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### Fire and Explosion Insurance in Vietnam

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#### Abstract

Among the risks caused by human negligence, fire and explosion are the most serious. Despite numerous preventive measures being implemented, millions of large fire and explosion incidents occur around the world in general and in Vietnam in particular, resulting in serious damage to lives and properties. In response to the financial needs for recovering from such risks, fire and explosion insurance was introduced. In many countries, this insurance is mandatory for specific cases with high risks of fire and explosion. In Vietnam, fire and explosion insurance is required for individuals and organizations owning/managing hazardous properties (such as high-rise buildings, schools, hospitals,

etc.), and encouraged purchasing for other cases. However, many obligated parties do not participate, while others with high risks may not meet the participation criteria or insurance businesses may refuse to sell. In addition, due to the characteristics of fire risks, property damage is often significant and challenging to determine the value of the damage, making appraisal and compensation faces many difficulties. This article will analyze the current situation of implementing fire and explosion insurance in Vietnam and propose measures to enhance the effectiveness of this insurance type.

**Keywords:** Fire, Explosion, Insurance, Vietnam

#### 1. Introduction

Every year, millions of fire incidents occur worldwide, causing significant damage to both people and properties. It can be mentioned that the explosion of 2,750 tons of  $\text{NH}_4\text{NO}_3$  in Beirut, Lebanon on August 4, 2020, which resulted in over 100 deaths and 4,000 injuries, as well as extensive damage to more than half of the city's buildings. Another example is the fire in a high-rise building in downtown Johannesburg, South Africa on August 31, 2023, which claimed 76 lives and injured 88 people. Similarly, the mini apartment building fire in Thanh Xuan district, Hanoi on September 12, 2023 resulted in 56 deaths and 37 injuries. Major fire and explosion incidents occur not only in developing or underdeveloped countries but also in developed nations with advanced scientific and technological capabilities. These incidents not only cause significant property damage, but also cause irreparable harm to human lives. According to statistics from the Ministry of Public Security, in 2022, there were 1,741 fire and explosion incidents nationwide in Vietnam, resulting in 110 deaths and 86 injuries, with estimated property damage of approximately 634,077 billion VND and 1,532.69 hectares of forest land affected<sup>[9]</sup>.

To cope with risks caused by fire and explosion, people have used various different measures, ranging from implementing preventive measures to limit risks such as: (i) eliminating potential sources of fire or explosion, (ii) promulgating technical safety standards for fire and explosion, (iii) training and raising awareness of fire prevention and firefighting within the community, and taking measures to minimize risks when fires or explosions occur, such as: Quickly evacuating people from the fire and implementing fire fighting measures. However, despite the implementation of numerous preventive measures, risks still exist due to human negligence or technical factors that humans cannot foresee. The consequences of fire and explosion are particularly severe, causing significant damage to both lives and properties, making many individuals struggle in their lives and many businesses face production and business disruptions, or even bankruptcy. In such cases, individuals facing risks need financial resources to mitigate the consequences. Initially, individuals may use their own savings/accumulated funds, or borrow from relatives and friends. However, these measures may not be sufficient to address major or consecutive risks, because of limited savings and uncertainty in borrowing sources. As the financial market is formed and develops, people can borrow from financial institutions, but the limitations of this approach include high interest rates and collateral requirements, while the assets of individuals or businesses may have been destroyed in fires or explosions. Participating in fire and explosion insurance is the optimal solution for individuals and businesses, because financial resources will be guaranteed when risks

occur without the need for mortgages.

Today, despite significant advancements in science and technology, many industries and sectors still face high risks of fire and explosion, such as gasoline, oil, nuclear materials, high-rise residential areas, etc. Therefore, in addition to preventive measures, governments worldwide continue to require mandatory participation in fire and explosion insurance (to protect public interests, the environment and social safety), while other industries, occupations and sectors with lower risks are encouraged to participate to ensure financial security and mitigate risks.

