

# Enforcing Health And Safety Regulations In The Downstream Oil And Gas Industry In Ghana: An Examination Of The Institutional Framework.

Stephen Ofori

---

## **Abstract**

Ghana has over the years been bedevilled by incidents in the downstream oil and gas sector leading to loss of lives, injury to persons, and destruction of property. The gas explosion which occurred in Accra on 7<sup>th</sup> October, 2017, for instance, claimed more than seven lives, caused injury to a number of persons and destroyed several properties worth millions of Ghana Cedis. It is reported that between 2014 and 2017, Ghana recorded eight major gas explosions leading to the death of more than 200 persons and injuring a number of others. These are clear indications of the health and safety risks associated with the various activities in the downstream oil and gas industry which include oil refining, storage, transportation and distribution, and sale of oil and gas products. To curb or manage these dangers, it is required that robust regulations as well as robust, well-coordinated, and synchronized institutional arrangements for monitoring compliance are established. This paper examines the institutional framework for enforcing health and safety regulations in the downstream oil and gas sector in Ghana. Whilst acknowledging that the regulatory institutional arrangements in the sector have evolved over the years with significant improvement, the paper observes that the institutional framework for the enforcement of health and safety regulations in the industry remains fragmented resulting in duplications, conflict of regulatory functions, and, to some extent, weak regulatory and enforcement powers. The paper recommends that the establishment of strong and independent regulatory bodies with clearly defined roles and synchronized decision-making systems is required to ensure effective enforcement of health and safety regulations and thereby curb or minimize the various health and safety dangers in the downstream oil and gas sector.

**Keywords:** Oil & gas industry; downstream sector; health and safety; regulatory regime; regulations; institutional framework.

---

Date of Submission: 07-03-2025

Date of Acceptance: 17-03-2025

---

## **I. Introduction**

The importance of energy to socio-economic development is seen in every facet of life.<sup>1</sup> Oil and gas is arguably the most important source of energy in modern times.<sup>2</sup> According to Gao Z., petroleum is an exquisite substance, whose contribution is indispensable in the economic growth and development in all countries, regardless of their economic status and indicators.<sup>3</sup> Despite its economic importance or advantage to national and global economies, the activities undertaken in the oil and gas sector are inherently hazardous. The exploitation of oil and gas resources is marked by certain health and safety dangers. The activities within the oil and gas sector are undertaken in the upstream, midstream and the downstream. The upstream activities consist of development of oil fields for exploration, and production of hydrocarbon resources, the midstream involves storage and transportation of crude from the production stage to the refining stage, while the downstream deals with refining, transportation, retail and distribution of oil and gas products.<sup>4</sup> It has been observed that since the

---

<sup>1</sup> A Ambituuni, J Amezaga, E Emeseh, 'Analysis of Safety and Environmental Regulations for Downstream Petroleum Industry in Nigeria: Problems and Prospects' (2014) 9 *Environmental Development* 43. <https://www.researchgate.net/publication/259525822> accessed 15 December 2024

<sup>2</sup> Douglas Mailula, 'Protection of Petroleum resources in Africa: A Comparative Analysis of Oil and Gas Laws of Selected African States' (Doctor Legum Thesis, University of South Africa 2013)

<sup>3</sup> Zhiguo Gao, *International Petroleum Contracts: Current Trends and New Directions* (Graham & Trotman, 1994) 1

<sup>4</sup> GNPC, 'Introduction to Ghana's Oil & Gas industry: History, Current & Future Trends' (University of Ghana College of Basic and Applied Sciences on 9 November 2016). <<http://www.gnpcghana.com>> accessed 20 March 2020

towns and cities are the centre for consumption of oil and gas products, most of the activities in the downstream sector take place in the towns and cities where the human population is usually dense.<sup>5</sup> Accordingly, these activities in the downstream potentially put lives and properties at risk, and the challenge for the state is to balance these concerns through appropriate development of national policies, legal and regulatory frameworks.<sup>6</sup>

Generally, the oil and gas industry is regulated throughout its entire process.<sup>7</sup> The regulation of the industry, according to Ambituuni, is done by “the establishment of an adequate regulatory framework consisting of laws and regulations setting out rights, obligations, procedures and standards, and regulatory institutions charged with responsibility for monitoring compliance.”<sup>8</sup> Effective regulatory institutional arrangements do not only seek to detect and punish for non-compliance, but more importantly create the needed awareness and solicit compliance of the rules by the industry participants.

In Ghana, unlike the upstream sector which is relatively recent with the discovering of oil in commercial quantities in 2007, the downstream sector has existed for several decades. The sector has over the years served as a good business venture for both local and international investors. It has also helped to drive the economy in many respects by making available petroleum products to consumers, both commercial and non-commercial users.

