Suggestions for China's response to the HNS Convention

Yuhui Zhou
SUGGESTIONS FOR CHINA’S RESPONSE TO THE HNS COVENATION

by

ZHOU YUHUI
The People’s Republic of China

A dissertation submitted to the World Maritime University in partial Fulfilment of the requirements for the award of the degree of

MASTER OF SCIENCE
In
MARITIME AFFAIRS
(MSEM)

2020

© Copyright Zhou Yu Hui, 2020
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.

Signature:

Date: June 26, 2020

Supervised by: Jiang Yuechuan

Professor
Dalian Maritime University
ACKNOWLEDGEMENT

First of all, I would like to show my appreciation to MSEM project and its managing staff for their advice and help for my choice of joining the MSEM and my study after joining.

I would also like to express my sincere gratitude to those respectable professors who have given me a comprehensive and systematic understanding of the marine environment and safety through their excellent lectures. I benefit tremendously from their thinking mode and insights. I also want to express my deep appreciation to my supervisor Prof. Jiang, who took the trouble to answer questions and give important guidance in the process of my dissertation writing.

I am grateful to my classmates Xu Changqing, Ma Ranqi and Shu Haiyue, from the discussion with whom I acquired a lot in study. I would also like to thank Yi Yunze, Yu Xu, Ma Wenxuan and the older classmates from the MSA for their company and encouragement when I felt down. The happy time spent with them will be one of the warmest memories in my life.

My final acknowledgement is for my parents. For more than two decades, they have been unconditionally supporting and accommodating me, so that I can grow up carefree and pursue my own life without worries. I will use my whole life to repay their upbringing.
ABSTRACT

Title of Dissertation: Suggestions for China’s Response to the HNS Convention

Degree: Master of Science

Protocol of 2010 to amend the International Convention on Liability and Compensation for Damage in connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996 has not been in force since it was adopted in 2010. However, the International Maritime Organization has been urging states to accede to the Convention as soon as possible and actively promoting its entry into force. Different from the ship oil pollution damage compensation system, the most distinctive feature of the Convention is the establishment of a two-tier compensation mechanism, where the shipowner responsibility system and the fund system are stipulated in the same convention. Although HNS Fund is the innovation of the HNS Convention, it also becomes the obstacle preventing many countries from ratifying the Convention.

According to China's current domestic status, it is necessary to establish a complete HNS damage compensation system. Then, is it necessary for China to accede to the HNS Convention? If so, when and what should be done to prepare for accession? After introducing the main contents of the HNS Convention, this paper discusses and analyzes the above issues in order to provide suggestions for China to respond to the HNS Convention.

KEY WORDS: HNS, Accession to Convention, Compensation for Ship-derived Pollution Damage, Two-tier Compensation System, Compulsory Insurance, Fund
TABLE OF CONTENTS

DECLARATION.............................................................................................................................. ii
ACKNOWLEDGEMENT.................................................................................................................. iii
ABSTRACT........................................................................................................................................ iv
TABLE OF CONTENTS.................................................................................................................... v
LIST OF TABLES............................................................................................................................. vii
LIST OF FIGURES........................................................................................................................... viii
LIST OF ABBREVIATIONS.............................................................................................................. ix

Chapter 1 Introduction.................................................................................................................. 1
  1.1 Background Information ........................................................................................................... 1
  1.2 Objectives of Study .................................................................................................................... 4
  1.3 Methodology .............................................................................................................................. 5
  1.4 Structure of Dissertation ......................................................................................................... 5

Chapter 2 Introduction of the HNS Convention ............................................................................. 7
  2.1 Background and Objective of the Convention ......................................................................... 7
  2.2 Main Content of the Convention ............................................................................................. 8
    2.2.1 Application scope ................................................................................................................. 8
      2.2.1.1 Applicable objects ......................................................................................................... 9
      2.2.1.2 Applicable damage ..................................................................................................... 9
      2.2.1.3 Applicable territory ................................................................................................... 10
      2.2.1.4 Inapplicable circumstances ....................................................................................... 10
    2.2.2 Compulsory insurance ...................................................................................................... 11
    2.2.3 Shipowner’s liability ......................................................................................................... 11
    2.2.4 HNS Fund ......................................................................................................................... 12
  2.3 Development of the Convention ............................................................................................. 13
    2.3.1 The adoption of HNS PROT 2010 ..................................................................................... 13

Chapter 3 Necessity and Feasibility of Accession to the HNS Convention for China ......................... 15
  3.1 Necessity of Establishing an HNS Compensation System in China ........................................ 15
    3.1.1 Status of HNS transportation and pollution in China ...................................................... 15
    3.1.2 Lack of national legislation. .............................................................................................. 16
    3.1.3 Inadequate compensation ............................................................................................... 18
  3.2 National Legislation or Convention Accession? ...................................................................... 20
    3.2.1 Accessing to the HNS Convention directly? .................................................................... 21
      3.2.1.1 Positive effect of accession ......................................................................................... 22
      3.2.1.2 Negative effect of accession ..................................................................................... 23
    3.2.2 Developing domestic HNS compensation system only? .................................................. 27
    3.2.3 Domestic legislation first and Convention accession later? ......................................... 31

Chapter 4 Suggestions for Further Accession to the HNS Convention ............................................. 34
4.1 Tracking the Relevant HNS Matters in China .................................................. 34
4.2 Realizing the Integration of Domestic Law and the HNS Convention........ 35
4.3 Tracking the HNS Convention...................................................................... 38

Chapter 5  Summary and Conclusions ................................................................. 40
REFERENCES........................................................................................................ 42
LIST OF TABLES

Table 1  China's chemical industry imports and exports from 2001 to 2013  25
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>Number of ships carrying HNS worldwide is growing</td>
<td>2</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Impacts associated with HNS incidents</td>
<td>3</td>
</tr>
<tr>
<td>Figure 3</td>
<td>China’s Exports 2018</td>
<td>27</td>
</tr>
</tbody>
</table>
# LIST OF ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC CODE</td>
<td>Code of Safe Practice for Solid Bulk Cargo</td>
</tr>
<tr>
<td>CLC 1969</td>
<td>International Convention on Civil Liability for Oil Pollution Damage, 1969</td>
</tr>
<tr>
<td>ECSA</td>
<td>European Community Shipowners’ Associations</td>
</tr>
<tr>
<td>EEZ</td>
<td>Exclusive Economic Zone</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>HNS</td>
<td>Hazardous and Noxious Substances</td>
</tr>
<tr>
<td>IBC CODE</td>
<td>International Bulk Chemical Code</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>IGC CODE</td>
<td>International Code for Construction and Equipment of Ships Carrying Liquefied Gases in Bulk</td>
</tr>
<tr>
<td>IMDG CODE</td>
<td>International Maritime Dangerous Goods Code</td>
</tr>
<tr>
<td>IMO</td>
<td>International Maritime Organization</td>
</tr>
<tr>
<td>IOPC FUNDS</td>
<td>International Oil Pollution Compensation Funds</td>
</tr>
<tr>
<td>ITOPF</td>
<td>International Tanker Owners Pollution Federation</td>
</tr>
<tr>
<td>LEG</td>
<td>Legal Committee</td>
</tr>
<tr>
<td>OPA 1990</td>
<td>US Oil Pollution Act of 1990</td>
</tr>
<tr>
<td>LNG</td>
<td>Liquefied Natural Gas</td>
</tr>
<tr>
<td>LPG</td>
<td>Liquefied Petroleum Gas</td>
</tr>
<tr>
<td>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships</td>
</tr>
<tr>
<td>MSA</td>
<td>Maritime Safety Administration</td>
</tr>
<tr>
<td>PAL1974</td>
<td>Athens Convention relating to the Carriage of Passengers and their Luggage by Sea, 1974</td>
</tr>
<tr>
<td>PAL PROT 1976</td>
<td>Protocol to the Athens Convention relating to the Carriage of Passengers and their Luggage by Sea, 1974</td>
</tr>
<tr>
<td>PAL PROT 2002</td>
<td>Protocol of 2002 to the Athens Convention relating to the Carriage of Passengers and their Luggage by Sea, 1974</td>
</tr>
<tr>
<td>UNCTAD</td>
<td>United Nations Conference on Trade and Development</td>
</tr>
</tbody>
</table>
Chapter 1  Introduction

