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INTERNATIONAL SUSTAINABILITY STANDARDS IN THE OIL AND GAS SECTOR: AN OVERVIEW

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Introduction

The oil and gas sector or industry plays a key role in the global economy, particularly in developing and emerging countries. Additionally, oil and gas are crucial components of the global energy system and are essential for sustainable development.

Standards play a crucial role in regulating various facets of our lives, ranging from the food and water we consume to the technology we use. These regulations are formulated by a team of experts and are closely monitored by stakeholders to ensure safety and promote seamless international trade. The stakeholders include national governments, international organisations like the United Nations (UN) and members of the public. These standards hold a significant position in governing different aspects of our daily lives. They act as a fundamental factor in ensuring that the products and services we consume are of high quality and comply with the requirements. Ultimately, standards serve as an essential tool for safeguarding the interests of consumers and ensuring that they have access to reliable and secure goods and services¹.

Need for Standards in the Oil and Gas Sector

Standards are crucial in the oil and gas industry due to transporting hazardous substances through pipelines for over a century. These pipelines are often buried underground or beneath the seabed, and failures such as leaks and cracks can result in catastrophic consequences. Pipeline disasters, ranging from the Trans Canada rupture in 1962 to the

¹ OMS, <https://www.omsmeasure.com/blog/understanding-standards-in-the-oil-and-gas-industry#:~:text=Today%20API%2C%20DNV%2DGL%20and,the%20Offshore%20Petroleum%20Industry%20Tra ining.> (last visited August 22, 2023)

Deepwater Horizon oil spill in 2010, have caused death, environmental destruction, long-lasting damage, and financial loss².

Much of the gas and oil exploration happens deep beneath the ocean. Oil platforms can be risky and prone to environmental hazards. Drilling for oil has been done for thousands of years, with accidents having a significant impact. The first recorded instance of an industrial accident occurred in China in 347 AD. Since then, there have been numerous accidents that have had a significant impact on both human life and the environment³.

Here are some of the most disastrous incidents that have occurred in this sector worldwide:

- **The Piper Alpha Disaster**

On the 6th of July, 1988, the deadliest offshore oil rig incident occurred. At least 167 people out of 226 lost their lives. Before it, the Piper Alpha platform in the North Sea, UK was producing around 300,000 barrels of crude oil in a day. However, on this fateful day, a communication error led to this massive accident, in the morning an essential safety had been removed from a gas pump, and the pump was placed strictly off limits but the information was not passed properly. Later in the day, the shift managers changed and proceeded to start the pump which caused the gas leak and a massive fire outbreak. This destroyed the complete platform. It took three weeks to control the fire and only 61 crew members were left alive.

- **Alexander L. Kielland Drilling Rig Incident**

Alexander L. Kielland, a semi-submersible platform in Scotland was serving accommodation for the workers on the Edda oil rig. On the 27th of March, 1980, after being battered by huge waves and high winds, one of the bracings of the five-legged platform failed. Eventually, the tension increased very much and the single cable snapped, which caused the harm to entire platform, trapping most of the workers onboard inside the platform which sank into the deep waters. About 212 workers, out of 123 lost their lives.

- **Seacrest Drillship Disaster**

² Id.

³ DrillingFormulas.com, Top 10 World's Catastrophic Accidents in Oil and Gas Industry, DRILLINGFORMULAS.COM, (5 Oct., 2017, 6:11 AM), <https://www.drillingformulas.com/top-10-worlds-catastrophic-accidents-in-oil-and-gas-industry/>

The Seacrest, also known as the Scan Queen, was owned by the Unocal Corporation. While operating 430km south of Bangkok in the South China Sea, on the 3rd of November 1989, the ship was anchored for drilling at the Platong oil field when it was hit by a 40-foot-high wind and winds of over 100 knots. On the very next day, the drill ship was reported missing and on the 5th of November, it was found capsized by a search helicopter. It was concluded in the investigation that the rig capsized so quickly that the crew members did not get time to issue a distress signal and so all 91 crew members lost their lives.

