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**PBL 624W: Masters Dissertation in Marine and Environmental Law**

**Title: The Decommissioning of Offshore Oil and Gas Installations and Structures in Nigeria and South Africa in the context of international best practices**

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**I, Soalabo Wariye West, hereby declare that the work on which this thesis is based is my original work (except where acknowledgements indicate otherwise) and that neither the whole work nor any part of it has been, is being, or is to be submitted for another degree in this or any other university. I authorise the university to reproduce for research either the whole or any portion of the contents in any manner whatsoever.**

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## **ABSTRACT**

In other parts of the world particularly in the areas of the North Sea and the Gulf of Mexico exploitation of oil and gas resources have been going on for at least 40 years. Africa's case is quite different, exploitation of offshore oil and gas is a relatively recent phenomenon; consequently the decommissioning of installations and structures used in this process is yet an emergent issue. In fact there is as yet not one recorded instance of abandonment or decommissioning of oil and gas installations and structures in the offshore areas of Africa. This work attempts to examine the laws relating to the decommissioning of offshore oil and gas installations and structures in Nigeria and South Africa, in the context of international best practices as typified by the regimes in operation in Norway and the United Kingdom. The extent to which these countries have met their obligations under international law will also be considered; being that states' liberty to design their laws applicable to the continental shelf and exclusive economic zone is limited by their obligations under international law. This work will be divided into chapters; the first will contain a brief introduction and an overview of the development of oil and gas resources together with its regulation in Nigeria, South Africa, Norway and the United Kingdom. An excursion into the international law provisions on the decommissioning of offshore oil and gas installations and structures will be embarked upon in the second chapter and the third chapter will discuss the legal regimes in Nigeria, South Africa, Norway and the United Kingdom. The fourth chapter will contain an appraisal and the conclusions reached. The discussion of the position in Norway and the United Kingdom will assist in depicting how countries with longer offshore oil and gas production together with actual experiences in abandonment and decommissioning activities have developed a regulatory regime for decommissioning of offshore oil and gas installations and structures.

## 1.1 Introduction

A significant result of the gigantic scientific advances since the last two centuries has been an increased demand for energy. Energy is essential in all aspects of life including cooking, heating, industry, lighting, movement and research. A source of energy is petroleum<sup>1</sup> and since its first discovery in Pennsylvania, United States of America in 1859 it has remained the most prolific being used to meet over 63 per cent of world energy demand.<sup>2</sup> Petroleum usually occurs in the bowels of the earth and so may be found below the seabed in offshore areas. The earliest offshore discoveries were made in the Gulf of Mexico in the first half of the 20<sup>th</sup> century and since then considerable discoveries have been made due to advances in technology, availability of acreages and other factors.<sup>3</sup> Presently petroleum produced from offshore areas accounts for about one third of the world's production. Similarly installations and structures used in its exploitation have increased tremendously. Records show that as at 1997 there were over 7000 installations worldwide with about 500 in Africa from only 2 mobile offshore drilling rigs in 1950.<sup>4</sup>

The development of petroleum resources is carried out in stages usually commencing with seismic surveys and terminating in the abandonment and decommissioning of installations and structures. In between these two stages exploration and appraisal activities are carried out to determine the commercial viability of the discovery before the development and production of the field. This paper is, however, concerned with only the last stage, i.e., decommissioning of installations and structures used for the production of petroleum resources in offshore areas. 'Abandonment' means the process of removal,

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<sup>1</sup> Petroleum as used here and elsewhere in this work refers to persistent hydrocarbon mineral oils and is synonymous to crude oil, condensate and gas.

<sup>2</sup> See Zhiguo Gao (ed), *Environmental Regulation of Oil and Gas* (London; Kluwer Law International 1998) at pg 144.

<sup>3</sup> These factors include that security and operational risk is reduced in offshore areas as local communities aggrieved for whatever reasons may not have easy access to disrupt production activities as they have been known to do, for example, in the Niger Delta areas of Nigeria. See <http://www.eia.doe.gov/emeu/cabs/nigeria.html> (last accessed on 21 June 2005).

<sup>4</sup> See Ibibia Lucky Worika 'Towards a sustainable offshore abandonment/decommissioning policy in Africa' (2000) 10 International Energy Law and Taxation Review 235 at pg 237.

disposal or re-use of an installation when it is no longer needed for its designed purpose.<sup>5</sup> The term is generally used synonymously with decommissioning and is so used throughout this paper.

The offshore areas of a country customarily refer to the area seaward from the low water mark up to the margin of the continental shelf. Gao regards offshore in terms of 'operations carried out in the ocean as opposed to on land.'<sup>6</sup> This area has been delimited by international law into different maritime zones.<sup>7</sup> The zones relevant to this work are the territorial waters, exclusive economic zone (EEZ) and the continental shelf. States have sovereignty in and over their territorial sea<sup>8</sup> and sovereign rights over the resources occurring in the seabed and subsoil of their EEZ<sup>9</sup> and continental shelf<sup>10</sup> for the purpose of exploiting its resources. States also have the exclusive right to construct and to authorise and regulate the construction, operation and use of installations and structures for this purpose in these areas.<sup>11</sup> However these rights are limited by the rights of other States in the waters and airspace over these latter areas to navigation, overflight, fishing and the laying of submarine cables and pipelines, amongst others. Consequently, States as responsible international citizens must have regard for the rights of other States in making laws on abandonment of offshore oil and gas installations and structures. These laws should be consistent with international law as a matter of general policy and as protection from any litigation.<sup>12</sup>

The issue of abandonment or decommissioning of offshore oil and gas installations and structures may be considered a recent phenomenon on the international scene. The

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<sup>5</sup> See Gao (footnote 2 above) at page 547. 'Decommissioning' is therein defined as the process of deciding how best to shut down operations at the end of a field's life, then closing the wells, cleaning, making the installation safe, removing some or all of the facilities and disposing or reusing them.

<sup>6</sup> Ibid at 559.

<sup>7</sup> See the Law of the Sea Convention 1982 (1982) 21 ILM 1261. The maritime zones delimited in this convention have now acquired the status of customary international law from the prevalence of State practice.

<sup>8</sup> Ibid at Article 2.

<sup>9</sup> Ibid at Article 56.

<sup>10</sup> Ibid at Article 77.

<sup>11</sup> Ibid at Article 60 and Article 80.

<sup>12</sup> See Rosalyn Higgins 'Abandonment of energy sites and structures: relevant international law' (1993) *Journal of Energy and Natural Resources Law* 6 at pg 7.

reasons for this include that, on the average, offshore fields mature between 20 – 50 years and the majority of the installations and structures used for their exploitation were put in place in the 1980s<sup>13</sup> and the fact that certain regions, particularly Africa, are yet to decommission any offshore oil and gas installations or structures. The issue was however catapulted to the front burner in the 1990s by what became known as the *Brent Spar* affair. In 1991 Shell UK stopped the use of one of its offshore loading and storage facilities known as the *Brent Spar* in the UK sector of the North Sea. It thereafter commissioned several studies on the contents of this installation and developed the Best Practicable Environmental Option plan for its disposal in the Rockall Trough off the Northwest of Scotland. In December 1994 the UK Department of Trade and Industry approved the plan and issued a dumping licence in February 1995 under the Food and Environmental Protection Act 1985. Sometime in June 1995 protesters from Greenpeace International boarded the *Brent Spar* in protest of the planned disposal and announced that there were considerable amounts of waste on board. Faced with threats of consumer boycotts of its products across Europe Shell had to abandon the planned disposal of the installation. Subsequently, Shell announced that the *Brent Spar* will be taken to shore to be reused as an extension of a quay in Norway.<sup>14</sup>

The issue of decommissioning of offshore oil and gas installations and structures in its simplest form may be divided into two sub-issues; the question of what is required to be done in instances of decommissioning and the manner the cost is borne.<sup>15</sup> The former which involves the question of whether the abandoned installations and structure are to be partially or completely removed and whether the part removed should be taken onshore or be disposed somewhere on the seabed is a problem involving municipal law and international law. While the latter which is concerned with who between the oil company and the State should bear the cost of the decommissioning and, if both, in what proportions is squarely to be addressed by municipal law. The content of these issues as

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<sup>13</sup> See Gao (foot note 2 above) at pg 144-146.

<sup>14</sup> See John Woodliffe, 'Decommissioning of offshore oil and gas installations in European waters: the end of a decade of indecision' (1999) 14 *International Journal of Marine and Coastal Law* pg 101 at foot note 1. See also Louise de la Fayette, 'New developments in the disposal of offshore installations' (1999) 14 *International Journal of Marine and Coastal Law* 523 at pg 525-526.

<sup>15</sup> Geoff Hewitt, 'Offshore decommissioning – where now' (2004) 8 *International Energy Law and Taxation Law* 173 at pg 174.

expressed above are inclusive rather than exclusive as they extend much further. The manner in which Nigerian, South African, Norwegian and the United Kingdom laws have addressed these issues against the backdrop of international law provisions applicable to them will be the subject matter of subsequent parts of this work.

## **1.2 Overview of the Oil and Gas Industry in Nigeria**

Nigeria is a coastal state of West Africa bordered in the North by Niger Republic, in the West by Benin Republic, in the East by the Republics of Chad and Camerouns and in the South by the Atlantic Ocean. Until 1 October 1960 when it became an independent nation it was a colonial dependency of the United Kingdom; consequently its legal system is based essentially on the British Common Law. Petroleum resources are the main exports of Nigeria accounting for about 96% of export revenues. Nigeria is one of the founding members of the Organisation of African Unity, now African Union<sup>16</sup> and became a member of the Organisation of Petroleum Exporting Countries (OPEC) in 1971 and is the 6<sup>th</sup> largest producer of oil in OPEC with proven reserves of 35.2 Billion Barrels of Crude Oil and 159 Trillion Cubic Feet of Natural Gas by 2004 estimates.<sup>17</sup>

The production of oil in Nigeria commenced in 1908 when the German Bitumen Company began exploratory activities. However its activities were permanently interrupted by the First World War.<sup>18</sup> In 1956 Shell-BP, now Shell Petroleum Development Company of Nigeria Limited (Shell), discovered large reserves of oil in Oloibiri, Rivers State and in 1958 the first commercial consignment of oil was delivered to Europe. Since this development Nigeria has been contributing an average of 2 million barrels of oil per day to the world oil market. In September 1999 construction of the Liquefied Natural Gas facility with a capacity of processing 397 million cubic feet of gas was completed at Bonny commencing the export of liquefied natural gas from Nigeria. As at 2002 estimates Nigeria produces about 501 million cubic feet of gas annually and

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<sup>16</sup> The Charter of the Organization was signed at Addis Ababa, Ethiopia on 25 May 1963 by 32 independent African countries. See <http://www.oau-creation.com> (last accessed 2 May 2005).

<sup>17</sup> For more on Nigeria see Nigeria Country Analysis Brief on the internet at <http://www.eia.doe.gov/emeu/cabs/nigeria.html> (last accessed 21 June 2005).

<sup>18</sup> Yinka Omoregbe, 'The Legal Framework for the production of petroleum in Nigeria' (1987) 15 Journal of Energy and Natural Resources Law 273.

construction is underway that will increase this figure to about 1.1 billion cubic feet.<sup>19</sup> A considerable amount of production of oil and gas is done onshore but in recent times offshore production has been on the increase with the discoveries of substantial reservoirs of petroleum in the deep offshore areas. By 2002 estimates there are at least 121 offshore installations and structures in Nigeria,<sup>20</sup> some of which will require to be decommissioned at some point in the future.

The principal legislation regulating petroleum activities in Nigeria is the Petroleum Act 1969<sup>21</sup> together with the subsidiary laws made thereunder. Title to all petroleum in or under the soil or seabed of Nigeria is vested absolutely in the State<sup>22</sup> and production is usually carried out under joint venture arrangement or production sharing contracts between the oil company and the State, contracting through the Nigerian National Petroleum Corporation.<sup>23</sup> The major operators in the Nigerian oil and gas industry include Shell, ChevronTexaco, ExxonMobil, Agip, TotalfinaElf and Addax Petroleum.

Nigeria is a party to several international conventions and there are quite a few that apply to the abandonment of offshore oil and gas installations and structures. Consequently, for Nigeria to be in consonance with its international obligations its laws on abandonment of these installations and structures are to be in agreement with applicable customary international law principles and the requirements of these conventions or such international standards connected with them.

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<sup>19</sup> These and other estimates are available on the internet at <http://www.eia.doe.gov/emeu/cabs/nigeria.html> (last accessed 21 June 2005).

<sup>20</sup> See the Oil and Gas Journal's 2002 Global Field Development Survey available on the internet at <http://www.ogi.pennnet.com> (last accessed 21 June 2005).

<sup>21</sup> CAP 350 Laws of the federation of Nigeria 1990.

<sup>22</sup> Ibid at Section 1(1). See also Section 44 (3) of the Constitution of the Federal Republic of Nigeria which stipulates that '...the entire property in and control of all minerals, mineral oils and natural gas in under or upon any land in Nigeria or in, under or upon the territorial waters and the Exclusive Economic Zone of Nigeria shall vest in the Government of the Federation and shall be managed in such manner as may be prescribed by the National Assembly.'

<sup>23</sup> See Section 5 (1)g of the Nigerian National Petroleum Corporation Act CAP 320 Laws of the Federation of Nigeria 1990.

### 1.3 Overview of the Oil and Gas Industry in South Africa

South Africa is located at the southern tip of Africa bordered by the Indian and Atlantic Oceans on the southeast and southwest coast, respectively. It also shares boundaries with Mozambique, Swaziland, Lesotho, Zimbabwe, Botswana and Namibia. It gained independence from the United Kingdom on 31 May 1910 but in earlier times it had been a Dutch territory administered by the Dutch East India Company. Consequently, its legal system is based on Roman-Dutch law and the British Common Law. Unlike Nigeria, South Africa is a net importer of petroleum resources with reserves of oil and natural gas put at 15.7 million barrels and 1 billion cubic feet, respectively.<sup>24</sup>

The earliest search for petroleum in South Africa was onshore at the Beaufort West area of the Western Cape Province in 1965. It was initiated by the South African Oil Exploration Corporation (Soekor) established in that year and for that purpose by the government of South Africa. The onshore search was however terminated in 1978 when all the oil deposits found were not in commercial quantity. The search went offshore in 1973 and the first discovery was the FA gas field in block 9 of the Bredasdorp Basin off the southern cape coast about 85 kilometres south of Mossel Bay. Production of petroleum resources only commenced commercially in 1993 when Mossgass (Pty) Limited established by the government of South Africa in 1989 started producing natural gas from its FA field. As at the end of the 2004 financial year, the Petroleum Oil and Gas Corporation of South Africa (Petrosa)<sup>25</sup> announced that it produced about 3.91 million barrels of oil for the year.<sup>26</sup> The major players in the South African upstream petroleum industry are Petrosa, Pioneer Natural Resources, Energy Africa and Forest Oil. Records show that there are presently seven installations and structures used in the production of petroleum offshore of South Africa including a Floating, Production, Storage and

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<sup>24</sup> For more on South Africa see the South Africa Country Analysis Brief at the internet site [www.eia.doe.gov/emeu/cabs/safrica.html](http://www.eia.doe.gov/emeu/cabs/safrica.html) (last accessed on 21 June 2005).

<sup>25</sup> Petrosa was formed by the Government in 1999 by an amalgamation of Mossgass (Pty) Limited, Soekor and elements of the Strategic Fuel Fund. See 'An energy overview of the republic of South Africa' available on the internet at <http://www.fe.doe.gov/international/Africa/safrover.html> (last accessed 21 June 2005).

<sup>26</sup> See the internet website of Petrosa at [www.petrosa.co.za](http://www.petrosa.co.za) (last accessed 21 June 2005).

Offloading vessel (FPSO).<sup>27</sup> While other installations and structures may require extensive decommissioning the FPSO will not, as it is easily movable.

The principal law regulating the petroleum industry in South Africa is the Minerals and Petroleum Resources Development Act (MPRDA)<sup>28</sup> which entered into force in 2004. Under the MPRDA petroleum resources occurring in all territories of South Africa, like other minerals, are owned collectively by the people. It is the common heritage of the people and the State is the custodian for the benefit of the people.<sup>29</sup> Consequently, the Minister for Minerals and Energy, on behalf of the State, is empowered to grant or refuse an application for a right to prospect or produce petroleum.<sup>30</sup>

South Africa is a party to several international conventions; some of which provide for the decommissioning of offshore oil and gas installations and structures. As a responsible international citizen its laws on decommissioning of these installations and structures are to be tailored according to the requirements of customary international law, the provisions of these conventions or such international standards connected with them.

#### **1.4 Overview of the Oil and Gas industry in the United Kingdom**

The United Kingdom of Great Britain and Northern Ireland (UK) is made up of islands including the northern one-sixth of the island of Ireland. It is located in Western Europe between the North Atlantic Ocean and the North Sea northwest of France. The UK is a major political and economic power in Europe and indeed the world, and has the second largest economy in the European Union with 2004 nominal gross domestic product put at \$2.12 trillion. It also was a major colonial power and aspects of its legal system are currently being applied in several countries including Nigeria and South Africa. Like Nigeria, it is a major producer of petroleum resources with reserves of oil and natural gas

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<sup>27</sup> See the Oil and Gas Journal's 2002 Global Field Development Survey available on the internet at <http://www.ogi.pennnet.com> (last accessed 21 June 2005).

<sup>28</sup> Act No. 28 of 2002.

<sup>29</sup> Ibid at Section 3(1).

<sup>30</sup> Ibid at Section 3(2).

put at 4.49 billion barrels and 20.8 trillion cubic feet, respectively.<sup>31</sup> Like South Africa, it consumes most of the petroleum it produces.<sup>32</sup>

The UK oil and gas reserves are located both onshore and offshore. The onshore oil reserves are located in the Wytch Farm field, acclaimed to be the largest oil field in Europe while its offshore reserves are in the Continental Shelf (UKCS). However, the North Sea off the eastern coast of the UK carries the bulk of its oil reserves. Reserves of natural gas are found in associated fields in the UKCS and non-associated fields in the Dutch sector of the North Sea and in the Irish Sea. Production of oil and gas has been going on in the UKCS for over forty years since the discovery of Groningen in 1959 and it is expected to decline in less than a decade hence. The projected decline has been attributed to factors including the maturity of the fields, application of new extraction technology that lead to quicker rates of field exhaustion and increased production costs as development shifts to more remote and inhospitable regions.<sup>33</sup> It is pertinent to state that the opinion some twenty years ago was that at present there should be several decommissioning programmes on the UKCS. But apparently this is not the case.<sup>34</sup>

The major players in the UK upstream oil and gas industry are BHP, BP Amoco, ChevronTexaco, ExxonMobil, Kerr-Mcgee, Phillips and Royal-Dutch/Shell. Records show that there are presently 120 installations and structures used in the production of petroleum offshore in the UKCS<sup>35</sup> together with an expansive network of pipelines.

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<sup>31</sup> For more on the see the United Kingdom Country Analysis Brief on the internet at [www.eia.doe.gov/emeu/cabs/uk.html](http://www.eia.doe.gov/emeu/cabs/uk.html) (last accessed on 26 July 2005).

<sup>32</sup> By 2003 estimates, it produces 2.08 million barrels of crude oil per day and 4 trillion cubic feet of natural gas, and consumes about 1.8 million barrels per day and 3.3 trillion cubic feet, respectively.

<sup>33</sup> See the internet website at footnote 31 above. A considerable amount of UK oil and gas is produced from the North Sea sector of the UKCS renowned for a very cold climate and harsh weather conditions.

<sup>34</sup> See Hewitt (footnote 15 above) at pg. 177. He gave a number of reasons for this including that a number of the older installations now earn tariff income by supporting other infrastructure, that high oil prices have ensured continued economic production and that each company may be reluctant to be the first to decommission a large installation and so looks for ways to prolong production.

<sup>35</sup> See the Oil and Gas Journal's 2002 Global Field Development Survey available on the internet at <http://www.ogj.pennnet.com> (last accessed 21 June 2005).

The petroleum industry in the UK is governed by several laws principal of which is the Petroleum Act 1998 (the Act or 1998 Act).<sup>36</sup> The Act vests on the Crown the exclusive right of searching and boring for and getting petroleum occurring in the UK and its continental shelf<sup>37</sup> and the Secretary of State, on behalf of the Crown, may grant to such persons as he thinks fit licences to search and bore for the petroleum.<sup>38</sup>

The UK is a party to several international conventions; some of which provide for the abandonment of offshore oil and gas installations and structures. As a responsible international citizen its laws on abandonment of these installations and structures are to be tailored to meet the requirements of applicable customary international law, the provisions of these conventions or such international standards connected with them.

### **1.5 Overview of the Oil and Gas Industry in Norway**

Norway is situated in Western Europe and it is bordered by the North Sea, the North Atlantic and Sweden. It gained independence from Sweden on 26 October 1905 and it maintains a constitutional monarchy like that in the UK. Since the discovery of petroleum in the Norwegian Continental Shelf (NCS) in the 1960s it has remained the largest single contributor to its gross domestic product and ensuring that Norway's per capita income put at about \$36,000, continues to be among the highest in the world. Norway has modest reserves of petroleum but is one of the major producers in the world. By 2004 estimates, its proven reserves were about 10.4 billion barrels of oil and 74.8 trillion cubic feet of gas. It produces about 3.18 million barrels of oil per day and about 2.41 cubic feet of gas but consumes very little. It consumes about 264,000 barrels of oil per day and 0.256 trillion cubic feet of gas. It is therefore a net exporter of oil and gas.<sup>39</sup>

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<sup>36</sup> It repealed the Petroleum (Production) Act 1934 and consolidated certain provisions of the Continental Shelf Act 1964, Petroleum and Submarine Pipeines Act 1975, Oil and Gas (Enterprise) Act 1982, Petroleum Act 1987 and Territorial Sea Act 1987, amongst others. See Schedule 5 of the Petroleum Act 1998.

<sup>37</sup> See Section 2 of the Petroleum Act 1998.

<sup>38</sup> Ibid at Section 3.

<sup>39</sup> For more on Norway see the Norway Country Analysis Brief at the internet site [www.eia.doe.gov/emeu/cabs/norway.html](http://www.eia.doe.gov/emeu/cabs/norway.html) (last accessed 28 July 2005).

Norway's oil reserves are mainly located offshore on the NCS, which is made up of the North Sea, the Norwegian Sea and the Barents Sea. The North Sea sector of the NCS carries majority of the country's proven reserves with none at all in the Barents Sea sector. Consequently most of the installations used in oil and gas production are located in the North Sea. From data provided by the Norwegian Ministry of Petroleum and Energy, there were 48 fields in production on the NCS as of 2003, of which 42 were in the North Sea and 6 in the Norwegian Sea.<sup>40</sup>

The major players in the Norwegian upstream oil and gas industry are BP Norway, Gassco, INTSOK, Norsk Hydro, Norsk Shell, Petoro and Statoil. Records show that there are presently over 140 installations and structures used in the production of oil and gas in the NCS.<sup>41</sup>

The principal law regulating the oil and gas industry in Norway is the Petroleum Act of 1996.<sup>42</sup> Under the Petroleum Act of 1996 the Norwegian State has the proprietary right to sub-sea petroleum deposits and the exclusive right to their management.<sup>43</sup> The King is empowered to manage these resources in accordance with the provisions of the Petroleum Act of 1996 and decisions made by the Parliament for the benefit of the whole Norwegian society.<sup>44</sup> Consequently, the King in council may grant production licences for the drilling and production of the petroleum resources.<sup>45</sup>

Norway is a party to several international conventions; some of which provide for the decommissioning of offshore oil and gas installations and structures. As a responsible international citizen its laws on decommissioning of these installations and structures are

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<sup>40</sup> See the internet website referred to in footnote 39 above.

<sup>41</sup> See the Oil and Gas Journal's 2002 Global Field Development Survey available on the internet at <http://www.ogi.pennnet.com> (last accessed 28 July 2005).

<sup>42</sup> Act of 29 November 1996 No. 72 relating to petroleum activities. Available on the internet at [http://www.npd.no/regelverk/r2002/Petroleumsforskriften\\_e.htm](http://www.npd.no/regelverk/r2002/Petroleumsforskriften_e.htm) (last accessed 28 July 2005). This Act repeals the Act of 22 March 1985 No. 11 relating to petroleum activities which hitherto commanded the centre stage in the Norwegian oil and gas industry.

<sup>43</sup> Ibid at Section 1-1.

<sup>44</sup> Ibid at Section 1-2.

<sup>45</sup> Ibid at Section 3-3.

to be tailored according to the requirements of applicable customary international law, these conventions or such international standards connected with them.

## 2.

## CHAPTER TWO

### 2.1 Applicable International Law on Decommissioning

Prior to 1958 there was no international convention providing for the decommissioning of offshore oil and gas installations and structures. This may have been due to the fact that development of offshore petroleum resources was still at an embryonic stage and so abandonment issues were as yet a distant prospect. Perhaps the principles of customary international law that no State has the right to use or permit the use of its territory in such a manner as to cause environmental harm to another State or to the property of persons therein<sup>46</sup> and that States have a duty to warn others of known environmental hazards<sup>47</sup> may have been applicable if the offshore areas where the installations and structures are located are States' territories.

Presently, rules for abandonment of offshore oil and gas installations and structures may be found in several international conventions. The international conventions in this regard to which Nigeria and South Africa are parties include the 1958 Convention on the Continental Shelf,<sup>48</sup> the 1972 Convention on the Prevention of Marine Pollution by the Dumping of Waste and other Matter at Sea,<sup>49</sup> the 1982 Law of the Sea Convention,<sup>50</sup> the 1992 Convention on the Protection of the Marine Environment of the North East Atlantic<sup>51</sup> and certain conventions under the UNEP Regional Seas Programme. The 1989 IMO Guidelines and Standards for the Removal of Offshore Installations and Structures

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<sup>46</sup> See the *Trail Smelter Arbitration* (1938 - 1941) 9 International Law Reports 315.

<sup>47</sup> See the *Corfu Channel Case (United Kingdom V Albania)* (1949) 16 International Law Reports 155.

<sup>48</sup> 499 United Nations Treaty Series (UNTS) 311.

<sup>49</sup> (1972) 11 ILM 1294.

<sup>50</sup> (1982) 21 ILM 1261.

<sup>51</sup> (1993) 32 ILM 1069.

on the Continental Shelf and in the Exclusive Economic Zone<sup>52</sup> though only ‘soft law’ and not a convention may also be applicable.

## **2.2 The 1958 Geneva Convention on the Continental Shelf**

This Convention on the Continental Shelf (CSC) was adopted at Geneva, Switzerland on 29 April, 1958 and entered into force on 10 June 1964. Currently there are 57 parties including Nigeria and South Africa who ratified it on 28 April 1971 and 9 April 1963, respectively.<sup>53</sup> Essentially the CSC provides for the definition and delimitation of the Continental Shelf and the rights of States to exploit the resources occurring there. It also provides for abandonment of installations used for the exploitation of these resources. Article 5(5) stipulates that ‘Due notice must be given of the construction of any such installations and permanent means for giving warning of their presence must be maintained. *Any installations which are abandoned or disused must be entirely removed.*’ (Emphasis supplied)

The provisions of the CSC on abandonment of offshore oil and gas installations are clear and unequivocal. It compels a complete removal of such installations from the seabed upon their abandonment. It has been suggested that this complete removal regime was adopted because unjustifiable interference with navigation and other uses of the sea were the main concerns of the CSC and so the possibility of a necessity for partial removal was not foreseen.<sup>54</sup>

## **2.3 The 1982 Law of the Sea Convention**

The Law of the Sea Convention (LOSC) was adopted at Montego Bay, Cuba on 10 December 1982 and entered into force on 16 November 1994. There are currently 148 parties including Nigeria and South Africa who ratified it on 14 August 1986 and 23

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<sup>52</sup> Text of IMO Resolution A.672(16) is in (1989) International Journal of Estuarine and Coastal Law 76 and also available on the internet at [http://www.imo.org/environment/mainframe.asp?topic\\_id=1026](http://www.imo.org/environment/mainframe.asp?topic_id=1026) (last accessed 27 June 2005).

<sup>53</sup> See Table B of Appendix 2 in Robin Churchill and Vaughan Lowe, *The law of the sea*, 3<sup>rd</sup> edition (Manchester, Manchester University Press 1999).

<sup>54</sup> See Gao (foot note 2 above) at pg 146.

