



Faculty of Science and Technology

MASTER'S THESIS

Study program/ Specialization: Offshore Technology / Industrial Asset Management	Spring semester, 2010. Open / [REDACTED]
Writer: Dennis Esefolo Inegbedion (Writer's signature)
Faculty supervisor: Tore Markeset External supervisor(s):	
Titel of thesis: <i>Industrial Services Perspective of the Oil and Gas Industry – A Case Study of the Nigerian National Petroleum Corporation</i>	
Credits (ECTS): 30	
Key words:	Pages: 71 + enclosure: Front Page Stavanger, 15 June, 2010 Date/year

I. Acknowledgement

I thank God Almighty who has given me the strength to go through this ‘time’ of my life. To my Parents, Macaulay Inegbedion and Christie Enivie Inegbedion (Blessed Memory) for making me know the importance of education.

I also thank my Supervisor, Prof. Tore Markeset who has made this work as precise and clear as it should be. Thank you for providing me with the assistance, guidance and the advice that has helped me through this last phase of my programme. To Jorge Trejo, who has spent most of his time reading this work and offering his advice, I also say thank you.

To my Brother-in-law, Idongesit Akpan, of the GLD in GHRD of the NNPC, to Obla Enenmoh, Asmau Buhari both employees of the Pipeline and Products Marketing Company, who have assisted me with the contributions from the Nigerian National Petroleum Corporation. Your time and efforts have really seen this work through.

To my Wife, Emerald and my Son, Tobias who have had to put up with my long absences during the two years I have spent at the University of Stavanger, getting a Master Degree, thank you for being there and for understanding too. To my siblings Ann, Clifford, Ephraim and Franca your immeasurable assistances one way or the other are highly appreciated.

Dennis Esefolo Inegbedion

Stavanger, June 2010

II. Table of Contents

I.	Acknowledgement	1
II.	Table of Contents	2
III.	Abbreviations	5
IV.	Abstract	8
1.0.	Introduction	9
1.1.	Problem formulation	10
1.2.	Main Objectives & Sub-Objectives	11
1.3.	Research methodology;	11
1.4.	Limitations	11
2.0.	Brief History of the NNPC and Its Organizational Structure.....	13
2.1.	Management Structure of the NNPC	15
3.0.	Mapping the Service Structure in NNPC	16
3.1.	National Petroleum Investment Management Services (NAPIMS)	16
3.2.	Nigerian Petroleum Development Company (NPDC)	19
3.3.	Nigerian Gas Company (NGC)	20
3.4.	The Products and Pipelines Marketing Company (PPMC).....	22
3.5.	Integrated Data Services Limited (IDSL).....	23
3.6.	National Engineering and Technical Company Limited (NETCO)	23
3.7.	Hydrocarbon Services Nigeria Limited (HYSON)	24
3.8.	The Refineries.....	24
3.9.	Duke Oil Services, United Kingdom	26
3.10.	Nigerian Liquefied Natural Gas limited (NLNG)	26
3.11.	The Group Learning Department –Under Group HR Division.....	30
3.12.	Nigerian Content Division.....	31
3.13.	Research and Development Division	32
4.0.	Literature Review	34
4.1.	Petroleum Industry Bill	34
4.2.	Overview of the MNOCs Activities in Nigeria	39
4.3.	Lease Administration.....	40
4.4.	Indigenization/Nationalization Argument	40
4.5.	The Displacement and Globalization Argument	41
4.6.	Political Economy Argument	42
4.7.	Nigerian Content in Perspective	43
4.8.	Directives & Regulations.....	44
4.9.	The Strategic Partnership Approach.....	44
4.10.	Definition of Strategic Partnership	44
4.11.	Considering the Irish Case for Partnership.....	44
4.12.	The Core Elements of European Partnerships	45
4.13.	What are the Key Lessons from European Partnerships	45
4.14.	Youth Restiveness in the Niger-Delta	46
5.0.	Discussions.....	47
5.1.	Industrial Service and the Nigerian National Petroleum Corporation.....	47
5.2.	What Do the Customers Want	48
5.3.	Optimization of Service with Respect to Value and Cost	49
5.4.	How the Unreliability of a Product can Compromise Service Value.....	50
5.5.	Type of Product Support and After Sales Service Provided for Customers.....	50

5.6.	Service Delivery Strategy of the NNPC	51
5.7.	Upstream.....	51
5.8.	Type of Awarding License	52
5.9.	New Legislation.....	52
5.10.	New Guidelines for Crude Oil Lifting and Surplus Products Sales.	53
5.11.	Downstream.....	53
5.12.	NNPC Mega Retail Outlets	53
5.13.	NNPC Partnership with Independent Marketers	54
5.14.	Privatization & Deregulating the Downstream Sector	54
5.15.	Service Innovation Process in the NNPC.....	56
5.16.	Challenges of the Service Innovation Process in the NNPC.....	56
5.17.	Performance Measurement and Management of the Corporation.....	57
6.0.	Summary and Concluding Remarks.....	59
6.1.	Present Situation of the NNPC	59
6.2.	The future of Industrial Service in the NNPC	59
7.0.	Suggestions for Further Research	61
	References.....	62
	Appendix I - Questionnaire.....	67
	Appendix II – Directives and Regulations – <i>From the Directives and Regulations Section of the NCD website</i>	69
	DIRECTIVES	69
	REGULATIONS	70

This Page is intentionally left blank

III. Abbreviations

AENR – Agip Energy and Natural Resources
AGO – Automotive Gas Oil
ALSCON – Aluminum Smelting Company of Nigeria
ATK – Aviation Turbine Kerosene
BGT – Bonny Gas Transport
BOPD – Barrel of Crude per Day
BPSD – Barrel per Stream Day
CDU – Crude Distillation Unit
CGG – Compagnie General de Geophysique
CNG – Compressed Natural Gas
CNL – Chevron Nigeria Limited
CSU – Corporate Service Units
DD – Directional Drilling
DPK – Dual Purpose Kerosene
DPR – Department of Petroleum Resources
EIA - Environmental Impact Assessment
ELP – Escravos–Lagos Pipeline
E&P - Exploration and Production
FCCU – Fluid Catalytic Cracking Unit
FID – Final Investment Decision
FPSO – Floating Production Storage and Offloading
GEDs – Group Executive Directors
GGMs – Group General Managers
GHRLD – Group Human Resources Learning Department
GLD – Group Learning Department
GMD – Group Managing Director
HPFO – High Pour Fuel Oil
HYSON – Hydrocarbon Services Nigeria
IDSL – Integrated Data Services Limited
IJV – International Joint Venture
IOCs – International Oil Companies
IPP – Independent Power Plants
ISO – International Standards Organization
ITT – Invitation to Tender
JOAs – Joint Venture Agreements
JV – Joint Venture
JVCs – Joint Venture Contracts
JVCCs – Joint Venture Contract Companies
JQS – Joint Qualification System
KHU – Kero Hydro-Treating Unit
KRPC – Kaduna Refining and Petrochemical Company
LAB - Linear Alkyl Benzene
LNG – Liquefied Natural Gas
LPG – