

Environmental obligations of the contractor in the field of oil and gas extraction in the seabed

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Received: 14 July 2021 Accepted: 12 September 2022 Published: 26 December 2022

Abstract

Safe extraction from oil and gas reservoirs in the seas and its transfer to the consumption market is among the most important concerns of energy-rich countries to secure their financial interests along with preserving the environment to increase the duration of extraction. The employer's requirement for the contractor to compile a report on the environmental effects of the work is one of the most significant initial steps in concluding the contract to estimate the risk, evaluate and manage the work. Apart from the legal obligations of the oil and gas contractor to comply with principles such as prevention and precautionary measures to prevent environmental damage, the contractor should take essential measures to prevent environmental damage through meeting the highest environmental standards in the field of exploration, drilling, extraction, maintenance and transportation, provision and usage of new methodologies, preservation of protected areas, non-interruption of others' access to water resources and preservation of mineral resources, dismantling facilities after the completion of the contract, and obligation to comply with the principles of the host country. Although contractors usually try to include a stability condition in their contracts in order to avoid more environmental obligations in the future, it seems that the principle of government ownership of natural resources can ignore this right at any time. The condition keeps environmental rules and principles as a priority. The present article has been compiled in a descriptive analytical way and in a library way.

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Key words: Environment, condition of stability, biological safety, right of termination, sea, oil, gas

Introduction

The ocean plays a vital role in global sustainable development, such as adjusting temperature, absorbing carbon dioxide emissions, and providing other ecosystem services. The deep seabed is the habitat of many rare and unknown creatures, forming unique ecosystems which remain the least explored on Earth. Additionally, the Area, which means the seabed and ocean floor and subsoil beyond the limits of national jurisdiction, contains rich mineral resources(Dingwall, 2021).

The oil and gas sector has grown significantly in recent years, and this has caused this sector to make serious changes in the way it does business. This sector is one of the largest sectors in the world with the increase in incomes and expenses necessary to provide the energy needed by customers to maintain their lifestyle(Arscott, 2004). Oil and gas operations include both upstream activities, including all processes prior to refining raw materials, exploration, drilling, extraction, storage, transportation, etc, as well as downstream activities, including refining, selling and distributing the product. Due to the high-risk nature of these activities, companies continuously strive to reduce the importance of their adverse effects on the environment and people(Schneider, 2011). The industry has had a checkered past, as evidenced by major issues in different parts of the world, such as the 1969 Santa Barbara oil spill in California and the 2010 Deepwater Horizon disaster in the Gulf of Mexico. In the early 1990s, Shell's operations in the Niger Delta in Nigeria led to river pollution and tensions with local citizens of the Ogoni region. In 2003, indigenous people in Ecuador filed a lawsuit against Chevron over pollution of the Amazon rainforest and its effects on their health. Over the past few years, the sector has made strides towards sustainability. British Petroleum implemented an operational management system that covers the company's requirements in terms of HSE, social responsibility, operational reliability, contractor management and other related issues. Additionally, as a result of Deepwater Horizon's internal investigation, investigators recommended 26 actions to reduce risks and increase operational safety in drilling activities. By the end of 2013, British Petroleum had addressed 15 of the 26 recommendations(BritishPetroleum, 2014). Also, in 2012, the American Chevron Company reduced its greenhouse gas emissions by 0.7 metric



tons of CO₂ per 1000 barrels and 0.4 metric tons of CO₂ in downstream operations. However, they recorded 232 spills totaling 3,092 barrels. Therefore, they introduced a new approved program called WELLSAFE to maintain well control processes and reduce the number of spills during drilling operations. Shell has also taken important steps to improve its environmental performance and technology. Since 2013, Shell has started using the barge greenstream, which uses liquefied natural gas (LNG) as fuel to transport diesel, oil and unleaded petrol to the Netherlands, Belgium, Germany and Switzerland ("Shell Global," 2013). Because of its bitter experiences in oil spills in Congo and Nigeria and suffering large losses since 2012, the partners formed a special emergency response group to react quickly in case of oil spills into the sea. Environmental risks in oil and gas projects have the highest amount of risk, in a way that in recent years, countries have tried to oblige governments and employers to employ with the maximum environmental standards by formulating environmental laws and explaining the guiding principles. In this article, we will pay the most important environmental obligations of contractors.

Contractor requirements arising from the contract

A contractor is a real or legal person who has announced his readiness based on the given contract to perform work or provide services and sell goods ("HSE assessment guidelines,")⁴. A conventional oil contract is a contract between the government of a country (or the national oil company of that country) and an (international) oil company with the purpose of exploring oil fields, developing and exploiting the fields, and then supply of the manufactured product to the market. In general, oil contracts are divided into different types according to the way of regulating the legal relationship between the host government and the foreign investor or contractor in relation to issues like oil exploration, ownership of oil reservoir, how to develop the fields and investment and financial provision, the relationship between the investor and the oil facilities, the

⁴ HSE assessment guidelines for contractors of the Department of Health, Safety, and Environment (HSE) of Imam Khomeini (RA). Shazand Oil Refining Company, Imam Khomeini (RA) Shazand Oil Refining Company, Health, Safety and Environment.

investor's relationship with the produced oil, the way of marketing, sale and export of the oil production, the way of mutual payments and receipts between the host government and the investor. Each of these issues, individually or collectively, can be the subject of the contract(Nikbakht, 2014).

Compliance with environmental regulations and requirements in the seas

With the development of marine science and technology, the exploitation of deep seabed mineral resources has gradually gained increasing attention. The possible main impacts of deep sea mining on the seafloor include the depletion or physical damage to the habitat and fauna by the mining equipment, changes in seafloor topography and geochemical characteristics, creation of sediment plumes, and potential toxicity from metal or process chemical release (Banet, 2020).

For controlling and reducing potential adverse effects on the marine environment and biodiversity of the international seabed area caused by deep seabed mining, the draft exploitation regulations take precautionary approaches such as stipulating rules, including environmental standards and guidelines, environment impact assessment, environmental management and monitoring plan, and REMPs. However, there are still obvious differences and controversies about making these rules between States due to limited scientific knowledge and diverse States' interests. Multi-subject participation in the law-making helps to make scientific and legitimate decisions that take into account the interests of all relevant parties, and is conducive to promoting consensus among them(Ghasemi, 2022) .

Preservation and protection of the environment of seas and rivers and paying attention to marine environmental requirements have been considered in the UN resolutions and countless treaties. Environmental requirements include not causing damage to the environment of your country at the national level and to other countries at the international level. One of these documents is the Stockholm Declaration, which states in Article 21 that according to the United Nations Charter and the principles of international law, the country has the sovereign right to exploit its resources according to the environmental principles of its country, and they must ensure that the activities in their country do not harm the environment of other countries. Among the most important conventions that deal with pollution at sea are the International Convention



for the Prevention of Oil Pollution at Sea, the International Convention on Liability for Oil Pollution Damage, and the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage. Each of these conventions seeks to prevent oil pollution, and in case of oil pollution, seeks to recognize the responsibility of those who pollute the sea and finally compensate the victims of this oil pollution(Momeni Rad, 2015).

One of the important issues in signing exploitation contracts between deep seabed international authority and contractors includes financial guarantee granted to the Authority by states sponsoring the contractor regarding the rules and regulations followed by the contractor. The mentioned case creates joint liability. The specific chamber of deep seabed in an international tribunal is the competent institution with two optional and compulsory jurisdictions for investigating the seabed and deep seabed disputes. Seemingly, regarding the cases submitted to the tribunal and optional jurisdiction of it, states tend to settle their disputes through arb arbitration and the establishment of a specific arbitration chamber. After the submission of the case and exchange of bills, the seabed chamber investigates the dispute based on the contract signed between the Authority and contractor. If the contract violation and fault of compensation are proved, the vote will be issued. The most substantial compensation methods include preventing damage to the marine environment in the first step and then reinstatement and compensation completely based on the imposed damage(Ghasemi, 2022).

The contractor is the most important person involved in the oil contract in terms of exploration, drilling, extraction and even transportation of oil and gas, which can cause high environmental risks if safety and prevention rules are not taken into account. For this reason, usually, in the concluded contracts, the contractor is responsible for a series of obligations, the most important of which are mentioned below.

Initial assessment of risks and compliance with high environmental standards

The preliminary evaluation permit is limited to the analysis of existing data and documents, surface and well samples, and other studies that help to better understand the petroleum potential of the area. For example, in a country like Portugal, the license

lasts for a non-renewable period of six months, unless it is compulsorily terminated by the government if the licensee fails to meet its obligations. Within the limits of the law and the franchise agreement, the franchisee is free to decide on the best way to conduct its activities. However, it must carry out oil activities in a regular and continuous manner and follow the best practices of the international oil industry, as it will be responsible for losses and damages caused to the government or any third party as a result of these activities. The contractor should study the location of oil and gas extraction, the proximity to the population structure or geographical location, the effects of leakage, the landfill site of waste from the operation, fire, the effects of pollution, and the risks of work safety. However, this action can also be done through the employer and obliges the contractor to comply with the provisions and prevention in the contract. Environmental criteria are mainly included in oil and gas contracts in five ways(Zainuddin, 2014):

a) Reference to national environmental laws and regulations; b) Reference to the international standards of this industry; c) Reference to national laws and international standards of the oil and gas industry; d) Reference to national laws or industry standards and international environmental agreements; e) Creation of specific environmental standards for each project. Considering the inadequacy of environmental laws in some developing countries, the parties to these contracts, especially large multinational companies that are mainly from developed countries, rarely use the method of referring to the national laws of the host country in their contracts. Instead, most such contracts usually include clauses that refer to industry standards.

In Iran(Zainuddin, 2014), EIA and ES HIA documents are considered among the floating upstream documents and are updated according to the requirements and developments of the time. Therefore, there are rules under the title of HSE("HSE requirements and regulations ")⁵, which the Ministry of Petroleum, by standardizing

⁵ All contractors working on the site should pay special attention to complying with the requirements of the environmental management system:

- Compliance with environmental requirements and national and local laws



these rules, requires all contractors and employers to have complied with it. Supplementary studies of EIA and ESHIA documents are among the contents of the contract, which is required to enter the industry today, and before the project implementation, the ES HIA must be approved by the employer, contractor and environmental protection organizations. The employer must get the approval of the

The set of rules and regulations of the Environmental Protection Organization (two volumes) and the set of instructions and regulations of the National Petrochemical Industries Company in environmental protection are the most important requirements that the contractor must comply with.

- Waste management

The contractor should do his best to reduce the production of normal wastes and to manage wastes and their recycling, capture and connection, management of empty barrels and containers, waste hydrocarbons and hazardous wastes, wastes from washing connections and equipment, management of used oils and Oil filters, used batteries, etc., in full coordination with the employer's environmental department, pay special attention.

- Management of hydrocarbons and chemicals

The contractor must observe the necessary health, safety and environmental precautions in the use of hydrocarbons and chemicals. In addition to taking urgent action to clean up small and relatively small spills, the contractor must obtain HSE instructions from the employer for the location and method of cleaning and proper disposal of contaminated soil and water. In emergency situations and large spills, the contractor must be aware of the employer's HSE emergency response plan and act accordingly.

- Land and climate management

The contractor must make maximum efforts to prevent water, soil and air pollution. Discharge of any type of substance or waste into the sea, soil or sewage collection network belonging to the employer is strictly prohibited and will be subject to the application of a crime appropriate to the amount of pollution. In addition to taking the necessary measures to prevent spills in the soil and water, the contractor must quickly clean up, improve and remove the pollution in the event of a spill, depending on the damage caused to the environment. In such cases, depending on the damage caused to the environment, the employer's HSE environmental unit can fine the contractor and in case of repetition or delay in improvement, prevent the contractor from continuing his activities. The control of dust particles caused by the contractor's activity is his responsibility. The use of ozone-destroying substances such as trichloroethane or BCF (bromofluorocarbons) fire extinguishing agents is strictly prohibited in the company of petrochemical terminals and tanks. See: HSE requirements and regulations for the contractors of the Petrochemical Terminals and Tanks Company, published by the Petrochemical Terminals and Tanks Company, page 4,

environmental protection organization for the implementation of the plan, and the contractor is committed to the employer and the environmental organizations to comply with the requirements of the ES HIA document in the implementation of the plan. To implement the ESHIA process, three consecutive steps must be taken, including risk identification, risk assessment, and risk management.

Condition of stability in the contract

The contractor always seeks stability and no change in the regulatory contract, and changes in the law are certainly the most important threat and danger for the contractor. The purpose of the stability clause is to maintain the law of the host country as it is at the time of concluding the contract, so that the contractor can ensure that future changes in the law of the host country will not affect the contract of the parties. It can be said that stability has both a time dimension and an economic dimension (Momeni Rad, 2015). To some extent, stability has a time dimension that requires the continuation of the contractual relationship in order to successfully complete it and achieve the desired goals of the parties. The economic dimension, which is also considered as the most important indicator of a stable contractual system, implies maintaining the contractual balance agreed by the parties during the duration of the contract. Notably, stabilization clauses and agreements are found almost exclusively in developing and transition countries. This is for two main reasons. First, the more "unstable and untrustworthy" foreign investors perceive the government to be, the more desirable and therefore often required by the oil and gas industry the use of stabilization methods will be. Countries in transition are more politically unstable than developed countries. Second, the relative weakness of developing countries in terms of bargaining power, combined with a strong desire to attract investment, forces them to accept terms that developed countries will not consider. The stabilization clause comes from the need to encourage foreign investment, especially in exploration, drilling and extraction of oil and gas (A. A. Faruque, 2006). Of course, contractors use different methods to reduce their investment risk. They may try:

1. Spread risk through crowdfunding,
2. To be insured against risk,



3. Or they may use contractual mechanisms to terminate or reduce and increase the contractual amount.

Based on this, it is possible to attribute the enforceability of the rules applicable to the contract to: (1) the national law of the host country, (2) international law or general principles of law, (3) a combination of national laws and international law/general principles of law (A. Faruque, 2006). In some cases, there is no explicit choice of law condition in the contract, in which case it will be the responsibility of the court where the dispute is to determine the applicable law. Of course, the most common institutions referred to in government contracts are the International Center for Settlement of Investment Disputes (ICSID) and the International Court of Arbitration of the International Chamber of Commerce (ICC)⁶. Apart from these issues and the urgent need of countries for energy from oil and gas at the global level, environmental management is a dynamic activity that depends on the increasing knowledge about the environment and human threats to it, as well as changing the understanding about the seriousness of these threats. Governments are pressured both from below (by their own citizens) and from above (by international treaties and the international community) to respond to environmental problems, and the presumption of sovereign discretion in this regard is probably stronger than it will be. However, especially in developing countries, the pace of development of new environmental laws is much slower than the adoption of new policies and laws aimed at liberalizing and supporting foreign investment (Bekhechi, 2001). In any case, regarding the contractor's environmental violations, even with the condition of stability, the countries rely on the principle of their sovereignty over natural resources, and in many cases, they have the right to terminate the contractor's contract. In countries like Iran, due to the relative nature of the contract, the government can terminate the contract in these cases. In a country like the United States of America, the employer generally does not have the right to apply

⁶ The International Center for Settlement of Investment Disputes (ICSID) is part of the World Bank Group and was established in 1966 with the entry into force of the Convention on the Settlement of Investment Disputes between States and Nationals of Other Countries. Its latest set of rules and regulations came into effect in 2006.

such a condition in oil contracts, and in England, according to the principle of national sovereignty, the government can invoke termination in these cases (Rastegar, 2016).

Maintaining rules related to protected areas

Oil operations carry certain risks when they are located in wildlife and other protected environmental or cultural areas. Over the years, non-governmental organizations have argued that extraction operations should not be carried out in such areas, but governments are not willing to ignore the potential opportunities of exploitation in these areas. This is evident in many contracts. For example, in paragraph 6 of article 37 of the contract for participation in offshore production in the Madagascar model contract in 2006, it is stated, "in the event that a part of the contract is located in a natural reserve area, the operator must make the necessary efforts to minimize the negative effects on these natural reserves in accordance with the general environmental practices in the international oil and gas industry" (Zainuddin, 2014).

Protection of water and water resources

The production and use of oil and gas is inextricably linked with water. Oil and gas extraction and processing consume large volumes of water, produce wastewater, and may accidentally contaminate water supplies. These effects influence water resources, human health and natural resources. In conventional oil and gas production, water is required for the drilling fluid to clean and cool the drill bit, dislodge rocks and sediments, and provide pressure to prevent the wellbore from collapsing. In some cases, water is injected into the well to extract residual oil after the main production period. In 2006, about 13 billion cubic meters of water were used for oil production worldwide. According to the report of the International Energy Agency, the total withdrawal of water for oil and gas production worldwide in 2014 was 8 and 2 billion cubic meters, respectively ("Water-Energy, NexusWorld Energy Outlook Special Report, Technology report ", 2017)⁷. Oil reservoirs often contain a large amount of water called "produced water" that is extracted along with the oil and gas. According to one estimate, the

⁷ However, the 2017 report states that the energy sector will become thirstier in the coming decades, and energy-related water consumption will increase by nearly 60 percent between 2014 and 2040.



amount of water produced is three times the amount of crude oil produced worldwide, which amounts to 15 billion cubic meters per year. Gas extraction produces about one-sixth of the water produced by oil extraction. Hydrocarbon residues, salts, heavy metals, hydrogen sulfide, and boron are all found in produced water. Produced water is often injected into wells or, in the case of offshore drilling, discharged into the sea. Unconventional oil and gas production—the extraction of oil from tar sands and by hydraulic fracturing (fracturing)—is significantly more water-intensive than conventional oil and gas. Steam is used to reduce the viscosity of the tar sands, making extraction easier, while in fracking, water with chemical additives is injected into the shale rock to open cracks and allow oil and gas to come to the surface. Part of this injected water is discharged from the well as wastewater. On average, 5 to 6 barrels of water are consumed per barrel of crude oil produced, but the amount can reach up to 30 barrels. The amount of injected water required for fracking varies from eight million liters to 30 million liters per well, and access to water in some countries is a limitation for fracking. When crude oil is refined, water is used for steam as an input to the refining process, for washing materials and equipment, and for cooling. This water is contaminated with sulfur and ammonia and needs to be purified before further use. Cooling water is the most used water during oil refining: three or four liters of water are needed for every liter of crude oil. In the United States, oil refining requires 4 to 8 million cubic meters of water per day, which is equivalent to the water consumption of two to three million American households. Conventional and unconventional oil and gas production also produce large volumes of wastewater—in the United States, 2.5 billion cubic meters per year, including produced water. It is usually contaminated with toxic chemicals and heavy metals. It is often disposed of in storage pits, which must be contained in some jurisdictions. These pits can release air pollution including benzene (a carcinogen), hydrogen sulfide, and volatile organic compounds that are harmful to cardiovascular health and local ecosystems. Wastewater is also disposed of in injection wells drilled in porous rock (such as sandstone or limestone) that must be separated from drinking water sources.

In some places, wastewater is applied to fields, spread on roads, or treated for reuse by drilling companies(Pichtel, 2016). Sewage and other liquid wastes from oil and gas

production can overflow pits after rainfall, contaminate soil and surface water, or enter the ground from unlined pits, torn casing materials, or uninstalled liners. This can affect vegetation, soil and groundwater stability, and have potential consequences for human and animal health. Wastewater from deep water drilling is usually discharged into the sea. The volume and composition of discharges varies between sites, but they can extend more than two kilometers from the well. Measurements taken from a well in Brazil showed the discharge of 320 cubic meters of sewage and another 70 cubic meters of liquid waste. These discharges affect sea life on the ocean floor. In addition to sewage disposal, oil and gas extraction, storage, and transportation pollute water resources through leaks and spills. Accidental releases occur at onshore and offshore drilling sites and wastewater storage units. Oil spill occurs when oil is transported by land (pipeline, rail and road) and sea. Leakage due to intentional and accidental damage to pipelines as well as poor maintenance is one of the major causes of groundwater and surface water pollution in Nigeria. In the United States, there are approximately 300 significant pipeline spills each year due to damage, malfunction, and corrosion, discharging a total of approximately 104,000 tons per year (Stover). More than 80% of offshore oil spills are small (less than 7 tons), often unreported. The main cause of water leakage is the collision and grounding of tankers. 12% of the oil that enters the ocean is oil leakage (the rest is from transportation, unloading and intentional dumping). However, tanker spills cause significant and long-term damage to local marine and coastal environments due to the volume of oil in one location. These impacts are caused by suffocation of organisms, toxicity of chemicals, ecosystem change, and secondary effects of operations and chemicals used to clean up spills, which have environmental consequences with contamination of surface and underground water sources with benzene, methane, radiation, and spectrum. A wide range of other chemicals are related ("Oil Tanker Spill Statistics ", 2021). In any case, the contractor's use and access to water should be such that it does not prevent users from accessing water, nor does it cause water pollution or underground water sources.