December 1997, respectively.<sup>55</sup> The LOSC attempts to codify international law applicable to the sea and provides extensively for the rights and duties of States regarding the extent of the EEZ and continental shelf and the exploitation of the living and non-living resources occurring in these areas. On the subject of decommissioning of offshore oil and gas installations and structures Article 60(3) stipulates that ‘[A]ny installations or structures which are abandoned or disused shall be removed to ensure safety of navigation, taking into account any generally accepted international standards established in this regard by the competent international organisation. Such removal shall also have due regard to fishing, the protection of the marine environment and the rights and duties of other states. *Appropriate publicity shall be given to the depth, position and dimensions of any installations or structures not entirely removed.*’ (Emphasis supplied)

The above provision ordinarily applies to the EEZ but has been made applicable to the continental shelf by Article 80 of the LOSC. It admits of partial removal of offshore oil and gas installations and structures on abandonment as opposed to the complete removal stipulated under the CSC. It is this scenario that has led to a controversy on the applicable international law to abandonment of offshore installations and structures. Especially as a regime that allows for partial removal, *prima facie*, implies less financial cost and allows for the reuse *in-situ* of a disused installation for purposes other than those for which it was designed.

The arguments in favour of partial removal include that Article 5(5) of the CSC had fallen into desuetude; that it has been superseded by the LOSC; that there has been a fundamental change of circumstances since the adoption of the CSC so that State parties have now been discharged of their obligations thereunder and that abandonment of offshore installations was too distant a prospect at the time the CSC was adopted for any general principles of customary international law to arise from state practice.<sup>56</sup> Counter

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<sup>55</sup> This information is available on the internet at [http://www.un.org/Depts/los/reference\\_files/chronological\\_lists\\_of\\_ratifications.htm](http://www.un.org/Depts/los/reference_files/chronological_lists_of_ratifications.htm) (last accessed 30 June 2005).

<sup>56</sup> See Higgins (foot note 12 above) pg 8-9, Mark Osa Igiehon and Patricia Parks, ‘Evolution of international law on the decommissioning of oil and gas installations’ (2001) 9 International Energy Law and Taxation Review 199 at pg 202.

arguments to the foregoing have since been marshalled to the effect that the total removal regime of the CSC may still be applicable as State practice was still lacking to make Article 60(3) a general principle of customary international law and ratification of the LOSC (especially by the major maritime powers) was still low.<sup>57</sup> The sustainability of this position may be a bit difficult now in the light of the near unanimous ratification of the LOSC by States, including the major maritime powers but excluding the United States of America.

The question here is whether Article 5(5) of the CSC has assumed the status of a principle of customary international law thus making it binding on non-parties. This is so because the provisions of Article 60(3) of the LOSC supersede Article 5(5) of the CSC<sup>58</sup> for parties to the two conventions. For example Nigeria and South Africa being parties to the CSC and the LOSC are bound by the provisions of the latter treaty. Parties to the CSC who are not parties to the LOSC remain bound by their obligations in the former while non-parties to these two treaties will however be bound by other treaties to which they may be parties failing which they will be bound by the customary international law on the subject.

An important matter also to be considered in the decommissioning process is the general obligation of States under international law to protect the marine environment.<sup>59</sup> This appears to be a general principle of customary international law that is codified in the LOSC.<sup>60</sup> Article 194(2) provides that ‘States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with this Convention.’ Consequently under the LOSC States may carryout the abandonment of offshore oil and gas

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<sup>57</sup> See Gao (foot note 2 above) at pg 151-157.

<sup>58</sup> Article 311(1) of the LOSC provides that ‘This law shall prevail as between State Parties over the Geneva Conventions on the law of the sea of 29 April 1958.’

<sup>59</sup> See Part XII of the LOSC.

<sup>60</sup> See for example Principle 7 of the Stockholm Declaration 1972, the *Trail Smelter Arbitration* and the *Corfu Channel Case*.

installations by partial removal but must ensure that their due regard must be had for navigation and other uses of the sea and that their acts do not pollute the marine environment.

#### **2.4 The IMO Resolution A.672 (16) of 1989**

The International Maritime Organisation (IMO) being the ‘competent international organisation’ envisaged by Article 60(3) of the LOSC adopted a resolution on Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone<sup>61</sup> (IMO Guidelines). The IMO recommended that these guidelines should be considered by member States when they make decisions on offshore installations abandonment issues. The Guidelines are meant to be minimum standards and so States are free to adopt more stringent removal requirements for existing or future installations or structures in their exclusive economic zone or continental shelf.

The IMO Guidelines proceed with a general principle of removal of disused installations but allow for non-removal or partial removal in a manner consistent with it.<sup>62</sup> States are therefore to do a case-by-case evaluation of certain matters before reaching a decision allowing an offshore installation or part thereof to remain on the sea-bed. These matters include any potential effects of retention on navigational safety, potential effect on the marine environment, costs, technical feasibility and risks of injury to personnel associated with the removal of the installation and the determination of a new use or other reasonable justification for allowing the installation or parts thereof to remain on the sea-bed.<sup>63</sup>

The required standards are that disused installations in water depths of less than 75 meters and weighing less than 4000 tonnes should be removed<sup>64</sup> unless not technically feasible or removal involves extreme cost or constitutes unacceptable risk to personnel or

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<sup>61</sup> The resolution was adopted on 19 October 1989. See foot note 52 above.

<sup>62</sup> Article 1.1 of the IMO Guidelines.

<sup>63</sup> Ibid at Article 2.1.

<sup>64</sup> Ibid at Article 3.1. Article 3.2 increases the water depth to 100 meters for installations emplaced after 1 January 1998.

the marine environment.<sup>65</sup> A 55 meter unobstructed water column sufficient to ensure safety of navigation must be left in the event of a partial removal<sup>66</sup> and after 1 January 1998 all installations are to be designed and constructed in such a way that their entire removal is feasible.<sup>67</sup> In any case, removal operations must be carried out in a manner that results in no significant adverse effects upon navigation or the marine environment, especially with regard to threatened and endangered species.<sup>68</sup>

It must, however, be noted that the IMO Guidelines fall among the category of international law instruments referred to as ‘soft law’ and hence are not binding on States. However they should shed some aspects of this status when taken together with Article 60(3) of the LOSC which has incorporated them by reference.

## **2.5 The 1972 Convention on the Prevention of Marine Pollution by the Dumping of Waste and other Matter at Sea**

The Convention on the Prevention of Marine Pollution by the Dumping of Waste and other Matter at Sea<sup>69</sup> (London Convention) is global in scope and regulates the dumping of waste substances at sea. It defines dumping as any deliberate disposal at sea of wastes or other matters from vessels, aircraft, platforms or other man-made structures at sea or any disposal at sea of vessels, aircraft, platforms or other manmade structures at sea.<sup>70</sup> The placement of matter for a purpose other than the mere disposal thereof, provided that such placement is not contrary to the aims of the Convention is not dumping.<sup>71</sup> This excludes the reuse *in-situ* of an installation after it is no longer useful for its designed purpose, for example the creation of an artificial reef, from the operation of the Convention. The disposal of wastes or other matter directly arising from, or relating to the exploration, exploitation and associated off-shore processing of sea-bed mineral

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<sup>65</sup> Ibid at Article 3.5.

<sup>66</sup> Ibid at Article 3.6.

<sup>67</sup> Ibid at Article 3.13.

<sup>68</sup> Ibid at Article 3.3.

<sup>69</sup> It was adopted at London on 29 December 1972 and entered into force on 30 August 1975. See <http://www.londonconvention.org> (last accessed 1 July 2005). It was known as the London Dumping Convention until 1992 when it became, simply the London Convention. See Woodliffe, (footnote 14 above) at pg 106 footnote 41.

<sup>70</sup> Article 3(1) of the London Convention.

<sup>71</sup> Ibid at Article 3(1)b.

resources<sup>72</sup> is also not covered by this Convention, but it appears to be generally understood that abandonment of offshore installations and structures is dumping.<sup>73</sup>

The London Convention applies to all marine areas except the internal waters of a coastal State and operates by a national permit system. Under this system member States are to prohibit the dumping of wastes listed in Annex I, issue a prior special permit for the dumping of certain wastes including ‘containers and other bulky wastes liable to sink to the sea bottom which may present a serious obstacle to fishing or navigation’<sup>74</sup> and issue prior general permits for certain other wastes.<sup>75</sup> All permits are only to be issued after careful consideration of the factors listed in Annex III.<sup>76</sup>

In 1996 the parties to the London Convention adopted a Protocol<sup>77</sup> which, when it enters into force, will supersede the London Convention<sup>78</sup> and change its outlook on dumping from ‘a generally acceptable practice to a generally unacceptable one.’<sup>79</sup> The Protocol introduces a precautionary approach by prohibiting dumping of any wastes not listed in Annex I.<sup>80</sup> Substances listed in Annex I include ‘platforms or other man-made structures at sea.’ It retains a national permit system enabling State parties to issue a prior permit before the dumping of wastes listed in Annex I. The prior permit is to be issued after a consideration of the general objectives and obligations of the Protocol. A further matter is that State parties must ensure that ‘material capable of creating floating debris or otherwise contributing to pollution of the marine environment has been removed to the maximum extent’ and so posing ‘no serious obstacle to fishing or navigation.’<sup>81</sup>

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<sup>72</sup> Ibid at Article 3(1)c.

<sup>73</sup> See Gao, (footnote 2 above) at pg 147 where he referred to S Reddy, *No Grounds for Dumping: the Decommissioning and Abandonment of Offshore Oil and Gas Installations* (London, Greenpeace 1995) at pg 19.

<sup>74</sup> Article IV(1)b and Annex IIc of the London Convention.

<sup>75</sup> Ibid at Article IV(1)c.

<sup>76</sup> Ibid at Article IV(2).

<sup>77</sup> Text of 1996 Protocol to the London Convention reprinted in (1997) 36 ILM 1.

<sup>78</sup> Ibid at Article 23.

<sup>79</sup> See Elizabeth Kirk, ‘The Protocol to the London Dumping Convention and the Brent Spar’ (1997) 46 *International and Comparative Law Quarterly* 957 at 959.

<sup>80</sup> Article 4 of the Protocol.

<sup>81</sup> Ibid at Annex I(2).

The Protocol confirmed the general understanding that abandonment of installations and structures is dumping by extending the definition of dumping to include ‘any abandonment or toppling on site of platforms or other man-made structures at sea for the sole purpose of deliberate disposal.’<sup>82</sup> However it still excludes regulation of the conversion of a disused installation to another use, as opposed to its removal or toppling, from its purview.

## **2.6 The UNEP Regional Seas Programme**

The United Nations Environment Program (UNEP) initiated a Regional Seas Programme in 1974, essentially, to promote regional collaborative action towards the protection of the marine and coastal environment, and the conservation of their resources. Under this programme action plans designed according to the needs and priorities of the regions are formally adopted by the parties which later metamorphose into formal conventions. These action plans usually provide for, amongst others, environmental assessment and management, environmental legislation and institutional and financial arrangements. Presently several action plans and nine conventions have been adopted under this programme in different regions of the world. The relevant conventions to this work are the Convention for the Co-operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region (Abidjan Convention)<sup>83</sup> and the Convention for the Protection, Management and Development of the Marine and Coastal Environment of the East African Region (Nairobi Convention).<sup>84</sup> Nigeria and South Africa are parties to the Abidjan and Nairobi Conventions, respectively. Though not a member South Africa participates in the activities of the Abidjan Convention and has expressed an interest to join it. The aims and objectives of these Conventions are similar so also are their textual content.

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<sup>82</sup> Ibid at Article 1.4.4.

<sup>83</sup> (1981) 20 ILM 746. The Convention was adopted on 23 March 1981 and entered into force on 5 August 1984. There are 22 partner countries but only 10 parties including Nigeria have ratified. For further information go to [http://www.unep.ch/regional\\_seas/pubs/profiles/wacaf.doc](http://www.unep.ch/regional_seas/pubs/profiles/wacaf.doc) (last accessed on 4 July 2005).

<sup>84</sup> The Convention was adopted on 21 June 1985 and entered into force on 30 May 1996. Parties include Comoros, France (Le Reunion), Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, South Africa and Tanzania. Further information and the text of the Convention are available on the internet at <http://www.unep.ch/eastafrica/EasternAfricaNairobiConvention.cfm> (last accessed 4 July 2005).

The Abidjan and Nairobi Conventions apply to the territorial waters and the EEZs of their member States<sup>85</sup> but do not cover the outer continental shelf area which extends beyond 200 nautical miles from the baseline; though it recognises the marine environment as a single unified ecosystem. Under the Abidjan Convention ‘pollution’ is defined as ‘...the introduction by man, directly or indirectly, of substances or energy into the marine environment, coastal zones, and related inland waters resulting in such deleterious effects as harm to living resources, hazards to human health, hindrance to marine activities, including fishing, impairment of quality for use of sea-water and reduction of amenities.’<sup>86</sup> Parties under these Conventions are obligated to implement internationally recognised standards and measures to prevent, fight and control pollution caused by dumping from ships and aircrafts in these areas.<sup>87</sup> They are also to take appropriate measures to prevent and control pollution arising from or connected with seabed and subsoil exploration and exploitation activities.<sup>88</sup> Parties under the Abidjan and Nairobi Conventions are under a further general obligation to ensure sound environmental management of natural resources by the use of the best practicable means at their disposal.<sup>89</sup>

Though these Conventions do not explicitly refer to the decommissioning of offshore oil and gas installations and structures it is apposite from the their provisions that Nigeria and South Africa will be in breach of their treaty obligations if they do not apply internationally recognised environmental law rules and standards in authorising or carrying out abandonment and decommissioning operations.

In recent years parties to the Abidjan Convention have expressed the desire to strengthen relations with the OSPAR Commission which administers the OSPAR Convention to the extent of ‘twining’ the two Conventions. The OSPAR Commission on its part has agreed to assist in setting up and provisioning a network of Focal Points for the effective

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<sup>85</sup> See Article 1 of the Abidjan Convention and Article 2(a) of the Nairobi Convention.

<sup>86</sup> See Article 2(1) of the Abidjan Convention.

<sup>87</sup> See Article 6 of both Conventions.

<sup>88</sup> See Article 8 of both Conventions. However Article 8 of the Abidjan Convention goes further to include pollution from artificial islands, installations and structures.

<sup>89</sup> See Article 4 of both Conventions.

implementation of the Abidjan Convention.<sup>90</sup> There is no telling what direction this new relationship will lead to but it is likely that in the event of a development of rules and standards for abandonment of offshore installations under the Abidjan Convention the existing OSPAR Commission rules in that regard will be of great influence.