Several accidents have been recorded in the downstream sector in Ghana over the years leading to loss of lives, injury to persons, and destruction of property. An example of such accidents is the gas explosion which occurred in Accra on 7<sup>th</sup> October, 2017 which claimed seven lives, caused injury to 132 persons and destroyed several properties worth millions of Ghana Cedis.<sup>9</sup> It is reported that between 2014 and 2017, Ghana recorded eight major gas explosions leading to the death of more than 200 persons and injuring a number of others.<sup>10</sup>

To overcome these health and safety dangers requires not only robust regulations but also an effective institutional framework for enforcing the industry laws. Irrespective of the regulatory style or approach adopted by a country for the petroleum industry, the existence of effective, well-structured and robust regulatory institutions plays a key role in achieving the goals of the regulatory regime. This article examines Ghana’s institutional framework or arrangements established by the law for setting health and safety regulations and standards in the downstream sector, as well as monitoring and ensuring compliance.

## **II. Utilization Of Oil And Gas Resources**

### ***The socio-economic importance of oil and gas resources***

Many researchers have suggested that a negative relationship exist between natural resources and the economic growth of countries with abundant proven resources.<sup>11</sup> According to Karl, this negative relationship has become known as the “resource curse or paradox of plenty.”<sup>12</sup> Mailula has also observed that, the “paradox of plenty or resource curse” is a major characteristic and a defining feature of hydrocarbon resources on the African continent.<sup>13</sup> Gao observes that petroleum has become one of the most important source of energy globally, and also critical to national strategies and international politics.<sup>14</sup> Oil wealth continues to be one of the backbones of the world’s economy, notwithstanding the potentials of other sectors such as technology, gold and diamond, cocoa, coffee, sisal, timber and cotton which are among a host of the world’s export commodities. Oil and Gas resource is crucial to the economic progress and prosperity of all countries, irrespective of their level of development.<sup>15</sup> This corroborates some basic underlying assumptions, for instance the continental assumption

---

<sup>5</sup> James B, ‘Urban Government and Environmental Policies: Regulating the Storage and Distribution of Fuel Oil in Houston, Texas 1901-1915’ (2005) *Journal of Southern History* 279,

<sup>6</sup> Ambituuni and others (n 2)

<sup>7</sup> S Yeboah, ‘Regulating Ghana’s Oil and Gas Sector: What Should be the Parameters?’ (GhanaWeb 2010) <<http://www.ghanaweb.com>> accessed 27 April 2020

<sup>8</sup> Ambituuni and others (n 2)

<sup>9</sup> Daily Graphic (Accra, 9 October 2017) 3

<sup>10</sup> Ibid, 23

<sup>11</sup> D Sachs and others ‘Natural Resource Abundance and Economic Growth’ (1995) NBER Working Paper, No. 5398.

<sup>12</sup> Karl, T. L., *The Paradox of Plenty – Oil Booms and Petro-States*, (University of California Press, Berkeley 1997).

<sup>13</sup> Mailula (n 3)

<sup>14</sup> Gao (n 4)

<sup>15</sup> *ibid*

that, natural or oil and gas resources is essential towards the accomplishment of the Millennium Development Goals in Africa.<sup>16</sup>

Oil and gas resources readily provide energy to fuel heavy duty engines, industrial machinery, cars among others. Despite the emergence of renewable energy and the effort to encourage the use of renewable sources of energy, there continues to be over dependence on oil and gas as a source of energy. The demand for oil and gas is predicted to continue to increase.

#### ***Activities in the oil and gas industry.***

The oil and gas industry is touted as one of the most complex and largest industries in the world. The industry is made up of three streams; upstream, midstream, and downstream. The upstream deals with exploration and production of oil at the oil fields, the midstream deals with storage and transportation of crude oil, natural gas, natural gas liquids (NGLs, mostly ethane, propane and butane) and sulphur. The downstream is concerned with oil refining, storage, transportation, marketing, distribution and retailing of refined oil and gas products.<sup>17</sup> The activities in the downstream involve building refineries, petrochemical plants, petroleum and gas storage facilities including tanks, and retail outlets.

#### ***Health and safety risks in the downstream activities.***

The nature of the activity in the downstream is itself hostile, at each stage of the downstream supply chain activities such as the refinery process, transportation, marketing and distribution among others are associated with many risks. The industry is associated with many health and safety problems notwithstanding the sector's contribution to the GDP of an economy.<sup>18</sup> Since the downstream is mainly concerned with making available finished product to the final consumer, the activities take place in close proximity to human settlements.

Major accidents have occurred in Ghana during the past decade in respect of the downstream oil and gas activities. Citifmonline on October 9<sup>th</sup> 2017 published that over 250 persons were killed by gas explosions since 2007.<sup>19</sup> It is estimated that about 255 persons died from reported cases involving Liquefied Petroleum Gas ("LPG") explosions between 2007 and 2015. The most dangerous is tagged as the June 3 twin disasters which happened in 2015, and claimed 159 lives due to a flood and fire disaster at a GOIL service station at Circle in Accra.<sup>20</sup> The Worldwide Offshore Accident Database also contains some troubling statistics on major oil and gas accidents globally. All these are indicative of the fact that the sector is one which is inherently risky.

