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WORLD MARITIME UNIVERSITY

Dalian, China

STUDY ON RELATED ISSUES OF COMPENSATION FOR OIL POLLUTION DAMAGE BY OFFSHORE DRILLING PLATFORM

By

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The People's Republic of China

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

MASTER OF SCIENCE

MARITIME SAFETY AND ENVIRONMENTAL MANAGEMENT

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ABSTRACT

Title of Research paper: **Study on Related Issues of Compensation for Oil Pollution Damage by Offshore Drilling Platform**

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After human societies went into industrial production, oil became important energy for human survival and development. Only relying on onshore oil resources has become unable to meet the needs of industrial development. Offshore oil exploration and production activities gradually flourished; offshore drilling platforms were widely used in this industry. However, though the increasing offshore oil exploration has brought great economic benefits, a series of environmental issues occurred, especially after the 2010 “Deepwater Horizon” oil spill incident in the Gulf of Mexico and 2011 “Penglai 19-3” oil spill incident in the Bohai Bay, the contradiction between economic development and environmental protection, human health is becoming more serious. Shocked by the damage of such incidents, the public had paid more attention to the safety of offshore drilling platform, and actively sought more scientific measures to deal with the subsequent matters arising from the damage caused by oil and gas production activities. This paper will analyze the related legal issues of compensation for oil pollution damage caused by offshore drilling platform, and aim to provide a reference for the future research and relative legislative work.

KEYWORDS: Offshore drilling platform, Oil pollution, Liability, Legal suggestions

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LIST OF ABBREVIATIONS

CLC	International Convention on Civil Liability for Oil Pollution Damage
COPC	ConocoPhillips China
F C	International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage
NPC	National People's Congress
OPOL	Offshore Pollution Liability Agreement
OPA90	Oil Pollution Act of 1990
PRC	People's Republic of China
USC	United States Congress
WHOI	Woods Hole Oceanographic Institution

Chapter 1

An introduction to offshore drilling platforms

1.1 The definition of offshore drilling platforms

Offshore platforms which are equipped with drilling, power, communication, navigation and other equipment, and safe life and living facilities, are usually used for exploring or processing oil and gas from seabed. According to the different structures, offshore platforms can be divided into two major categories: fixed platforms and mobile platforms. Offshore drilling platforms have the following characteristics:

Firstly, offshore drilling platforms usually have the complex structure and high technical content. As a tool for an offshore drilling operations, offshore drilling platforms are constituted with the main structure, drilling equipment, test equipment and other hundreds of parts, which is one of the most complex offshore structures. In order to address the high risk and difficult exploration activities in harsh marine environments, each part of the platform structures and devices has a high technological component.

Secondly, offshore drilling platforms often have a high economic value. Because of

the complex structure and high technology of offshore drilling platforms, to build a offshore drilling platform requires hundreds of millions of dollars. Meanwhile, the cost of the maintenance of drilling equipment is also very expensive.

Thirdly, the management of offshore drilling platforms is highly personified. Because of the huge economic value, many countries regulate that the acquisition, modification, transfer and extinction of its ownership and mortgage require an registration. In addition, the offshore drilling platforms also have its own name and nationality, which gives it an anthropomorphic treatment in law.

Finally, the operations of offshore drilling platforms are usually accompanied with high risks and responsibilities. The blowout and explosion accidents in drilling process will bring great damage to persons, property and marine environment. And the causes of these accidents are very complex. Take a blowout for example, the oil pollution consequences are not only associated with equipment condition, human factors, but also have a relationship with underground oil reserves and geological structures.

1.2 The relationship between offshore drilling platforms and ships

As mentioned above, the offshore drilling platform can be divided into fixed and mobile drilling platform. Among them, the fixed drilling platform cannot be moved and mainly used for production, which is markedly different from ships, there is a dispute on the legal status the fixed drilling platform. However, mobile drilling platform has some similarities with ships, which has caused a hot discussion on the legal status of mobile drilling platform both in theory and practice.

Between mobile drilling platforms and ships, there are some significant differences in the following areas:

Firstly, their structures are different. Though both of them are artificial hollow structures, the hollow structure of the platform is relatively independent, which is purely buoyancy space, while the structure of the ship is used for installation of machinery equipment, cargo and people. In addition, the drilling equipment is the uppermost part of the platform, and the core technical parameters of drilling platforms is reflected on its drilling performance, including maximum working depth, the maximum drilling depth, maximum variable load, mud pumps, and the blowout preventer, which is significantly different from the ship's tonnage and engine power and other technical indicators(Ma,2009).

Secondly, they are different in self-propulsion capacity. The most important characteristic of ships is that the navigation of the ship can be independently implemented by its mechanical power. However, as for mobile drilling platforms, self-elevating platforms don’t have a propulsion system; its movement entirely depends on the towing of tugs at sea. Semi-submersible platforms have a certain degree of self-propulsion ability. But due to the enormous resistance caused by their own structures, they also need the towing of tugs to achieve a security move and can't be completely self-propulsive from the practical significance.