## **2.7 The 1992 Convention on the Protection of the Marine Environment of the North East Atlantic**

The Convention on the Protection of the Marine Environment of the North East Atlantic (OSPAR Convention)<sup>91</sup> was adopted in Paris, France on 22 September 1992 and entered into force on 25 March 1998.<sup>92</sup> The OSPAR Convention is a regional convention and it applies to specific sea areas of the North East Atlantic, including the Greater North Sea, the Celtic Sea, the Bay of Biscay/Golfe de Gascogne and Iberian waters, and the Wider Atlantic.<sup>93</sup> It replaced and updated the 1972 Oslo Convention on the Protection of the Marine Environment by Dumping from Ships and Aircraft (Oslo Convention)<sup>94</sup> and the 1974 Paris Convention on the Prevention of Marine Pollution from Land-Based Sources (Paris Convention).<sup>95</sup>

Under the OSPAR Convention ‘dumping’ includes any deliberate disposal in the maritime area of vessels or aircrafts or offshore installations and pipelines<sup>96</sup> and ‘offshore installations’ means any man-made structures, plant or vessel or parts thereof, whether floating or fixed to the seabed, placed within the maritime area for the purpose of offshore activities.<sup>97</sup> Consequently the OSPAR Convention may develop rules and regulations for the abandonment of offshore oil and gas installations in its coverage area.

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<sup>90</sup> For more on this go to [http://www.unep.ch/regional\\_seas/pubs/profiles/wacaf.doc](http://www.unep.ch/regional_seas/pubs/profiles/wacaf.doc) (last accessed on 4 July 2005). The focal points will meet regularly in a Focal Points Forum each year to prepare work programmes.

<sup>91</sup> The text is in (1993) 32 ILM 1069. The parties are Belgium, Denmark, Finland, Greece, France, Germany, Iceland, Ireland, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and Luxembourg, and the UK.

<sup>92</sup> Information obtained from the OSPAR website on the internet at <http://www.ospar.org/eng/hmt/welcome.html> (last accessed 19 July 2005).

<sup>93</sup> Article 1(a) of the OSPAR Convention. The coverage area of the Convention is actually depicted by latitude and longitudinal coordinates.

<sup>94</sup> It was adopted in 1972 and entered into force on 7 April 1974. The text is in (1972) 11 ILM 262.

<sup>95</sup> It was adopted in 1974 and came into force on 6 May 1978. The text is in (1974) 13 ILM 352.

<sup>96</sup> See Article 1(f)ii of the OSPAR Convention.

<sup>97</sup> Ibid at Article 1(i).

The Convention also establishes a Commission made up of representatives of the Contracting Parties whose duties include supervising the implementation of the Convention and may adopt decisions and recommendations for this purpose.<sup>98</sup> These decisions and recommendations will supersede those made under the Oslo and Paris Convention.<sup>99</sup>

In June 1995 shortly after the *Brent Spar* affair the parties to the Oslo Convention, save the UK and Norway,<sup>100</sup> adopted a moratorium on the disposal of offshore installations and structures at sea.<sup>101</sup> This may have been a reflection of the prevailing position of the international community on offshore installations abandonment issues. The position of the UK and Norway was to change so that at the First Ministerial meeting of the OSPAR Commission in July 1998, upon the entry into force of the OSPAR Convention, a new regime for the decommissioning of disused offshore installations was unanimously adopted.<sup>102</sup> The clear and unequivocal terms of Decision 98/3 (OSPAR Decision) banned the disposal of offshore installations at sea.<sup>103</sup> The OSPAR Decision replaced the Oslo Decision 95/1 which had placed a moratorium on the disposal of offshore installations and structures at sea.<sup>104</sup>

Under the OSPAR Decision, the topsides of all installations must be returned to shore. All installations and structures weighing less than 10,000 tonnes must be completely removed for re-use, recycling or final disposal on land. While a case by case assessment will be conducted for those weighing more than 10,000 with a view to determining whether they should be completely removed or their footings be left in place. Any

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<sup>98</sup> Ibid at Article 10.

<sup>99</sup> Although decisions and recommendations made under the Oslo and Paris Conventions not terminated by those under the OSPAR Convention will continue to be applicable.

<sup>100</sup> The UK and Norway's decision may have been influenced by the fact that most of the offshore installations in the Convention area were on their continental shelves. La Fayette (footnote 14 above) at pg 525 footnote 14.

<sup>101</sup> Oslo Commission Decision 95/1 in force 4 August 1995.

<sup>102</sup> OSPAR Decision 98/3 reached at the Ministerial Meeting held at Sintra, Portugal on 23 July 1998. It entered into force on 9 February 1999. Text available on the internet at <http://www.ospar.org/documents/dbase/publications> (last accessed 20 July 2005).

<sup>103</sup> See Para 2 of the OSPAR Decision. There are, however, still possibilities of derogations from this general ban under Para 3.

<sup>104</sup> See Para 8 of the OSPAR Decision.

installations emplaced after 9 February 1999 must be completely removed.<sup>105</sup> The OSPAR Decision, however, does not cover the decommissioning of pipelines.

The OSPAR Decision shows that the governments of Norway and the UK had made concessions from their earlier position in declining to be bound by the moratorium under the Oslo Convention.<sup>106</sup> It acknowledges the difficulty associated with removing concrete installations and large installations weighing more than 10,000 tonnes and consequently allowed for a derogation from the main rule for such installations. Even so, there is a presumption that they will all be removed entirely. Exceptions may be granted only if it is shown that there are significant reasons why an alternative disposal option is preferable to re-use or recycling or disposal on land.<sup>107</sup>

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<sup>105</sup> See Para 3 together with Annex 1 & 2 of the OSPAR Decision.

<sup>106</sup> See Woodliffe (footnote 14 above) at pg 121.

<sup>107</sup> This must be carried out in line with the assessment and consultation procedures established in Annex 2, 3 and 4 of the OSPAR Decision.

Usually, States may regulate oil and gas activities including the abandonment and decommissioning of the offshore installations and structures used in this process by way of environmental legislation, petroleum legislation and through provisions of model agreements. It should therefore be safe to search for the laws regulating the abandonment and decommissioning of offshore oil and gas installations and structures in Nigeria, South Africa, Norway and the United Kingdom from these areas of their laws.

### 3.1 Decommissioning of Offshore Oil and Gas Installations in Nigeria

In Nigeria the principal law governing the activities of exploration and exploitation of oil and gas is the Petroleum Act of 1969.<sup>108</sup> The offshore area over which Nigeria has jurisdiction and the extent of this jurisdiction has been defined by the Petroleum Act 1969.<sup>109</sup> Under this Act the Federal Government of Nigeria is the absolute owner of all petroleum resources occurring in the offshore or onshore areas of Nigeria;<sup>110</sup> albeit, to hold same in trust for the benefit of the citizens of the country. Consequently a person interested in exploring and exploiting petroleum resources in Nigeria must obtain the requisite licence or lease to so do from the Minister of Petroleum Resources (Minister) who is the appropriate authority designated to issue the licence or lease.<sup>111</sup> The Minister is also empowered to make regulations for oil and gas operation matters, including the prevention of marine and atmospheric pollution, and the construction, maintenance and operation of installations.<sup>112</sup> Pursuant to these powers the Minister has promulgated

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<sup>108</sup> Chapter 350 Laws of the Federation of Nigeria 1990.

<sup>109</sup> These areas include 'the seabed and subsoil of those marine areas adjacent to the coast of Nigeria the surface of which lies at a depth no greater than two hundred meters (or, where its natural resources are capable of exploitation at any depth) below the surface of the sea, excluding so much of those areas as lies below the territorial waters of Nigeria.' See *ibid* at Section 15(1).

<sup>110</sup> *Ibid* at Section 1(1). See also Section 44 (3) of the Constitution of the Federal republic of Nigeria 1999 which provides that 'Notwithstanding the foregoing provisions of this section, the entire property in and control of all minerals, mineral oils and natural gas in under or upon any land in Nigeria or in, under or upon the territorial waters and the Exclusive Economic Zone of Nigeria shall vest in the Government of the Federation and shall be managed in such manner as may be prescribed by the National Assembly.'

<sup>111</sup> *Ibid* at Section 2. The licences and lease available here are the oil exploration licence, oil prospecting licence and the oil mining lease. Holders of these may be referred to as licensees or lessees.

<sup>112</sup> *Ibid* at Section 9(1).

several Regulations out of which the Petroleum (Drilling and Production) Regulations 1969 (Regulations)<sup>113</sup> are relevant to this work.

The provisions of the Regulations regarding abandonment of disused oil and gas installations are explicit. Regulation 35 of the Regulations provides that:

- ‘1. No boreholes or existing well shall be redrilled, plugged or abandoned, and no cemented casing or other permanent form of casing shall be withdrawn from any borehole or existing well which it is proposed to abandon without the written permission of the Director of Petroleum Resources.
2. Every borehole or existing well which the licensee or lessee intends to abandon shall, unless the Director of Petroleum Resources otherwise permits in writing, be securely plugged by the licensee or lessee so as to prevent ingress and egress of water into and from any portions of the strata bored through and shall be dealt with in strict accordance with an abandonment program approved or agreed by the Director of Petroleum Resources.
3. Except in an emergency, the Director of Petroleum Resources may in any case direct that no borehole or well may be plugged, or no works be executed save in the presence of an officer of the Ministry of Petroleum Resources designated by him.’

The effect of the foregoing is that an abandonment program prepared by the licensee or lessee and duly approved by the Director of Petroleum Resources (DPR) is mandatory before the licensee or lessee can commence the proposed abandonment works. In addition the DPR may further direct, except in emergency cases that an officer of the Ministry of Petroleum Resources must be present during the abandonment operations, perhaps to ensure that the approved abandonment program is strictly adhered to.

Upon abandonment the licensee or lessee is not free to deal with the disused installations and wells. Regulation 45 (1) of the Regulations stipulates that ‘[T]he licensee or lessee

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<sup>113</sup> Chapter 350 Laws of the Federation of Nigeria 1990.

shall within two months (or such further period as the Minister may approve) after the termination of his licence or lease:

- ‘a. deliver up to the Minister in good order, repair and condition, and fit for further working, all productive boreholes or wells (unless the Director of Petroleum Resources requires the licensee or lessee in writing to plug them as he may direct or as provided by these regulations) together with all casings and other appurtenances to the boreholes and wells which are below the Christmas tree<sup>114</sup> and cannot be moved without causing injury to the said boreholes and wells.
- b. fill up or fence all holes (other than boreholes and wells) and excavations that he has made in the relevant area to such an extent as the Director of Petroleum Resources may reasonably require, and
- c. to the like extent take reasonable steps to restore as far as possible to their original condition the surface of the relevant area and all buildings and structures thereon which have been damaged in the course of his operations.’

The licensee or lessee in carrying out the abandonment works is obligated to adhere to the approved abandonment program and rehabilitate the work area to a condition as near as possible to their original condition.

Further Regulation 45 (3) of the Regulations provides that ‘[O]n the termination of his licence or lease the licensee or lessee shall, subject to the rights of the owners of the surface or other persons having a legal interest in the relevant area or any part of it, remove all buildings, installations, works, chattels and effects erected or brought by the licensee or lessee upon the relevant area for or in connection with his operations: provided that, subject as aforesaid, the Minister may specify any such buildings, installations, works, chattels or effects, and shall then be entitled to take the same at a price bearing a reasonable relationship to the written down value thereof.’

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<sup>114</sup> A term used to refer to the equipment forming the head of an oil well because its shape is similar to a Christmas tree.

The sum of the foregoing provisions is that upon the close of oil and gas operations a licensee or lessee must completely remove all disused installations and structures. The only exception here is where the installations, ostensibly being of some use to the State, are taken over by the Minister. The main problem with these Regulations is that they are more suitable to onshore abandonment with references to plugging and securing of wells, and filling up and fencing holes and excavations. It does not take into consideration the environment and the different nature of offshore installations that may require special provisions for their decommissioning. It also did not tackle the important question of what must be done with the removed installations and structures.

The decommissioning of pipelines is governed by the Oil and Gas Pipelines Regulations 1995.<sup>115</sup> The Pipeline Regulations provide for situations where there is need to merely discontinue the use of pipelines and where there is need to abandon pipelines. In the first case, a holder of an oil pipeline licence who desires to discontinue the operation of the pipeline and ancillary facilities shall apply to the DPR. A three month notice is required for the application and the notice shall contain the reasons for the proposed discontinuation together with the planned method of discontinuing the operations. The DPR may approve the application and direct that the proposed discontinuation goes on according to the planned method or direct that other method be employed.<sup>116</sup> In the case of abandonment of pipelines the Regulations allow the oil pipeline licence holder to leave the pipelines in place or to remove them. Where they will be left in place the procedure under Regulation 23 will apply but where they will be removed the proposed removal work programme must be approved and the oil pipeline licence holder is under a duty to restore the surface of the land and the vicinity to a 'perfect condition.'<sup>117</sup> The term 'perfect condition' is not defined and so it is left to the discretion of the DPR. Further, restoring the surface of the land and its vicinity to a 'perfect condition' may be an impossibility in offshore areas.

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<sup>115</sup> SI (Statutory Instrument) No. 14 of 1995.

<sup>116</sup> Ibid at Regulation 23.

<sup>117</sup> Ibid at Regulation 24.

Apart from petroleum legislation there are certain environmental laws applicable to the abandonment of offshore oil and gas installations and structures. These environmental laws are the Federal Environmental Protection Agency Act 1988 (FEPA Act)<sup>118</sup> and the Harmful Waste (Special Criminal Provisions, etc) Act 1988.<sup>119</sup> Both Acts apply to disposal of waste substances on land and in the waters of Nigeria up to the EEZ. They criminalise the discharge or disposal of certain hazardous substances into Nigerian waters including chemicals and materials that may be found in disused offshore installations.<sup>120</sup> Mention is however not made of the disposal or dumping of disused installations into these waters.<sup>121</sup> Further, the Federal Environmental Protection Agency may give directions or make regulations regarding methods of removal of offshore facilities, reporting requirements and financial responsibilities levels for owners or operators of such facilities.<sup>122</sup> The licensee or lessee must adhere to these regulations where they apply to the decommissioning of his offshore installations.