1.1 Background Information

More than 80% of international merchandise trade depends on sea transportation and the seaborne trade continues to expand with the development of world trade. According to the estimates of the United Nations Conference on Trade and Development (UNCTAD), the international maritime trade will grow at an average annual rate of 3.4% between 2019 and 2024 (UNCTAD, 2019). Under such a general trend, together with the increasing use of synthetic raw materials in industrial production and life, the demand for hazardous and noxious chemicals as the main components of these artificial raw materials has increased and the shipping volume of hazardous and toxic substance (HNS) in maritime transportation has also increased and will keep growing accordingly. International Maritime Organization (IMO) estimates that more than 200 million tons of chemicals are shipped by tankers each year (IMO, ITOPF, & IOPC FUNDS, 2016). From 2000 to 2016, the amount of HNS transported by sea nearly doubled (Li, 2016). Since currently people are unfamiliar with the characteristics of various types of HNS (more than 2000 regularly transported by sea) and the technology to deal with the HNS pollution is not yet mature, once an HNS leak occurs, it is more difficult to prevent and reduce losses (Li, 2015, p. 1), though the amount of HNS leakage is much smaller than that of oil substances. Based on these two factors which are rising shipping volume and immature response and handling technology, the risk of HNS pollution incidents is gradually increasing.

In addition, the harmfulness of HNS is enormous in range and severity. On the one hand, the number of ships dedicated to transporting HNS is rising, as is reflected in Figure 1 (IMO, ITOPF, & IOPC FUNDS, 2016), thus more ships may leak HNS and
more areas may suffer HNS damage. Because of the large carrying capacity of these ships, once an accident occurs, it will cause greater harm to the sea area where they are located. On the other hand, numerous highly volatile and destructive HNS flowing into the ocean will cause incalculable damage to the living environment of the organisms in the ocean, the ecological balance around the ocean and the basic functions of seawater. Also, the air pollution, damage resulting from reaction of HNS with water and other chemicals etc. are all the potential consequences of HNS leakage which may cause damage to human health and safety and to economy like fisheries and tourism(Figure 2). Then, who pay for the costs of clean-up and preventive measures as well as the reasonable measures of reinstatement of the environment? Who pay for the property damage and economic losses? Who should be responsible for the loss of life or personal injury?

Figure 1. Number of ships carrying HNS worldwide is growing,
Source: from “THE HNS CONVENTION: WHY IT IS NEEDED”, by IMO, ITOPF, & IOPC FUNDS, 2016
With the occurrence of complex marine pollution accidents growing, the members of the IMO are committed to establishing a compensation mechanism that can cover marine oil pollution damage and pollution damage caused by non-oil cargo. But the oil pollution damage compensation mechanism represented by the CLC 1969 and the FUND 1971 is insufficient to solve the problem of compensation for complex marine pollution accidents. Faced with the gap in international law for compensation for HNS on board ships, the victims can not be fully compensated and the marine environment benefits can not be effectively maintained. This is unfair for the damaged parties. Thus, establishing a compensation mechanism for HNS at sea is essential.

Therefore, it is necessary and urgent to promote the process of the HNS Convention entering into force because of the high damage risks, huge leakage damage and lack of common compensation mechanism. To this end, at the 101st session of the Legal Committee(LEG) in 2014, IMO decided to restart the HNS Convention
Correspondence Group whose work mainly includes providing HNS accident solutions and drafting resolutions on the entry into force and implementation of the HNS Convention. At the same time, the secretariat of the International Oil Pollution Compensation Funds (IOPC FUNDS) established the HNS Finder, a database to help identify the HNS Convention assessed goods, to assist interested parties in determining whether a substance is a HNS, whether it belongs to contributing cargo and whether it should be paid into the general account or in separate accounts. IMO, together with the IOPC FUNDS and the International Tanker Owners Pollution Federation (ITOPF), jointly issued documents to popularize the feasibility and advantages of the HNS Convention, and urged the member states of IMO to join the Convention. In March of 2020, European Union (EU) and European Community Shipowners’ Associations (ECSA) highlighted the importance of accession to the HNS Convention and encouraged their members to ratify the Convention.

As of 15 July 2019, five countries, including Norway, Canada, Turkey, Denmark and South Africa had ratified or acceded the HNS Convention. With the accession of the first four countries, one of the conditions for the entry into force of the Convention has been met. A number of other states, meanwhile, have indicated they were working for the goal of becoming state parties by 2020 or 2021 (IOPC FUNDS, 2019). The HNS Convention is not far from coming into force.

1.2 Objectives of Study

Since ratification of the HNS Convention has been a hot topic in recent years and China has not been the state party, the primary objective of the study is to present some suggestions on China’s response to the Convention. To be more specific, the
dissertation is to deal with the following questions:

1. Should China accede to the Convention?
2. When is the appropriate time for China to accede?
3. What can China do to prepare for the Convention implementation?

1.3 Methodology

The study mainly used literature review and comparative analysis as research methods. The literature reviewed included the HNS Convention, IMO documents, IOPC FUNDS documents, Chinese regulations, books, journals, online articles on the HNS Convention content and status, Chinese national situation about HNS damage and compensation and the impact of ratification. Some websites were also used including IOPC FUNDS, IMO, Maritime Safety Administration of the People’s Republic of China, China Judicial Documents Network, CNKI. Besides, comparative approach was used to analyze the pros and cons of accession of the HNS Convention and to advise the timing of accession thereby.

1.4 Structure of Dissertation

This dissertation consists of five chapters. Chapter 1 provides background information, objectives, methodology and structure of the dissertation. Chapter 2 outlines the development of the HNS Convention and its main content. Chapter 3 describes the domestic HNS incidents situation and makes an introduction of Chinese regulations and compensation regime for HNS damage. Based on the national conditions, it further analyzes the pros and cons of becoming state party of the HNS Convention and
explains the necessity of ratification for China and help ratification for China and help to make decisions regarding whether China should accede and proper timing for the accession. Chapter 4 promotes several practical proposals for legislators, the government in order to help the implementation preparation for acceding to the Convention. The last chapter discourse the overall conclusions.
Chapter 2  Introduction of the HNS Convention

2.1 Background and Objective of the Convention

The "Torrey Canyon" oil spill incident in 1967 exposed the ineffectiveness of maritime tort law in compensating for oil pollution damage from ships. This case made the international community realize that a convention system capable of providing compensation for the damage caused by the transportation of oil and toxic and hazardous substances by sea should be established. Therefore, with the active efforts of the LEG, the CLC 1969 and the FUND 1971 were adopted. These two conventions and their protocols together with the BUNKER 2001 form a relatively complete legal system for civil liability and compensation for oil pollution damage from ships.

