#### **Section 2. Technical sciences**

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Ngo Van Nam, Master, Faculty of Rescue – University of Fire Prevention and Fighting, Vietnam

#### FIRE PREVENTION AND FIGHTING FOR SEAPORTS IN VIETNAM – THEORETICAL ISSUES AND EXPERIENCE OF ORGANIZATIONAL MANAGEMENT

**Abstract.** In Vietnam, fire prevention and fighting is always concerned and identified as the responsibility of all individuals, agencies and organizations. For seaports in Vietnam, this work is given top priority, in order to ensure fire prevention and fighting safety, to meet the requirements of economic development and international integration. The article focuses on clarifying theoretical issues related to the organization and management as well as Vietnam's experiences in this work.

Keywords: fire prevention and fighting; seaport; Vietnam.

#### 1. Make a problem

Habour in general and seaports in particular have a very important role: They are the driving force for the development of the marine economy in particular and the country's economy in general. This is the gateway to trade in import and export goods, the focal point for converting sea transport to rail, road and inland waterway transport. As a coastal country, our country has nearly half of the provinces and cities with the sea, with a total length of coastline of over 3,260 km running along the length of the country; has a wide sea area with many peninsulas, lagoons and deep bays that are sheltered from the wind, projecting the international maritime route between the Indian Ocean and the Pacific Ocean. Being well aware of the importance of sea and islands and marine economic development, over the years, the Party and State have issued many resolutions, directives, strategies for planning, construction and development of habour, such as: Decision No. 202/QD-TTg dated October 12, 1999 of the Prime Minister on the master plan on development of Vietnam's habour up to 2010; Decision No. 1037/QD-TTg dated June 24, 2014 of the Prime Minister on Approval to adjust the master plan on development of Vietnam's habour system up to 2020, orientation to 2030, etc, and implement synchronously solutions to build and develop the seaport system in the context of international integration.

Practical theoretical research on fire prevention and fighting in general has been researched by many scientists and managers through published products in the form of textbooks, scientific topics at all levels, articles. Scientific articles published in journals inside and outside the police force. In general, scientific research works have achieved certain achievements, the theory of fire prevention and fighting has been increasingly supplemented, perfected and developed, contributing to creating a solid foundation to help management agencies effectively perform the assigned functions and tasks. On the basis of general theories, research, analyze and clarify in a logical, scientific and systematic manner the management theory of fire prevention and fighting for seaports, especially the content of fire prevention and fighting management for seaports. seaports according to the functions of the Fire and Rescue Police force. From there, creating a solid scientific basis so that the Fire and Rescue Police force can effectively organize the implementation of the assigned functions, tasks and powers.

#### 2. Research results and discussion

#### 2.1. Seaports and requirements, safety conditions on fire prevention and fighting for seaports a) Seaports

According to the Vietnam Maritime Code 2015 specifically in Clause 10, Article 4 and QCVN: 2021/BGTVT, the concept of a seaport is unified in a sense that: "A port is an area including land and areas. water belonging to a seaport, wharfs, warehouses, yards, factories, offices, service facilities, transportation systems, communication systems, electricity, water, water areas in front of the wharfs and navigational channels may be built. and other ancillary works. A port facility has one or more berths". Wharf is a fixed structure or floating structure in a harbour, used for ships to anchor, load and unload goods, pick up and drop off passengers and perform other services. This seaport concept shows that a seaport is a major part of a seaport. Thus, the concept of a seaport clearly shows the general characteristics, structure and functions of a seaport when it is formed and put into operation and use. These contents have important significance in state management activities in general and state management of fire prevention and fighting for seaports in particular.

Regarding the role of seaports in the development of logistics activities, studying the experience of countries around the world shows that, for comprehensive development and high economic growth, most governments need to accept clearly the role of seaports. With more than 80% of the world's import and export goods transported by sea through seaports, seaports are an important focal point in goods circulation, playing a very important role in the development process. national economic development as well as regional and international economic integration. Seaports form the basis for service activities, for seaports themselves and for a range of other industries. When seaport services (logistics) develop, seaports will attract many ships, many goods imported and exported, temporarily imported for re-export, transited, from which economic and trade relations of a country, is also developed in all aspects. These activities bring significant benefits to coastal countries, especially attracting a large amount of foreign currency annually to the country. Therefore, the development of the seaport system, reducing transportation costs and logistics services will contribute to increasing competitiveness, creating an attractive investment and business environment for each country.