The most popular forms of contractual arrangements in the Nigerian oil industry are the traditional Joint Operating Agreement (JOA) used in most OPEC countries and the Production Sharing Contract (PSC). The provisions of these agreements are standard in that they do not materially vary from one instance to the other. The JOA is prevalent in onshore fields or in shallow water fields close to land while the PSCs are used in offshore and deep offshore fields in the EEZ and continental shelf.

The JOA does not specifically provide for decommissioning of installations and structures. It only empowers the Operating Committee in charge of the overall supervision and direction in all matters pertaining to the joint operations to, inter alia, determine the selection, scope, timing and locations, testing, completion, plugging and

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<sup>118</sup> Chapter 131 Laws of the Federation of Nigeria 1990.

<sup>119</sup> Chapter 165 Laws of the Federation of Nigeria 1990.

<sup>120</sup> See Section 20 of the FEPA Act and Section 15 of the Harmful Wastes Act.

<sup>121</sup> The proviso to Section 20 of the FEPA Act stipulates that '[N]otwithstanding the provisions of this section or of any other sections of this Act, the provisions of the Harmful Waste (Special Criminal Provisions, etc) Act 1988 shall apply in respect of any hazardous substances constituting harmful waste as defined in section 15 thereof.' However, offshore installations are not included in the definition of harmful waste in the said Section 15.

<sup>122</sup> See Section 22 and 23 of the FEPA Act. Though, the Agency is yet to make any such regulations.

abandonment of all wells and facilities for the joint operations.<sup>123</sup> The abandonment and salvage of joint property or any part thereof is also one of the duties of the Operating Committee<sup>124</sup> and there is a provision for nomination of representatives of parties from whom the Operator in an emergency may seek binding decisions on urgent matters relating to the plugging and abandoning of wells.<sup>125</sup> Apparently reliance is placed on the provisions of the 1969 Petroleum (Drilling and Production) Regulations for abandonment of oil and gas installations and structures especially as Article 1.1 of the JOA makes the said Regulations applicable.

The PSCs currently in operation are the 1990 and 1995 Model Production Sharing Contracts.<sup>126</sup> These agreements do not contain provisions for abandonment and decommissioning of installations. This omission may however be attributable to the finality of the existing provisions for abandonment of installations in the Petroleum Act. The Federal Government may have also been mindful of the fact that title to all lands and assets acquired by the contractor for the purposes of the contract shall revert to the Nigerian National Petroleum Corporation (NNPC – the national oil company) upon termination or expiration of the contract.<sup>127</sup>

The issue of who pays the cost of abandonment operations was also not addressed by any laws in Nigeria. It has been suggested that this cost may be treated as other costs of joint venture operations that are tax deductible.<sup>128</sup> Apparently there is no need to provide for residual liability (and no provision was made) as the licensee is under obligation to remove all his installations at the close of his operations save those which the Minister retains upon payment of a reasonable price.

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<sup>123</sup> See Article 3.1.i of the Model Joint Operating Agreement. A broad analysis of the relevant provisions of the JOA is given in Godwin Etikerentse, *Nigerian Petroleum Law 2<sup>nd</sup> edition* (Lagos; Dredew Publishers 2004) at pg 37.

<sup>124</sup> *Ibid* at Article 3.1.iv.

<sup>125</sup> *Ibid* at Article 3.5.2.

<sup>126</sup> See Ibibia Lucky Worika, *Environmental Law and Policy of Petroleum Development; Strategies and Mechanisms for Sustainable Management in Africa* (Port Harcourt; ANPEZ Centre for Environment and Development 2002) at pg 192.

<sup>127</sup> See Article 11 and Article 13 of the 1990 and 1995 Model Production Sharing Contracts, respectively.

<sup>128</sup> See Igiehon & Park (footnote 56 above) at pg 206.

### 3.2 Decommissioning of Offshore Oil and Gas Installations in South Africa

The offshore area over which South Africa has jurisdiction and the extent of this jurisdiction has been defined and clearly delimited by the Maritime Zones Act 15 of 1994 (MZA).<sup>129</sup> The MZA applied the provisions of the Law of the Sea Convention (LOSC) regarding maritime zones and the extent of States' sovereignty in these zones even though South Africa was yet to ratify it.<sup>130</sup> The MZA in several respects ushered in a new era in South African maritime law including that it establishes a unified maritime zones regime for the whole of South Africa including the Prince Edwards Islands.<sup>131</sup> These zones are made up of geographically precise areas with clearly defined rights which do not exactly correspond to any previously existing zone.<sup>132</sup>

Under the MZA South Africa has absolute sovereignty over its internal and territorial waters, and the airspace above them together with any minerals below their seabed.<sup>133</sup> The same rights and powers which the State has over the territorial waters is extended to the EEZ but only in respect of the natural resources occurring there.<sup>134</sup> Further, the continental shelf is declared un-alienated state land for the purposes of exploring and exploiting its living and non-living natural resources.<sup>135</sup>

Consequently South Africa may explore and exploit oil and gas deposits occurring in the sea-bed below its territorial waters and EEZ, and in the subsoil of its continental shelf up to the outer edge of the continental margin. It may erect or authorise the erection of

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<sup>129</sup> The MZA came into force on 11 November 1994, five days before the entry into force of the LOSC.

<sup>130</sup> South Africa ratified the LOSC on 23 December 1997 although it was an original signatory when it was adopted in 1982.

<sup>131</sup> Previously the Territorial Waters Act 8 of 1978 provided a regime for the former Transkei region, the Territorial Waters Act 12 of 1986 provided a regime for the former Ciskei region and the remainder of the coast of South Africa was regulated by the Territorial Waters Act 87 of 1963 (as amended by TWA Act 98 of 1977). Section 14 makes the MZA applicable to the Prince Edward Islands.

<sup>132</sup> See D J Devine, '1994 South African Maritime Zone Legislation: Principles inherent in the Act and their implementation' (1995) 10 *International Journal of Marine and Coastal Law* 556 at 559.

<sup>133</sup> See Section 3(2) and 4(2) of the MZA. All laws in force in South Africa shall equally apply to these areas. By Section 3(1) the internal waters are made up of all waters landward of the baselines and harbours while Section 4(1) the territorial waters are made up of sea within 12 nautical miles from the baselines.

<sup>134</sup> *Ibid* at Section 7(2). By Section 7(1) the EEZ is made up of the sea within a distance of 200 nautical miles from the baselines.

<sup>135</sup> *Ibid* at Section 8(3).

installations for that purpose. Under the MZA<sup>136</sup> ‘installations’ are defined to cover all forms of structures including the 500 meter safety zone around platforms endorsed by international law.<sup>137</sup> Thus vessels, pipelines, platforms and such man-made structures as are used in the exploration and exploitation of oil and gas resources off the coast of South Africa are installations as envisaged by the MZA. All laws in force in South Africa including the common law, are to apply on and in respect of these installations and for these purposes these installations shall be within the magisterial district designated by the Minister of Justice or within the nearest magisterial district in the absence of such designation.<sup>138</sup>

The principal law regulating the exploration and exploitation of oil and gas resources in South Africa is the Mineral and Petroleum Resources development Act (MPRDA)<sup>139</sup> which replaces the Minerals Act 50 1991. Under the new regime oil and gas resources are the common heritage of all the people of South Africa with the State being the custodian thereof for the benefit of the people.<sup>140</sup> This power of the State is exercised by the Minister of Minerals and Energy who may permit the exploration and exploitation of the oil and gas resources occurring anywhere in South Africa by the grant of exploration and production rights, amongst other permits.<sup>141</sup> All the mineral rights granted under the MPRDA are fundamentally different from those granted under the moribund Minerals Act 1991 as they are ‘limited real rights’ for which the grantee is not required to possess prior independent common law mineral rights over the land.

Upon such grant, the activities of the holder of such a right is basically regulated by the Mineral and Petroleum Resources Development Regulations 2004 (MPRDR)<sup>142</sup> made by the Minister of Minerals and Energy pursuant to the Minister’s powers under the

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<sup>136</sup> Ibid at Section 1.

<sup>137</sup> See Article 60(4)-(6) of the LOSC.

<sup>138</sup> See Section 9 of the MZA.

<sup>139</sup> Act 28 of 2002. It came into force on 1 May 2004.

<sup>140</sup> Ibid at Section 3(1).

<sup>141</sup> Ibid at Section 3(2).

<sup>142</sup> Government Gazette No 26275 of 23 April 2004.

MPRDA.<sup>143</sup> The regulations in the MPRDR are extensive but do not specifically provide for the issue of decommissioning of the installations used, onshore or offshore, in the exploration and exploitation of oil and gas resources. Rules and standards to be employed in this regard, however may be gleaned from provisions relating to environmental management, environmental protection, and site closure and rehabilitation in the MPRDA, MPRDR and the National Environmental Management Act (NEMA).<sup>144</sup>

The provisions of Chapter 4 of the MPRDA contain environmental regulations for the exploration and exploitation of minerals in general and these are made specifically applicable to offshore oil and gas development by Section 69(2) of the MPRDA. Section 38(1) of the MPRDA stipulates that: '[T]he holder of a reconnaissance permission, prospecting right, mining right, mining permit or retention permit<sup>145</sup> —

(d) must as far as it is reasonably practicable, rehabilitate the environment affected by the prospecting or mining operations to its natural or predetermined state or to a land use which conforms to the generally accepted principle of sustainable development; and

(e) is responsible for any environmental damage, pollution or ecological degradation as a result of his or her reconnaissance prospecting or mining operations and which may occur inside and outside the boundaries of the area to which such right, permit or permission relates.'

The foregoing provisions impose an obligation on the right holder to rehabilitate the site of his operations to its natural or predetermined state. This provision though more suitable to land based mining may in the context of offshore petroleum operations mean the complete removal of installations on abandonment. The presence of the phrase 'reasonably practicable' however, may serve to temper this burden.

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<sup>143</sup> The MPRDR is made by the Minister pursuant to Section 107(1) of the MPRDA read together with the provisions of Section 14 of the Interpretation Act No 33 of 1957.

<sup>144</sup> Act 107 of 1998.

<sup>145</sup> As a result of the said Section 69(2) of the MPRDA references to reconnaissance permission, prospecting rights and mining rights must be construed as a reference to reconnaissance permit, exploration rights and production rights, respectively.

Under the MPRDA an applicant for a production right is required to present an environmental impact assessment report and an environmental management programme while applicants for reconnaissance permits and exploration rights are required to present environmental management plans.<sup>146</sup> These environmental management programmes or plans contain, amongst others, a requirement that applicants make financial provision for the rehabilitation or management of the environmental impacts of their activities.<sup>147</sup> There is also a requirement that a ‘closure plan’ be included in the environmental management programme or plan<sup>148</sup> and the right holder remains responsible for any environmental liability, pollution or ecological degradation until the Minister has issued a closure certificate at the close of the exploration and exploitation activities.<sup>149</sup>

As has been stated earlier South Africa is a party to the London Convention and it has implemented it in enacting the Dumping at Sea Control Act.<sup>150</sup> Under this Act ‘dumping’ means ‘to deliberately dispose of at sea from any vessel, aircraft, platform or other man-made structures by incinerating or depositing in the sea and includes the disposal of any vessel, aircraft, platform or other man-made structure at sea.’<sup>151</sup> The abandonment of offshore installations and structures, at least with regard to disposal as opposed to reuse,<sup>152</sup> is therefore covered by this Act.

A special permit, issued by the Director General: Environmental Affairs and Tourism after consultation with a standing committee appointed by the Minister of Environmental Affairs and Tourism, is required before the disposal of an installation at sea.<sup>153</sup> In granting the permit they are obligated to take into account certain criteria including the

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<sup>146</sup> See Section 39 of the MPRDA.

<sup>147</sup> Ibid at Section 41. These are conditions precedent to the grant of the mineral rights under the MPRDA except for the reconnaissance permission, reconnaissance permit, technical cooperation permit and the retention permit.

<sup>148</sup> See Section 43(3)d of the MPRDA and Regulation 62 of the MPRDR.

<sup>149</sup> Section 43 of the MPRDA.

<sup>150</sup> Act 73 of 1980 as amended by the Dumping at Sea Control Amendment Act 73 of 1995.

<sup>151</sup> Ibid at Section 1(1).

<sup>152</sup> The lawful deposit at sea of a disused installation for a purpose other than the mere disposal thereof is not dumping as envisaged under the Act. See Section 1(1)b of the Act.

<sup>153</sup> See Section 3 of the Act.

characteristics of the material dumped, the site, method and environmental effects of disposal and the availability of alternative land-based options.<sup>154</sup> Any person who fails to obtain such a permit before the disposal thereof has committed an offence unless the disposal was necessary or reasonable in the circumstances in order to save human life, the installation or to prevent damage.<sup>155</sup> The owner and any person in charge of the installation will also be guilty unless it is proved that they did not permit or connive in the unlawful disposal of the installation and took all reasonable steps to prevent it.

Be it as it may, South Africa has ratified the 1996 Protocol to the London Convention and will need to amend the Act to bring it in line with the Protocol.

From the foregoing it can be seen that there are no clear cut rules and regulations for the abandonment and decommissioning of offshore oil and gas installations under South African law. Provisions of the MPRDA in this regard are not direct and they are essentially suited for land based mining operations. The regime under the Dumping at Sea Control Act, which is the same as that under the London Convention, is also contentious in that it has excluded from its operation the disposal at sea of waste or other matter directly arising from or related to the exploration, exploitation and associated offshore processing of sea-bed mineral resources.<sup>156</sup> The contents of certain offshore oil and gas installations and structures may be such waste or other matter. Nevertheless, persons wishing to carry out abandonment and decommissioning activities are left with only these provisions to guide their operations or the development of their abandonment or decommissioning programmes.

### **3.3 Decommissioning of offshore oil and gas installations in the United Kingdom**

The principal legislation regulating the decommissioning of offshore oil and gas installations and structures in the UK is the Petroleum Act 1998 (the Act or 1998 Act)<sup>157</sup>

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<sup>154</sup> Ibid at Schedule 3.

<sup>155</sup> Ibid at Section 2.

<sup>156</sup> Ibid at Section 1(1)c.