- **Ocean Ranger Oil Rig incident**

The Ocean Ranger was a semi-submersible offshore drilling rig. It was owned by the Ocean Drilling and Exploration Company and was hired by Mobil Oil of Canada to conduct explorations in the Hibernia Field. It was one of the largest rigs in the world and was able to operate up to 1,500 feet underwater and drill 25,000 beneath the seabed, at its time. On the 15th of February of 1982, a storm flooded away the chain locker and upper deck, leading to a loss of buoyancy that caused the rig to capsize and all the 84 workers died in the freezing seas.

- **Glomar Java Sea Drillship Accident**

An American drillship, named Glomar Java Sea which was owned by Global Marine Inc., went missing in South China Sea on 25 October 1983 during a tropical storm. After one week of rescue, the search vessels discovered the wreckage some 300 feet underwater. On board were 42 Americans, 34 Chinese, 1 Australian and 4 Britons. The drillship halted the operation and reported to the Global Marine's office that they were experiencing 75 knot winds over the blow, but suddenly the office lost contact with the ship and only 36 bodies were discovered, the remaining 45 members remain missing and presumed dead.

- **Bhoai 2 Oil Rig Incident**

The Bhoai 2 oil rig was at that time the oldest Chinese-owned oil rig in operation and was operating in the Gulf of Bhoai, between China and Korea. The rig was towed by a hit of fierce storm on 25th November 1979. The ventilator pump was broken which created a large hole in the deck and so it quickly filled with water. The flooding and the adverse weather conditions caused the rig to capsize and to the worst, the crew members had not

received any training on emergency evacuation or the use of lifesaving equipment. The tow boat accompanying the ship could only rescue 4 out of 76 workers on board.

- **Enchova Central Platform Incident**

The Enchova Central Platform was operating in the Campos Basin near Rio de Janeiro in Brazil on the fateful day, i.e., 16th August 1984, when the blowout caused an explosion on the platform. The majority of the workers were evacuated but the 42 other workers lost their lives.

- **BHN Platform- Mumbai High North tragedy**

The Bombay High North platform was situated in the Mumbai High Oil field. It was operated by India's state-owned ONGC, Oil and Natural Gas Corporation. On 25 July 2005, it was struck by its support vessel Samudra Suraksha. The support vessel was pushed by the strong swells and thus it hit the gas export risers of the platform and caused one of them to leak and eventually explode. 22 people were killed by fire. It also damaged Samudra Suraksha and the Noble Charlie Yester, a jack-up rig operating near the BHN platform. A huge oil spill was caused leading to the loss of 120,000 barrels of oil and 4.4 million cubic meters of gas, per day.

- **C.P. Baker Drilling Barge Disaster**

In the Gulf of Mexico, on the 30th of June 1964, the C.P. Baker Drilling Barge Disaster took place. The barge was deployed for drilling operations and on the fateful day the hull suffered a blowout, Water began to pour in and spread in the vessel as the main deck was left open. Within a few minutes, the barge lost power and an explosion caused the vessel to catch fire. Out of 43 workers, only 22 survived by jumping into the sea. Eight were confirmed dead and 13 were presumed dead as they were missing.

- **Usumacinta Jack UP Accident**

The accident took place on 23 October 2007 in the Gulf of Mexico, when the Usumacinta jack-up platform collided with the PEMEX-operated Kab-101 platform and the cantilever deck of the latter hit Usumacinta's production tree. This collision led to oil and gas leakage and then the fire. 21 workers were found dead and the remaining missing workers were presumed dead⁴.

- **Deepwater Horizon disaster**

⁴ Id.