The substance produced or transported along the downstream sector is undoubtedly volatile and highly flammable, and the machines and other activities courts much risk to the workers, properties and the general public. The nature of the activity is itself hostile and poses some health risk to humans and to the environment, and it requires precautionary measures. Ambituuni et al. argue that potentially, any of the activities in either the upstream or downstream sectors pose human health, safety, and environmental risks, and the challenge for any government is balancing these concerns with appropriate regulatory framework.<sup>21</sup>

#### ***Regulation of Health and safety in the downstream oil and gas activities.***

Regulation generally involves a sustained and focused control exercised by a public agency over some activities in a community.<sup>22</sup> The legal or regulatory framework in this context involves the establishment of laws that regulate the various activities in the downstream oil and gas sector in order to prevent and/or manage the negative impact of those activities on human health and safety. It has been observed that health and safety are one of the main objectives of every effective regulatory regime in the oil and gas industry.<sup>23</sup> Prevention

---

<sup>16</sup> Mailula (n 3)

<sup>17</sup> Amponsah and Opei, 'Ghana's Downstream Petroleum Sector: An assessment of Key Supply Chain Challenges and Prospects for Growth' (2017) International Journal of Management and Business Studies 441, 442. Available at <<http://www.internationalscholarsjournals.org>> accessed 12 June 2018

<sup>18</sup> Amposah-Tawiah and Dartey-Baah, 'The Mining Industry in Ghana: A Blessing or a Curse' (UBSS 2011) <<http://www.ijbssnet.com/journals/Vol.2No.12>

<sup>19</sup> Citifmonline <<http://citifmonline.com/2017/10/09/250-ghanaians-have-died-from-fuel-explosions-since-2007/>> accessed 12 May 2018

<sup>20</sup> ibid

<sup>21</sup> Ambituuni and others (n.2)

<sup>22</sup> ibid

<sup>23</sup> Richmond Osei-Hwere, 'The Objectives of Oil and Gas Regulation: Lessons for Ghana's Petroleum Sector' (2015-2017) 7 KNUST Law Journal 102, 103

underpins all health and safety regulations. Accordingly, the laws must contain structures and mechanisms to achieve this objective. It is argued that for the regulatory regime to be effective, it must be robust, comprehensive, coherent and consistent regulations backed by regulatory institutions charged with enforcing compliance.<sup>24</sup>

Considering the health and safety dangers associated with the activities in the downstream sector, efficient regulatory frameworks make provisions for quality assurance in the construction, operation and decommissioning of oil and gas facilities.<sup>25</sup> It provides for licensing regime that insists on application of high level of technology as well as expertise to operate oil and gas facilities and equipment. There are also provisions for surveillance, reporting system and comprehensive emergency response procedure among others. Downstream regulatory framework also provides for insurance system and compensation for victims of accidents and effective risk management systems. It also provides for a range of sanctions and other remedial measures to secure compliance. An important aspect of effective regulatory framework in the downstream sector is the establishment of coordinated and synchronized institutional arrangement to ensure compliance.<sup>26</sup>

Two main health, safety and environmental regulatory models have been identified in the oil and gas industry generally.<sup>27</sup> Each model dictates the orientation of a particular regulatory regime. These are the safety case or goal-setting approach, and the strict regulation approach. Under the safety case approach, operators are required to lay down policy measures and strategies demonstrating their understanding of the health and safety risks and the measures put in place to prevent and manage the risks.<sup>28</sup> There is very little state interference in this approach. The regulator set general goals for the operators to achieve through independently verified risk assessment and safety measures. On the other hand, the strict regulation regime entails detailed and comprehensive regulations and policy directives to regulate every cycle of the process.

### **III. An Overview Of Ghana's Downstream Sector**

Ghana's downstream oil and gas sector consist of refining of crude oil, storage of refined petroleum products, transportation of petroleum product from refinery sites to storage depots, distribution of oil and gas to retail stations, and sale to final consumers at petroleum and gas retail outlets.<sup>29</sup> Refining involves conversion and treatment of crude into final products.<sup>30</sup> It involves two stages of processing: thus the physical separation of crude and the subsequent chemical refinement of the crude into different petroleum products.<sup>31</sup> This process requires building crude receiving facilities, distillation and cracking plants as well as other ancillary treatment processes. There is also a provision for storage facilities as well as transportation networks.<sup>32</sup> Transportation, distribution and retailing are what can be classified as supply chain activities that ensure that refined products are delivered to the final consumer.

In Ghana, the refined petroleum products are distributed by licensed BDCs to OMCs and Oil Trading companies (OTCs) who retail the products nationwide.

#### ***Key stakeholders in Ghana's Downstream Oil and Gas Sector***

##### ***Ministry of Energy***

The Ministry plays supervisory role in the industry. It is responsible for policy formulation and planning to ensure secured and sustainable energy supply in Ghana. The minister generally gives policy direction to the regulatory bodies and other players in the energy sector.<sup>33</sup>

---

<sup>24</sup> *ibid* 110

<sup>25</sup> AN Tkachenko and others, 'Quality Assurance in the Construction of Oil and Gas Facilities' (2017) *Russian Journal of Building Construction and Architecture*, 32

<sup>26</sup> Ambituuni and others (n 2)

<sup>27</sup> Osei Hwere (n 24)

<sup>28</sup> *ibid*

<sup>29</sup> Amponsah and Opei (n 18).