## 2. Regulations of Vietnamese law regarding fire and explosion insurance

Recognizing the role of insurance in general, and fire and explosion insurance in particular, the system of legal documents on insurance was issued very early, and is regularly amended and supplemented to adapt to changes in the socio-economic landscape. The main legal documents regulating fire and explosion insurance currently include: (1) Law on Insurance Business No. 08/2022/QH15, dated June 16, 2022; (2) Decree No. 67/2023/ND-CP, dated September 6, 2023; (3) Law on Fire Prevention and Fighting No. 27/2001/QH10, dated June 29, 2001, and Law Amending and Supplementing some Articles of the Law on Fire Prevention and Fighting No. 40/2013/QH13, dated November 22, 2012; (4) Decree No. 136/2020/ND-CP dated November 24, 2020. The basic contents regarding fire and explosion insurance are prescribed as follows:

### ▪ Insured objects

The insured objects in fire and explosion insurance are properties under legal ownership and management of production and business units, organizations and individuals in society.

For mandatory insurance, the insured objects comprise all assets of establishments with fire and explosion risks, including: (i) buildings, structures, and properties attached to them; machinery and equipment (establishments with a number of floors, or volume of buildings, or number of occupants exceeding a specific level, for example, state agencies with headquarters taller than 10 floors, apartment buildings, dormitories, office towers of 7 floors or more, markets, commercial centers with a total business area of 500m<sup>2</sup>), (ii) types of goods and materials (including raw materials, semi-finished products, finished products).

For voluntary insurance, insured properties may include: (i) completed construction works, architectural objects, (ii) machinery, equipment, labor tools, (iii) materials, goods stored in warehouses, (iv) raw materials, semi-finished products, finished products on production lines, (v) other assets.

Although fire and explosion insurance is mandatory, insurance companies have the right to refuse to sell insurance to establishments with fire or explosion risks that have not been inspected for fire prevention and fighting, or have not had safety inspection records for fire prevention and fire fighting, or is temporarily suspended or completely suspended from operations due to violations of fire prevention and fighting regulations.

### ▪ Scope of insurance

Insurance companies will compensate for damage to insured property due to fire or explosion, excluding the

following cases: (i) earthquakes, volcanic eruptions, or other natural disasters, (ii) political events, security incidents, and social order disturbances, (iii) intentional burning or explosions under the decision of competent state authorities, (iv) properties that spontaneously combust, self-ignite, or are affected by processing procedures involving heat, overloaded machinery, electrical equipment, (v) lightning strikes that do not cause fire or explosion, (vi) intentional acts by the insured parties.

- Insurance premiums are calculated as a percentage of the insurance amount, with the minimum insurance amount equal to the property value at the time of the insurance contract signing. The premium rate of mandatory insurance is regulated by the Government depending on the type of properties and level of risks, with insurance businesses allowed to adjust up or down by 25%. Insurance companies are responsible for allocating 1% of the total mandatory fire and explosion insurance premiums actually collected from original insurance contracts in the immediately preceding financial year to the common fund managed by the Fire Prevention and Fighting Police Department, to be used for fire prevention and firefighting activities, such as purchasing fire prevention and fighting vehicles and equipments; training firefighting personnel; and promoting awareness of firefighting laws, firefighting knowledge, and mandatory fire and explosion insurance.

### ▪ Inspection and compensation for losses

Loss appraisal is an insurer's activity to determine the value of damage to insured property, serving as a basis for determining the compensation amount. To receive compensation, participants must notify the insurance company as soon as a risk occurs, initiating the appraisal process.

Compensation for loss is the responsibility of the insurance company, and the calculation of the compensation amount depends on whether it follows the rule of the insured amount ratio or premium ratio. Compensating based on the insured amount ratio is intended to prevent insurance fraud and minimize complaints. Compensation based on the premium ratio usually applies when the insured party has not paid the full premium.