On the fateful day of 20 April 2010, a quick rush of natural gas blasted through the core of the well and caused the rig to explode killing 11 out of 126 workers and injuring several others. The explosion on 20 April at the Deepwater Horizon was the cause of the biggest oil spill in US history, though this disaster killed 11 rig workers only, still, it remains the most well-known offshore disaster because of its location, timing and ensuring oil slick. Four million barrels of oil spilled into the Gulf of Mexico causing harm to huge numbers of sea birds and damaging coastlines for hundreds of miles. After burning for continuous 36 hours, the drilling rig capsized and then sank on 22nd April, which ruptured the oil riser leaving 1000 barrels of oil spilling every day in the Gulf. The damage was capped after 87 days with a 40-ton plug on the 15th of July⁵.

However, these also had a positive side, as every accident led to safety reviews, rules or standards and helped to improve the safety equipment and protocols all over the world⁶. Too much emphasis on safety and knowledge of risk management have made such disasters less severe and less common. All the nations have improved their offshore laws, rules or regulations and focused on creating better equipment which has resulted in a lower rate of such disasters⁷.

Sustainability in the Oil and Gas Sector

The oil and gas industry plays a critical role in providing affordable and reliable energy to support global economic growth and ensure sustainability for future generations. However, the progress made so far has come at a cost. The lack of regulations and knowledge about the direct or indirect impacts on people and the environment has resulted in several negative effects, damaging our planet. Therefore, it is essential that we change our strategies and approaches towards more sustainable ones.

As the world is taking strides towards a more sustainable future, the Oil and Gas Sector can make a significant contribution by improving its environmental performance. By reducing air emissions, efficiently managing resources such as energy and water, minimizing waste, and restoring natural habitats, the sector can create a more sustainable future for all. This approach will not only reduce carbon footprints but also decrease costs and increase profits through the

⁵ OFFSHORE TECHNOLOGY, <https://www.offshore-technology.com/features/feature-the-worlds-deadliest-offshore-oil-rig-disasters-4149812/?cf-view&cf-closed>, (last visited: August 25, 2023)

⁶ Id. at 3

⁷ Id. at 5

implementation of digitalization, Carbon Capture and Storage (CCS), and minimizing environmental impacts on air (GHG emissions), water, and soil.

Sustainability in this sector involves managing resources, investments, and technology to optimize operations while prioritizing efficiency, reliability, safety, and environmental and social awareness⁸.

International Standards in the Oil and Gas Sector

Today, industries are increasingly recognizing the pressing need to address environmental, social, and climate change issues. The Oil and Gas Sector, in particular, is evaluating the maturity of their environmental, health, and safety (EHS) efforts, and progress towards sustainability. Here are some **International Standards** that are focusing on sustainability in the Oil and Gas Sector:

- **ISO Standards:** ISO Standards can be considered the most widely recognised standards in today's time across the Oil and Gas Sector⁹. One of the benefits of Oil and Gas ISO Certificates is that they implement sustainable practices such as ISO 14001 and other environmental standards to help the companies in reducing their environmental impact which is very important in this sector¹⁰.
- **Sustainability Accounting Standards:** The Sustainability Accounting Standards are provided by the SASB, Sustainability Accounting Standards Board for the use of public-listed corporations in the US in disclosing material sustainability information for the investor's benefit and also for the public at large. It has separate standards for the Oil and Gas Sector. For the Oil and Gas Exploration & Production (NR-0101) and Mainstream (NR-0102) industries. For the Oil and Gas Sector, SASB has identified some material sustainability topics, such as Greenhouse Gas Emissions, Air Quality, Water Management, Hazardous Material Management, Product Specifications and clean Fuel

⁸PETROWIKI, https://petrowiki.spe.org/Sustainability_in_the_oil_and_gas_industry#:~:text=Sustainability%20in%20the%20oil%20and%20gas%20industry%20can%20be%20defined,%2C%20environmental%2C%20and%20social%20awareness., (last visited: August 28, 2023)

⁹ Id. at 1

¹⁰ NQA, <https://www.nqa.com/en-in/certification/sectors/oil-gas>, (last visited: August 28, 2023)

Blends, Pricing Integrity and Transparency, Health, Safety, and Emergency Management and Management of the Legal & Regulatory Environment¹¹.