<sup>30</sup> Ambituuni and others .

<sup>31</sup> Barclays Bank Plc., 'Environmental and Social Risk Briefing Oil & Gas' (Version 6.0, 2015). <<https://www.home.barclays/content/dam/barclayspublic/docs/Citizenship/oil-and-gas-guidance-note.pdf>> accessed 12 June 2018

<sup>32</sup> *ibid*

<sup>33</sup> Energy Commission Act, 1997 (Act 541), s 3

### **National Petroleum Authority (NPA)**

The NPA was established in 2005 by the National Petroleum Authority Act, 2005 (Act 691). Its mandate is to regulate, oversee and monitor activities in the petroleum downstream industry.<sup>34</sup> The NPA is the main regulator of the downstream petroleum sector. As a Regulator, its focus is to ensure that “the industry remains efficient, profitable, fair, and at the same time, ensuring that consumers receive value for money.”<sup>35</sup>

### **Tema Oil Refinery (TOR)**

The Tema Oil Refinery (TOR) Limited is Ghana’s only refinery. It was established in 1963 and its main object is to refine crude oil into several finished products for consumption.<sup>36</sup> Its main refined products include LPG, Gasoline (Petrol), Kerosene, Aviation Turbine Kerosene (Jet A1), Gas Oil (Diesel), Premix, Naphtha, Fuel Oil, and Cracked Fuels.<sup>37</sup>

### **Bulk Oil Storage and Transportation Company Limited (BOST)**

The Bulk Oil Storage and Transportation Company Limited (BOST) was established in December 1993 as a limited liability company with the Government of Ghana as the sole shareholder. Its main business is the storage and transmission of refined petroleum products throughout the country. In this regard, it is mandated to develop a network of storage tanks, pipelines and other transportation infrastructure across the country.<sup>38</sup>

### **Private distribution chain operators**

There are licensed private distribution chain operators which include OTCs, BDCs, LPGMCs, OMCs etc. These private distribution chain operators make the finished products available to the final consumers.

## **IV. Analysis Of The Institutional Arrangement**

### **Ministerial control/supervision**

Ministries are created by the President of the Republic to oversee specific sectors of the country. Ministers are appointed by the President with the approval of Parliament to head the various ministries.<sup>39</sup> Certain Ministries have been identified to play key roles in the regulation of the downstream oil and gas industry. The ministries basically give policy directions in their respective sectors and play oversight or supervisory roles as far as regulating the industry is concerned. In the context of the instant studies, the ministries include; the Ministries responsible for Energy, Petroleum, the Environment, the Interior, Works and Housing, and Ministry of Transport.

The Ministry of Energy is responsible for “energy policy formulation, implementation, monitoring and evaluation as well as supervision and coordination of activities of Ghana’s Energy Sector.”<sup>40</sup> The Ministry is divided into two sub-sectors: the power sub-sector and the Petroleum sub-sectors. By its status, the ministry is ultimately responsible for the regulation of the energy sector which includes the oil and gas sector. This broad responsibility notwithstanding, the specific industry legislations determine the exact role the ministry plays in regulating the sector. For instance, under the NPA Act the function of the ministry is to give policy directions.<sup>41</sup> It begs the question whether the ministry can exercise any other function such as monitoring, evaluation and supervision over the work of the NPA apart from policy formulation and direction. It is also noteworthy that unlike other industry legislations, the ministry has no direct role in the making of Regulations by legislative Instruments under the NPA Act.<sup>42</sup> Section 80 (2) provides that Regulations issued under the Act shall be signed by the governing board of the NPA. It can be argued that in some respect, this seeming restricted role of the ministry under the NPA Act is a good thing because it will insulate the NPA from too much political control and interference.

The Ministry of Energy exercises ministerial responsibility over the Energy Commission. It is the minister who is responsible for making Regulations on the advice of the Energy Commission in respect of

---

<sup>34</sup>National Petroleum Authority Act, 2005, s 2(1)

<sup>35</sup> NPA (2018) <<http://www.npa.gov.gh>> accessed 20 August 2018

<sup>36</sup> TOR (2018) <<http://www.tor.com.gh/>> accessed 20 August 2018

<sup>37</sup> *ibid*

<sup>38</sup> Amponsah and Opei (n 18)

<sup>39</sup> 1992 Constitution of Ghana, art 78(1) and (2)

<sup>40</sup> Ministry of Energy; <<http://www.energymin.gov.gh/>> accessed 10 April, 2020

<sup>41</sup> NPA Act 2005 (Act 691), s 4

<sup>42</sup> *ibid* s 80



electricity and natural gas.<sup>43</sup> The Minister is empowered to give such directions to the commission as appear to him to be required in the discharge of the function of the commission. It does appear that under the Energy Commission Act, 1997 (Act 541), the minister has an overwhelming influence on the commission. This raises a question of the independence of the Commission as a regulatory body.