When a loss occurs, the insured party must immediately notify the insurance company, and within 14 days from the date of loss for establishments with fire and explosion risks, they must notify the insurance company in writing. The compensation amount is based on the actual damage value, capped at the insurance amount of the insured property. Insurance companies are entitled to a maximum compensation deduction of 20% in cases where establishments with fire and explosion risks fail to fully and promptly implement recommendations on fire prevention and firefighting from the competent police authorities, within the specified timeframe, leading to increased damage in the event of fire or explosion.

## 3. Current status of participation in fire and explosion insurance

According to the provisions of the Insurance Business Law, non-life insurance businesses are allowed to offer fire and

explosion insurance products. Currently, in Vietnam, there are 32 non-life insurance enterprises operating. Organizations and individuals subject to mandatory fire and explosion insurance are obliged to purchase insurance and can choose to purchase insurance from insurance enterprises or branches of foreign non-life insurance enterprises (hereinafter referred to as insurance enterprises) authorized to sell these insurance products. Insurance companies are not allowed to refuse to sell when organizations or individuals meet the conditions to purchase compulsory fire and explosion insurance as stipulated by law. Similarly, for voluntary insurance, organizations and individuals may choose and negotiate with insurance businesses according to their needs.

To implement fire and explosion insurance, insurance businesses must go through the following steps:

- **Exploitation:** Insurance businesses utilize various exploitation channels to sell/sign insurance contracts. Popular channels often used are, (i) direct exploitation, businesses selling products through websites, where customers can search for detailed information about the products and contact call centers for support, (ii) insurance agents, insurance businesses that sign contracts with agents to distribute products, (iii) insurance brokers, (iv) bancassurance, distribution through banks, this channel has the advantage that when customers take out loans to buy apartments, with the accompanying condition is to buy mandatory fire and explosion insurance. Steps for customer exploitation include (1) marketing (receiving insurance requests from customers), (2) risk analysis and assessment, (3) negotiation of premium, (4) signing insurance contracts.
- **Prevention and loss mitigation:** Insurance companies take measures to prevent and limit losses, which bring benefits to both the buyer and the seller. The buyer can reduce the risk of loss, while the seller can decrease

compensation costs. Fire and explosion risks often result in significant consequences, so prevention is the optimal measure to mitigate compensation losses. To ensure the effectiveness of these activities, insurance businesses allocate 1% of their premium revenue to be transferred to firefighting authorities. These authorities then undertake preventive measures, such as dissemination campaigns, guidance, and enhancing firefighting equipment.

- **Inspection and compensation:** In insurance business operations, providing prompt, complete and convenient compensation to customers is a crucial task. It demonstrates responsibility and builds customer trust for the insurance company. The process of loss appraisal includes (i) receiving and processing fire and explosion information, (ii) on-site inspection, (iii) preliminary assessment of fire and explosion developments and causes, (iv) collecting evidence and opinions from relevant parties, preparing inspection records, (v) determining the extent and value of the damage. Based on the appraisal results, the insurance company calculates the compensation amount. The company is responsible for transferring the entire compensation amount to the insured party. Additionally, the business conducts a review of liability of third parties (if any) and pursues compensation from third parties that are responsible for compensating the insured.

Based on legal regulations, insurance businesses will compete to "sell" fire and explosion insurance products. Along with the development of the economy and the expansion of the market scale, the business results of fire and explosion insurance operations have continuously increased over the years, as can be seen in the following table:

**Table 1:** The situation of exploiting fire and explosion insurance operations

Criteria	Year	Units	2020	2021	2022
1	Original insurance premium	Million VND	6,422,761	7,225,417	9,783,988
2	Original insurance premium growth rate	%	-	12	35.4
3	Gross claim payment	Million VND	1,698,178	1,419,036	2,359,916
4	Compensation rate	%	26.44	19.64	24.12