By the 1970s, the maritime transport of packaged HNS had gone through a long period of time. The maritime transport of bulk liquid chemicals, which began in the early 1950s, and the maritime transport of liquefied gas, which rose subsequently, also took place for more than 20 years. However, due to the relatively small number and variety of HNS transportation, and the relatively small number of major HNS incidents that occurred during a fairly long period of time at that time, the issue of enacting an international convention on HNS liability for damages failed to get enough attention. In 1974, IMO issued inquiry forms to member states to investigate whether it is necessary to establish a civil liability system for substances not yet included in international maritime law. From 1975 to 1981, there were many discussions on the necessity of establishing another convention and the scope of application of the Convention. In 1980, the draft convention was introduced, but at the Diplomatic Conference in 1981, the draft was not adopted because of the major differences in the shipper ‘s contribution, the limits of liability for compensation and the scope of
application of the Convention. IMO authorized its LEG at the 1984 Legal Conference to re-examine and revise the draft convention. Since then, the Legal Committee has done a lot of work in other areas, but the HNS Convention has not received sufficient attention. Until the late 1980s, due to the severe consequences of HNS accidents which occurred frequently, and in particular the adoption of Convention on Civil Liability for Damage Caused during Carriage of Dangerous Goods by Road, Rail and Inland Navigation Vessels, 1989, the European countries strongly requested the establishment of a maritime transport of HNS in the compensation system. The LEG restarted the formulation of the HNS Convention and finally the HNS Convention was adopted in 1996 in London. But it has never been effective because of certain problems in its implementation of this HNS Convention, it has never been effective. The Protocol of 2010 to amend the International Convention on Liability and Compensation for Damage in connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996 (HNS PROT 2010) responded to those issues, made uniform provisions on related disputes, and finally formed the latest HNS Convention, on which this paper mainly focuses.

The HNS Convention is divided into six chapters, fifty-four articles and two annexes. The purpose of the Convention is to ensure that compensation for loss or damage to persons, property and the environment caused by ship accidents involving HNS can be adequately, promptly and effectively realized (IMO, 2010).

2.2 Main Content of the Convention

2.2.1 Application scope

The scope of the Convention application refers to the objects, vessels and waters of
which the HNS Convention has effect and can be regulated. It also includes the situations where the convention does not apply or have no effect. The relevant provisions are contained in articles 1, 3, 4 and 5 of the Convention.

2.2.1.1 Applicable objects

HNS covered by the Convention are defined by references to International Convention for the Prevention of Pollution from Ships (MARPOL), International Bulk Chemical Code (IBC CODE), International Maritime Dangerous Goods Code (IMDG CODE), International Code for Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC CODE) and Code of Safe Practice for Solid Bulk Cargo (BC CODE), including oils, other liquid substances defined as noxious or dangerous, liquefied gases, liquid substances with a flashpoint not exceeding 60°C, dangerous, hazardous and noxious materials and substances carried in packaged form or in containers and solid bulk materials defined as possessing chemical hazards (IMO, ITOPF, & IOPC FUNDS, 2016). In the same breath, the Convention adopts a dynamic rule (Li, 2016), that is, if these referenced international conventions or rules are amended and the HNS list changes, the HNS Convention will also be amended by default. However, there is an exception to the IMDG Code, for the reference of which the HNS list of the 1996 version is included only, irrespective of any subsequent changes.

2.2.1.2 Applicable damage

The scope of HNS damage includes both pollution damage and damage caused by fire and explosion, specifically: personal injury or death, loss of or damage to property other than the ship and the loss and damage caused by the environmental pollution
resulting from the hazard and toxicity of substances. Besides, cost of taking preventive measures and the further loss and damage caused thereby is also covered.

2.2.1.3 Applicable territory

The scope of geographical application shall include not only any damage caused in the territory or territorial sea of the state party, but also environmental pollution damage within the Exclusive Economic Zone (EEZ) of the state party as prescribed by international law, and other damage caused by the transport of HNS on ships registered in or entitled to fly the flag of the state party.

2.2.1.4 Inapplicable circumstances

First, the convention does not apply to non-pollution damages, such as claims for the object of damage arising from the contract of carriage of goods and passengers. Second, the Convention shall not be in conflict with other relevant provisions, in which case the Convention shall not apply. For example, if the provisions of the HNS Convention are inconsistent with the provisions of the laws and regulations applicable to workers' compensation or social security, this Convention shall not apply. This also reflects the protection of vulnerable groups and the modesty of the Convention. Third, the Convention does not apply to objects already provided for in other conventions. If a pollution damage belongs to the CLC 1969 or to the seventh class of radioactive material described in appendix B of the BC CODE, this convention shall not apply, whether or not the liability under this convention meets its requirements. Since oil substances and radioactive materials have been well regulated in the two conventions, the convention excludes the application of these two kinds of objects, so as to avoid
the contradiction and conflict in the application of the indemnity clause. Fourth, in principle, the convention applies only to commercial ships, but it makes an exception for non-commercial ships, with the aim of bringing more pollution from HNS into the scope of the convention, provided that the state parties are willing to do so. Lastly, states parties can declare that the convention does not apply to ships carrying HNS only in packed form if its gross tonnage is no more than 200.

2.2.2 Compulsory insurance

According to the provisions of the HNS Convention, all ships carrying HNS, regardless of their tonnage and carrying capacity, must be covered by compulsory insurance. This shows the determination of the IMO to control and limit pollution caused by HNS, as well as the severity of its legislation (Yu, 2010, p. 18). As a safeguard of the first-tier compensation mechanism of the Convention, any claim may be made directly to the insurer or other person providing financial security.

2.2.3 Shipowner’s liability

Among the various conventions constituting the established compensation system for marine pollution, such as the CLC PROT 1992, the FUND PROT 1992 and the BUNKER 2001, the HNS Convention is the only one that has established a two-tier compensation system in one convention. In the first-tier compensation mechanism, the shipowner bears the liability for compensation. According to the provisions of the CLC 1969, the shipowner must provide compulsory insurance on the ship carrying HNS to handle compensation in case of an accident. This means that only the shipowner under the HNS Convention shall bear the liability for compensation for damage, while other
relevant personnel, including the servants or agents of the shipowner, the crew, the pilot, the charterer(including bareboat charterer), managers or operators, people performing salvage operations or taking preventive measures and their servants or agents, need not assume liability to pay compensation. No matter whether the shipowner is at fault or negligent or not, he or she is liable for the damage. The claimant only has to prove that the damage occurred in a causal relationship with the HNS transport on board. Under a strict system of responsibility, the shipowner may be exempted from liability if he can prove that the damage was caused by the exemptions specified in Article 7, paragraphs 2 and 3 of the Convention. The shipowner is entitled to a limitation of liability under the Convention, which is calculated on the basis of the gross tonnage of the ship. In any case, however, the amount of compensation must not exceed SDR 115 million.

2.2.4 HNS Fund

The HNS Convention establishes the compensation system with the two-tier compensation mechanism as the core. If the claim can not be compensated fully, the HNS Fund is activated as the second-tier compensation mechanism, which indemnifies the damage that the shipowner is not liable for or that the shipowner and the insurer cannot afford to pay. The contribution system under the HNS Fund is complex with four accounts, including a general account and three separate accounts, namely, the oil account, the liquefied natural gas(LNG) account and the liquefied petroleum gas(LPG) account. The separate account is used to ensure that liability is shared fairly between the different categories of contribution cargoes, taking the different degrees of risk into account. The purpose of the general account is to compensate for damage caused by HNS except that compensated by three separate accounts under the convention. There
is no relationship of mutual compensation between the accounts. Each account only compensates for the claim of cargo under its own account. Under the HNS Convention, the responsibility to pay contributions is borne by the HNS consignee in the state party. The contribution levied on each consignee is calculated on the basis of the total amount of contributing cargo received in excess of a certain quantity. Under the general account, the threshold for solid bulk HNS and other HNS is 20,000 tons. Under the separate accounts, the threshold for the persistent oil, the non-persistent oil and LPG is respectively 15,000 tons, 20,000 tons and 20,000 tons. There is no defined minimum amount for LNG. States parties are not responsible for the payment of contributions but are obliged to report the total volume of HNS cargoes received.