Dismantling the facilities and restoring them to their former state

After the extraction and production from the oil or gas field is finished, it is inevitable to dismantle the facilities and equipment of the project, and the difficulty of this process is mainly due to the termination of the profitability of the field and the difficulty of



providing financial resources for it. The fact that the dismantling operation coincides with the stoppage of the profitable period of the field makes the level of responsibility of the host and committed government in dismantling the remaining oil facilities and equipment and paying its costs ambiguous. Unlike many developed countries, oil exporting countries, including Iran, do not have a proper legal framework to deal with various aspects of the dismantling process. For this reason, this shortcoming is mostly compensated through contractual terms (A. H. F. Shiravi, Mohin, 2016).

It depends on the contractual relationship between the parties and the length of the contract. In some contractual arrangements, the government retains ownership of the production facilities and continues to operate even after the contract is terminated. However, even in such cases, some contractual provisions may provide for collection of facilities that are not intended to be carried out by the government. According to the World Bank, the lack of guidelines for how to carry out the aforementioned steps is a problem that exists in oil producing countries. In addition to the lack of guidelines, some companies are only seeking to reduce their costs by performing superficial reforms. One of the methods of guaranteeing reforms is using a financial mechanism such as a work guarantee or reserve fund (Zainuddin, 2014).

Environmental responsibility

States' commitment to environmental protection (either in their territory or beyond their boundaries) has a comprehensive aspect, since it is an international obligation (A. H. Shiravi, . & Shaabani jahromi, 2018).

Each of the countries in their internal laws explains the rules for the protection of the environment in general and in specific cases regarding drilling, extraction and transportation of petroleum materials, etc. For example, in the United States, laws such as the Resource Conservation and Recovery Act, the Clean Water Act, the Oil Pollution Act, The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), each have rules on the environmental responsibility of natural and legal persons in case of pollution. For instance, One of civil liability purpose is guaranteeing the rights of injured individuals and supporting them, as well as preventing possible damage and remedying violations (Heidary, 2021). Every person who is responsible for

the implementation of exploration, drilling and transportation, whether in the form of ownership or in the form of lease or execution of a contract, is responsible for his operational status. The main purpose of the environmental contractual conditions on the contractor is to prevent damage to the environment due to the spread of oil materials and non-pollution. However, in the event of pollution and damage, the secondary purpose of civil liability is to facilitate the response to the damage claims of those who have been affected by the pollution (Fathizadeh, 2016). The right to claim damages caused by oil pollution in the contract is the last link and a passive reaction against oil pollution. It should be noted that all these definitions and boundaries are implemented to achieve the important issue of non-pollution, caution and prevention, and in the event of an accident, passive measures to assess damage and pay compensation are initiated, which often succeed in restoring the previous situation. The right to demand compensation is in the course of professional activity. In case of damage caused by the employer to the contractor in the oil contract, arising from the relationship of the occurrence of environmental damage or damage related to non-compliance with safety issues, the employer must resort to a criminal act to fulfill the contractor's responsibility. In other words, in order to realize the responsibility in all cases, the presence of three elements of harm, the commission of a harmful act, as well as the causal relationship between the person's act and the harm are necessary (Fathizadeh, 2016).

Responsibility of multinational companies

A multinational company means a parent company that, through its affiliates, such as subsidiaries located in one or more countries, is involved in foreign production or other foreign activities such as the distribution of goods and commercial services, and has direct control over the policy and the policies of its affiliates. This company tries to design and implement the necessary business strategies for production, marketing, financial support and other functions that are beyond national borders (Haddadi, 2014). Multinational companies active in the field of oil and gas usually use their subsidiaries in other countries to undertake oil and gas projects. Although the countries have complete independence in their domestic laws and regulate their own control and monitoring laws on oil and gas projects regarding the regulations compiled with domestic and foreign contractor companies, but sometimes the management practices of these branches in the implementation of the project are different. It ends with the



company and the host government, which sometimes acquires an international aspect with the diplomatic support of the capital exporting country. Investing or host governments fulfill the social responsibility of these companies through real control over transnational companies. Sociological facts, especially in the Asian region, indicate that host governments can, by inventing new solutions, avoid cases of violations and reduce human rights by transnational companies and take steps towards sustainable development. For example, India as a developing country, in its 2013 trade law, approved regulations on corporate social responsibility, according to which companies are required to allocate 2% of their annual net profit to social responsibility(Ziyai, 2021).