Source: Insurance Supervisory Authority, Ministry of Finance

Revenue from insurance premiums has been increasing over the years. In 2021 compared to 2020, it increased by more than 800 billion VND, equivalent to 12%; In 2022, it increased by over 2,500 billion VND (over 100 billion USD), corresponding to 35.4%, despite being heavily impacted by Covid-19 in these two years. In addition, insurance businesses have performed well in appraisal and compensation tasks. The process of compensation has been fast, convenient, with no major complaints or disputes between insurance companies and policyholders. Every year, insurance companies have paid out trillions of VND in compensation to participants. The compensation rate tends to decrease, with the highest rate being 26.44% in 2020. This indicates that implementing fire and explosion insurance brings significant benefits to insurance companies. Besides the achieved results, there are some limitations in

implementing fire and explosion insurance operations in Vietnam:

- Many businesses/manufacturing facilities are subject to mandatory fire and explosion insurance but have not yet participated. According to statistics from the Fire Prevention and Fighting Police Department, by the end of 2021, approximately 70% of establishments required to purchase mandatory fire and explosion insurance have participated in the insurance scheme, while about 30% of establishments are obligated to purchase fire and explosion insurance but have not yet participated [10].
- Many establishments with high fire and explosion risks, such as small traders in traditional markets or shopping centers, cannot buy insurance because they do not meet the requirements. They lack proper fire prevention and

firefighting systems. Furthermore, according to regulations, when participating in fire and explosion insurance, small traders must have accounting records to track each category of goods along with clear records of imported and exported goods clearly by date and month as a basis to determine the value of insurance coverage and assess the extent of loss in case of damage. However, most small traders fail to meet the requirements for goods transactions and accounting records of imported and exported goods.

- Selling fire and explosion insurance for apartment buildings faces difficulties in determining participation responsibilities. Individual homeowners are responsible for purchasing insurance for private property, while common property falls under the responsibility of the investor. However, after selling all units, the investor is no longer responsible for purchasing insurance. Furthermore, according to regulations, the signing of insurance contracts for apartment buildings is executed with the Building Management Board. However, the Board may encounter difficulties in collecting payments from individual homeowners, or paying money on behalf of homeowners, not to mention cases where homeowners buy houses but do not reside in or rent them out.

#### **4. Solutions to enhance the effectiveness of fire and explosion insurance operations**

Fire and explosion risks often lead to severe damages to both people and properties due to the widespread nature of these risks. Because they cause significant consequences and affect societal safety, participating in fire and explosion insurance is mandatory for establishments with high-risk exposures. However, to further enhance the effectiveness of this insurance operation for society as a whole, several solutions need to be implemented.

Firstly, raising people's awareness of fire and explosion risks.

Most fire incidents stem from human negligence or lack of awareness among individuals, such as blocking fire exits, burning incense, etc. Despite the high risks of fire and explosion, many people do not pay adequate attention to fire prevention and firefighting measures. They lack the knowledge and skills to escape from danger and may not have proper firefighting equipment. Consequently, when fires or explosions occur, the damages are significant. In addition, non-compliance with fire safety regulations is a major cause of fire and explosion risks. To mitigate these risks, the first step is to raise people's awareness of fire prevention and firefighting and skills among the public. This can be achieved through increased communication efforts to promote preventive awareness. Campaigns should aim to change habits that increase fire and explosion risks, such as lacking fire exits or burning votive offerings. Moreover, providing training to the public on firefighting skills and emergency evacuation through various means, such as direct training sessions, distributing leaflets in crowded areas, sharing instructional videos on social media platforms like TikTok, Facebook, and Zalo, or incorporating such content into popular television shows, can be effective.

Secondly, enhancing dissemination and raising awareness about responsibilities and rights for organizations and individuals participating in fire and explosion insurance.

Due to the significant impact of fire and explosion risks on

societal safety, communication efforts regarding fire prevention, firefighting, and purchasing fire and explosion insurance are not solely the responsibility of insurance companies but also involve various relevant agencies and organizations.