2.3 Development of the Convention

2.3.1 The adoption of HNS PROT 2010

The HNS PROT 2010 is quite specific to the modification of the 1996 convention. Apart from the adjustment of some words and the change of the order of articles, the substantive change is mainly aimed at several controversial issues that hinder the entry into force of the convention, for the purpose of removing the obstacles to its final entry into force. The first obstacle is the issue of contribution for receivers of packaged HNS cargoes. The Protocol's solution is to raise the shipowner’s liability limit for packaged HNS so that the receivers of the corresponding packaged HNS cargoes does not have to contribute to the HNS Fund but can still be reimbursed. Secondly, on the issue of contribution on LNG account, the Protocol allows the parties of the LNG contract to decide the responsibility of contribution by agreement under certain conditions. If the owner of the cargoes is liable to pay his contributions under the agreement but has not paid any, the receiver is liable to pay the unpaid contributions. Thirdly, the Protocol
provides three solutions to the problem of non-reporting of the state party. The first solution is that a report on cargoes subject to contribution is required when the documents of approval are deposited with the secretary-general. Secondly, if a state party fails to submit its annual report, it will suspend its status as a state party until the protocol enters into force after the deposit of the instrument of ratification. Finally, once the protocol enters into force for a state, due to its gratuitous failure to report (with the exception of claims for personal injury and death), compensation to the accident will be withheld temporarily or permanently.

As the HNS Convention sets strict conditions for its entry into force, the convention should be supported not only by enough states with strong shipowners, but also by a certain number of countries receiving large quantities of HNS cargo. Nowadays, the concerns of governments have centered on the administrative burden of compliance, the availability of compulsory insurance and the establishment of HNS Fund. These issues need to be settled on the basis of a comprehensive balance between environmental benefits and the economic development of trade and shipping and of the completion of extensive industry consultation (Li, 2016).
Chapter 3  Necessity and Feasibility of Accession to the HNS Convention for China

3.1 Necessity of Establishing an HNS Compensation System in China

3.1.1 Status of HNS transportation and pollution in China

With the development of China's economy and the increasing domestic market demand, the volume of HNS cargo entering and leaving China's ports is very large and is on an increasing trend. To reduce transportation costs and save time, ship upsizing has become inevitable. As a result, once a pollution accident occurs, the damage to the marine environment will be extremely huge. According to statistics about HNS, the total number of inbound and outbound cargo increased by 91.5% in 2010, and the number of inbound and outbound vessels increased by 49.5% compared with the data in 2006 (Li, 2015, p. 111). From 1997 to 2008 alone, 15 exceptionally serious accidents of hazardous and noxious cargo pollution occurred in China's coastal areas, with an average spill volume of 344 tons (Cao, 2011).

At the same time, the number of ships carrying HNS and the number of HNS accidents are also increasing. According to statistics, from 1990 to 2013, more than 100 HNS pollution accidents occurred in China's sea areas (Zhang, 2013, p. 15), with a variety of pollutants. From 2012 to 2017, the planning of dangerous goods terminals in domestic ports increased year by year. The total quantity of dangerous goods transported by waterways in China increased by nearly 10% each year and the dangerous situations of dangerous goods transportation showed a trend of uncertainty, making up approximately 10% of that of water traffic accidents (Han, 2017).

Due to the difficulty of HNS statistics collection, it is roughly estimated that by the
end of 2010, more than 130 kinds of HNS had been transported by Chinese ships, a nearly 40 times compared with that of the early 1990s. Among them, more than 10 kinds of HNS have high toxic nature (Zhang, 2013, p. 16). The increase in the types of HNS has increased the burden on China's anti-pollution work. In addition, the imperfection of China's anti-pollution system and capacity building of HNS makes it difficult to timely handle HNS accidents properly, which aggravates the severity of losses after the occurrence of HNS accidents.

3.1.2 Lack of national legislation

As the HNS pollution accidents are on the rise in China, the compensation for damages will be more problematic, which needs to be solved by laws.

At present, China's laws and regulations on marine pollution focus on marine administration and pollution prevention, and there is no special legislation on compensation for damage caused by HNS accidents. In practice, the compensation for these accidents is mainly based on the Tort Law of the People's Republic of China, 2009(Tort Law), Marine Environment Protection Law of the People's Republic of China( Amendment 2017)( Marine Environment Protection Law), the Maritime Code of the People's Republic of China 1992( Maritime Code), and Regulation on the Prevention and Control of Vessel-induced Pollution to the Marine Environment( 2018 Amendment). For example, Article 65 of the Tort Law stipulates that "if damage is caused by environmental pollution, the polluter shall bear the tort liability.", and Article 67 of this law stipulates that "if two or more polluters pollute the environment, the extent of the polluter's liability shall be determined according to such factors as the type of pollutant and the amount of pollutant discharged."; Article 90 of the Marine
Environmental Protection Law stipulates that "those who are responsible for pollution damage to the marine environment shall eliminate the damage and compensate for the loss." The above-mentioned provisions only define some basic principles, and there are no provisions on the scope of liability compensation, limitation of liability and other aspects in those laws and regulations, so they can not apply fully to the case of compensation for HNS. The Maritime Code makes no mention of HNS, nor does it provide a separate chapter compensation for pollution damage caused by ships. When the victims claim for compensation according to the code, they will often face liability limitation, limitation of action and other disputes or unreasonable settlements. Although the Maritime Code (Draft for Public Comments) released in 2018 (not yet in effect) adds the content of HNS compensation for damages, which is basically consistent with the HNS Convention in terms of scope of application, subject of liability and compulsory insurance system, it still does not clearly stipulate the specific limit of liability and the method of collecting and using of the HNS Fund.

In addition, although China acceded to the Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances, 2000, which seems to be concerned with HNS, this convention merely aims to improve the preparedness and emergency response capabilities of all state parties to HNS pollution accidents, and does not involve the compensation for HNS damage.

In a word, currently, China applies fragmented laws and regulations in terms of compensation for pollution damage caused by HNS, which are incomplete and unsystematic. There are no clear provisions on the liability subject, compensation scope, liability insurance or financial guarantee, which are the essential components of the damage compensation system.
3.1.3 Inadequate compensation

In general, the main cause of inadequate maritime compensation in China is the low limit of compensation. Since no specific provisions can apply to the HNS compensation limitation except the Maritime Code, the victims can only claim damages under it. In the vast majority of cases, the owner is entitled to a low limitation of liability for maritime claims, which prevents the victim from obtaining adequate compensation.

In 2001, the South Korean DAYONG ship leaked about 700 tons of styrene into the sea due to the collision accident in the East China Sea, causing huge damage to the local marine ecology, fishery, shipping industry and the health of residents, and this accident was confirmed to be the world's largest styrene leakage pollution accident in that year. However, according to the Maritime Code, the liability limit of the shipowner is 417333SDR, which is only a drop in the ocean for the huge property and personal damage. If China had acceded to the HNS Convention, the limit of liability should have been 10435000SDR, 25 times that of the former, and the victim could also have applied for the compensation from HNS Fund, which would have greatly improved the possibility of getting reasonable compensation. Similar cases in China are not rare, and the injured party's inability to obtain reasonable compensation can partly be attributed to the imperfect domestic legislation in China and the failure to join the HNS Convention in time or the failure to make efforts to do so.

