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# Safety issue in maritime industry

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#### **Abstract**

Being aware of the fact that Vietnamese ships operate domestic routes and VR-SB means, the main objects may cause accidents due to crew's weakness, lack of maritime equipment, from January 1. / 9 to October 1, 2018, the Vietnam Maritime Administration has launched the Maritime Safety Month in 2018, focusing on strengthening inspection for Vietnamese ships operating domestic routes and VR-SB vehicles, delivering The present defect requires crew members and ship owners to overcome all defects before the ship left port. The Vietnam Maritime Administration also continues to implement solutions to ensure maritime safety on the existing port infrastructure to allow large ships to reduce the load on Vietnam's ports. The Vietnam Maritime Administration has also cooperated with the Steering Committee on terrorism prevention and combat of the Ministry of Transport and the Department of Homeland Security of the Ministry of Public Security to inspect the work of ensuring security and preventing terrorism at a number of seaports nationwide.; Collaborate with the US Embassy in Vietnam and the US Coast Guard to conduct port security inspections at some seaports in Hai Phong and Vung Tau; Directing affiliated units to coordinate with relevant agencies and units to strengthen patrols and control in the area of management units, heightening vigilance to objects outside collusion and linkage gangrene; To take initiative in preventing, stopping and extinguishing from the outset manifestations of maritime security.

Keywords: safety issue, waterway traffic

## 1. Introduction

According to statistics, in the past 2011, more than 60 marine accidents occurred across the country, causing more than 40 deaths and disappearances, nearly 30 waterway vehicles were sunk and wrecked; of which, there were five particularly serious cases, causing huge losses of lives and property. In terms of quantity as well as nature, marine accidents occurred last year tended to increase sharply and unpredictably. According to the evaluation agencies, the causes of the accidents were largely due to the limited qualifications of officers and crew members, failure to comply with the watchman's regulations such as borderline, safety speed, cooperation. Businesses avoid collisions in narrow lanes, beacons, ... Maritime pilots also violate regulations and rules of seaports, lead ships to speed up, not according to plan, avoid overtaking in narrow areas, disallowed, ... leads to unfortunate maritime accidents. Another reason is that many ships do not maintain machinery and equipment periodically, when bad weather often occurs. In particular, the life-saving and fire-fighting systems are not maintained, ready to operate in situations and lack of experience, crew use experience, often leaving great losses. Defining safety is an important step, the maritime industry has focused on propagating and disseminating safety and order in many appropriate forms; strengthen inspection, timely detection and resolute strict handling with the highest penalties for violations. At the same time, inspect and supervise the activities of the buoy system, maritime signals and other aids to navigation, optimally exploit the viability of the existing seaport infrastructure system.; gradually improve the quality of crew members, ... In addition, it is necessary to clearly define the responsibility of the Vietnam Registry Department for the quality inspection of vehicles, contributing to strengthening the ability safe operation of the ship. In the coming time, it is necessary to urgently review, amend and supplement the technical monitoring and evaluation processes for ships under the ISO 9000-2008 quality management system; improve the quality of technical supervision in ship building and repair, fully comply with international rules and treaties. Maritime is a specific

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industry with many dangers, so in order to ensure maritime safety, in our opinion, the Ministry of Transport should consider applying appropriate remuneration for officers engaged in maritime safety and security, collecting ship inspection fees from the second time on; supplement funding for this work, in order to enhance the inspection and supervision of maritime activities in the port waters. In some key national seaport areas and storm shelters for ships and boats, adequate investment is needed in channel dredging, synchronous investment in means, equipment, and rehabilitation equipment. Maritime safety and security services such as automobiles, special canoes, information systems, VTS, AIS signals, etc. Regulations on maritime safety, security and prevention Environmental pollution should be updated, revised and supplemented by agencies in charge of industry regularly, promptly, in accordance with the industry's development situation and compliance with new regulations of international organizations. Out unfortunate incidents. At the same time, it is necessary to study and adjust the functions and tasks among the sectoral management agencies, ensuring consistency, bringing high effectiveness, not allowing overlapping phenomena. To operate the system of ships at sea, the river requires full supply of raw materials such as petrol, oil, grease ... No one can guarantee these materials do not leaking out pollution. Incidents such as oil spills into the sea are not rare, and green seawater poisoned by too much oil will affect marine habitats. Submarine sewers are still maintained and operate when there is a waste incineration. In addition, the discharge of toilet water in the deck of the ship, discharge of lacquer solution directly into the sea also causes widespread pollution. The consequences of it leave no small, do not think the vast ocean, it is only too small things, you are wrong. Each day, each day it will accumulate into large black spots pollution. Then the source of water where the ships operate will be polluted, and the activities of the cruise will be affected. The vast river and ocean environment, however, is vast, and our little actions also contribute to environmental pollution. It is necessary to further raise the awareness of everyone involved in boat trips on the protection of the marine environment when navigating. To support the development of inland waterway transport, the Ministry of Transport is encouraging all economic sectors to participate in transport business. SOEs only hold a market share of around 10-15% to ensure a leading role, focusing on major flows, some key commodities. Waterway transportation is more efficient and environmentally friendly than other modes of transport. But alongside these advantages, the waterway rotation still has a major impact on the quality of the water environment. It needs to see a limitation to find a way to prevent widespread pollution. Waterway traffic control is closely linked to the protection of the water environment. Water pollution treatment systems in rivers and seas seem to be very rare, sewage sucking activities, sewerage will not be used.