<sup>157</sup> The 1998 Act consolidates Parts I and II of the Petroleum Act 1987 (the 1987 Act) with other petroleum enactments including the Petroleum (Production) Act 1934, the Petroleum and Submarine Pipe-lines Act 1975 and the Oil and Gas Enterprise Act 1982.

which is administered by the Department of Trade and Industry (DTI). The Act vests on the Crown the exclusive right of searching and boring for and getting petroleum occurring in the UK and its continental shelf<sup>158</sup> and the Secretary of State, on behalf of the Crown, may grant to such persons as he thinks fit licences to search and bore for the petroleum.<sup>159</sup> Part IV of the 1998 Act provides a framework for the orderly decommissioning of disused installations and pipelines on the UK continental shelf (UKCS). Apart from this Act there are yet other laws relevant to abandonment.<sup>160</sup>

The provisions of these laws, relevant international conventions together with the views of members of the industry and other interested parties have been distilled into a consultative document (Guide Notes)<sup>161</sup> by the DTI to assist those engaged in preparing abandonment programmes. Consequently, the regulatory regime for the decommissioning of offshore oil and gas installations in the UK can be found in the Guide Notes. From the outset, the objective of the UK policy on decommissioning is explained, that is;

‘Government will seek to achieve effective and balanced decommissioning solutions, which are consistent with international obligations and have a proper regard for safety, the environment, other legitimate uses of the sea and economic considerations. The Government will act in line with the principles of sustainable development.’<sup>162</sup>

The roots of the UK’s international obligations were traced from Article 60(3) of the 1982 Law of the Sea Convention to which the UK is a party and the 1989 IMO

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<sup>158</sup> See Section 2 of the Petroleum Act 1998 together with Section 1(1) of the Continental Shelf Act 1964 which provides that ‘Any rights exercisable by the United Kingdom outside the territorial waters with respect to the seabed and subsoil and their natural resources, except so far as they are exercisable in relation to coal, are hereby vested in Her Majesty.’

<sup>159</sup> Ibid at Section 3.

<sup>160</sup> For example, the Coast Protection Act 1949 which provides for the safety of navigation and the Food and Environmental Protection Act 1985 which controls the deposit of substances or wastes within the UK controlled waters.

<sup>161</sup> Guidance Notes for Industry: Decommissioning of offshore installations and pipelines under the Petroleum Act 1998 (London, Department of Trade and Industry 2000). The current Guide Notes were released on 21 August 2000 and the text is available on the internet at <http://www.og.dti.gov.uk> (last accessed 21 July 2005)

<sup>162</sup> Ibid at Section 1.1.

Guidelines and Standards which set out the minimum global standards for the removal of offshore installations.<sup>163</sup> The IMO being recognized as the international organization envisaged by Article 60(3) of the LOSC to set appropriate global standards. However the convention with the most influence on the UK policy is the OSPAR Convention whose requirements as stated in its Decision 98/3 are referred to throughout the Guide Notes and reproduced seriatim in Annex B. The UK is a party to the London Convention but mention is not made of it in the Guide Notes. This has been attributed to the fact that the regime required by the OSPAR Convention is more stringent hence implementation of the OSPAR regime would amount to a fulfillment of the provisions of the London Convention.<sup>164</sup> Furthermore, Article VIII of the London Convention and Article 12 of the 1996 Protocol to the London Convention require parties to endeavour to enter into regional agreements which are consistent with the Convention and the Protocol and which take characteristic regional features into consideration.

Under the Petroleum Act 1998, the owners of an offshore installation or pipeline cannot proceed with its abandonment without first obtaining approval of a decommissioning programme.<sup>165</sup> The process usually commences with the Secretary of State issuing a written notice requiring the submission of a costed decommissioning programme for each offshore installation and submarine pipeline.<sup>166</sup> This notice will be given by the DTI to all relevant persons at least 4 months after the start of field operations.<sup>167</sup> Those persons given notices are jointly liable to submit a programme and are under a duty to carry it out at the appropriate time.<sup>168</sup> Where there is failure the DTI may prepare a substitute programme and implement same, albeit at the cost of the licensee or owner.<sup>169</sup> It is a

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<sup>163</sup> Ibid at Section 1.4 and 1.5.

<sup>164</sup> See de La Fayette (foot note 14 above) at 537.

<sup>165</sup> The 1998 Act refers to an 'abandonment programme' but the preferred and generally accepted term is a 'decommissioning programme' See Section 2.1 of the Guide Notes.

<sup>166</sup> See Section 29 and 30 of the 1998 Act. The notice may be served on the licensee, if different from the owner, co-venturers, Operator and more widely on anyone with a significant interest in the installation including the parents of the licensee or a company associated with the owners or licensee.

<sup>167</sup> Para 3.7 of the Guide Notes. It has been suggested that it may be preferable that a draft decommissioning programme be required before production is authorised in order to ensure that licensees consider the need for decommissioning upfront and take measures to reduce potential waste generation and the need for their eventual disposal. See de La Fayette (foot note 14 above) at pg 539.

<sup>168</sup> See Section 36 of the 1998 Act.

<sup>169</sup> Ibid at Sections 33 and 37.

criminal offence to fail to comply with the requirements to submit a decommissioning programme or to fail to carry it out. These offences are punishable with fines or imprisonment of up to 2 year.<sup>170</sup>

It is mandatory that the decommissioning programme contains, amongst others, an estimate of the cost of the proposed measures; specify the time frame within which those measures are to be carried out or make provision for determining those times; and, include provisions for continuing maintenance where an installation or pipeline is to be left in position or partly removed.<sup>171</sup> Where appropriate the removal and disposal of an installation or pipeline will be part of a decommissioning programme, otherwise separate programmes will be required.<sup>172</sup>

The DTI has outlined the activities required to be carried out in a typical decommissioning process, where the installation is being completely removed or not, into six stages.<sup>173</sup> In the first stage, preliminary discussion of the programme will be commenced between the Operator and the DTI's offshore Decommissioning Unit who may advise of any particular requirements that need to be taken into account. More detailed discussions of the Operator's decommissioning proposals will follow and the Government may consider a first draft at the second stage. If a derogation is sought from the general rule of complete removal the application will be considered in accordance with the procedures for assessment set out in Annex 2 of the OSPAR Decision 98/3. At the third stage the Operator is required to undertake further consultations including the statutory consultations provided for in Section 29(3) of the 1998 Act and to do so with all interested parties. Where necessary the Government will initiate consultations with other OSPAR Contracting Parties with the Operator playing a supportive role.<sup>174</sup> At the fourth stage the Operator and the DTI should have agreed on a final draft which will then be submitted to the Secretary of State for approval. The fifth stage involves the

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<sup>170</sup> Ibid at Section 40.

<sup>171</sup> Ibid at Section 29(4). The contents of a decommissioning programme are fully set out in Chapter 6 of the Guide Notes.

<sup>172</sup> See Para 2.2 of the Guide Notes.

<sup>173</sup> Ibid at Chapter 5.

<sup>174</sup> This is in accordance with Annex 3 of the OSPAR Decision 98/3.

implementation of the works of the approved decommissioning programme. After which the Operator must satisfy the DTI that the approved programme has been implemented. The sixth stage is for post decommissioning activities, like post-disposal surveys and site monitoring. The Operator will also be required to implement arrangements for maintenance and management of any installations or pipelines left behind.

Flow charts depicting the activities at the various stages in the case of complete removal and where a derogation from the complete removal regime is sought are in Appendix I and II to this work.<sup>175</sup>

Generally the DTI does not have direct power to require the owner of an installation to provide security for the cost of the works under a decommissioning programme. However it has wide discretion in the approval of transfer of oil and gas assets. Consequently in certain circumstances, particularly when mature oil and gas assets are being transferred from a large company to a small company or where the new entrant has few assets within the UK for the DTI to possibly recover the cost of carrying out a programme, the DTI may insist that a Financial Security Agreement be established as security for the cost of decommissioning.<sup>176</sup> The DTI may also decline to release a transferor from the duty to carry out a decommissioning programme if is not satisfied with the financial ability of the transferee or if the value of the remaining reserves are less than the cost of decommissioning.<sup>177</sup>

The issue of residual liability is also settled. Any residual liability remains with the owners of the installation or pipeline in perpetuity. However in the long term the company may cease, thereby creating difficulties. In such cases, insurance-based arrangements may be appropriate as is being suggested by members of the UK oil and gas industry.<sup>178</sup>

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<sup>175</sup> See Annex H of the Guide Notes.

<sup>176</sup> Ibid at Chapter 4 and Annex F.

<sup>177</sup> See Hewitt (footnote 15 above) at 178. According to Hewitt about 40 per cent of fields now have a security agreement in place as a result of the DTI's requirements or by voluntary agreements.

<sup>178</sup> See Chapter 15 of the Guide Notes.

From the foregoing, it can be seen that the UK has a highly developed regime for the decommissioning of oil and gas installations and structures on the UKCS worthy of emulation.

### **3.4 Decommissioning of offshore oil and gas installations in Norway**

Under international law the Norwegian State has sovereign rights to explore and exploit oil and gas in the NCS and may emplace or authorize the emplacement of installations for such activities. As a direct consequence of these rights there are presently several installations and structures used in the exploration and exploitation of oil and gas dotting the NCS which will also have to be decommissioned in accordance with the requirements of international law. The principal law regulating the decommissioning of offshore oil and gas installations in Norway is the Petroleum Act of 1996.<sup>179</sup> Norway's obligations under the OSPAR Convention also regulate decommissioning activities. In Norway, all oil and gas production is carried out in the Norwegian Continental Shelf (NCS) which has been defined to be the seabed and subsoil of the submarine areas that extend beyond the Norwegian territorial sea, throughout the natural prolongation of the Norwegian land territory to the outer edge of the continental margin, but no less than 200 nautical miles from the base lines from which the breadth of the territorial sea is measured, however not beyond the median line in relation to another state.<sup>180</sup>

The decommissioning of oil and gas installations on the NCS is regulated in the main by Chapter 5 of the Petroleum Act of 1996. Under this Act, the licensee is required to submit a decommissioning plan to the Ministry of Petroleum and Energy (MPE) two to five years before a licence expires or is surrendered, or the use of a facility is terminated.<sup>181</sup> The Ministry may waive the requirement to submit a decommissioning plan but where they do not the plan shall contain proposals for continued production or shutdown of

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<sup>179</sup> Act of 29 November 1996 No. 72 relating to petroleum activities. Available on the internet at [http://www.npd.no/regelverk/r2002/Petroleumsforskriften\\_e.htm](http://www.npd.no/regelverk/r2002/Petroleumsforskriften_e.htm) (last accessed 28 July 2005). This Act repeals the Act of 22 March 1985 No. 11 relating to petroleum activities which held the centre stage in the Norwegian oil and gas industry.

<sup>180</sup> Ibid at Section 1-6 (l).

<sup>181</sup> Ibid at Section 5-1.

production and disposal of facilities.<sup>182</sup> The MPE may approve or amend the plan, it may request for a new plan or for further information and evaluations in order to make a decision. In arriving at its decision the MPE is obligated to have regard to technical, safety, environmental and economic issues as well as a consideration for other users of the sea. In the event of revocation of a licence, the foregoing procedure shall apply *mutatis mutandis* or correspondingly to the extent they are suitable.

The structure and content of the decommissioning plan is set out in Chapter 6 of the Petroleum Regulations 1997.<sup>183</sup> The decommissioning plan shall consist of two main parts; one part dealing with disposal and the other an impact assessment. The decommissioning plan may contain proposed disposal of several installations on the same field and shall be submitted to the MPE and the Ministry of Labour and Social Affairs, and a copy to the Norwegian Petroleum Directorate.<sup>184</sup>

The disposal part of the decommissioning plan must include a description of the field history, the facility (including location, depth, type of material etc.), the possibility for continued production, relevant disposal alternatives, other aspects of importance to the choice of disposal solution and recommended disposal solution, including a time schedule for implementation of the disposal. Where there are several disposal alternatives the plan must also set out the technical, safety related, environmental and economic aspects of each disposal alternative and the effect on other users of the sea, including the impact on fisheries and shipping.<sup>185</sup>

The impact assessment which will be in the format as stipulated in Chapter 4 of the Petroleum Regulations 1997 must contain a description of the effect that each of the disposal alternatives may have on commercial and the environmental issues, and what can be done to reduce discharges and emissions in connection with disposal, and how any

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<sup>182</sup> Ibid at Section 5-1. Such disposal may amongst others, constitute further use for the petroleum activities, other uses, complete or part removal or abandonment. Abandonment here means that the installation is left wholly in place.

<sup>183</sup> Laid down by Royal Decree of 27 June 1997 pursuant to Section 10-18 of the Petroleum Act No.72 of 27 November 1996 and Section 13 and 19 of the Public Administration Act of 10 February 1967.

<sup>184</sup> Ibid at Section 43.

<sup>185</sup> Ibid at Section 44.

damage or inconvenience can be remedied.<sup>186</sup> The MPE has power to reduce the required content of the impact assessment if the disposal is not expected to have significant effects on commerce and the environment.

Where the decommissioning plan is approved the MPE would set a time limit for the implementation of the plan and the licensee and or owner are jointly and severally liable to ensure that the plan is carried out. There is a further requirement for Parliament to approve the decommissioning plan if a derogation from the OSPAR Decision 98/3 is sought, for example in the removal of footings of large steel jackets and concrete installations weighing more than 10,000 tonnes.<sup>187</sup> The obligation to carry out a decommissioning plan continues to apply even after the expiration of the licence and where the ownership of a facility has been transferred pursuant to Section 10-12 of the Petroleum Act 1996, unless otherwise decided by the MPE.

If a decommissioning plan relating particularly to the disposal of an installation is not carried out within the stipulated time limit, the MPE may carry out the plan on behalf of the licensee and at his risk and cost.<sup>188</sup> The MPE may request financial security from the licensee and or owner for the carrying out of the decommissioning plan upfront to enable it recover its costs easily if the need ever arises<sup>189</sup>. In addition any licensee and or owner who refuses to carry out the decommissioning plan as approved may be guilty of an offence and will be punishable by fines or imprisonment for up to 3 months or up to 2 years in particularly aggravating circumstances. Such persons may also be subject to more severe penalty under any other statutory provisions.<sup>190</sup>

The licensee and or owner are jointly and severally liable for any damage or inconvenience caused during the implementation of the approved decommissioning plan. Where the installation is to be left wholly or partly in place, the licensee and or owner are also jointly and severally liable for any damage or inconvenience caused or occurring in

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<sup>186</sup> Ibid at Section 45.

<sup>187</sup> For discussion on the requirements of OSPAR Decision 98/3 see paragraph 2.8 above.

<sup>188</sup> See Section 5-3 of the Petroleum Act 1996.

<sup>189</sup> Ibid at Section 10-7.