Thirdly, their use is completely different. The mobile drilling platform is a kind of offshore exploration and production unit, and its intended use is primarily to engage in mining operations at sea rather than sailing, so its “mobility” in a subordinate position. Though mobile drilling platform can drift at sea, all kinds of equipment, supplies and personnel on the platform are used for production operations, instead of

carrying “cargo”, which cannot be moved directly from the aforementioned goods and people by sea for profit, so its maritime mobile behavior is not a kind of maritime transport; it only helps to move the drilling platform to reach its work position.

So, from the narrow sense, the object of maritime legal system is a ship engaged in marine transportation and related activities. When we define the concept of “ship”, any law can regulate its scope according to their own needs, in which mobile drilling platforms can be included or excluded. However, ships must have a fundamental feature—navigation, and ships should be directly used for navigation or marine services. In view of this, mobile drilling platforms do not have the basic attributes of the ship. Thus, mobile drilling platforms don’t belong to the traditional object of maritime legal system.

However, in a broad sense, the purpose of maritime legal system is to promote the maritime activities and maintaining safety at sea(He & Wang, 2011), so the adjustment object includes all objects and participants engaged in maritime activities; both mobile and fixed drilling platforms shall be adjusted by maritime legal system. This is the reason why some laws or conventions treat mobile drilling platforms as a kind of “ship”.

In my opinion，in order to reduce unnecessary disputes，when we formulate maritime administration laws or conventions，the application of drilling platform shall be specified.

1.3 The present situation of oil pollution caused by offshore drilling platforms

With the development of offshore oil exploration and production industry, the number of offshore drilling platforms increased rapidly, the marine oil spill incidents are also inevitably growing. The human error, laziness, or pure ignorance may lead to oil spills.

（1） Ixtoc I oil spill

Ixtoc I was an exploratory oil well being drilled in the southwestern Gulf of Mexico. On June 3,1979, circulation of drilling mud to the well failed, causing a blowout, explosion, and fire that resulted in the destruction and sinking of the rig. For nearly ten months, the well poured oil into the Gulf at a rate of approximately 10,000 to 30,000 barrels per day. The well was eventually capped on March 23, 1980, after having released an estimated 3 million barrels of oil(Wikipedia, 2015).

（2）Deepwater Horizon oil spill

On April 20, 2010, an explosion occurred on the semi-submersible offshore drilling platform “Deepwater Horizon” in the northern Gulf of Mexico, releasing over four million barrels of oil into the Gulf of Mexico, killing 11 platform workers and injuring 17 others (GRANT,2010). On April 24, it was found that the wellhead was damaged and was leaking oil into the Gulf. The leak was later calculated to be between 53,000 and 62,000 barrels (2.2 and 2.6 million gallons) per day, and over the period of 89 days it poured an estimated 4.9 million barrels (more than 200 million gallons) into the Gulf(WHOI,2014), making it the largest oil spill in U.S. history.

（3） Bohai Bay oil spill

The 2011 Bohai bay oil spill was a series of oil spills that began on June 4, 2011 at Bohai Bay. In this oil spill accident, about 700 barrels (115 m^3) of crude oil leaked into the Bohai Bay, and another about 2600 barrels (416.45 m^3) leakage of mineral oil-based mud and deposited on the sea bed(Liu,2012), about 5500 square kilometers water was polluted roughly equivalent to the 7% of the Bohai Sea area(Yu,2012). As an inland sea, the self-purification capacity of the Bohai Sea is very poor; this oil spill has caused serious harm to the marine environment.

These shocking incidents and claim disputes result from them lead to that the study on the compensation for oil pollution damage caused by offshore drilling platforms law is very urgent.

1.4 The relevant legislations and agreements on oil pollution and their applicability

At present, the existing international conventions and domestic laws have established relatively complete legal system on compensation for oil pollution damage from ships and system on the pollution prevention of drilling platform , but there is no unified system on compensation for oil pollution damage caused by drilling platforms.

1.4.1 The relevant international conventions and agreements

(1) International Convention on Civil Liability for Oil Pollution Damage

The Convention was first adopted on 29 November 1969, then being replaced by 1992 Protocol, which was adapted on 27 November 1992, entered into force on 30

May 1996, later, the 2000 Amendments was adopted on 18 October 2000. The 1992 Protocol covered spills from sea-going vessels constructed or adapted to carry oil in bulk as cargo so that it applies to both laden and unladen tankers, including spills of bunker oil from such ships.

However, the “ship” means any sea-going vessel and any seaborne craft of any type whatsoever, actually carrying oil in bulk as cargo. So, offshore drilling platforms was not applicable.