In this regard, the European Union, as a revolutionary point of view, has proposed the theory of the economic unit, which imposes unlimited liability on the parent company for its subsidiaries depending on the degree of control of the company⁸. On the other hand, a group of plaintiffs in filing their lawsuit against multinational companies do not file their claim based on the concluded contract, but because of the existence of one of the causes of civil liability based on compulsory guarantee. From the point of view of non-contractual civil liability rights, if it is proven that the parent company has participated in a harmful act that causes civil liability due to the act or omission of the subsidiary company⁹.

⁸ European Union courts consider different units of a company as one company if they are under the control and management of the same shareholders. Perhaps the weak point of this theory is that it is absolute because it creates the possibility of continuous lawsuits against the parent company and the parent company loses the chance to be acquitted even in cases where it is clearly not guilty.

⁹ In this case, the decision of the United States court in the case of Amokokadis shows the attention to the above opinion, that is, the factor of fault and negligence. In this case, the court was faced with allegations of fault and negligence. The French plaintiffs initiated a lawsuit against Amoco International Transportation Company and Amoco International Oil Company and their parent and main company, i.e. Standard Oil Company. The reason for filing this lawsuit was the oil spill on the northern coast of France caused by the actions of this international company due to the shortness of the system and the company in performing the contractual duties as well as the failure to train the personnel, which had led to losses. The judge in charge of Frank McGarr's case presented analyzes about the management style of the company and finally held both the parent company and the subsidiary

In any case, it seems that in the field of environment, the primary principle in maintaining the region should be to eliminate or prevent dangerous damage to the soil of the discovery and excavation site. This will be done by monitoring the way of exploration and exploitation as well as the tools used by the host government (Talebelian, 2015). Resolving the practical conflicts of the implementation plan by the contractor with the context of the area to be operated will be another guiding principle.

Conclusion

For the oil and gas industry, the drive for more sustainable operations means developing new standards, innovative technologies and partnerships to accelerate safer, cleaner and cost-effective energy solutions for now and the future. Oil and gas extraction companies should pay attention to the responsibilities related to providing clean energy to protect the environment, reduce greenhouse gas emissions, and reduce the risks of climate change. Companies are committed to continuous improvement and innovation in order to discover and extract and even transport, especially regarding environmental issues. Countries in their contractual relationship with contractors should know that achieving sustainable growth through energy should be in ways that has the least environmental damage and helps to reduce the effects of climate change. Producing crude oil and refined products at a lower cost to remain competitive in the market is one of the main challenges of this industry. Therefore, optimizing the production systems and environmental facilities in the sites that are currently active is one of the priorities of the oil industry. This maximizes production efficiency, reduces extraction and refining costs, and thus offsets exploration costs. The oil and gas industry is a major consumer

companies responsible. From the point of view of this judge, the causes and reasons involved in the issues of justification of the parent company's responsibility were as follows: Standard Oil Company was deeply owned by its subsidiary companies, and these companies carried out various activities in the fields of exploitation, production, refining, and transportation. And the sale of oil and other petroleum products around the world requires accurate and correct management by the parent company, therefore, the parent company has coercive civil responsibility for the harmful and collateral actions of its subsidiary companies; On the other hand, Standard Oil Company, with the control it has over its subsidiary companies, has turned them into its executive arm and tool. Considering the above and taking into account the existence of a complete relationship between the subsidiary companies and the parent company, the responsible actions of the subsidiary company lead to the responsibility of the parent company.



of water and energy resources and is therefore subject to increasingly stringent environmental standards. This forces contractors to rethink their extraction, production and distribution methods in order to obtain or maintain their license to operate. They must also provide guarantees and ensure transparency in the environmental management of their activities. Assessing the environmental risks of carrying out the project and presenting a report on the level of risk, assessing and managing environmental risks along with contractual obligations to comply with high environmental standards according to the location of the project and the implementation of the host country's environmental laws and principles or international law or a combination of both, the obligation to comply with the protection standards of water and soil resources and animal biodiversity, the obligation to dismantle the facilities used in the oil and gas project, and finally the contractual and non-contractual responsibility of the contractor in creating a polluting risk are the most important requirements of the contractor in oil and gas projects.

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