## 2 various types of transportation

According to the Ministry of Transport, inland water transport is one of the five modes of transport in our country play a very important role. Inland waterway transport not only plays a major role in transporting large volumes of goods and passengers, but also creates millions of jobs, contributing to ensuring social security and

national defense and security. However, there are still many inadequacies in waterway transportation such as unequal waterway traffic; The phenomenon of exploitation of river resources as planned or Process technology is not as planned (exploitation of sand, gravel, etc.) are common in most rivers and canals in the country. The signaling system is not synchronized between the signal of the inland waterway management unit and the signal of the owner; the handling of domestic goods transportation and inland port management is inadequate; the force of the means of development is fast, uneven but concentrated in some urban areas and industrial parks. Therefore, the Ministry of Transport has proposed a scheme to facilitate the development of a synchronized inland waterway infrastructure linking with other modes of transport; to improve the capacity of the crew and the inland waterway transport crews. To create favorable conditions for inland waterway transportation business with reasonable transportation costs; Improve the quality of water transport services; Ensure safety and environmental friendliness; Make a distinct advantage over other modes of transport. Specifically, will develop, promulgate mechanisms, The policy is to facilitate the development of inland waterway infrastructure; Build and promulgate mechanism, The policy of supporting the development of the fleet has a reasonable structure with a fleet of about 30%, selfpropelled ships accounting for about 70% of the total number of inland waterway vessels; To prioritize the development of the container fleet; Inland waterway transportation and training, retraining of human resources for inland waterway transportationClimate change, sea level rise will increase the area of flooding, causing difficulties for drainage, increasing coastal erosion, affecting coastal construction works such as dykes, roads, The harbor. Hurricanes, floods, droughts, storm surges ... many road, sea, air, and air traffic systems are affected. According to the United Nations Development Program, climate change has a major impact on transport works. As the sea level rises, it will affect the foundations of coastal airports at the height of 5 m or less. According to the assessment, there will be six airports accounting for about 20% of Vietnam's airports affected with damage estimated at \$ 0.52 billion. Climate change and sea level rise have caused subsidence and floods in many roads; Increased slippage, erosion of the surface, road infrastructure causing traffic, traffic jams, increased traffic accidents. Roads are cut off many sections, many local roads after the floods weekly floods are still flooded, congested, traffic difficult to travel. In the rainy season, many of the harbors were flooded, reducing the height of the canals affecting the mining ability of the building. The dry season drowns the flow of water that is affecting navigation. The phenomenon of salinity intrusion will increase, the trade travel in the difficult areas, the daily life of the local community is shrinking rapidly. Infrastructures, especially ports, will be hit hard, even if they have to be rebuilt, renovated, upgraded or relocated. In aviation transportation, aviation activities have been and are having factors. Affects the atmosphere in the wrong direction and also reacts to climate change. Aviation industry has bad impact on the environment and is also heavily affected by climate change. According to the International Civil Aviation Organization (ICAO), nearly 20% of aviation accidents in the world are related to climate and weather and account for 8% of

deaths. Weather phenomena such as rain, wind, hail, thunderstorms, thunderstorms, etc. are all challenges to flying safety.