(2) International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage

The FC was first adopted in 1971,and then superseded by 1992 Protocol. The main purpose of this Convention was to provide compensation for pollution damage to the extent that the protection afforded by the CLC is inadequate. However, in this Convention, the “ship” has the same meaning as provided for in the CLC 1992. It cannot apply to the oil pollution damage caused by offshore drilling platform.

(3) International Convention on Civil Liability for Bunker Oil Pollution Damage(Bunkers Convention)

The Convention was adopted on 23 March 2001, and entered into force on 21 November 2008. The aim of this Convention is to address the problem of pollution caused by the escape of bunkers from general cargo ships. In this convention, “ship” is broadly defined as including “any seagoing vessel and seaborne craft, of any type whatsoever”. However, the Convention does not apply to pollution damage as defined in and governed by the CLC, and only apply when the vessel in question is

carrying “bunker oil” which is defined as “hydrocarbon mineral oil, including lubricating oil used for the operation or propulsion of the ship, and any residues of such oil”.

Actually, as the convention only applies to “bunker oil” , it is almost impossible to apply oil pollution caused by drilling platforms. But, there are some salutary measures that can be learned, such as a key requirement in this convention is the need for the registered owner of a vessel to maintain compulsory insurance cover. Another key provision is the requirement for direct action — this would allow a claim for compensation for pollution damage to be brought directly against an insurer.

(4) The 1976 Convention on Civil Liability for Oil Pollution Damage Resulting from Exploration and Exploitation of Seabed Mineral Resources

This is an special international convention on the legal remedy for oil pollution damage caused by oil exploitation and exploitation operations. But unfortunately, the Convention has not yet entered into force. In spite of this, the Convention on the liability for the damage to the oil pollution in the sea is relatively complete, and it has a strong reference value for us to deal with the oil pollution accident at present.

(5) Offshore Pollution Liability Agreement

In 1974, 16 oil companies(BP, Shell, Exxon, Gulf, Mobil, Texaco, Amoco, Burmah, Total, Conoco, Phillips, Signal, Hamilton, Siebens, Cluff, Sun Oil) jointly signed the OPOL(Yu,2012), to ensure that, in the event of a spillage or escape of oil, claims for pollution damage are met and the cost of remedial measures reimbursed. It applies to

wells, drilling units, platforms, offshore storage/loading systems, pipelines, but abandoned wells (including temporarily abandoned wells), installations or pipelines, or facilities for the production, treatment or transport of natural gas or natural gas liquids were excluded. Though OPOL is a civil agreement, it provided an orderly means for the expeditious settlement of claims arising out of an escape or discharge of oil from offshore exploration and production operations, and a mechanism for ensuring that claims are met up to the maximum liability.

It can be seen from that most existing international conventions on oil pollution damage compensation is mainly applicable to ships，and the meaning of “ship” does not include offshore drilling platforms. The international conventions provided compensation for oil pollution damage caused by offshore drilling platform, which is seriously inadequate.

1.4.2 The legislation of the United States

The United States has not joined the CLC and the FC up to now. However, the United States has established the domestic regimes on compensation for oil pollution damage from ships through the agency of implementation of the OPA90.

The OPA90 was signed into law in August 1990, largely in response to rising public concern following the Exxon Valdez incident. It improved the nation's ability to prevent and respond to oil spills by establishing provisions that expand the federal government's ability, and provide the money and resources necessary, to respond to oil spills. The OPA90 applies to vessels, onshore facilities, offshore facilities (including mobile offshore drilling unit), deepwater ports, pipelines and the abandonment of these vessels and facilities.

1.4.3 The legislation of China

China has not established special laws for the compensation for oil pollution damage caused by offshore drilling platforms. In practice, when facing this problem, the following relevant laws are usually applied.

(1) Marine Environmental Protection Law of the PRC (2013 Amendment)

Marine Environmental Protection Law is a specific law to protect marine environment, which makes specific provisions for the pollution damage to the marine environment by marine construction projects. The article 90 stipulates that any party that is directly responsible for a pollution damage to the marine environment shall relieve the damage and compensate for the losses; in case the pollution damage to the marine environment is entirely caused by an intentional act or a fault of a third party, that third party shall relieve the damage and be liable for the compensation.

(2) Tort Law of the PRC (2009)

The Article 65 provides that where any harm is caused by environmental pollution, the polluter shall assume the tort liability. The article 66 stipulates that where any dispute arises over an environmental pollution, the polluter shall assume the burden to prove that it should not be liable or its liability could be mitigated under certain circumstances as provided for by law or to prove that there is no causation between its conduct and the harm. It can be seen that environmental pollution damage is regarded as a kind of special tort, and applies the principle of inversion of the burden.

(3) Environmental Protection Law of the PRC (2014 Amendment)

Article 64 of Environmental Protection Law stipulates that any damage caused by environmental pollution or ecological disruption, the tortfeasor shall assume tort liability in accordance with the relevant provisions of the Tort Law.

(4) Maritime Code of the PRC (1992)

Though article 3 of Maritime Code incorporates mobile units into its adjustment range and chapter 11 explains the limitation of liability for maritime claims. The article 208 provided the provisions of the applicable exceptions, which stipulates that if claims for oil pollution damage under the International Convention on Civil Liability for Oil Pollution Damage to which the PRC is a party. Chapter 11 shall not be applicable. It means that, for the limits of compensation for oil pollution damage with foreign elements, the Convention on civil liability which China has participated should be given priority; for the limits of compensation for oil pollution damage without foreign elements ,the provisions of Maritime Code shall prevail.

(5) Interpretation of the Supreme People's Court on several issues concerning the application of law in the trial of cases on environmental tort liability disputes (2015)

This Interpretation entered into force on June 3, 2015. It clarifies some disputes concerning the environment tort liability, including the imputation principle and the exemption cause of the environmental tort liability dispute case, the distribution of the burden of proof between the victims and the polluters, the ways to undertake tort liability and so on. The Interpretation can be used as the basis to deal with the compensation issues for the oil pollution damage caused by drilling platforms.

(6) Other relevant laws or regulations

There are also some other regulations related to marine environment pollution, such as Administrative Regulation on the Prevention and Treatment of the Pollution and Damage to the Marine Environment by Marine Engineering Construction Projects, Regulations Concerning Environmental Protection in Offshore Oil Exploration and Exploitation, Regulations on the Control over Dumping Wastes into the Sea Waters.

These laws and regulations mainly on the prevention and control of marine environment pollution, and rarely involved compensation issues, not to mention the issue of compensation of oil pollution damage caused by offshore drilling platform, which has caused great inconvenience to solve these problems in practice.

1.5 The main legal issues of compensation for oil pollution damage caused by offshore drilling platforms

When dealing with the compensation for oil pollution damage caused by offshore drilling platforms, some legal issues, such as the doctrine of liability fixation, the scope of compensation, the liability subject, the limitation of liability, have to be considered. These issues will be detailed discussed in the following parts.

Chapter 2

The doctrine of liability fixation of the oil pollution damage caused by offshore drilling platforms

2.1 The theoretical analysis of the application of the doctrine of liability fixation

Since spill incident may be related to civil, administrative and criminal liability, this paper will mainly analyze the civil liability. Civil liability principle refers to the legal principle of liability attribution based on certain liability reasons. Generally speaking, tort liability principle under Chinese law can be divided into the following kinds:

(1) Fault liability, which means that the burden of civil liability shall be based on the subjective fault of the perpetrator. The subjective fault is the essential element in fault liability principle.

(2) Presumptive fault liability, which means that according to the special provisions of the law, to presume that the offender has the fault and should bear the tort liability, unless the perpetrator can prove innocent.

(3) No-fault liability or strict liability, which means that regardless of the existence of subjective fault, as long as the victim can prove that the damage is caused by the perpetrator's actions or objects, and the condition is prescribed by law, the perpetrator will bear the tort liability, unless the perpetrator can prove the existence of statutory defenses.

(4) Equitable Liability, Neither the perpetrator nor the victim has subjective fault for the damage, according to the notion of fairness, the loss is shared by two sides taking into account the actual situation .

At present, the dispute of the doctrine of the liability fixation of the oil pollution damage caused by drilling platforms is whether the fault liability principle or no-fault liability principle shall be applied or not. In this regard, it needs to clarify the differences between the two types of liability principle. They have the following differences:

First, no-fault liability principle is based on the causal link between the behavior and the damage as justification or basis for perpetrator to bear civil liability, other than subjective fault as the justification or basis; as for fault liability principle, if the perpetrator undertakes liability , he must have subjective fault.

Second, no-fault liability principle is only to be applied when the law so provided, usually applied to special torts. Fault liability principle is applicable to all kinds of cases where the law has no special provisions, and usually applies to the general tort.

Third, in the application of no-fault liability principle, the liability is mainly determined by considering the victim's damage, and these cases often have a limited compensation; and in the application of fault liability principle, liability should be determined by considering the degree of fault, and it usually carries out all the compensation for the loss of property.

In fact, theorists are more inclined to take the no-fault liability principle as the imputation principle of oil pollution damage.

2.2 The practical analysis of the application of the doctrine of liability fixation

In the practice of legislation around the world, most countries adopted no-fault liability principle as the imputation principle of oil pollution damage caused by drilling platforms.

In the United States, the OPA90 sets strict regulations on the civil liability of the oil spill damage caused by the drilling platform. The SEC. 1002. (a) stipulates that each responsible party for a vessel or a facility from which oil is discharged, or which poses the substantial threat of a discharge of oil, into or upon the navigable waters or adjoining shorelines or the exclusive economic zone is liable for the removal costs and damages specified in subsection (b) that result from such incident. It can be explained that as long as oil spill causes damage, the responsible party shall burden the liability.