For insurance companies, due to the multitude of products they "offer", they tend to invest resources in products that bring high profits. Although they may engage in some fire and explosion insurance marketing activities, it is not extensive, and there is limited advertising for fire and explosion insurance across mainstream media channels. Moreover, since they have already deducted and paid fees to the Fire Prevention and Fighting Police Department, many insurance businesses believe that this Department handles communication efforts.

For the Fire Prevention and Fighting Police Department, in addition to their existing propaganda and training activities on fire prevention and firefighting, they should supplement information about responsibilities and rights when participating in fire and explosion insurance.

For the Insurance Management and Supervision Department, the agency performing state management of insurance, they should intensify propaganda efforts on fire and explosion insurance (both compulsory and voluntary) to raise awareness among establishments at risk of fire and explosion regarding compulsory fire and explosion insurance, and to enhance awareness among organizations and individuals about the rights when participating in voluntary fire and explosion insurance.

In addition, it is possible to coordinate with the Apartment Management Board to disseminate regulations on mandatory fire and explosion insurance. They could post notices about responsibilities, rights, and insurance fee rates on condominium notice boards. Furthermore, they should publicly disclose and clearly delineate the common area and individual area of the condominium to determine the responsibility levels of parties in case of insurance incidents and insurance fee rates.

Thirdly, enhancing inspection, examination, and handling violations regarding fire prevention, firefighting, and fire and explosion insurance.

Strictly inspecting, examining, and enforcing laws on fire prevention, firefighting, and mandatory fire and explosion insurance violations will compel high-risk establishments, particularly those obligated to purchase fire and explosion insurance, to adhere to the laws rigorously. Insurance companies need to collaborate with relevant authorities to establish a database of entities required to purchase compulsory fire and explosion insurance. With a comprehensive database, insurance companies can market fire and explosion insurance accordingly. For cases where establishments fail to comply with fire prevention and firefighting regulations, they should be guided to meet the requirements or provided with support to do so. Additionally, they should proceed to sign insurance contracts with insurance companies.

For apartment complexes, the Fire Prevention and Firefighting Police Department should collaborate with the Apartment Management Boards to review and compile statistics on apartments that do not meet firefighting standards and units that have not participated in compulsory fire and explosion insurance. This will facilitate the development of appropriate policies. Investors or management units of buildings should be responsible for

allocating and publicly disclosing the collection rates and purchasing mandatory fire and explosion insurance for the common ownership portion of each apartment building.

Furthermore, the Insurance Management and Supervision Department needs to strengthen inspection and supervision of insurance enterprises complying with mandatory fire and explosion insurance regulations, and handle any violations of mandatory fire and explosion insurance regulations by insurance companies.

Finally, improving the quality of services provided by insurance companies

Service quality is an important factor that significantly affects the decision to purchase fire and explosion insurance. To attract organizations and individuals to buy this product, insurance businesses must improve the quality of service delivery, from sales to compensation processes. Participation and benefits procedures need to be simple, convenient, and fast. Instead of rejecting high-risk customers, insurance companies should focus on supporting and guiding them to participate. Often, once customers have joined for the first time, they tend to renew their contracts in subsequent periods. Companies also need to proactively implement risk prevention measures to demonstrate the benefits of insurance participation to the public.

## 5. Conclusion

Fire and explosion risks occur randomly and can cause unpredictable damages to both people and properties. To assist organizations and individuals in having sufficient financial resources to overcome property risks, restore production and business activities, and stabilize their lives after such risks, fire and explosion insurance is the optimal solution. However, in Vietnam currently, there are still many organizations and individuals obligated to participate in fire and explosion insurance but have not done so, and the number of voluntary participants in fire and explosion insurance is still low. Therefore, to enhance the effectiveness of this insurance business and contribute to ensuring societal safety, it is necessary to implement various measures to increase the number of organizations and individuals participating in fire and explosion insurance.

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