The transport sector in Vietnam, an energy-intensive industry and greenhouse gas emissions, is increasing in the future as it implements activities to meet the needs of socio-economic development; What this means will increase the impact of climate change. The Ministry of Transport has set up the Environment Department to assist the ministry in environmental protection, economical and efficient use of energy, and response to climate change. The branch has environmental centers and project management boards having full-time or part-timers to carry out environmental protection activities for investment projects. Most of the units have the counseling, monitoring and implementation of environmental protection. However, at present, human resources and material facilities for environmental management of agriculture, especially for inspection and supervision, are still lacking, not often updated. Bracelets. The application of new greenhouse gas environmentally-friendly emissions-friendly and technologies in transport requires a great amount of investment, while policy mechanisms to encourage research and application are not clear. The involvement of organizations and individuals is not encouraged. Hence, controlling and limiting the growth rate of greenhouse gas emissions requires industry to innovate and adopt lowwaste technologies and clean technologies In order to alleviate the vulnerability of climate change, the sector needs to make adjustments in the development of energy and transport development plans, taking into account the elements of Climate Change. Upgrading and rehabilitation of transport facilities in areas often threatened by floods and sea level rise, ensuring the management of energy demand on the basis of high energy efficiency, Energy management; Developing a response strategy and adapting to abnormal weather conditions ... To build a complete system of sea dykes, when the whole country has 2,800 km of sea dykes in provinces and cities. The complete construction of the sea dike system in Vietnam not only protects the security of the country, but also protects the transport infrastructure in order to reduce the impacts of climate change, reduce storms, floods and water. The sea devastates the coastal provinces and cities and transport works. On the other hand, complete construction of sea dykes that prevent saltwater from entering the mainland, destroying transportation works. The transport sector should plan and redesign the transport infrastructure system on land, sea and coastal areas, ports, warehouses, canals, inland waterways, especially in Coastal and mountainous plains; Develop technical standards and norms appropriate to climate change. In the planning or construction of roads, especially rural transport, attention should be paid to the impacts of climate change, with emphasis on measures to strengthen sea dykes and drainage when flooding, especially in stormy season, Flood ... Implement the integration and protection of environmental resources in strategies, planning, plans and projects for development of transport; To concretize the implementation of the policy on solutions to cope with climate change and the protection of natural resources and environment; To popularize and thoroughly grasp the Party's and State's undertakings and policies on response to climate change and the protection of natural resources and the environment. The industry should

focus on strengthening human resources, facilities and techniques for the state management, training, research on Flood and Storm Prevention and Fighting. To review, supplement and amend the land law system along the direction of prioritizing the use of land for development of transport infrastructure; to step by step develop transport towards less greenhouse gas emission, focusing on developing mass transit in Hanoi and Ho Chi Minh City. Ho Chi Minh (urban railway, fast bus) and increase the proportion of freight by rail, inland waterway and coastal. In addition, the transportation sector has also focused on developing and implementing incentive and incentive policies to motivate organizations and individuals to use vehicles that are less likely to emit greenhouse gases. Good environment; Use alternative fuels, renewable fuels. The sector has asked the agencies and units to coordinate with the concerned agencies to step up the inspection, propagation, dissemination and education to raise the awareness of environmental protection, the use of energy saving and Effectively, responding to climate change for cadres, civil servants, employees and laborers. Building and implementing plans, using energy economically and effectively, actively responding to climate change; Develop and implement a scientific plan to promote the research, development and application of climate change adaptation technologies.

Recently, the Ministry of Transport has issued Directive No.02/CT-BGTVT "On actively responding to climate change, thrifty and efficient use of resources, enhancing environmental protection in the industry. Transportation". Implement the Resolution No. 24-NQ/TW of the Party Central Committee; Resolution No. 08/NQ-CP of the Government promulgating the program of action for the implementation of Resolution No.24-NQ/TW. The sector focuses on organizational and management solutions such as reviewing, supplementing and perfecting the system of legal normative documents, systems of standards and technical regulations in the sector in order to actively respond to Climate change, strengthening of natural resources management and environmental protection. Strengthening training, enhancing and developing human resources attach importance to the work of propagation, dissemination, education, raising awareness, formulating a sense of initiative in responding to climate change, enhancing the management of natural resources and environmental protection.

In addition, it is necessary to step up research and application of scientific and technological advances, diversify and combine resources, expand international cooperation on climate change, resource management and protection environment. Mekong River is a very valuable and potential resource for great navigation. For centuries, water transportation in the Mekong was the main mode of transportation between the coastal communities wave. With the advantage of low cost, it is possible to carry large quantities of cargo today. Along with the rapid economic development, the navigation system on the Mekong system has also rapidly developed with the rapid increase in the number of vessels, ports and infrastructure to meet the needs. Transportation of goods, passengers and tourism, etc.... When the waterway transportation activities of economic sectors become bustling, it is also the inadequacies affecting traffic safety and environment. Schools such as the poor safety of vehicles, especially

when transporting toxic goods, signal systems, signs asynchronous, waste from vehicles into the river, oil spills, etc. increased with funding from the Kingdom of Belgium and the Australian Government, the NAP has achieved the following key results:

- Reports on navigational conditions for all routes (Houei Sai - Luang Prabang - Pakse, Kampong Cham -Phnom Penh - Vietnam - Cambodia border - to the sea).
- Report on waterway situation in downstream tributaries to contribute to the implementation of the Prior Informed Consent Procedure and Consultation.
- Phase I Phase I Phase II comprehensive review of waterway issues in the upper Mekong with hydropower development scenarios for the development and operation of hydropower development scenarios. Boat lock
- Beginning with the study of the Luangprabang waterway legal framework between Laos and Thailand.
- Signal buoys have been added and installed at the Houei Sai - Luangprabang - Vientiane lines; Kampong Cham - Phnom Penh; Phnom Penh - Siem Reap; Phnom Penh - Vietnam and Cambodia Borders; Bassac - Vam Nao (from July 2010).
- Cooperation with water-related organizations in the region and especially with the advanced countries has been strengthened
- Technical assistance for the signing and implementation of the Vietnam-Cambodia Water Transport Agreement.
- Additional installation of 30 buoys on the Vam Nao canal near Vietnam - Cambodia border: In addition to enhancing the safety of vessels, the buoyancy, installation, operation and management of buoys are enhanced. Advanced technology for related units.
- Surveying waterway conditions and building electronic charts (ENC) from the Vietnam-Cambodia border to the estuary.
- Dinh an (Hau River estuary) and Cua Tu estuary (Tien estuary) provide up-to-date information on the water level (15 minutes).
- The Water Transport Program activities have contributed to strengthening the capacity of agencies through participation in workshops, consultations, forums, and field surveys.
- The program receives the support and participation of MOF's agencies including:
- Vietnam Inland Waterways Administration and Vietnam Maritime Administration, in which the Department's leaders are members of the Advisory Board (NAB) directly involved in directing the implementation of the program. Southern joins and supports the management and operation of Dinh an and Cua Tu tidal stations.
- The inland waterway management sections and major ports on the Tien and Hau Rivers support the provision of inland waterway transport information and participate in ensuring the operation of the signage buoy system.
- Enhance measures to ensure maritime safety and safety of inland waterway traffic

The Ministry of Transport issued Directive No.11 on strengthening measures to ensure maritime safety and safety of inland waterway traffic. In recent times, there have been some particularly serious seagoing accidents causing significant loss of property to Vietnamese vessels operating inland and VR-SB vessels. The initial cause of the accidents indicates that the area of operation of the vehicle is not in line with the range of activity allowed or exceeds the allowable wind limits. Particularly, for VR-SB marine vessels when operating beyond the allowable sea limits and failing to comply with the regulations governing the licensing, cargo loading, safety equipment on board and The number of people on board does not match the actual declaration. In order to ensure the safety of navigation and safety of inland waterway traffic in the coming time, the Minister of Communications and Transport shall direct the schools' heads to perform the following tasks: The Vietnam Maritime Administration, Vietnam Inland Waterways Administration shall direct port authorities to intensify the work of monitoring VR-SB ships and waterway vessels operating in the managed water area. Particularly, to attach importance to supervising the loading and unloading of goods, assuring that goods are loaded and tied up in strict accordance with regulations and with the right loads; Seafarers shall ensure that they have at least the safety margins and have adequate professional certificates; Crew members and passengers on the means of transport shall be in accordance with the declared quantity when carrying out the procedures of travel and arrival and in accordance with the arrangement of the means of life saving of the means. Promote the dissemination of maritime laws and inland

Promote the dissemination of maritime laws and inland waterways to enterprises, shipowners and crew members to raise awareness of maritime safety and inland waterways. Strengthen the inspection of Vietnamese vessels operating on domestic routes, VR-SB-class vessels carrying out safety equipment, and training crews to respond to emergency situations; Resolutely resolutely handle violations, not allowing means to leave the port when there are serious defects affecting the safety has not been overcome.

The Vietnamese Register has instructed the registry offices to pay more attention to improving the quality of ship registration, VR-SB vessels and other waterway facilities to limit technical incident meetings. Strengthen the inspection of the performance of duties of the registrars in the work of registration, to strictly handle the violations. To study the amendments and supplements of technical regulations to ships and waterway vessels in the direction of raising safety standards for crewmembers and passengers and step by step approaching the minimum requirements of the International Convention that Vietnam Nam is a member of maritime safety, maritime security and prevention of environmental pollution. Strengthening the guidance of enterprises and ship owners on the regulations related to maritime safety, maritime security and prevention of pollution of the sea environment.