In China, the current law system doesn't have the detailed provision of the civil liability of oil spill caused by the drilling platform. But some fundamental liability principle related to environmental pollution can be used as reference. The article 65 of Tort Law regulates that where any harm is caused by environmental pollution, the polluter shall assume the tort liability, it is made clear that environmental pollution is a kind of tort. The article 7 stipulates that one who shall assume the tort liability for infringing upon a civil right or interest of another person, whether at fault or not, as provided for by law, shall be subject to such legal provisions, it gives a confirmation that environmental pollution is a special tort, and applies no-fault liability principle.

On the basis of the above analysis, we can know that no-fault liability principle more

accord with the characteristics of oil pollution damage caused by drilling platforms and has been widely used, so when drafting the special law concerning the oil pollution damage compensation, the no-fault liability principle shall be adopted.

Chapter 3

The liability subject of compensation for oil pollution damage caused by offshore drilling platforms

3.1 A brief introduction to liability subject

The Liability caused by oil spills from drilling platforms belongs to the scope of civil tort liability. Therefore, the liability subject here analyzed mainly refers to the tort liability subject, which should be subject to civil law , especially tort law.

Since drilling platform oil spill damage is a special environmental tort, the qualifications of its liability subject shall include:

First, it has legal capacity for rights and capacity for action. Capacity for rights, refers to a person's ability and qualification to enjoy rights and bear obligations according to law. Capacity for action, also known as fault or liability capacity in tort law, is reflected in the perpetrator's own ability to assume legal liability for the consequences caused by the violations. The liability subject of drilling platform oil spill damage has the right to explore offshore oil and undertakes the payment obligations result from oil spill damage.

Second, the perpetrator commits the tort. As for drilling platforms oil spill damage,

an important standard to determine the liability subject is that whether the perpetrator's behavior (with or without fault) leads to marine pollution and the extent of the pollution. It includes two exceptional situations: (1) whether or not the employer of the drilling platform has infringements (in most cases, oil spill caused by operators), he would be considered a tortfeasor. (2) The insurer who has the guarantee for the oil spill damage or the oil pollution fund doesn't carry out the pollution behavior, but they are still the liability subject to the tort.

Third, the tort has caused damages. There is no doubt that this is the oil spill damage caused by the improper operation of the drilling platform and so on. The damage compensation liability is often based on the degree and scope of the loss caused by the tort.

Finally, there is a causal relationship between tort and damages. This is not only the traditional tort causation, but also stressed that though oil spills from drilling platform is a special kind of special tort, damage compensation liability subject to no-fault liability, but drilling platform operations must have a causal relationship with oil spill damage.

The qualifications mentioned above are fundamental elements of liability subject, which also provides a way to identify the liability subject of oil pollution damage.

3.2 The identification of liability subject

According to the article 90 of Marine Environment Protection Law, any party that is directly responsible for a pollution damage to the marine environment shall relieve the damage and compensate for the losses. According to the article 65 of Tort Law,

the polluter who causes oil spill from a drilling platform and the pollution damage to the marine environment shall be the liable party. However, in these laws, there is no detailed provision concerning who shall be the “responsible party” and “polluter”.

According to the article 26 of Regulations on Environmental Protection in Offshore Oil Exploration and Exploitation, the enterprise, institution or operator who has caused damages shall be ordered to remedy the pollution damage, pay the clean-up expenses incurred in eliminating the pollution, and compensate for the losses sustained by the state. There's no doubt that the “operator” that conducts offshore oil exploration, is the liability subject of the oil spill damage incident. However, the definition of the “enterprise” and “institution” are not clear.

For oil spill damage caused by drilling platform, the legal entities may be involved including the developer of oil field, and the owner, operator of the drilling platform. In most cases, these entities are not the same party, this may cause confusion when the liability subject of oil spill damage is to be identified.

The owner of the drilling platform is the party who has the ownership of the drilling platform, has the right to possess, utilize, dispose and profit from the drilling platform. The operator, which usually the lessee of the drilling platform, is the party who has the right to use the lease property in the lease contract, and pays the rent as arranged. The developer of oil field is often the party who gets the permit, has the right to conduct exploration operation in oil field.

In practice, as the cost to build and maintain drilling platforms is very huge, developers of oil field tend to obtain the right to use the drilling platform through leasing, then put it to oil and gas resource development operations, thus become the

lessee of a drilling platform in the legal sense, which is also to be the operator of the drilling platform. In judicial practice, in determining the liability subject, the factor that more considered is who really controls the process of oil and gas production when the accident happens. By way of lease, the lessee achieves the actual use of the drilling platform and controls the oil and gas production process, which also is the direct tortfeasor of oil pollution damage. So, there is no doubt that the lessee of drilling platform, which can also be said as the operator of drilling platform, is the liability subject of oil pollution damage.