The Ministry of Environment also plays a key role in the downstream regulation as far as environmental protection is concerned. Under the EPA Act, the Minister may give to the Agency such directives of a general nature as to the policy to be followed by the Agency in the performance of its functions as appear to the Minister to be necessary in the public interest.<sup>44</sup> This may suggest that the Minister only gives policy directions as far as the work of the Agency is concerned. However, a careful reading of some provisions of the Act shows that the Minister is mightily involved in the regulatory functions of the EPA. For instance, under section 14, the Minister has some powers in relation to enforcement of notice issued by the Agency to a person who undertakes any activity which poses threat to the environment and public health. The Minister may take such steps including authorizing a police officer or an officer of the Agency to use necessary force to enforce compliance with an enforcement notice. The Act also gives the Minister the power to make regulations by Legislative Instrument in consultation with the Board of the Agency for purposes of giving effect to the provisions of the Act. Under LI1652, the Minister acts as an appellate body in respect of decisions taken by the agency by receiving and adjudicating on complaints filed against the decision of the Agency.<sup>45</sup>

As far as health and safety of employees in the industry is concerned, the Ministry responsible for labour also has a role to play in enforcing the labour regulations under the Labour Act, 2003 (Act 651). Similarly, under the Factories, Offices and Shops Act, 1970 (Act 328), the Minister responsible for labour exercises control and supervisory powers on matter of welfare, health and safety of workers. The Minister is charged with the responsibility to make regulations on detailed provisions of the court in ensuring that employers comply with the health and safety requirements of their work place.<sup>46</sup>

It can be observed from the foregoing that the ministers have so much control and influence on the industry regulatory bodies. In some instance, the minister is directly involved in the performance of the regulatory functions. This is a recipe for potential political interference in the work of the industry regulatory bodies which may compromise their independence, considering the fact that ministers are political appointees.

### ***Specific industry regulatory bodies***

#### ***National Petroleum Authority (NPA)***

The NPA was established by the National Petroleum Authority Act, 2005 (Act 691) “as a body corporate with perpetual succession and may sue and be sued in its corporate name.”<sup>47</sup> The NPA is the main regulatory body responsible for the regulation of the downstream petroleum industry. Its object is “to regulate, oversee and monitor activities in the petroleum downstream”. The downstream petroleum sector has gone through some form of regulatory evolution. Before Act 691 was passed to establish the NPA, the Energy Commission was the body responsible for the regulation of the downstream oil and gas. The NPA has been given a wide range of powers in order to fulfil its objects. It has been given a great deal of independence in the performance of its work. Section 4 of the Act provides thus: “The Authority shall not in the performance of its functions under the Act, be subject to the control and direction of any person or authority other than the Minister who give (sic) policy directions.”

Even though the Authority enjoys independence from all other bodies, it is still subject to the Minister for Energy. Whereas it is necessary to put the Authority as a regulator in check, it is argued that the Minister wields a great deal of political power and his influence on the Authority may compromise the independence of the Authority and this will affect its ability to effectively perform its regulatory and enforcement functions. The Authority has been given the power to issue licenses for every activity in the downstream including license for refinery, transportation, distribution, marketing, and sale of petroleum products.

The governing board of the NPA has been given the mandate to prescribe the manner in which application for license shall be made. The Act does not specifically set out the requirement of conditions for the grant of license. Instead, the Board of the NPA has the mandate to specify the requirements and to also set conditions upon which the license is granted. Notably, the Board may, where necessary, require from an applicant of license a clearance and permit from EPA and Ghana Standard Board. It is important to note that the NPA has by regulatory notices issued the requirement for various licenses required to carry out any activity in

---

<sup>43</sup> Energy Commission Act, 1997, s 55 and 56

<sup>44</sup> Environmental Protection Agency (EPA) Act 1994 (Act 490), s 3

<sup>45</sup> Environmental Assessment Regulations, 1999 (LI 1652)

<sup>46</sup> Factories, Offices and Shops Act, 1970, s 30 and 51

<sup>47</sup> NPA Act, s 1(2)

the downstream.<sup>48</sup> The NPA has the power to revoke, suspend or refuse renewal of license on stated grounds including where the activity in question poses risk to public health, safety and security. The Act further mandates the NPA to establish an Inspectorate division whose function is to inspect the activities of the operators in the industry to ensure that they comply with the regulations.

Quite predictably, the Act empowers the NPA to make regulations by legislative instrument to regulate specific matters including health and safety in the petroleum downstream.<sup>49</sup> It is, however, surprising to note that the NPA has still not come up with any legislative instrument to specifically deal with health and safety issues after over 16 years in existence. In the absence of such legislative instrument, the NPA issues guidelines and license conditions on ad hoc basis. This is amenable to abuse as it is left to the dictates of a particular leadership at a given point in time. It does not bring certainty and reliability in the operations of the NPA.

Another striking observation is that among the functions of the NPA as spelt out by the Act, there is no mention of public education or awareness creation on issues relating to health, safety and environment. The functions of the NPA are predominantly focused on pricing, marketing and promotion of fair competition in the industry. This has obscured the health and safety aspect of its regulatory mandate.