Ship owners, companies managing and operating sea-going ships and waterway means shall strictly observe the law provisions on maritime safety, maritime security and prevention of environmental pollution; Instruct the ship's captain to uphold the responsibility, perform his duties seriously ...Port enterprises shall only be allowed to load cargo on board the ships and vessels permitted to carry them; Goods are loaded onto the right vessels and vessels

as prescribed; The goods are lashed and tied in accordance with the regulations, guidelines on packing and tying goods before the ship leaves the port. The provincial / municipal Communications and Transport Services shall intensify the inspection and raising of the quality of training and testing activities and the professional certificates of crew members and riders; approve and strictly manage the business of passenger transport by fixed routes, transportation under contract and transportation of tourists. The Legal Department reviews and synthesizes new behaviors and violations of VR-SB inland waterway vessels and port owners to supplement the draft decree on sanctioning administrative violations in the field Maritime and inland waterways.

The Traffic Safety Department shall assume the prime responsibility for, and coordinate with the Inspectorate, the Legal Department and concerned units in, organizing periodical or extraordinary inspections of agencies and units on the implementation of this Directive. The task of ensuring maritime safety and safety of inland waterways is one of the key tasks of the Ministry of Transport and Communications, the Minister requests the Heads of agencies and units to seriously implement perform./. The drastic management and operation together with specific and effective solutions have helped the Vietnam Maritime Administration ensure the safety and maritime security in recent years. Compared to 2017, the number of marine accidents in 2018 fell sharply on all three criteria for the number of accidents, deaths and injuries. In the first 6 months of 2019, the number of accidents has decreased significantly compared to the same period in 2018. The port authority has inspected 1,097 Vietnamese ships operating domestically; inspecting 240 Vietnamese ships operating international routes, detecting 209 ships with defects with a total of 1,630 defects. In addition, the governments of member countries agreed to conduct state inspection of seaports in the Asia-Pacific region conducted 573 Vietnamese ship inspections, in which, Vietnam's fleet continued to maintain. Whitelist of the Port Authority Organization of countries in Asia - Pacific (Tokyo MOU). Also in the first 6 months of the year, the Vietnam Maritime Administration rehearsed and connected maritime security information with 161 ships, 87 ports, receiving and handling 4 security safety incidents. The Vietnam Maritime Administration has approved many measures to ensure maritime safety for large vessels entering and exiting seaports based on existing infrastructure and channels. At the same time, the Vietnam Maritime Administration organized a conference to assess the safety of fishing vessels and a safety conference for VR - SB vehicles. Regarding the control of vehicle tonnage at seaports, the Vietnam Maritime Administration has directed the port authorities to carry out inspections and checks of vehicle tonnage according to the approved plan, in coordination with force. Inspectorate of the Department of Transport in the region organized inspections of road vehicles at seaports. Port authorities have focused on propaganda, dissemination, professional training and increased inspection to reorganize port enterprises to strictly comply with the regulations on load control. Disaster prevention and fighting and search and rescue activities are also paid special attention by the Vietnam Maritime Administration. The Vietnam Maritime Administration has directed the Cooperative Search and

Rescue Coordination Center and the port authorities to organize the 24-hour daily work, timely receipt and effective handling of 100% of information related to the accident. Marine accidents and incidents in the responsibility of Vietnam for search and rescue. The marine rescue force directly under the Department of Maritime Affairs has well shown its leading role in marine search and rescue activities, directly carrying out many difficult, complicated and dangerous cases recorded by the people. In the first 6 months of 2019, there were 2 storms affecting our country, the Vietnam Administration of Land took the initiative in implementing the disaster prevention and control plan quickly and promptly so there was no loss of life and property.

#### 3 Conclusion

Ensuring maritime safety and security is a prerequisite for developing the marine economy. Therefore, the relevant units have strengthened the inspection work for transport enterprises and port enterprises in the performance of maritime security, well served the travel needs of the people, ensuring order traffic safety, especially water transport route from shore to island. Continued implementation of the project to maintain the Vietnamese fleet in the White and Gray list of Tokyo MOU is focused. In the last 6 months of 2019, the Vietnam Maritime Administration will hold a conference on maritime security training, prevention of piracy and armed theft in the Northern and Southern regions for seaport enterprises and ship owners. The propaganda and dissemination of legislation on maritime safety, maritime security and prevention of environmental pollution in the Central and South regions as well as organizing a port security exercise in 2019 in Quang Nam and handling the definitive handover of the coastline to Sa Ky - Ly Son island. Viet Nam's marine strategy defines a goal by 2020 that will strive to make our country a strong nation in the sea, enriched from the sea. This poses a great responsibility for Vietnam's maritime industry. To do that, Vietnam Maritime Administration (HHVN) has set out a series of key tasks that need to be performed, including ensuring maritime security and safety.

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