The next issue is that whether the owner of drilling platforms shall be the liability subject, and responsible for the oil pollution damage, this issue will be analyzed in two situations. If the owner provides staff and assumed detailed exploration project in leasing the drilling platform, and the occurrence of oil pollution results from his staff or operation, the owner of the drilling platform shall be the liability subject of oil pollution damage. If the owner only provides the drilling platform, the operation and maintenance are conducted by the operator, the owner of the drilling platform will not be responsible for oil pollution.

For example, in the oil spill incident of Gulf of Mexico, the “Deepwater Horizon” drilling platform was owned by Transocean, and leased to BP to conduct exploration operations. However, in this leasehold relationship, Transocean provided the operating staff for “Deepwater Horizon” platform drilling and undertook a part of the drilling operation. Coincidently, the negligence of operating staff is part of the reason that caused this oil pollution incident, so Transocean should be responsible for the oil pollution damage.

In summary, whether from the perspective of tort liability or from the perspective of

judicial practice, there is no doubt that the operator of drilling platforms is the liability subject for oil pollution damage , and the owner of drilling platforms can be the liability subject sometimes, and depending on the actual situation. Other parties that have direct relationship with the oil spill incidents, and it can also be the liability subject. Meanwhile, The insurer who has the guarantee for the oil spill damage or relevant oil pollution fund can be the indirect liability subject of compensation.

Chapter 4

The limitation of liability of compensation for oil pollution damage caused by offshore drilling platforms

4.1 An overview of the limitation of liability

Limitation of liability is a special system of shipping industry. In order to provide security for the stable development of shipping industry, the system of limitation of liability can limit the responsible party's liability under a specific limits, so as to encourage investment in the shipping industry. In case of oil pollution damage caused by offshore drilling platforms, the consequence is very disastrous; it not only pollute the marine environment, but only has significant effect on relevant industries, such as coastal fisheries, aquaculture and tourism. Once oil spill incident occurs, the responsible party may face huge compensation claims and punishments from many aspects, which may lead to the bankruptcy of oil exploration enterprise, in order to avoid this risk, the system of limitation of liability shall be used.

In the system of limitation of liability for oil pollution damage, the liability limits is maximum compensation limits of the damage, in normal circumstances, a statutory compensation for oil pollution incidents can be completed within the liability limits.

The setting of the liability limits shall take into account the interests balance between the responsible party and the claimant. If the liability limits are too high, the responsible party will bear a larger amount of compensation, the role of limitation of liability will not be played; if the liability limits are too low, claimants cannot get enough compensation, which will violate the principle of fairness and justice, and is not conducive to the restoration of marine environment.

4. 2 The calculation method of the liability limits

At present, the convention on limitation of liability for offshore oil drilling platform is not yet mature, compared with the complete system of limitation of liability for oil pollution from ships. There is no an unified view on the limitation of liability for offshore drilling platforms. Methods for calculating the liability limit mainly has following several kinds：

4.2.1 Apply mutatis mutandis to the provision of compensation for oil pollution damage by ships

This method attempts to give the same legal status of the ship to offshore drilling platform(He &Wang, 2011). Because mobile drilling platforms and ships have some similarities in structure and function, for example, mobile offshore drilling platform is a kind of floating devices, and has the function of navigation. In fact, many conventions and domestic laws have specified that mobile drilling platforms were treated as ships. In this view, the compensation for the oil pollution damage by offshore drilling platform can be completely applied to the complete legal system of the ship and the limitation of liability can be calculated with tonnage units.

This compensation method looks simple, but it is hard to be implemented in practice. Generally speaking, the calculation of compensation for oil pollution damage shall be based on the damage caused by oil pollution incidents. In oil spill accidents, the direct damage is caused by spilled oil, so, the amount of spilled oil is an important reference standard for the degree of damage. The amount of spilled oil of ships are limited by shipping capacity, thus the limitation of liability for oil pollution by shipping tonnage as the basis for calculation is reasonable. However, in offshore drilling platform oil spill accident, the spilled oil usually comes from underground, which has little relationship with platform's capacity and tonnage. If the limitation of liability is also calculated in units of tonnage, it will also have a large deviation with the actual damage.

Therefore, for the limitation of liability of offshore drilling platform, the method that follow the provisions of limitation of liability of ships is not reasonable and lacks feasibility.

4.2.2 Underground reserves mode

Due to oil pollution sources caused by offshore drilling platform usually comes from underground storage, this view thinks that the underground oil reserves can be used as the maximum amount of oil spill, which is equivalent to use the ship's capacity to calculate the amount of oil spill in compensation for oil pollution damage from ships(Si, 2002, pp. 401-402).