For Vietnam, in the process of renewal, opening up, regional and international economic integration, seaports play an even more important role. Seaports are the lifeblood of maritime traffic between our country and Europe, America, the Middle East and Asia; It is the focal point of forwarding and distribution of goods for all socio-economic activities of the country and a gateway for international economic exchanges, effectively serving the development of the country's marine economy.

The development of the seaport's material and technical facilities will meet the needs of trade in goods within the region as well as around the world, promote import and export activities, and accelerate the process of economic integration., strengthen the country's position in the international arena. The practice of developing logistics activities in countries around the world shows that logistics can only develop on a solid infrastructure foundation, especially seaport infrastructure. In other words, seaports play a very important role, deciding the development of the logistics industry.

For countries with a developed seaport system, especially in the locality where the port is located, it is considered as a comparative advantage for the formation and development of economic zones, industrial parks, and mining industries, shipbuilding industry, allowing to create many jobs for the local economy.

### *b)* Fire prevention and fighting safety requirements and conditions for seaports

Research shows that the law on fire prevention and fighting does not have specific and clear regulations on requirements and safety conditions for fire prevention and fighting for seaports. However, based on the provisions of the law on fire prevention and fighting such as the Law on fire prevention and fighting in 2001 (amended and supplemented in 2013), Decree No.136/2020/ND-CP dated November 24, 2020 of the Government stipulating expenses detailing a number of articles and measures to implement the Law on Fire Protection and the Law amending and supplementing a number of articles of the Law on Fire Prevention and Fighting (Decree No.136/2020/ND-CP) and guiding documents, showing that: According to Clause 3 Article 3 of the Law on Fire Prevention and Fighting 2001 (amended and supplemented in 2013), establishments are places of production and business, public works, working offices, apartment buildings and other independent works according to the list prescribed by law. Government regulations. Pursuant to Appendix I of the list of establishments subject to fire prevention and fighting management (issued together with Decree No. 136/2020/ND-CP), seaports are subject to fire prevention and fighting management, according to Appendix II issued together with this Decree. This Decree also stipulates that seaports are on the list of facilities at risk of fire and explosion and according to Appendix V, also stipulates that seaports are on the list of projects and works subject to design review and approval for fire prevention and fighting. In addition, according to these appendices, relevant facilities in the seaport area, if they are on the list, must comply with the provisions of the law on fire prevention and fighting. Thus, for seaports and facilities in seaports, collectively referred to as facilities and comply with Article 20 of the Law on Fire Prevention and Fighting 2001 (amended and supplemented in 2013) stipulating fire prevention requirements for basis. Concretizing Article 20 of the Law on Fire Prevention and Fighting 2001 (amended and supplemented in 2013), in Clause 1, Article 5 of Decree No.136/2020/ND-CP, clearly defined safety conditions on fire prevention and fighting for establishments.

## 2.2. Concept, characteristics, legal basis and responsibilities of entities managing fire prevention and fighting for seaports

#### a) Concepts

The management of fire prevention and fighting for seaports is an organized and adjusted influence by the power of the State on the basis of the law on fire prevention and fighting and other relevant legal documents for the seaport. with fire prevention and fighting activities in the seaport area of the competent authorities, in order to minimize the occurrence of fires and the damage caused by fire, contributing to the protection of life, protection properties of the State, organizations and individuals, protect the environment, ensure security and social order and safety.

#### b) Characteristics

- Regarding the subjects of management of fire prevention and fighting for seaports:

Objects of management of fire prevention and fighting for seaports are fire prevention and fighting activities of enterprises, organizations and individuals investing in the construction and trading of technical infrastructure of seaports and exploitation and trading establishments. business, transportation... in the seaport area.

- The entity directly assigned to perform the state management of fire prevention and fighting for seaports and operating in seaports is the Fire Protection and Rescue Police force, which is specifically facilities led by the Police Department. Fire Prevention and Control Department and Provincial Police Department under the management.

- Management tools: Legal system on fire prevention and fighting and other laws related to seaports, standards and technical regulations on fire prevention and fighting for seaports...