It is also worthy of note that although the NPA Act provides that the NPA shall collaborate with other state institutions to ensure the achievement of the objectives of the Act, the extent of collaboration that is required is unclear. For instance, even though under the Act, the NPA may require an applicant to obtain environmental permit from such other bodies like the EPA and Ghana Standard Board, there is no provision for a clear mechanism for coordination between these bodies. One of the requirements for grant of permit by the NPA for construction of any oil and gas facility is for the applicant to obtain building permit from the Town & Country Planning Department (TCPD) of the area indicating that the area is zoned for such construction.<sup>50</sup> Because the officers of the TCPD may not have the requisite technical expertise in the oil and gas facility and the potential hazards posed by such operation, the department may approve such a plan for the applicant. The NPA may also grant the license or permit to the applicant upon presentation of the approval for the Town & Country Planning department. There are no specific provisions for one of the two institutions to be involved in the decision of the other.

Furthermore, unlike other regulatory agencies whose establishing statutes provide for creation of regional and district branches or offices, the NPA Act makes no such provision. This may also affect the ability of the Authority in its monitoring and oversight responsibilities across the country.

### ***The Energy Commission***

The Energy commission is the major regulatory institution in the energy sector. It was established by the Energy Commission Act, 1997 (Act541) with the object of “regulating and managing the development and utilization of energy resources in Ghana.” Before the establishment of the NPA, the energy commission was responsible for regulating the energy sector including downstream petroleum sector. The commission is now in charge of electricity and natural gas.

The commission is mandated to grant licenses for the transmission, wholesale supply, distribution or sale of electricity and natural gas. The commission has the power to set conditions in the licenses granted.<sup>51</sup> It may also refuse to grant licenses on stated grounds including the consideration of public safety. In the exercise of its enforcement functions, the commission may suspend or cancel licenses on grounds of failure to comply with the conditions of the license.

The commission in the exercise of its functions is subject to the directions of the Minister for Energy. The Minister may give such directions as he considers necessary for the performance of the commission’s functions.<sup>52</sup> As discussed in part 4.1 above, the provisions of the law allow an overwhelming influence of the Minister over the commission. The effect of this is that the independence of the commission to effectively act as a regulator may be compromised.

### ***The Environmental Protection Agency (EPA)***

The EPA is the main environmental regulatory body in Ghana. It was established mainly to regulate activities that have an impact on the environment and to implement environmental polices formulated by the

---

<sup>48</sup> NPA <<https://www.npa.gov.gh/download-media/industry-data/downloads>> accessed 28 April 2020

<sup>49</sup> NPA Act 2005, s.80(1)

<sup>50</sup>NPA, ‘Public Notice No. 007.’ <<http://www.npa.gov.gh/images/npa/documents/notices>> accessed 28 April, 2020

<sup>51</sup> Energy Commission Act 1997, s14 and15

<sup>52</sup> *ibid*, s 3

Minister of Environment.<sup>53</sup> In the performance of its functions the Agency, receives applications and issue environmental permit in respect of any undertaking that has or is likely to have an impact on the environment. The Agency is given power to enforce environmental regulations and to take steps to ensure compliance with standard and guidelines relating to pollution.

A positive observation is that the functions of the Agency under the Act include conducting seminars, training and general education on environmental protection. The Act also makes provision for the establishment of regional and district offices of the Agency for the effective discharge of its functions.<sup>54</sup>

It is observed that there are no clear provisions in both the EPA Act and the Environmental Impact Assessment Regulations for proper consultation and coordination with other Regulatory bodies such as the NPA in the process of granting environmental permit by the EPA. The implication is that the decision of the EPA to grant or refuse environmental permit may not necessarily be in sync with the decision of the NPA to grant or refuse license and the processes involved in granting the license to undertake any activity in the downstream. It is however important to stress that by law, the EPA is the primary institution responsible for environmental regulations. The EPA Act is the specific statute on environmental regulation and protection. This means that notwithstanding the apparent discretion given to the NPA board by the NPA Act to request from an applicant, where necessary, a clearance certificate or an appropriate permit from the EPA, a person cannot undertake any activity that has an impact on the environment without environmental permit. It is mandatory for any person undertaking any activity that has an impact on the environment to obtain an environmental permit from the Agency. The Agency has the power to direct the immediate cessation of any such activity undertaking without an environmental permit.<sup>55</sup> An effect exercise of this power will go a long way to address health, safety and environmental risks in the industry.

#### ***Ghana National Fire Service (GNFS)***

The role of the GNFS in health, safety and environmental regulation in the downstream oil and gas industry cannot be underestimated. The objective of the GNFS is to prevent and manage undesired fire.<sup>56</sup> Its functions include creating awareness of the hazards of fire and how to deal with undesired fire, and to provide technical advice for building plans in respect of measures to prevent and deal with fire. A technical advisory committee is established by the Act whose duty is, among other things, to be responsible for standardization of firefighting, and also to prepare national fire safety programme and a common firefighting strategy. Surprisingly, the composition of the technical committee does not include any of the downstream oil & gas regulatory institutions. This negatively impacts the level of coordination of regulatory institutions required to guarantee health and safety in the oil and gas industry.