Based on current technology，the scale of underground oil reserves can be calculated, and this data usually will be submitted by the operator when applying for exploration permits. Therefore, it is feasible to use oil reserves to calculate the liability limit. However, only using underground reserves as the sole criterion for calculating the

liability limit is not objective, which cannot accurately reflect the size of oil pollution damage. The reason is that though spilled oil comes from underground storage, it does not equate all underground oil reserves. It should be said that underground reserves represents the largest possible value of spilled oil. But in practice, when oil spill occurs, the operator will do anything to control oil spills, and the actual amount of spilled oil is unlikely to reach the amount of all the underground oil reserves.

On the other hand, since the consequences of the damage are not necessarily caused by underground storage, other factors such as the geographic locations of the working area, the ecological environment and the surrounding business environment all have different influences on the damaged result.

Therefore, it is difficult to meet the requirement of objectivity by using the underground reserves as a criterion for calculation of the liability limit

4.2.3 Regional cooperation solution mechanism

This view thinks that in establishing the system of limitation of liability of drilling platform, different liability limits shall be formulated according to different operating sea areas(Yang, 2013). There are many differences between the various marine areas in the world, the development level of offshore oil exploration industry in every country also has differences, so in the formulation of oil damage compensation system, the economic development level and affordability of different countries should be taken into account. If an unified standard is established, it may cause considerable disagreements. Therefore, it is a common practice to establish the legal system of the compensation for oil pollution damage based on regional cooperation.

Regional conventions and agreements, such as 1992 convention for the protection of the marine environment of the north-sea atlantic,1976 Convention for the Protection Of The Mediterranean Sea Against Pollution, 1974 convention on the protection of the marine environment of the Baltic sea area, have a good restriction for the members of the contracting party.

So, this view holds that the liability limitation standards of offshore drilling platform should also be formulated differently based on different seas.
Different liability limits and takes into account the unique nature of the work area, but It will inevitably be the chaos of the law applicable, undermining the unity of the International oil pollution compensation liability system.

4.2.4 Accident processing system

“Accident processing system” refers to use the way of " xx SDR each accident " to calculate liability limit for the oil pollution caused by drilling platforms (Si, 2002, pp. 398-401). Specifically, by comprehensive evaluation of the relevant factors such as the accident scale, the loss caused by the accident, the accident occurrence probability, the causes of the accident and their probabilities, to determine the standard of liability limit. Meanwhile, the compensation needs, the affordability of indemnitor, the underwriting capacity of the insurance company will also be served as the reference factor in the calculation of liability limit.

First, this method considers the characteristics of drilling platform and the rules of drilling operation，which can reflect the correlation between accidents and the liability limit comprehensively and appropriately, and can fully reflect the nature and characteristic of drilling platform oil pollution accident.

This method resolves the problem that as time goes by, the fixed liability limit could not meet the demand of the compensation. With the development of technology, the scale and capability of the drilling platform continue to improve, which may lead to a greater oil pollution in the future. On the other hand, the claimant's claim consciousness and environmental protection consciousness are constantly enhancing, which also increases the amount of the compensation for the oil pollution damage. All of these will lead to the continuous improvement of liability limits. The application of this calculation method can avoid the situation that after the occurrence of a large oil spill accident, the laws are needed to amend to increase the liability limit. For example, after the “Deepwater Horizon” oil spill accident occurred, the United States Congress immediately called for more offshore drilling platforms oil pollution liability limits. So this model can not only fully protect the legitimate interests of the parties of pollution accident, but also does no harm to the integrity of the system of compensation for oil pollution damage, which is conducive to the realization of the unity of the platform system of compensation for oil pollution damage.

Again, this method is consistent with the current calculation method of oil pollution liability insurance, and is more reasonable and convenient compared with other methods.

Chapter 5

Suggestions for improving the relevant legislations of the oil pollution damage compensation caused by offshore drilling platforms

5.1 The necessity and feasibility of establishing international conventions on the oil pollution damage compensation caused by offshore drilling platforms

Up to now, within more than 70 (Yu, 2012) existing international conventions and agreements on marine environmental protection, no one is specifically designed to solve the compensation issues of oil pollution damage by drilling platforms. As the oil spill may cause transnational pollution, and sometimes the parties responsible for the oil pollution damage come from different countries, which may lead to the dispute of the law application, so it is necessary to establish special international conventions on the compensation of oil pollution damage caused by offshore drilling platforms.

In addition, after many years of development, the legal system of compensation for oil pollution damage caused by ships becomes more and more perfect, which can provide a reference for the establishment of international conventions related to offshore drilling platforms.

5.2 Suggestions for improving the relevant legislations in China

The 2011 Bohai Bay oil spill accident caused huge damage to the marine environment, and the aquaculture farmers suffered economic losses. But due to a serious shortage of relevant legislations, aquaculture farmers cannot get enough compensation from the perpetrator. In the context of the lack of relevant specialized international conventions, it is very urgent for China to establish its own legal system for compensation of oil pollution damage caused by drilling platforms.