<sup>190</sup> Ibid at Section 10-17.

connection with the any part of such installation, unless otherwise decided by the MPE. The licensees and or the owners on one side and the State on the other may agree that future maintenance, responsibility and liability shall be taken over by the State based on an agreed financial compensation. In this case residual liability will pass on to the State, in perpetuity.<sup>191</sup>

The State has a right to take over the licensee's fixed facility when a licence expires, is surrendered or revoked, or when the use of such facility has been terminated permanently. Here the State will assume responsibility for effectuating the decommissioning plan and bear all liabilities, residual or otherwise, arising in connection with the installations.<sup>192</sup>

Under the Norwegian tax system petroleum activities are subject to two main taxes; the standard corporation tax and the special petroleum tax. Though the cost of decommissioning of offshore oil and gas installations and structures is to be paid entirely by the licensee it is allowable against these taxes. Where there has been an overall overpayment of taxes as a result of decommissioning costs, taking into account the previous taxes paid, the licensee is entitled to be refunded such overpayment. This may mean that the State still bears some of the burden of decommissioning.<sup>193</sup>

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<sup>191</sup> Ibid at Section 5.4.

<sup>192</sup> Ibid at Section 5-6.

<sup>193</sup> See Hewitt (footnote 15 above) at pg 177.

## **CHAPTER FOUR:**

### **4.1 Appraisal**

The results of the foregoing presentation are not very comforting. Nigeria, Norway, South Africa and the United Kingdom are all currently producing petroleum in the offshore areas constituting their continental shelves. They are all bound by similar international conventions which provide, however rudimentarily, for decommissioning of offshore installations, save for the OSPAR Convention to which Nigeria and South Africa are not parties. But while the regulatory regime for decommissioning of offshore installations is coherent, systematic and highly developed in Norway and the United Kingdom it is not so for the African countries. The regulation of offshore oil and gas installations' decommissioning activities in Nigeria and South Africa are at best uncoordinated and fragmentary.

The Nigerian Petroleum Regulations of 1969 made pursuant to the Petroleum Act of 1969 provides extensively for decommissioning of onshore installations and not offshore installations. The language of the Regulations in this regard places emphasis on plugging of boreholes and wells which are better suited to onshore operations. In offshore operations the size and weight of the installations, the marine environment and other users of the sea must be taken into consideration. The Oil and Gas Pipelines regulation of 1995 dealing with the decommissioning of pipelines also uses language that is better suited to onshore operations. Rehabilitating the surface of the area to a 'perfect condition' after removing the pipelines may be impossible to perform onshore much less in offshore areas. The Federal Environmental Protection Agency Act of 1988 contemplates the decommissioning of offshore installations but fails to state in no uncertain terms whether or not dumping of installations at sea is prohibited or will require the prior permission of the Minister of Environment. The power vested on the Federal Environmental Protection Agency by the Act to make regulations, inter alia, regarding the methods of removal of offshore installations is yet to be exercised.

The case of South Africa may be better than that of Nigeria. The Dumping at Sea Control Act No 73 of 1980 (as amended by Act No 73 of 1995) which implements the London Dumping Convention, provides a system wherein a special permit may be obtained authorising a licensee or owner to dispose of a disused installation at sea. This is an important part of decommissioning. The provisions in the Mineral and Petroleum Resources Development Act No.28 of 2002 and the Mineral and Petroleum Resources Development Regulations of 2004 for rehabilitation of the mine site, obtaining of a 'closure certificate' and the requirements of a 'closure plan' are not enough to cover the issues around the decommissioning of offshore oil and gas installations and structures.

As seen from the Norwegian and UK regimes developing a regulatory regime for decommissioning of offshore oil and gas installations and structures include legislating for the actual decommissioning operations, taking into consideration payment for these operations and the issue of liabilities either during or after the close of the operations.

In legislating for offshore decommissioning operations States, as responsible international citizens and as a protection from litigation, must respect the rights of other States in international waters and so take their interests into consideration. The Law of the Sea Convention of 1982 to which Nigeria and South Africa are parties has set minimum standards and interests which should be adopted and considered in the emplacement, operation and decommissioning of offshore installations. The provisions of the Continental Shelf Convention of 1958 have been superseded for these countries due to Article 311 of the LOSC and so the erstwhile controversy can no longer be an excuse for non-implementation. The interests of safety of navigation, fishing, protection of the marine environment and the rights and duties of other States in the waters above the continental shelf must be taken into consideration.<sup>194</sup> Luckily, the International Maritime Organisation has set the minimum international standards envisaged by the LOSC.<sup>195</sup> Though the general requirement here is that all disused installations are to be removed from site, installations weighing more than 4,000 tonnes and in more than water depths of

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<sup>194</sup> See Article 60 and 192-194 of the LOSC.

<sup>195</sup> See Paragraph 2.4 above.

75 meters may be partially removed or left in place under certain conditions. These give a wide discretion to States to determine the extent of removal of offshore installations and their disposal upon decommissioning. Nigeria and South Africa therefore have a wide berth in regulating the practice and procedures of decommissioning of offshore installations.

In the simplest form the removal of an installation usually involves five steps. It should commence with obtaining approvals and necessary permits (this process is usually burdensome but it should as much as practicable be open and simplified), second is the plugging of the well and thirdly the decommissioning proper (i.e., ridding the installation or platform of hydrocarbon), fourthly is removing the installation or platform (or parts thereof) and finally clearing and rehabilitation of the site.<sup>196</sup> Currently, Nigerian and South African law only cover some of these matters in a fragmentary and uncoordinated manner without much specificity.

Unlike the OSPAR Convention and its Decision 98/3 in the case of Norway and the UK the LOSC and the IMO rules give Nigeria and South Africa wider discretion in determining options for decommissioning of offshore installations. Consequently they may choose to implement a regime involving leaving the installation or structure in place, toppling it on site, removing it completely or partially depending on the exceptions to the LOSC and IMO rules. In choosing the best options such factors as weather conditions, size of installation or structure, type of construction, distance from shore and complexity of removal may become prominent.

Table 1 below contains an assessment of the advantages and disadvantages of the various options in the decommissioning of offshore oil and gas installations and structures.

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<sup>196</sup> See Ross Saxon 'Offshore lease abandonment and platform disposal, a status report' in article reprint of Spring 1996 Underwater Magazine on the internet at <http://www.underwater.com/archives/arch/uw.sp96.27.htm> pg 1 of 3 (last accessed on July 28 2004).

**Table 1: Assessment of Decommissioning Options**

Abandonment Options	Advantages	Disadvantages
<b>Leave-in-place</b>	<ul style="list-style-type: none"> <li>• no harm to marine life</li> <li>• immediate cost savings</li> <li>• provides recreational fishing and diving habitat</li> <li>• provides emergency safe havens</li> <li>• maintains status quo</li> <li>• structures remain visible</li> <li>• requires no research and development</li> <li>• provides reef habitat and habitat for migratory animals</li> </ul>	<ul style="list-style-type: none"> <li>• maintains unnatural habitat</li> <li>• maintenance costs escalates with age</li> <li>• requires protective coating above water</li> <li>• requires cathodic coating under water</li> <li>• requires navigation-aid lights and horns</li> <li>• remains susceptible to storm damage</li> <li>• conflicts with other users remain</li> <li>• unauthorised boarding</li> <li>• potential liabilities</li> <li>• negatively affects construction and or removal and has no recycling value</li> <li>• may lead to increased cost</li> </ul>
<b>Partial removal</b>	<ul style="list-style-type: none"> <li>• in comparison with total removal, less harm to marine life during removal and maintains some reef habitat</li> <li>• potentially cost effective</li> <li>• requires no maintenance</li> <li>• requires no site clearance</li> <li>• may provide recreational and diving habitat</li> </ul>	<ul style="list-style-type: none"> <li>• does not return habitat to natural state</li> <li>• eliminates habitat structure</li> <li>• must maintain buoys</li> <li>• useful only in water depths allowing sufficient clearance</li> <li>• potentially increases diver risk</li> <li>• decreases shrimping access and creates navigational hazards</li> </ul>
<b>Emplacement and Topple in place</b>	<ul style="list-style-type: none"> <li>• compared to total removal, less harm to marine life during removal and maintains some reef</li> </ul>	<ul style="list-style-type: none"> <li>• does not return habitat to natural state</li> <li>• eliminates habitat structure in</li> </ul>

	<p>habitat</p> <ul style="list-style-type: none"> <li>• cost effective compared with partial removal</li> <li>• requires no maintenance</li> <li>• requires no site clearance</li> <li>• may provide recreational fishing and diving habitat</li> </ul>	<p>upper range of water column</p> <ul style="list-style-type: none"> <li>• must maintain buoys</li> <li>• useful only in water depths allowing sufficient clearance</li> <li>• decreases shrimping access</li> <li>• creates navigational hazards</li> </ul>
<p><b>Complete Removal</b> (more than 5ft below seafloor)</p>	<ul style="list-style-type: none"> <li>• meets shrimper requirements</li> <li>• usually requires no changes in regulation or laws</li> <li>• poses no navigational hazards</li> <li>• eliminates residual liability and site insurance</li> </ul>	<ul style="list-style-type: none"> <li>• environmental impacts</li> <li>• eliminates or relocates reef habitats</li> <li>• fish killed from explosives</li> <li>• expensive to operators</li> <li>• requires site clearance and may require back fill</li> <li>• hazardous to divers</li> </ul>
<p><b>Complete Removal</b> (less than 5ft below seafloor)</p>	<ul style="list-style-type: none"> <li>• immediate cost savings</li> <li>• meets shrimper requirements</li> <li>• minimises problems from soil skin friction</li> <li>• encourages the use of non-explosive methods</li> <li>• poses no hazards to navigation</li> </ul>	<ul style="list-style-type: none"> <li>• explosives may still be necessary in some cases although advanced techniques using smaller charges could be used</li> <li>• site clearance required</li> <li>• environmental impacts</li> <li>• relocates or eliminates reef habitats</li> <li>• requires disposal</li> </ul>

Source<sup>197</sup>

A balance would have to be struck between the foregoing options, the country's international obligations, the interest of the country itself and that of the communities most likely to be affected by decommissioning operations and the interest of the oil company.

<sup>197</sup> Worika (footnote 126 above) at pg 202 compiled from data supplied by the UK Offshore Oil Operators Association in its 'Decommissioning UK Offshore Installations: The Right Balance' and A Pittard 'Field abandonment costs vary widely world-wide' Oil and Gas Journal 17 March 1997 at pg 8.

The issue of payment for the cost of decommissioning of offshore installations is crucial in several respects. It involves a considerable amount of money. It is a major consideration for prospective investors in determining the direction of their investment, if at all, in the country and by existing oil companies in most of their financial decisions. It is also a matter that has the potential of negatively affecting the income of the country. At the stage of decommissioning the oil company is no longer engaged in oil production and so has no income to meet the huge cost associated with it. Consequently planning in advance is imperative otherwise there may be situations where countries will be left to pay the cost of decommission the offshore oil and gas installations and structures in their continental shelves after the oil companies have left or are unable to meet the decommissioning costs. The cost of decommissioning these installations and structures should be identified and built into the operating costs of the installations or structures throughout their life-span. In this way the pain may not be too much at the appointed time.

In Norway and the UK the oil company pays the entire costs of decommissioning but gets some rebate through tax concessions. These countries therefore relieve the oil companies of bearing the crushing burden of decommissioning of disused offshore oil and gas installations and structures alone. They may also demand financial security for the cost of decommissioning. This is not the case in Nigeria and South Africa as decommissioning is not yet duly recognised as a cost factor in petroleum development activities<sup>198</sup> much less developing a system of tax allowances and demanding financial security for decommissioning costs. It is a fact that these countries may not be facing decommissioning activities in the next 25 years but it never hurts for plans to be made well in advance. In Nigeria the situation of oil companies in a production sharing contract arrangement with the Nigerian government is quite precarious. This is because at the stage of decommissioning there will be no production from which their cost will be deducted and yet they are under a liability to remove all the installations used in the production process.

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<sup>198</sup> See footnote 128 above.

The issue of liability for any injury or damage arising from or in connection with parts of the installations left behind is a matter that must be considered. Residual liability is founded on the British common law of negligence. In *Dee Conservancy Board & Others V. McConnell*<sup>199</sup> a ketch was sunk due to the negligence of the defendants. They were held liable at common law for the damage caused by the ketch's obstruction to navigation on the river and the blocking of the second plaintiff's wharf. They could not escape liability for that damage by abandoning the wreck.<sup>200</sup> As yet it is unclear if the residual liability principle has crystallized into a general principle of international law to be applied as between States. Only an allusion is made to it in the LOSC which requires appropriate publicity to be given to any part of the installation or structure left behind.<sup>201</sup> But under the IMO Guidelines, States are to ensure that legal title to any parts of the installation or structure not completely removed is unambiguous and that responsibility for their maintenance and the financial ability to assume liability for future damages are clearly established.<sup>202</sup> It should be noted however that the IMO Guidelines are as yet non-binding 'soft law' principles.

In any case the Norwegian and UK regimes are clear on residual liability. The oil company remains liable for any liability that may arise in connection with any parts of an installation left behind except those that have been taken over by the government. The Nigerian and South African laws are not clear on this point, although the fact that the British Common Law applies in these countries to some extent, may make the residual liability principle operable in its unsettled state.

## 4.2 Conclusion

The need to decommission offshore oil and gas installations and structures may be necessitated by several situations. It could be that the oilfield which it produces has reached the end of its productive life, or that it got burnt down and so no longer useful for

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<sup>199</sup> (1928) 2 K.B. 159.

<sup>200</sup> See also *Owners Of Ss Utopia V. Owners Of Ss Primula* (1893) AC 493 at 498, per Sir Francis Jenne, where he stated, *inter alia*, that '[T]he owners of a ship sunk whether by his default or not has not, if he abandons possession and control of her, any responsibility either to remove her or to protect other vessels coming into collision with her.'

<sup>201</sup> See the antecedent part of Article 60(3) of the LOSC.

<sup>202</sup> See and Paragraph 3.11 of the IMO Guidelines.

its designed purpose like the *Piper Alpha* on the UKCS. Whatever be the case several options exist for their decommissioning. The installations and structures may be completely dismantled and the parts removed to shore for disposal, or parts of them could be removed and the footings left in place. The installations and structures may be reused *in-situ* for other purposes like the conversion to artificial reefs as had been done in the Gulf of Mexico or for use as top security prisons or even floating hotels and casinos. Whichever option is chosen care must be taken so that international law is not breached and the interests of the littoral communities, who due to their proximity to these activities tend to suffer more if anything goes wrong, are considered.