- **International Sustainability Standards Board:** The International Sustainability Standards Board (ISSB), on 26th June 2023, issued the global inaugural IFRS Sustainability Disclosure Standards- IFRS S1 and IFRS S2. It will help to improve trust and confidence in companies' disclosures about sustainability to inform investment decisions¹².
- **GRI Standards for the Oil and Gas Sector:** The Oil and Gas Sector faces many challenges in terms of environmental impact and social responsibility, therefore to address these challenges, the GRI, Global Reporting Initiative has developed a set of standards. The Global Sustainability Standards Board (GSSB), an independent standard-setting body of GRI has approved the proposal for this and thus the GRI 11: Oil and Gas Sector has developed to identify and describe all the significant impacts of this sector in terms of sustainable development. This GRI 11: Oil and Gas Sector 2021 standards play an important role in promoting sustainability reporting¹³. It came into effect on or after the 1st of January 2023¹⁴.
- **Sustainability Reporting Guidance for the Oil and Gas Industry:** The International Environment Conservation Association for the Petroleum Industry (IPIECA) aims to promote environmental and social issues in the Oil and Gas Sector as per the UNEP, UN Environmental Program. In 2020, it came into partnership with API, American Petroleum Institute and IOGP, International Association of Oil and Gas Procedures and released the

¹¹ Sustainability Accounting Standards Board, *OIL & GAS - REFINING & MARKETING Sustainability Accounting Standard*, 2014 SASB, SUSTAINABILITY ACCOUNTING STANDARD NON-RENEWABLE RESOURCES SECTOR, 1, 2, (2014), https://cdn2.hubspot.net/hubfs/2642721/Recursos/Agencias%20rating,%20marcos%20y%20adhesiones/SASB/Estandares/NR0103_ProvisionalStandard_OGRefiningMarketing.pdf

¹² SASB, *ISSB issues global inaugural IFRS Sustainability Disclosure Standards, updates SASB Standards*, SASB STANDARDS, (August 30, 2023), <https://sasb.org/blog/issb-issues-global-inaugural-ifrs-sustainability-disclosure-standards-updates-sasb-standards/>

¹³ Dr Rakesh Varma Ex-IAS (VR) (INSIDER @ GOVT), *GRI Standards for Oil and Gas Sector: A Comprehensive Guide to Sustainable Reporting*, PUBLIC POLICY PULSE, (August 30, 2023), <https://www.linkedin.com/pulse/gri-standards-oil-gas-sector-comprehensive-guide-varma-ex-ias-vr/>

¹⁴ GRI, *GRI 11: Oil and Gas 2021*, GRI 2021, GRI, 1, 2, (2021), <https://www.globalreporting.org/media/wu1nugcu/oil-and-gas-faqs-public.pdf>

Guidance, i.e., Sustainability Reporting Guidance for the Oil and Gas Industry with the focus on assisting companies in shaping their sustainability report structure and content¹⁵.

Conclusion

In the Oil and Gas Sector, ensuring the implementation of sustainability standards is crucial for the safety of the environment and people. This effort is a global one, initiated by several international organizations that have set guidelines for companies in the industry to follow. The primary goal is to advance sustainability standards to an optimal level, which will help in reducing the environmental impact of the industry. Organizations like the International Petroleum Industry Environmental Conservation Association (IPIECA), the World Business Council for Sustainable Development (WBCSD), and the United Nations Global Compact (UNGC) have worked together to create guidelines and best practices for the industry. Compliance with these guidelines is necessary for companies to operate sustainably, and they must commit to implementing them in their operations. The guidelines cover several aspects of the industry, including reducing greenhouse gas emissions, minimizing waste generation, and conserving natural resources. Companies must also work towards improving the social and economic well-being of the communities where they operate. By adhering to these sustainability standards, the Oil and Gas Sector can ensure a safer and sustainable future for all.