5.2.1 The perfection of legislation

When the compensation system for oil pollution damage caused by drilling platforms is established, the following forms of legislation can be used:

(1) Incorporate the compensation system into the adjustment range of the Maritime Code

The compensation system for oil pollution damage from ships is missing part of the Maritime Code. Scholars used to suggest that Maritime Code should be amended to add the chapter of " ship oil pollution damage compensation". However, as analyzed above, there are many essential differences between ships and drilling platforms, it is not appropriate to directly apply the compensation standard for oil pollution damage caused by ships to drilling platforms. Therefore, when amending Maritime Code , the compensation system for oil pollution damage caused by drilling platforms should also be included in the scope of Maritime Code .

（2）Develop the oil pollution damage compensation law

Currently, the oil pollution provisions are scattered in various laws, which has brought inconvenience to judicial practice, especially for oil spills without foreign elements. The application of law is very confusing in practice, some people think International Conventions (CLC) shall be applied, some others think domestic laws(Maritime Code) shall be applied. Meanwhile, with the rapid development of offshore oil exploration industry, it has provided the basis for the establishment of an independent legal system. Therefore, the special legislation of the oil pollution damage caused by ships and drilling platforms should be promulgated, which is greatly conducive to the unity of law application.

5.2.2 The improvement of relevant laws

5.2.2.1 Amend the Marine Environment Protection Law

The article 91 of Marine Environment Protection Law provides the maximum amount(not exceed 300,000 yuan) of the fine for the parties who cause the marine pollution accidents, such a light fine cannot have a deterrent effect on oil exploration company. The illegal behavior of COPC is an instance. Therefore, there is a need to increase the amount of the fine combined with the current level of economic development.

In Marine Environment Protection Law, there are only two penalties (fines and warnings) for those who are responsible for the damages. In the Bohai Bay oil pollution accident, in the case of compensation dispute is not resolved yet. Conoco has resumed its production in the Bohai Sea, which caused strong resentment among the injured fisherman. It is necessary to add some other penalties, such as “ ordering

for suspension of production or business” and “ temporary suspension or rescission of permit or temporary suspension or rescission of license” .

5.2.2.2 Establish compulsory liability insurance system

In order to safeguard the public interest, the state can incorporate some special groups or industries into the compulsory insurance system through laws and administrative regulations. Offshore oil exploration industry is an industry of both high risk and high profit, and establishing compulsory liability insurance system in the field can not only expand sources of compensation funds for victims of oil pollution accidents and help them to obtain adequate compensation timely, but also avoid oil exploration company fall into financial crisis because of huge indemnity. Thus the healthy development of the offshore oil exploration industry should be protected.

5.2.2.3 Establish oil pollution compensation fund for drilling platform

As can be seen from the practice of ship oil pollution compensation, in case of the continuous improvement of the liability limit and the establishment of compulsory insurance system, victims may not get adequate compensation in major oil pollution accident; at the moment, the fund system can provide second guarantees.

According to Administrative Measures for the Collection and Use of Compensation Funds for Vessel-Induced Oil Pollution Damage, China has established its own oil pollution damage compensation fund system, but in which offshore drilling platforms are not included. Compared to the ship, the probability of oil damage accident caused by offshore drilling platforms is much smaller; however, once the accident occurred, the damage caused by the drilling platform is more serious. So, we can learn from the

practice of the United States that the ship, inland facilities and marine equipment are included in the scope of fund system. Since China has just established a compensation fund for oil pollution damage from ships, in order to save costs, there is no need to establish a separate compensation fund for oil pollution damage from drilling platforms, the collection and management of these two kinds of fund can apply a set of mechanisms, and only separately stipulate some specific aspects, such as the contributions amount.

Chapter 6

Conclusion

With the development of offshore oil exploration and production, a series of marine oil spill compensations reflect the shortage of the law of the compensation for the oil pollution damage caused by offshore drilling platform, and the relevant legal systems need to improve. Based on the analysis of the characteristics and the legal attributes of offshore drilling platforms, this paper establishes the principle of recognition that the offshore drilling platform should be treated differently from the ship. And then, by drawing on the beneficial provisions of the international conventions and the 0PA90 of the United States, the principle of no-fault liability for the compensation for oil pollution damage of offshore drilling platform is clarified, setting the system of the limitation of liability adopting “accident processing system ” as the basis of calculation, clarifying the liability system which takes drilling platform operators as the main liability subject, and oil fielder developers ,the insurer , the fund and other relevant parties as supplements.

In conclusion, to establish and perfect the compensation system for oil pollution damage of offshore drilling platforms is conducive to protect the marine environment on which we depend, is beneficial to protect the interests of victims caused by oil pollution damage, is helpful to guide the healthy development of the offshore oil

exploration and production industry. It is also expected that the suggestions this paper proposes are helpful to the establishment and improvement of the legal system of the compensation system for oil pollution damage caused by offshore drilling platform in China.

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