- Management methods of fire prevention and fighting are ways and measures affecting the activities of subjects under management in the field of fire prevention and fighting.

- The objective of the management of fire prevention and fighting for seaports is to minimize the occurrence of fires and damage caused

by fires at seaports, contributing to the protection of human life and health. protect properties of the State, organizations and individuals, protect the environment, ensure security and social order and safety; bring the aspects of fire prevention and fighting work step by step to meet the requirements of socio-economic development, effectively serving the cause of industrialization and modernization of the country.

c) Responsibilities of the subjects

The Ministry of Public Security, whose core is the Fire Prevention and Fighting Police force and the Central High Command in performing the task of state management of fire prevention and fighting in general, including seaports, is specified in Article 51 of Decree No.136/2020/ ND – CP on 24/11/2020.

The Ministry of Transport is the governing and superior ministry in charge of the Vietnam Maritime Administration. Within the scope of its tasks and powers, the Ministry of Transport shall coordinate with the Ministry of Public Security in organizing the implementation of regulations on fire prevention and fighting; at the same time, organize the implementation of the provisions of Clause 1, Article 50 of Decree No.136/2020/ ND-CP dated November 24, 2020 stipulating the responsibilities of ministries, ministeriallevel agencies and agencies under Government.

People's Committees at all levels in the state management of fire prevention and fighting in general, including seaports are defined in Article 52 of Decree No. 136/2020/ND-CP dated November 24, 2020.

The Maritime Administration is an agency directly under the Vietnam Maritime Administration, performing the task of state management of navigation at seaports and assigned management areas. The port authority has legal status, has its own head office, uses its own seal, and is allowed to open an account at the State Treasury. The maritime port authority has a transaction name written in English as Maritime Administration of ... (proper name of the Maritime Administration).

3. Experience in organizing management of fire prevention and fighting for seaports in Vietnam

#### **3.1.** Formulate and direct the implementation of strategies, master plans and plans on fire prevention and fighting for seaports

Like other management fields, the management of fire prevention and fighting for seaports is first and foremost a management on a macro level, reflected in the formulation and direction of the implementation of strategies, master plans and plans on operations. Fire protection action for seaports. One of the basic characteristics of the management of fire prevention and fighting for seaports is that the management must have programs, plans, short-term goals and long-term goals. Building and directing fire prevention and fighting activities at seaports on the basis of strategic orientations with synchronous planning and plans is an indispensable requirement in management.

On that basis, proactively develop projects to improve the working capacity of the Fire Protection and Rescue Police forces, build a network of professional fire fighting teams; build grassroots and specialized fire prevention and fighting forces at seaports to meet the requirements of onsite fire prevention and fighting work; projects on traffic assurance and fire fighting water sources at seaports; step by step modernize the means of fire prevention and fighting; develop a plan for training and fostering human resources for fire prevention and fighting... in order to meet the requirements of fire prevention and fighting work for seaports in the period of industrialization and modernization of the country.

## **3.2.** Promulgate, guide and organize the implementation of legal documents on fire prevention and fighting related to seaports

The legal system on fire prevention and fighting related to seaports includes legal documents on the management of seaports and a system of relevant national technical standards and regulations on fire prevention and fighting. by competent state agencies in accordance with the Law on Promulgation of Legal Documents. In the legal system on fire prevention and fighting, the Law on fire prevention and fighting has the highest legal value.

#### 3.3. Propagating, educating and disseminating knowledge about fire prevention and fighting; building a movement for all people to participate in fire prevention and fighting for seaports

Propagating and disseminating the law and knowledge on fire prevention and fighting is the content and the most important measure in the work of fire prevention and fighting. The main purpose of this work is to make all people, all officers, employees and heads of agencies and organizations understand and voluntarily implement the State's regulations on fire prevention and fighting in general and for wharf. seaport in particular.

State management activities in this field are the determination of responsibilities of state agencies, economic and social organizations in the work of propagating and educating knowledge and laws on fire prevention and fighting (responsibility of the information and propaganda agencies at the central and local levels; responsibilities in the organization and implementation of the Vietnam Maritime Administration, the Maritime Port Authority, the provincial departments, and of the Fire and Rescue Police force).