In 2013, the ship FC GLORIA flying the flag of South Korea leaked about 44 tons of phenol in Zhenjiang, Jiangsu province, seriously affecting the domestic water use of local residents. According to the Investigation Report on the Pollution Accident of FCGLORIA issued by Zhenjiang MSA, the water area is polluted due to the violation
of the operation rules of ship FC GLORIA and the equipment defect of manual butterfly valve, and the vessel shall take full responsibility for the pollution accident. In the first instance, the court held that the crew of the vessel did not take effective preventive measures according to the relevant safety operation regulations, even though they knew that the stop-check valve in its normally open state might cause pollution, and their laissez-faire behavior eventually led to the occurrence of the pollution accident. In accordance with article 209 of the Maritime Code(" if it is proved that the loss which gave rise to the claim was caused by the willful act or omission of the person liable, or with the knowledge that the loss might be caused, the person liable shall not have the right to limit his liability in accordance with the provisions of this chapter."), the shipowner KDB company lost the right to limit liability in this case. But the appeals court overturned the conclusion that according to article 18 of Several Provisions of the Supreme People's Court on the Trial of Cases of Disputes over the Limitation of Liability for Maritime Claims "The ‘liable party’ as prescribed in Article 209 of the Maritime Code refers to the liable person himself in a maritime accident.", that is to make distinction between the consequences of the acts of the shipowner(including the charterer and the operator) and those of his employees or agents. When the shipowner himself has intentional or reckless behavior resulting in the loss to the claimant, the shipowner will lose the right to limit the liability, while the intentional or reckless behavior of the captain and crew employed by shipowner cannot be equated with the intentional or reckless behavior of shipowner, so the shipowner of the ship should not lose the right of limitation of liability due to the intentional or reckless captain or crew, and the KDB company should enjoy limitation of liability for compensation. The case was listed by the Supreme People's Court as one of the top 10 typical cases in China's maritime trials in 2016, and its decision has been emulated by similar cases across the country.
According to international law, China has jurisdiction over environmental tort cases within its territory and EEZ. In addition, according to the Law of the People's Republic of China on Choice of Law for Foreign-related Civil Relationships, the law of the place of infringement, namely the Chinese law, is applicable to foreign-related infringement cases. As the applicable law, the Maritime Code only provides for the limitation of liability for maritime claims, but not for HNS claims, therefore, shipowner's liability can only be classified as limited liability (enjoying limitation of liability for maritime claims) or unlimited liability (not enjoying any limitation of liability). However, the shipowner's right to limitation of liability for HNS damages is virtually unalterable in judicial practice, unless the victim can prove that the shipowner himself committed intentional or reckless acts, which is extremely difficult. To make matters worse, the limitation of liability under the Maritime Code was very low, at the level of Convention on Limitation of Liability for Maritime Claims, 1976. Under such circumstances, it is hard for the victims of HNS accidents to get adequate compensation, which is seriously detrimental to the protection of China's marine environmental rights and economic interests, and the protection of citizens' lives and health. Therefore, it is urgent for China to establish a complete and systematic legal system of HNS damage compensation, with attention to combining national conditions.

3.2 National Legislation or Convention Accession?

The system of compensation for ship-borne damage in various countries can be divided into three types: formulating domestic laws, participating in international conventions, participating in international conventions and establishing domestic compensation mechanisms. China can construct the HNS damage compensation system through domestic legislation, acceding to the HNS Convention and both. So, for China, which
is the best choice?

3.2.1 **Acceding to the HNS Convention directly?**

China has always attached great importance to marine environmental protection and actively assumed its state responsibilities. It has acceded to almost all international conventions of great significance to environmental protection, which mainly involve precaution and emergency measures for marine environmental pollution and international cooperation. However, acceding to the convention on compensation for marine pollution from ships should be a more prudent action. Under the system of international laws, the conventions regulating the compensation for marine pollution from ships mainly include CLC 1969, CLC PROT 1992, BUNKER 2001, FUND1971, FUND PROT 1992, FUND PROT 2003, and HNS PROT 2010 which has not yet taken effect. China acceded to CLC 1969 in 1980 and BUNKER 2001 in 2008, and acceded to CLC PROT 1992 in 2000 and denounced CLC 1969. China acceded to neither the FUND PROT 1992 which replaced the FUND 1971 nor FUND PROT 2003, but the Hong Kong Special Administrative Region (HKSAR) is a party to FUND 1971 and FUND PROT 1992. In the absence of complete relevant domestic laws, China chose to directly accede to the first three conventions. In this case, can the HNS Convention, which also has the nature of governing compensation for ship-derived pollution damage, follow the former approach? From the perspective of accession to the Convention, in addition to the early FUND 1971, China also acceded to CLC PROT 1992 but did not accede to its supplementary FUND PROT 1992 and FUND PROT 2003, which provide the second and third tier oil pollution damage compensation. At the same time, it directly joined BUNKER 2001, which has no fund compensation. Based on this, it is not difficult to speculate that China seems not enthusiastic about
joining such kind of international supplementary compensation mechanism, though the number of state parties to the FUND PROT 1992 has reached 118, accounting for 94.62% of the world's total ship tonnage. In fact, the fund contribution is an important factor for making decision of acceding to the international conventions, and the contribution required by the HNS Convention is also the main reason for wait-and-see attitude of most states towards accession to it. Therefore, as the HNS Convention stipulates the dual compensation mechanism, including fund compensation, whether to directly accede to the HNS Convention needs to be further weighed against the pros and cons and should not just follow the example of China ‘s previous direct accession to the CLC and BUNKER, which do not require the contributions of receivers of state parties.

3.2.1.1 Positive effect of accession

As mentioned in the previous section, at present, in China ‘s domestic legislative field, there is no complete compensation standard document or special laws and regulations on the damage caused by shipping HNS, nor a corresponding HNS fund set up for damage caused by that. The risks brought by the transportation of HNS are only borne and shared by the insurance of some ships. If China acceded to the HNS Convention, it could use the protection mechanism stipulated in the Convention to better protect its marine environmental interests. The comprehensive protection mode and in-depth protection power of the HNS Convention, coupled with its wide application scope, will certainly have an extremely important and positive impact on China.
3.2.1.2 Negative effect of accession

