitor their performance against pre-defined criteria.

In a recent address to the Connecticut Maritime Association, Mr. William O'Neil, secretary-general in IMO, stated that "we need to probe deeper and learn more about the reasons why seafarers make mistakes. We need to apply such ideas as formal safety assessment and adopt programs like Prevention Through People."

6.1.3 Reward strategy

Responsible management must see their efforts resulting in a friendlier, less punitive safety regime. A realistic expectation should be that the implementation of high standards is rewarded by reduced external inspections.

The biggest rewards, however, will be the savings in operation costs, improved performance and better relations with customers that are commensurate with responsible management. Companies cannot be compelled by law to believe this will happen, but there is evidence to suggest that substantial rewards are there to be gained.

The development towards a safety culture in shipping cannot be advanced if only shipping companies are required to change. The human element must be understood in a wide context, and not be limited to management ashore and those onboard. The development must encompass all involved in safety and environmental protection, including regulatory bodied. The development must be envisioned and realised through an evolutionary process. With dedicated actions, minute-by minute, day-by day, VR will truly create a safety culture in the Vietnamese shipping industry.

6.2 Recommendations

6.2.1 Training for surveyors

The training schedule of VR must be at first in the hands of the top managers, or indeed of the employee, if he/she is sufficiently motivated to make arrangements for himself or herself. However, in the majority of cases, it will be the employer who initiates additional training.

The training for VR staff can be acquired through many ways such as:

- College courses, the statutory route

- On-the-job training
- Specialised courses, for example how to use new equipment
- Workshop, seminars, for example interaction with one's peers
- Articles, books, videos
- Simulation
- Distance learning

The purpose of the training is to get more experienced surveyors capable of carrying out different roles.

VR needs more surveyors specialised in operational requirements. This is a big problem with the port state authorities at present, who are finding it difficult to get sufficiently trained inspectors. For the human element assessment, there will be a definite need to have people who are experienced in shipboard operation and who have an understanding of crew problems.

However, with a classification society becoming responsible for all onboard safety aspects, there will still be a need for port state and flag state control or any of the existing private inspection services. Indeed, the VR should be heading in the direction of having just one safety body controlling all shipping, as many other classification societies in the world. This is a solution to avoid duplication of surveys-sometimes more than ten different surveyors have been found inspecting just one ship. Certainly it would be better if only one organisation was in charge of all requirements. It is a challenge for the classification societies to regain the confidence of the shipping industry, and especially of the insurers and P & I clubs.

6.2.2 Improving the maritime education system

Looking at the shipping industry today, one knows that the industry has reached a stage where:

- there are more officers than ratings, as jobs become more technically complex and the need for traditional hands-on sailor-like skills has almost disappeared, and

- the Western European, Japanese or American seaman has almost disappeared from the world's ocean.

With flag states and other authorities taking an increasing role in ship technical safety standards, the classification societies' role in this regard is diminishing. The classification societies need to re-evaluate their function.

The system of maritime safety is in a state of total upheaval-new players have come on the scene and IMO no longer has a monopoly on issuing safety standards. The European Union and certain flag states have imposed their own regulations, while port states have taken over from flag states in ensuring that safety standards are observed. Agreements and consensus are no longer the only paths in establishing the law of the sea.

The purpose of the VR will be to give a complete, private assessment of the quality and safety of a vessel. The problems will be the payment of the customers for these services of the VR and other classification societies involved. The customers will not be the shipowner. The main interested parties will be the charterers, bankers and, of course, the insurers and P& I clubs.

The scope of the VR should be widened to encompass the assessment of operational procedures and human elements, which are steps to implementing the requirements of the revised STCW Convention. *That is to say, implementing the requirements of the revised STCW Convention could form part of the VR's role*. The VR should create a voluntary crew certification scheme covering training institutions' quality assurance systems, the standards stated by the national administration for education and training, and the assessment of individuals in attaining the stated standards.

6.2.3 Quality shipping

With existing rules and regulations coming more and more sophisticated, why is it that substandard ships still exist and escape the regulatory net?

The problem is the implementation of the rules. It is the duty of the flag State to impose sanctions against the bad shipowners, and if the national administration does not do its job properly, there might be a possibility for the shipowner to escape from his obligations.

The other option is port state control, but this is only an alternative. The main duty lies with flag states, and the port states are now putting pressure on them by targeting substandard ships; this is a good method for concentrating resources on the flags and ships known to be substandard. Another efficient tool is to publish the names of the bad operators.
However, don't some charterers contribute to the substandard pool by not caring sufficiently about the state of the vessel on which they place their cargo? The answer is yes. Some charterers don't care about the condition, they care more about the freight rate. But the tendency now is to make charterers more responsible in the choice of vessel by publishing the names of deficient ships.

6.2.4 Future of the VR, credible third party

It is the firm conviction of ABS that class societies are the impartial arbiters, between the shipowner and the shipbuilder, in establishing and enforcing internationally recognised design and construction standards, (Iarossi, 1997).
Class societies are also the impartial arbiters, between the shipowner and the underwriter, in judging adherence to the same standards throughout the life of the vessel. Class societies are the impartial arbiters, between the flag State and the shipowner, regarding the compliance with international conventions on ship safety. More recently, class societies have become the impartial arbiters, between the shipowner and the port state, for compliance with those same international conventions as well as other standards of safety. In some cases, class societies even become the impartial arbiters between flag State and port State administrations.

The key phrase in defining the many roles of classification is "impartial arbiter." Classification is nothing if it can not act as the impartial arbiter-an impartial and expert third party facilitating the safe and efficient operation of an industry complicated by its international character and its many diverse interests. But to be an impartial arbiter, the class society must fulfil its role and be recognised as that credible third party. To be accepted by all interests as being credible, the VR must be independent. This concept and the actuality of independence are paramount if the VR is to continue to be the mechanism by which the international shipping industry has traditionally regulated itself.

As R.D. Somerville, the president of ABS says: “If, in the future, the marine industry no longer fully supports such self-regulation, there is no shortage of legislative and regulatory bodies eager to fill that role. A strong, independence system of classification is the best defence against that intrusion.”

To achieve this objective, the Vietnam maritime bureau should be developed to have full responsibilities and obligations of flag state control.

The close, effective co-operation between the VR and the Vietnam maritime bureau should be clearly clarified and documented to avoid overlaps among these organisations. As a consequence, the VR can never be viewed as the handmaiden of the shipowners, asking permission before it decides what must be done to promote and improve safety standards. It can never be cast in the role of bargainer with shipyards, trading structural standards against the market price for new ships. Neither can it ever be the lap-dog of any single sector of the industry, nor the watchdog answering only to the underwriters, nor even the police dog of the regulators.

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