### **3.4. Organize and direct fire prevention and fighting activities for seaports**

Measures to prevent fire and explosion at seaports must be strictly implemented, such as: Strict management and safe use of combustible substances, fire sources, heat sources, fire-generating equipment and tools., heat generation; regularly ensure the fire prevention and fighting safety conditions and organize the safety inspection on fire prevention and fighting in order to promptly detect loopholes and shortcomings, propose timely remedial measures. The State management agency in charge of fire prevention and fighting, which is directly the Fire Protection and Firefighting Police force, is responsible for guiding the port authorities to implement technical design solutions, ensuring fire safety right from the moment the construction works. new work items are only planning design drawings or technical designs; guide the Port Authority, investors operating at seaports to comply with fire prevention requirements for seaports and facilities operating at seaports.

In addition, the organization and direction of fire fighting activities must thoroughly grasp the principle: "Must be prepared with forces, means, plans and other conditions so that when a fire occurs, the fire can be extinguished promptly. effective time" in performing the task of standing ready for fire fighting of the professional firefighting and rescue police forces as well as for specialized fire protection forces and facilities at seaports.

#### **3.5.** Organize training, build forces, equip and manage fire prevention and fighting means for seaports

Organizing training is an important content in ensuring human resources for fire prevention and fighting. In addition to the source of staff trained from abroad, the staff of fire prevention and fighting activities are mainly trained from within the country (at the University of Fire Prevention and Control).

Building the fire prevention and fighting force, equipping and managing fire prevention and fighting equipment falls within the scope of the 2001 Law on Fire Protection (amended and supplemented in 2013). Therefore, this is an important content in the state management of fire protection for seaports. Therefore, it is the responsibility of the Maritime Port Authority to ensure: The grassroots fire prevention and fighting force must be organized in all facilities, being the core force in fire prevention and fighting work at each facility in the seaport; The port authority must establish specialized fire fighting teams of the seaports under their management.

For the Fire Protection and Rescue Police force, the 2001 Law on Fire Prevention and Fighting (amended and supplemented in 2013) stipulates that it must be built in a regular, elite, step-by-step modern manner to be worthy of being the core force. in the state management of fire prevention and fighting.

# **3.6.** Ensuring budget for fire prevention and fighting activities; organize fire and explosion insurance associated with fire prevention and fighting activities at seaports

To ensure the financial source for fire prevention and fighting activities, not only rely on the state budget but also have to collect from fire and explosion insurance; from voluntary contributions of domestic and foreign agencies, organizations and individuals. The state budget only covers the necessary expenditures for fire prevention and fighting activities, but mainly for the fire prevention and fighting police forces, the administrative and non-business units, the armed forces and other units to enjoy the state budget. country. The State has policies to encourage domestic agencies, organizations and individuals, overseas Vietnamese, foreign organizations and individuals, and international organizations to invest in and sponsor fire prevention and fighting activities.

For the compulsory fire and explosion insurance regime, the contents of state management are shown on the basis of the provisions of the Government's Decree No.23/2018/ND-CP dated February 23, 2018 on insurance. compulsory fire and explosion hazard. Accordingly, the Decree clearly stipulates who must buy compulsory fire and explosion insurance, insurance contracts, liability of insurance buyers and sellers, insurance premiums and principles of using 1% revenue from revenue. annual compulsory fire and explosion insurance in fire prevention and fighting activities.

3.7. Appraisal and approval of projects, design and acceptance of construction works on fire prevention and fighting; technical inspection, inspection and certification of conformity to vehicles, equipment, substances and goods subject to strict requirements on fire prevention and fighting for seaports

For seaport projects and works on the list of design appraisal and approval for fire prevention and fighting as prescribed in Appendix V issued together with Decree No. 136/2020/ND-CP dated November 24, 2020 of the Government Decree No. 136/2020/ND-CP of the Government stipulating the contents, order, procedures, time limit for design appraisal and approval, order and procedures for acceptance of works on fire prevention and fighting. At the same time, it stipulates the responsibilities of the investor, the design agency, the construction contractor, the project approval agency, the construction licensing agency and the fire protection police agency in the construction investment in general and at seaports in particular.