The main reason why China has not acceded to the HNS Convention at the present stage may probably be that the convention is a combination of the compulsory marine insurance system of CLC1992 and the damage compensation fund system of FUND PROT 1992, and integrates the two damage compensation systems of ship-derived pollution compulsory liability insurance system and pollution damage fund system into one convention. In formulating its basic policies and policies and conducting its diplomatic mediation, every country takes its own interests as the criterion and starting point for its actions. The consideration of not acceding to the HNS Convention is also based on this point. In the history of maritime transport development, western developed countries have taken the lead in launching the first and second industrial revolutions and are far ahead of us in the field of maritime transport, especially in the transport of HNS. Since the end of the 1940s, the scale of the chemical transportation fleet and the number and variety of liquid chemicals carried by the world have been developing rapidly. The beginning was marked by America's pioneering transformation of the T-2 tanker into a chemical tanker (Liao, 2008). This also shows that western developed countries had enjoyed the "golden age" of low pollution liability and low cost of HNS transport in the 70 years from 1940 to 2010. Therefore, their carrier fleet and related technologies are now mature, and they do not have to bear the relatively high liability for pollution damage to nature and other consequences in its own development stage under the HNS Convention. In contrast, China's maritime industry started in the 1980s and has just entered the stage of rapid development. The throughput of HNS in many ports along Shanghai and southern China's coasts has grown rapidly, and the demand for chemical products in the Yangtze River Delta and Pearl River Delta Climbing higher year by year. With the vigorous development of China's industry, the amount of HNS carried by sea will continue to rise. The
transportation industry of HNS in China's coastal areas is in the "golden age" of development that western developed countries have experienced. Therefore, with this promising historical opportunity for development ahead, if China lacks a rational understanding of its own accession to the HNS Convention, despite the development of relevant domestic legislation and pollution protection to a certain extent, it will have Chinese shipowners engaged in HNS transportation to purchase compulsory insurance for ships in compliance with the first-tier compensation mechanism of the HNS Convention, which adds to its shipping economic burden, and at the same time will make the growing domestic HNS receivers to pay the second-tier compensation to share fund costs to fulfill the obligations of the Convention. In particular, as shown in Table 1, China is a net importer of chemical products, with a large import volume and a large deficit gap, which means that the number of receivers and contribution amount of China is extremely large. Then, as China's developing chemical, manufacturing and transportation companies have to withstand the higher cost than that similar companies in the western developed countries had not borne in their past development stage, they may reduce their economic investment in the industry which will slow down the development of related industries.
<table>
<thead>
<tr>
<th>YEAR</th>
<th>IMPORTS</th>
<th>EXPORTS</th>
<th>NET IMPORTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>51</td>
<td>22.504</td>
<td>28.496</td>
</tr>
<tr>
<td>2002</td>
<td>60.322</td>
<td>24.915</td>
<td>35.407</td>
</tr>
<tr>
<td>2003</td>
<td>81.473</td>
<td>31.878</td>
<td>49.595</td>
</tr>
<tr>
<td>2004</td>
<td>117.721</td>
<td>40.924</td>
<td>76.797</td>
</tr>
<tr>
<td>2005</td>
<td>143.07</td>
<td>56.389</td>
<td>86.681</td>
</tr>
<tr>
<td>2006</td>
<td>179.402</td>
<td>66.33</td>
<td>113.072</td>
</tr>
<tr>
<td>2007</td>
<td>218.006</td>
<td>101.779</td>
<td>116.229</td>
</tr>
<tr>
<td>2008</td>
<td>294.828</td>
<td>131.29</td>
<td>163.538</td>
</tr>
<tr>
<td>2009</td>
<td>228.063</td>
<td>99.008</td>
<td>129.055</td>
</tr>
<tr>
<td>2010</td>
<td>324.461</td>
<td>134.32</td>
<td>190.141</td>
</tr>
<tr>
<td>2011</td>
<td>434.805</td>
<td>172.341</td>
<td>262.464</td>
</tr>
<tr>
<td>2012</td>
<td>464.005</td>
<td>173.589</td>
<td>290.416</td>
</tr>
<tr>
<td>2013</td>
<td>470.306</td>
<td>180.316</td>
<td>289.99</td>
</tr>
</tbody>
</table>

Unit (US$ billion)

Table 1: China's chemical industry imports and exports from 2001 to 2013

What’s more, the requirements for compulsory insurance and contribution amounts stipulated in the HNS Convention are more demanding than those in the previous conventions, which puts a greater burden on relevant stakeholders in China.

Although China has acceded to CLC PROT 1992, but has not acceded to the matching FUND PROT 1992. This is probably because the FUND PROT 1992 requires that companies receiving oil cargoes that meet the requirements of the convention should share the contribution on the year basis. This indicates if China has become the state party of the FUND1992, the receivers of China which is a major oil importer and consumer country may bear the pressure of huge contributions, which can negatively affect the development of China’s oil and related industries. The contribution provisions in the HNS Convention are more complicated than those in FUND PROT 1992. The types of HNS covered by the 2010 HNS Convention are too broad, covering
almost all the HNS specified in the effective treaties formulated by IMO, and the scope of compensation is relatively wider, not just limited to the damage caused by HNS pollution, but also the damage caused by other reasons such as fire, explosion, etc. Therefore, the liability limit is relatively high, and the burden of shipowner liability and fund contribution is relatively heavy. If China acceded to the HNS Convention, which means China has recognized the dual compensation system stipulated in the convention, the burden of receivers will increase. It is also likely that China will not be able to obtain compensation from the HNS Fund in proportion to the great quantities of contributions paid, resulting in "more contribution, less compensation". Actually, the important reason for Canada ’s active approval of the HNS Convention is that its import volume of HNS is much smaller than its export volume. Therefore, only from the perspective of compensation for damages caused by the transportation of HNS by sea, this dissertation holds that it is still not suitable for China to accede to the HNS Convention, but it is necessary to convert the damage compensation system provided by the Convention into domestic law and formulate it on the basis of full study of the Convention on compensation for damages caused by HNS.

On the other hand, CLC PROT 1992 stipulates that the minimum insurance standard for compulsory liability insurance is 2000 tons of cargo oil, so a considerable amount of compulsory oil pollution liability insurance has been established in a short period of time worldwide, while the HNS Convention does not provide a minimum standard for insurance, rendering many countries great difficulty in implementation of compulsory liability insurance(Zhang, 2008). The typical one is insuring a large number of small boats will inevitably generate a lot of costs, which will increase the cost of shipowners leading to business difficulties. According to the provisions of the HNS Convention, all ships engaged in the transport of HNS, even those of non-parties, must provide compulsory insurance or other financial security and bear the
corresponding liability if they want to carry HNS to the ports of state parties. According to the current accession status of the Convention, none of the major export destinations of China (like U.S, Japan, South Korea etc.) has joined the HNS Convention, which can be seen from Figure 3. Therefore, it seems not necessary to require Chinese shipowners to purchase compulsory liability insurance in order to maintain China's normal international trade and shipping.

![China's Biggest Exports](https://howmuch.net/articles/chinas-exports-imports-trade-balance)

Figure 3: China’s Exports 2018


### 3.2.2 Developing domestic HNS compensation system only?

Regarding China's choice of acceding to the maritime convention and domestic legislation, in fact, it has once chosen to only enact domestic laws without acceding to
relevant international laws. In terms of the system of bills of lading and the rights and obligations of carriers and shippers in the carriage of goods by sea, China chose to set up Chapter IV in the Maritime Code, instead of acceding to the International Convention for the Unification of Certain Rules of Law Relating to Bills of Lading, 1924(Hague Rules) and the Hague Rules as Amended by the Brussels Protocol, 1968(Hague-Visby Rules) which had been in force before 1992 and the United Nations Convention on the Carriage of Goods by Sea, 1978(Hamburg Rules) which were to be in force at that time. On the one hand, Professor Hu(1990) pointed out that the reason for making this choice was that many domestic people thought that if China ratified the Hague Rules or Hague-Visby Rules, it may affect the political relations between China and the majority of developing countries. On the other hand, the heavy carrier liability stipulated by Hamburg Rules is not constructive to the development of China's burgeoning shipping industry. In the Maritime Code (Draft for Public Comments), Chapter IV selectively absorbs and integrates the content of Hague/ Hague-Visby Rules, Hamburg rules and the United Nations Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea, 2008 (Rotterdam Rules), so that the bill of lading and the contract of carriage of goods by sea can better adapt to the current maritime transport situation in China. Another example is relevant to the limitation of liability for maritime claims, in which China did not ratify the Convention on Limitation of Liability for Maritime Claims 1976(LLMC 1976), but on basis of it, formulated the Chapter of Limitation of Liability for Maritime Claims in Maritime Code. Later, Protocol of 1996 to amend the Convention on Limitation of Liability for Maritime Claims 1976(LLMC PROT 1996) and its amendments adopted in 2012 further increased the limits on the basis of LLMC 1976. In order to cope with the impact of currency inflation and the updating of international conventions, China has appropriately raised the liability limit in Chapter XII of the Maritime Code(Draft for Public Comments) referring to the liability limit determined by LLMC PROT 1996,
but it is still slightly lower than that in LLMC PROT 1996. The probable reason why the legislator stipulates this may be still inseparable from the consideration of the weak to moderate status of the domestic shipping industry, which demands protection and support of domestic laws due. It can be seen that the separate domestic legislation can make China's laws more flexible in content and more constructive to creating a proper legal environment for the development of China's maritime transport industry.