It is also observed that under Ghana National Fire Service Act (Act 537), the GNFS is not given any specific enforcement powers. In fact, no provision for sanctions has been made under the Act. However, the Minister for Interior is mandated by the Act to come up with legislative instrument to make regulations for some specific matters such as the requirement for fire certificate, requirement for premises to have firefighting facilities etc.

#### ***Other related regulatory institutions***

Besides the main industry regulatory institutions discussed above, there are other regulatory bodies whose functions can be linked to health and safety regulations in the downstream oil and gas. The National Labour Commission established under the labour Act as part of its functions has the mandate to take appropriate steps to investigate and deal with labour complaints including the health and safety of workers as provided for under part XV of the Labour Act. The Commission in settling industrial dispute enjoys the same status as the High Court.<sup>57</sup>

The Factories, Offices, and shops Act, 1970 (Act 328) establishes the office of Chief Inspector and other Inspectors to be appointed by the Minister for Labour.<sup>58</sup> The inspectors have the power to inspect factories, offices, and shops to ensure compliance with the provisions on the welfare, health and safety of workers. It is observed that in some respect, the functions and mandate of the Labour Commission under the Labour Act and that of the Chief Inspector under Act 328 overlap as far as enforcing health and safety rules at work places is concerned, particularly if the work place also falls under the definition of factories, offices, and

---

<sup>53</sup> Environmental Protection Agency Act 1994, s 2

<sup>54</sup> *ibid*, s 11

<sup>55</sup> *ibid*, s13

<sup>56</sup> Ghana National Fire Service Act, s 3

<sup>57</sup> Labour Act 2004, s139

<sup>58</sup> Factories, Offices, and shops Act 1970, s 74



shops. This is likely to create confusion as to which of the two institutions is best suited to handle a particular situation. This does not auger well for enforcing the rules on health and safety of workers.

## **V. Conclusion**

Irrespective of the regulatory style or approach adopted by a country for the petroleum industry, the existence of effective, well-structured and robust regulatory institutions plays a key role in achieving the goals of the regulatory regime. An examination of the legal regime for Ghana's downstream oil and gas sector demonstrates that the institutional framework for enforcing health and safety regulations largely remains fragmented. The sector is said to be subject to multiple agency regulation. There are overlaps and duplication of functions and in some cases conflict of powers among some institutions. There are no clear mechanisms for proper consultation and coordination among the regulatory institutions. Most of the regulatory institutions lack the required independence to operate due to political control and interference. Such discordant and weak institutional arrangement cannot effectively ensure compliance and enforcement of health and safety regulations in the industry.

Again, a review of the downstream industry shows overwhelming state commercial interest or ownership in the industry. For instance, the state owns TOR which is a refinery authorized to import and refine crude into various petroleum products and to market them. The state is the sole shareholder of BOST. BOST has the mandate to develop a network of storage facilities, pipelines, and bulk transportation infrastructure throughout the country. This gives rise to conflict of interest situation or the likelihood of it. Such conflict has the potential to affect the ability of state institutions charged with the responsibility to maintain and enforce industry laws to robustly stand up to these state-owned industry players and to effectively regulate their activities. The conflict of interest situation is also a recipe for reluctance on the part the regulatory institutions to set strict rules and insist on compliance by the industry participants.

The following are therefore recommended for the way forward:

1. It is recommended that a strong and independent health and safety commission should be set up whose function will be focused on health and safety of workers and the general public in the oil and gas industry. The commission should be given the power to set health and safety standards for the operators in the oil and gas industry and to issue health and safety certificates as a pre-condition to grant of license to undertake activities in the downstream sector. Such a commission will have the mandate to monitor compliance with health and safety regulations, and to also initiate innovative measures to deal with emerging health and safety issues in the industry. The mandate of the commission should also focus on creating public awareness to the health and safety risks associated with the downstream activities, and to also receive complaints of regulatory violations.
2. The other related health and safety regulatory bodies should be accorded organizational and managerial independence. This should be done by reviewing the mode of appointment, source of funding and the level of ministerial control. There should be provision for clear mechanisms for proper coordination among regulatory institutions to promote synchronised approach in managing health and safety issues. Decision making among the institutions on health, safety and environmental considerations in matters such as licensing should be synchronized rather than allowing each institution to make their own distinct decisions in granting permits/licenses.
3. The state's direct economic interest in the downstream oil and gas should be reduced. This will eliminate or reduce all forms of conflict of interest and pave way for robust enforcement of the health and safety laws and standards.
4. Much attention should be given to education and creating awareness on health, safety and environmental protection. The regulatory institutions must aim at building health and safety management culture among the industry players and consumers.