At first glance the possibility of partial removal of these installations and structures brought about by the LOSC provisions appears to be a blessing since it, *prima facie*, means lesser costs. But after a consideration of other issues connected thereto, prominently the issue of residual liability it may be safer and more prudent to completely remove these installations and structures. It is safer to the pocket in the long run, preferable for navigational safety and a favorite of proponents of environmental protection. A careful combination of the two alternatives with a strong concern for the protection of the environment appears to be the better option and it seems this is the approach under the OSPAR Convention.

Clearly the advancement shown in the UK regime is as a result of their international obligations under the OSPAR Convention. Nigeria and South Africa are under no such strict obligations. The oceans around Nigeria and South Africa are not under as much pressure and threat as the Northeast Atlantic. The peoples of these countries are also not as environmentally active as those in the European countries with unrelenting environmental activist groups such as Greenpeace International.

The problems of African countries are still basic; food, clothing and shelter, and so the imperative to search for and produce petroleum to meet these needs of the people is paramount. The need to attract foreign investments into Africa today is a compelling fact and if the ragtag state of the law on decommissioning of offshore oil and gas installations

and structures will further this process then so be it. If these are the thought of regulators of the upstream petroleum countries in Nigeria and South Africa then we will not see changes in the status quo soon because from the earlier analysis in this work it can be seen that considerable reliance is placed on decisions of and supervision by government departments. It may be that incoherent laws leave a lot of room for manoeuvres and so may be of interest to unscrupulous businessmen and politicians alike, but it is clear that countries need coherent and coordinated laws to make positive progress.

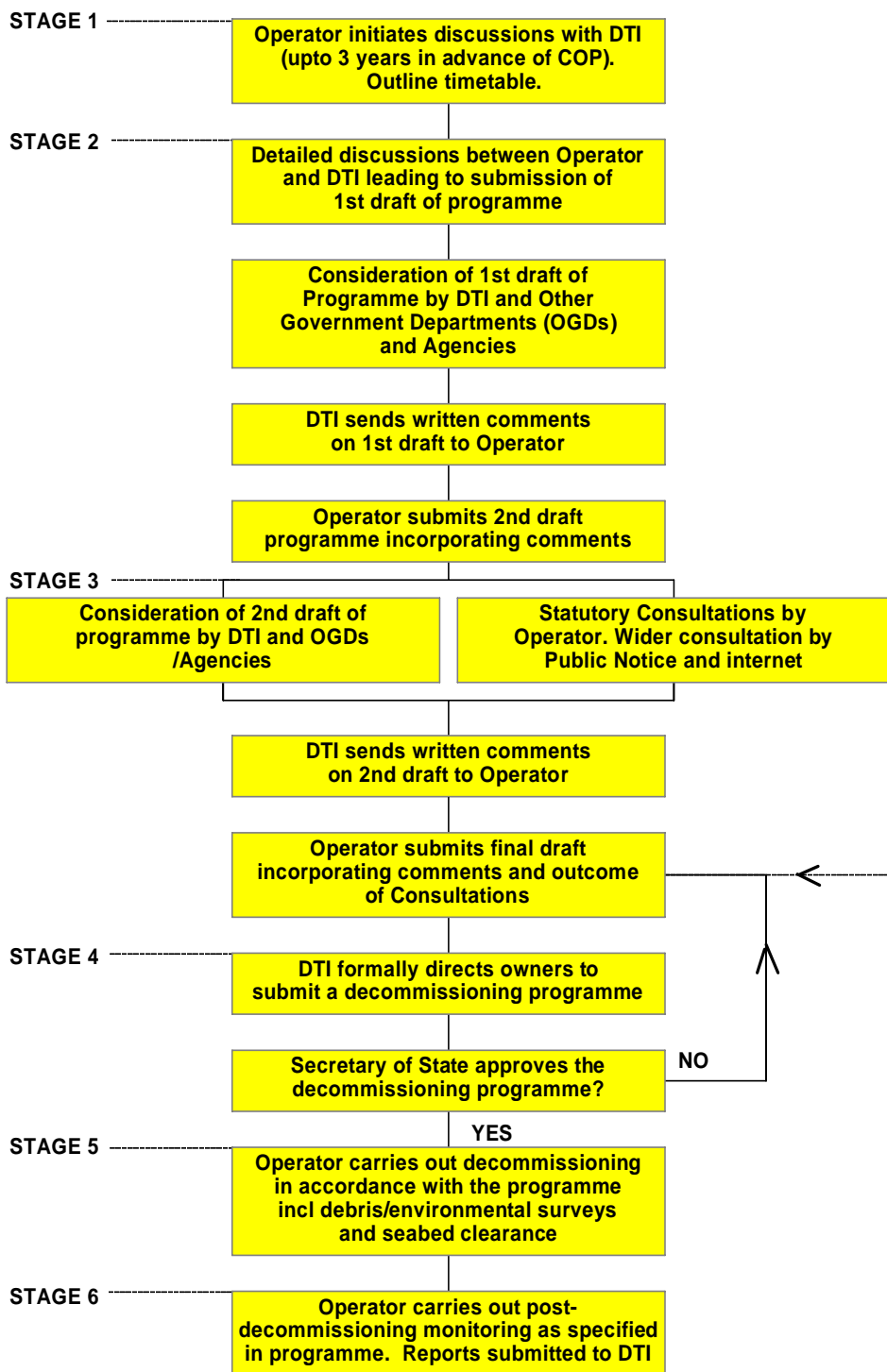
It has been reported that after the *Brent Spar* the supervisory authorities in Nigerian invited oil companies operating in the country to submit proposals for the disposal of all disused oil and gas installations and structures located onshore and in offshore areas, ostensibly to serve as a basis for developing an agreeable decommissioning procedure for the whole industry.<sup>203</sup> However from my discussions with certain officials and industry practitioners there is as yet no approved decommissioning procedure even after almost all the oil companies have submitted their proposals. Also from my said discussions it is apparent that the National Assembly of Nigeria have realised the urgent need to have a comprehensive law on decommissioning and is currently considering developing a regime along the lines of the UK system. I am further informed that immediate efforts are being taken to amend the current Joint Operating Agreements and Production Sharing Contracts which would oblige the Operator to provide funds annually, which would be kept in an escrow account, as security for abandonment costs.

Nigeria and South Africa must do something to improve the lack of coordination and precision in their regulation of decommissioning of disused offshore oil and gas installations and structures. The price for failure is too high as this may mean that future generations may be compelled to foot the bill for decommissioning when the time comes.

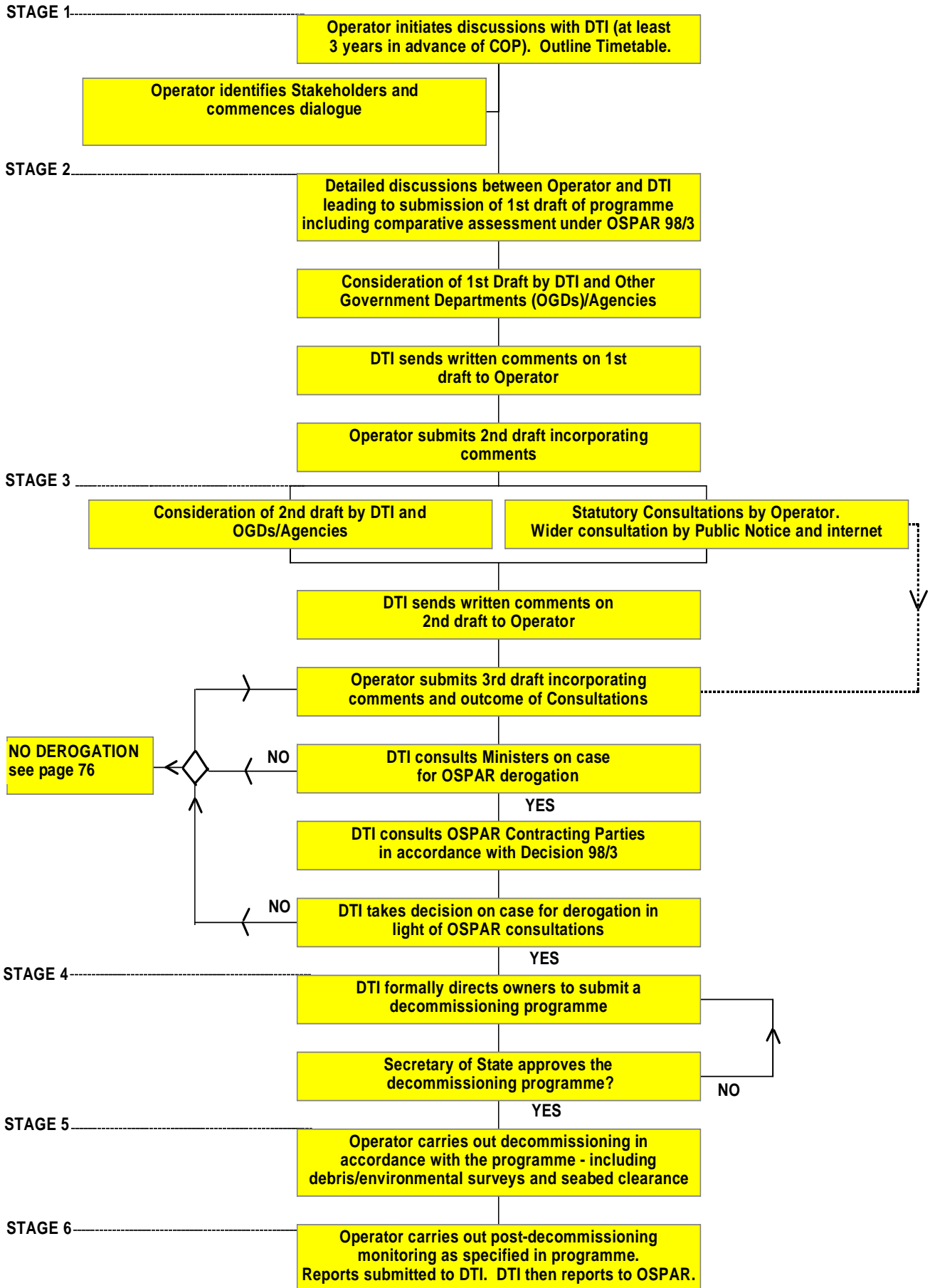
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<sup>203</sup> See Igiehon & Park (footnote 56 above) at pg 206.

## APPENDIX I



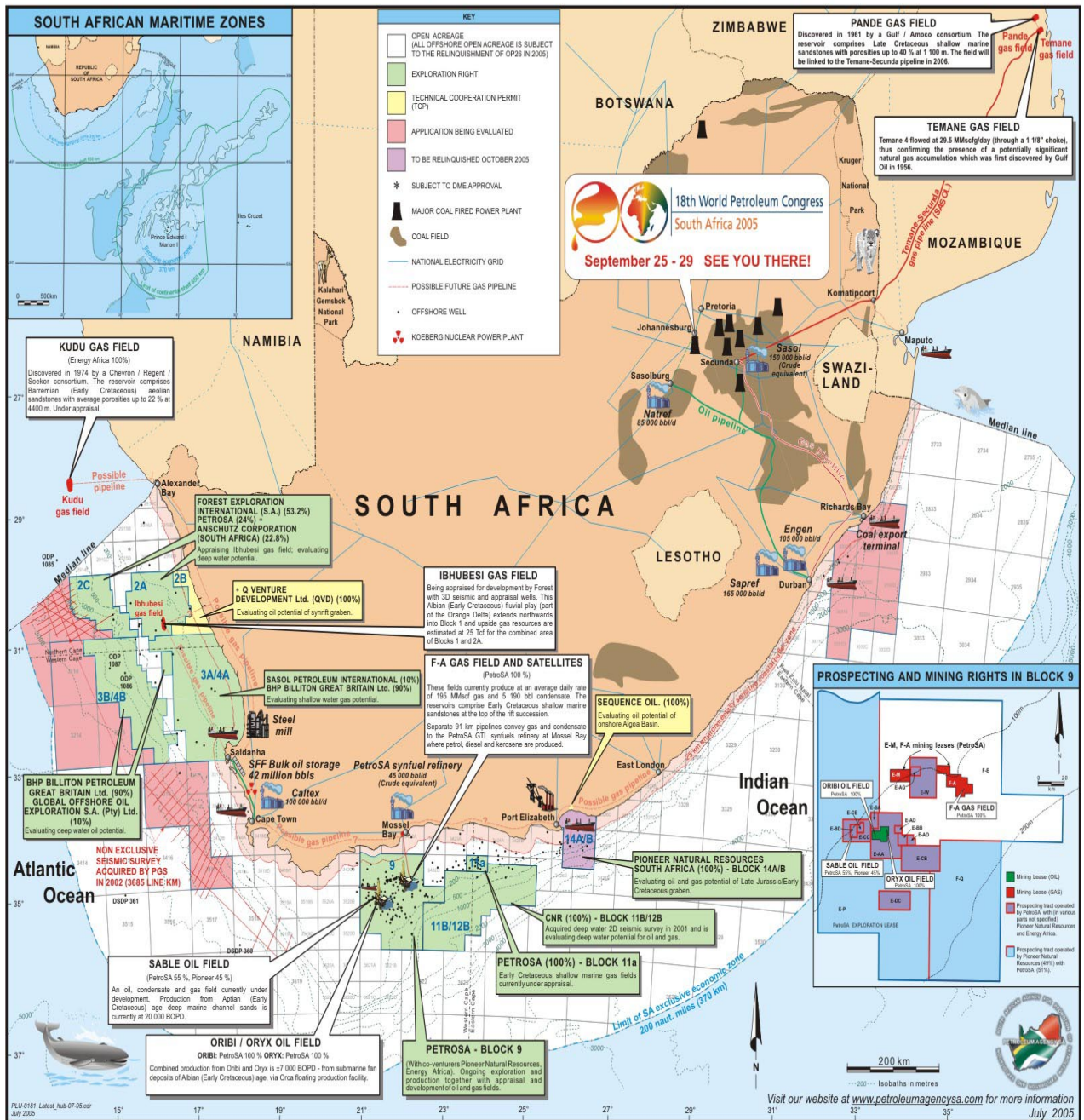
## APPENDIX II





# APPENDIX IV

## SOUTH AFRICA - PETROLEUM EXPLORATION ACTIVITIES



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