In addition, the enactment of domestic laws without accession of conventions can avoid certain obstacles caused by China’s accession to international conventions, both legislative and judicial. For example, China acceded to the Athens Convention relating to the Carriage of Passengers and their Luggage by Sea, 1974(PAL 1974) and the Protocol to it(PAL PROT 1976), and before that China had established the limitation of liability in the Contract of Carriage of Passengers by Sea in Chapter V of the Maritime Code with reference to the PAL 1974/PAL PROT 1976. The limit set by the convention was in line with China's national conditions at the time when it acceded to the convention and was enacted in its domestic law, but now the limit is obviously too low. However, as the limit set by the Protocol of 2002 is too high so that China has not acceded, and the current limit of compensation for foreign-related maritime passenger transport cases in China still need to implement the unreasonable low standard of the PAL PROT 1976. Moreover, this further leads to the difficulties in amending China's Maritime Code. In the near future, the limit stipulated in the Maritime Code may be higher than that in the PAL PROT 1976 to which China is a party, resulting in the limit of domestic maritime passenger transport being higher than that of international transport. This is obviously a violation of the principle of fairness.

Although the legislation should be based on the national conditions, the international unification of maritime legislation should also be considered in the process of
establishing China's domestic legal system. The United States, once the world's largest oil importer (and now second only to China), has adopted strict domestic laws governing compensation for oil damage from ships. The 1989 EXXON VALDEZ Pollution accident in Alaska prompted the US to abandon its approval of the convention system and enact the US Oil Pollution Act of 1990 (OPA 1990). OPA 1990's principle is "who pollutes, who pays". The liability of the owner is strict and it is easy to lose the right of defense. The law, which applies to any ship, significantly raises the limit of oil pollution liability, provides for broad compensation and strict penalties. The oil import and export volume of the United States has increased rather than decreased since the implementation of the OPA 1990, but the number of oil spills and the amount of oil spilled in the US waters have dropped significantly compared with that before the implementation of the law. Many countries believe that the domestic legislation of the United States has had a negative impact on the international unification of the oil pollution liability system. Simple domestic legislation is obviously beneficial to national pollution control, but it should not go against the historical trend of the unification of international maritime legislation for marine pollution control. As far as China is concerned, on the issue of HNS liability limits, strict domestic laws may make China's receivers bear the costs and risks transferred by the exporters of the state parties to the price in disguised forms whereas loose legislation may be not beneficial to the protection of China's marine environment and of the interests of the related injured parties. Therefore, domestic legislation should be as consistent as possible with the HNS Convention with due regard to China's national conditions.

Therefore, similarly, with respect to the HNS damage compensation system, the international convention in the unified trend may not be so suitable for China's national conditions due to the late start of China's shipping industry and chemical industry, and
the weak financial foundations. According to the national conditions of the country, domestic legislation referring to the convention without ratifying the convention can be more flexibly applicable to domestic related industries, thereby creating a better legal environment for the development of domestic shipping industry and chemical industry. However, on the other hand, whether to accede to the HNS Convention or not should still be comprehensively considered in combination with the development of relevant national industries and the effect of accession.

On the other hand, whether or not to accede to the Convention should be considered in combination with the development of relevant industries in China and the impact of the Convention on them. When the development of related industries is relatively mature, and the adverse effects of the Convention are weakened or even eliminated, China can choose to accede to the HNS Convention to improve the legal system, rather than simply reject it just because of the potential adverse effects the accession may bring.

3.2.3 Domestic legislation first and Convention accession later?

The five countries that have ratified or acceded to the Convention are establishing domestic law systems compatible with the HNS Convention, so as to better implement the convention after the HNS Convention enters into force. If China plans to accede to the Convention, given the lack of connection between domestic legislation and the Convention, it is necessary to make legal preparations for the implementation of the Convention before it takes effect in China.

However, China is not ready to become the state party of the HNS Convention, and
the current situation of HNS transportation and pollution in China is in urgent need of systematic regulation and adjustment of the HNS compensation system. Therefore, whether China joins the HNS Convention in the near future or not, domestic legislation is necessary to take the lead.

Now the Maritime Code (Draft for Public Comments) has added Chapter XIII, Liability for Ship-source Pollution Damage Compensation, and has specifically stipulated the content of HNS Pollution Damage Compensation Liability for Ship Transportation in Section 4, but the limit and fund will be stipulated by the Ministry of Transport of the State Council.

Domestic legislation is more flexible and operable. The Ministry of Transport can adjust the compensation limits as well as the collection and use of fund contributions according to national conditions and the improving HNS Convention. Domestic legislation can establish other basic HNS pollution damage compensation systems in addition to the fund system and establish the fund system later, but the HNS Convention requires compulsory compliance with the fund system under the Convention and immediate payment of contributions without choice and transition period. Moreover, because of the experience in setting up and managing the Chinese Ship-source Oil Pollution Compensation Fund, if the HNS Fund is established in China, its management can learn from the experience of the former one and it will be easier to get started.

As a major shipping country, a member state of IMO Council elected in Category A and a major importer of HNS, the choice not to acceding to the HNS Convention is not commensurate with China's international status. It is therefore suggested that national interests should be weighed against international responsibilities and that
accession to the HNS Convention should take place when it is legally and economically ready or at other appropriate times.
Chapter 4 Suggestions for Further Accession to the HNS Convention

4.1 Tracking the Relevant HNS Matters in China

China should start and keep on counting, tracking and forecasting China's HNS pollution accidents and the HNS reception situation of Chinese receivers.

First of all, the relevant department should make an assessment of the amount and level of pollution accidents caused by HNS transported by sea in China. Since the Convention applies to the compensation for HNS pollution damage at sea, only when such cases occur in a certain frequency and quantity can the significance of HNS Convention application be shown. Otherwise, it would be impossible to make real use of the Convention and enjoy the benefits it brings. Therefore, it is necessary to calculate the accident rate of HNS pollution in China using statistics of HNS pollution incidents in ports in combination with the development prospect of China's maritime transport, to assess the potential of its application in China. If the results show that the possibility and frequency of applying the Convention is higher, then the feasibility of acceding to the Convention is greater. This requires the efforts of maritime safety supervision departments of all ports to investigate and handle all HNS pollution accidents in China. And on this basis, the relevant department may make a scientific prediction of the risks and damages that will occur from HNS pollution in the next few years, or even decades by analyzing the amount and magnitude of HNS pollution accidents in recent years to decide whether it is necessary to accede to the Convention. Secondly, the relevant department should analyze the actual situation of HNS pollution accidents, judge which damages can be claimed according to the domestic law and how many pollution accidents can be claimed from the Convention Fund, and conclude whether China can benefit from the accession to the HNS Convention by comparing it
with the estimated amount of contribution.