## **References**

- [1] The 1992 Constitution Of The Republic Of Ghana
- [2] Energy Commission Act 1997 (Act 541)
- [3] Environmental Protection Agency Act, 1994 (Act 490)
- [4] Factories, Offices, And Shops Act, 1970 (Act 328)
- [5] Ghana Maritime Authority Act, 2002, (Act 630)
- [6] Ghana National Fire Service Act, 1997 (Act 537)
- [7] Ghana National Petroleum Corporation Act 1983 (PNDCL 64).
- [8] Income Tax Law 1987 (PNDCL 188)
- [9] Labour Act 2003, (ACT 651)
- [10] National Petroleum Authority Act 2005 (Act 691)
- [11] Petroleum (Exploration And Production) Act 2016 (Act 919).
- [12] Petroleum (Local Content And Local Participation) Regulations (Local Content Regulations)
- [13] Petroleum Commission (Fees And Charges) Regulations, 2015 (LI 2221)

- [14] Petroleum Commission Act 2011 (Act 821)
- [15] Petroleum Revenue Management Act 2011 (Act 815) As Amended By Petroleum Revenue Management (Amendment) Act 2015 (Act 893)
- [16] Environmental Assessment Regulations 1999 (LI 1652)
- [17] Natural Gas Transmission Utility (Technical And Operational) Rules, 2007 (LI 1913)
- [18] Natural Gas Distribution And Sale (Technical And Operational) Rules, 2007 (LI 1911)
- [19] The Labour Regulation, 2007 (LI 1833)
- [20] Gao Z, *International Petroleum Contracts: Current Trends And New Directions*, (Graham & Trotman 1994)
- [21] Karl TL, *The Paradox Of Plenty – Oil Booms And Petro-States* (University Of California Press, Berkeley 1997).
- [22] Abbott KW And Snidal D, 'Strengthening International Regulation Through Transnational New Governance: Overcoming The Orchestration Deficit' (2009) *Vanderbilt Journal Of Transnational*, 501
- [23] Ambituuni A And Others, 'Analysis Of Safety And Environmental Regulations For Downstream Petroleum Industry In Nigeria: Problems And Prospects' (2014) *9 Environmental Development* 43.
- [24] Amponsah R And Others. 'Ghana's Downstream Petroleum Sector: An Assessment Of Key Supply Chain Challenges And Prospects For Growth' (2017) *International Journal Of Management And Business Studies* 441
- [25] Asif, M. Muneer T., 'Energy Supply, Its Demand And Security Issues For Developed And Emerging Economies' (2007) *Renewable And Sustainable Energy Reviews*, 1388
- [26] Chima C. M., "Supply Chain Management Issues In The Oil And Gas Industry". (*J. Bus. Econ. Res* 2007), 27
- [27] Douglas W. Vick, 'Interdisciplinary And The Discipline Of Law' (2004) *31 Journal Of Law And Society (Issue 2)* 163
- [28] James B. M., 'Urban Government And Environmental Policies: Regulating The Storage And Distribution Of Fuel Oil In Houston, Texas 1901-1915' (2005) *Journal Of Southern History*, 279
- [29] Lydia A. Nkansah & Victor Chimbuanda, 'Interdisciplinary Approach To Legal Scholarship: A Blend From The Qualitative Paradigm' (2016) *Asian Journal Of Legal Education* 3(1), 55
- [30] Panwar N.L., Kaushik S.C., Kothari, S. 'Role Of Renewable Energy Sources In Environmental Protection: A Review' (2011) *Renewable And Sustainable Energy Reviews*, 1513–1524
- [31] Richmond O., 'The Objectives Of Oil And Gas Regulation: Lessons For Ghana's Petroleum Sector' (2015-2017) *7 KNUST Law Journal* 102
- [32] Tkachenko A. N., Et Al., 'Quality Assurance In The Construction Of Oil And Gas Facilities' (2017) *Russian Journal Of Building Construction And Architecture*.
- [33] Internet Sources/Publications
- [34] Antonio B., 'Challenges And Solutions In An Upstream And Downstream Oil And Gas Operation', (Online Global Energy Newsroom 2013) <[Https://Globalenergy.Pr.Co/65678-Challenges-And-Solutions-In-An-Upstream-And-Downstream-Oil-And-Gas-Operation](https://Globalenergy.Pr.Co/65678-Challenges-And-Solutions-In-An-Upstream-And-Downstream-Oil-And-Gas-Operation)>
- [35] Brundtland Report Of The World Commission On Environment And Development (WCED), 1987.
- [36] Yeboah S., 'Regulating Ghana's Oil And Gas Sector: What Should Be The Parameters?' (Ghanaweb 2010) <[Http://Www.Ghanaweb.Com](http://Www.Ghanaweb.Com)> Accessed 20 March 2018
- [37] Thesis
- [38] Douglas T, M., 'Protection Of Petroleum Resources In Africa: A Comparative Analysis Of Oil And Gas Laws Of Selected African States', ( Doctor Legum, University Of South Africa, 2013)
- [39] GNPC, 'Introduction To Ghana's Oil & Gas Industry; History, Current & Future Trends' (University Of Ghana College Of Basic And Applied Sciences On 9 November 2016) <[Http://Www.Gnpcghana.Com](http://Www.Gnpcghana.Com)>.