Fire prevention and fighting means and equipment, substances, dangerous goods, fire and explosion, with strict requirements on fire prevention and fighting must be inspected, tested and certified in accordance with the law. Decree No.136/2020/ND-CP stipulates the list of fire prevention and fighting equipment subject to inspection in Appendix VII issued together with this Decree and strictly complies with Article 38. In addition, related Regarding goods at risk of fire and explosion, Decree No.136/2020/ND-CP has also specified in Article 9.

## **3.8.** Organizing research, application and dissemination of scientific and technological advances in fire prevention and fighting for seaports

Organizing research, application and dissemination of scientific and technological advances in fire prevention and fighting is currently an issue that needs attention, stemming from the practice of fire prevention and fighting and the requirements of the 4.0 revolution that are affecting to. Therefore, the study of scientific – technological and organizational solutions in management, new fire prevention and fighting problems arising at seaports is very necessary in the current context. meet the requirements of sustainable development at seaports.

Research and apply advanced scientific and technological achievements in fire prevention and fighting in the world, research and manufacture in the country a number of means, tools and chemicals for fire prevention and fighting. Renovating the content and methods of training fire fighting forces.

Research and development of science and technology for fire prevention and fighting for seaports should closely follow the guidelines, guidelines and policies of the Party and State on science and technology.

## 3.9. Inspect, examine, handle violations, settle complaints and denunciations about fire prevention and fighting; fire investigation

Inspection, examination, handling of violations and investigation of fires are activities according to the functions of the subjects of state management of fire prevention and fighting. At seaports, too, the specialized inspection on fire prevention and fighting for seaports is carried out by competent entities.

Fire safety inspection is the responsibility of the state management agencies in charge of fire prevention and fighting and the responsibility of the Port Authority, the heads of facilities operating in the seaport area as prescribed by law. on inspection contents, inspection regime, inspection responsibilities, inspection procedures on fire prevention and fighting.

Fire investigation activities to clarify the cause of the fire and the fire. The legal basis of the investigation of the fire is carried out in accordance with the provisions of the criminal law, the criminal procedure law, the Law on Organization of the Criminal Investigation Agency, Circular No.55/2020/TT-BCA...

### **3.10.** Organization of state statistics on fire prevention and fighting for seaports

In order to ensure the leadership and direction of all levels and serve the advisory and planning of policies and measures on fire prevention and fighting, statistics and reports on fire prevention and fighting are mandatory requirements in management activities. State management of fire prevention and fighting in general and seaports in particular.

Accordingly, the law on fire prevention and fighting stipulates that the heads of agencies and

organizations are responsible for making statistics and periodical reports on the situation of fire prevention and fighting work to the fire protection police agency, specifically here is the port authority. Accordingly, the contents of state statistics on fire prevention and fighting for seaports include: Statistics on forces, means and fire protection systems at seaports; statistics on fire and explosion situation; causes of fire and explosion; damage caused by fire and explosion at seaports; ... as well as conditions to ensure the organization and implementation of the provisions of law in the state management of fire prevention and fighting for seaports.

### **3.11.** International cooperation on fire prevention and fighting

International cooperation on fire prevention and fighting is an inevitable trend in the current integration period. Through international cooperation, the fire prevention and fighting police force and the Central High Command have the conditions to improve their professional, scientific and technical skills, step by step to keep pace with the level of fire prevention and fighting of countries in the region and the world.

The content of international cooperation on fire prevention and fighting is carried out in many fields: Cooperation in the development of legal documents, regulations and standards on fire prevention and fighting; Cooperation in the field of experience exchange, professional training and retraining and participation in competition of fire prevention and fighting skills; Cooperation in the field of training experts in the field of fire protection for Vietnam; Cooperation in the field, research and application of scientific and technological advances in the field of fire prevention and fighting; Cooperation in the field of investment for fire prevention and fighting activities; International cooperation in fire fighting, rescue and rescue in cases of disasters and natural disasters.

#### 4. Conclusion

As discussed above, the fire prevention and fighting work for seaports in Vietnam is not a new issue, however, this is always a topical issue, because, ensuring safety of fire prevention and fighting, aiming at Sustainable economic development, international economic integration, related to investment, technology transfer... should always be of special interest to all levels and sectors in Vietnam. With the research results, the author wishes to exchange the initial results and orientations for future research.

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