In addition, the relevant department needs to collect statistics on the reception of the receivers of HNS cargo in China, estimate the amount of contribution to be paid, and analyze the impact of acceding to the Convention on China's economy. Prior to and after acceding to the Convention, the receivers have to make initial and annual contributions to the HNS Fund, which can greatly increase their operating costs. If the cost is high, it is not feasible for China to accede to the Convention at that time. The calculation of contributions depends on the status of HNS transport by sea, of receivers, of ship insurance, and of the type of cargoes contributed. Therefore, in order to reasonably estimate the initial cost of China's accession to the Convention, we should make statistics of the above situation in China, as well as evaluate and estimate the development of these kind of cargoes in the future. Only by fully investigating and grasping the above data can we accurately calculate the cost of China's accession to the Convention and provide reference for our decision to accede to the Convention.

4.2 Realizing the Integration of Domestic Law and the HNS Convention

Before making the decision of acceding to the HNS Convention, if the relevant domestic system does not match the convention, it will seriously affect the effect of its application. Even if China does not become the state party of the Convention, its legislation should be as close to the content of the Convention as possible. Therefore, it is necessary to improve the relevant domestic system with reference to the Convention.

As mentioned above, there is no systematic compensation system for HNS damage in
China's domestic law, while the Maritime Code (Draft for Public Comments) published in 2018 clearly stipulates the liability for pollution damage caused by ships, including the HNS compensation system. However, the draft only specifies the first-tier damages, with no specific provisions on the amount and implementation measures of the compensation fund, compulsory insurance or financial guarantee, which is to be formulated by the State Council's competent transport department and financial department. There are primarily two reasons for this. First, China has not given a clear attitude as to establishing a domestic HNS fund system. Even if HNS compensation fund is to be set up, it is difficult to provide perfect institutional experience for legislation because of the absence of experience in the establishment and operation of ship-derived pollution damage compensation fund. Since laws are generally binding and should remain relatively stable, the legislation should be cautious rather than arbitrary, and the above-mentioned uncertainties should not be rushed into law. Second, the limit of compensation for HNS accidents has not been determined in law. The limit of compensation decides the amount of the compulsory insurance and that of the financial guarantee. Since the limit of HNS damages is still to be determined, the amount of HNS insurance and financial guarantee cannot be determined in the form of law. Therefore, it is suggested that the main work at present should be to gradually establish a complete fund and compulsory insurance system by means of issuing proposed regulation and carrying out pilot implementation.

In the aspect of ship pollution damage compensation, the amount of damage compensation is often very large. Since the person liable bears strict liability, the establishment of compulsory insurance system not only helps to disperse the huge risks of the person liable, but also ensures that the victim can get more adequate compensation. Therefore, according to the development of HNS transportation industry, China can exempt small tonnage ships from the obligation to purchase
compulsory insurance first, and then gradually require it to do so. It is specifically recommended to determine a reasonable rate based on the insurance market and risks. Ships of different ranks implement different insurance limits and have different implementation times. For example, the older the ships, the worse their condition, the higher the risk of pollution, and the more sensitive the waters they navigate through, the earlier the compulsory insurance should be implemented and the higher the coverage should be. On the contrary, for ships at a younger age, in a better condition, generally with lower pollution risk, and navigating in waters with lower sensitivity, compulsory insurance may be implemented at a later time with a lower coverage acquired.

After upgrading the compulsory insurance system, a corresponding HNS damage compensation fund should be established. As the second safeguard of the damage compensation mechanism, the fund can distribute the accident risks to the beneficiary of the receivers who purchase HNS to the extent that the compulsory insurance is insufficient to provide compensation. This is a reasonable and just method. Huang and Jia(2010) recommended to adopt the government fund model and rely on the existing administrative management system to facilitate the establishment, convenient management and proper collection. The source of the fund can be composed of two aspects: the government grants, as the start-up capital; the receiver contribution, based on the amount of HNS received. The compensation fund should include at least the following aspects: organization, financial management system, fund management, fund collection method, object, scope and standard, exemption, maximum compensation limit, etc. At the same time, it should also ensure that the compensation fund is not only in line with international standards but also in line with China's national conditions, and is also operable. With regard to the fund’s contribution, it can be lower than the amount stipulated in the HNS Convention, and then be gradually
increased according to the development of the chemical industry. In addition, in terms of procedures, the fund should establish a sound contribution procedure, which is conducive to preventing the evasion of contributions and promoting the rational and effective use of the fund, which is also a necessary preparation before acceding to the Convention.

### 4.3 Tracking the HNS Convention

China should study and track the progress of the Convention and the settlement of relevant compensation cases under the Convention after its entry into force.

Senior experts can be sent to actively participate in the discussions of international conferences, and take the initiative to incorporate ideas that are beneficial to China's long-term interests into the revision of the HNS Convention. It is also advised to strengthen research on international conventions in terms of policy, technology, economy, etc., carefully study and track the laws and procedures of the CLC and HNS Convention, to detect common principles with guiding significance, and use internationally mature theories and technologies to guide the construction of domestic legal mechanism for pollution damage from ships.

Legislatively, the HNS Convention plays a model and leading role in China’s domestic HNS damage compensation legislation. Tracking the content of the Convention is a guarantee to keep domestic law and the convention consistent. Even if China does not accede to the Convention, the work of the tracking will help its domestic law comply with the legislative trend of the international HNS damage compensation mechanism.
At the same time, the reference to the excellent precedent of HNS damages under the Convention also helps to deepen our understanding of the provisions of the HNS Convention and judicial practice on related issues. Therefore, whether China accede to the Convention or not, the tracking work is very beneficial and necessary for its national legislation and judicature.
Chapter 5  Summary and Conclusions

The ocean is an important natural resource for human survival. However, with the development of science and technology, human activities are becoming more and more frequent, and people's destruction of the ocean is also increasing. The rapid development of maritime transportation industry has led to frequent marine pollution accidents, and the pollution of HNS has become an important part of man-made marine pollution, thus triggering the action of establishing the international legal system of compensation for damages caused by HNS at sea. The birth of the HNS Convention provides a relatively perfect model for the establishment of this system. Although there are some loopholes in the Convention at the initial stage, it has been able to better balance the interests of all parties after being amended by the HNS PROT 2010, and the fulfillment of conditions for its entry into force are within reach. Up to now, China has not acceded to the HNS Convention, nor has it taken a clear position on whether to accede to the HNS Convention or not.

This paper argues that it is necessary to establish a complete HNS damage compensation system due to the development of HNS transportation, the increasingly serious HNS pollution and the insufficient HNS damage compensation caused by the imperfect legislation in judicial practice. From the perspective of national interests, it is not appropriate to accede to the Convention in a short time. However, in order to conform to the trend of global unification of maritime law and assume the international responsibility of a shipping power, China should accede to the Convention as soon as practicable after the economic foundation and actual domestic conditions have reached the level suitable for acceding to the Convention.

Before the accession, this paper proposes to improve China's relevant legislation and
system to fill the domestic legal loopholes and prepare for building connection with the HNS Convention. At the same time, it is also necessary to keep track of the important domestic factors affecting the decision of accession to the HNS Convention and the development of the Convention in real time, which is constructive to the decision of the time to accede to the Convention and the improvement of domestic legislation and justice on HNS damages compensation.
REFERENCES


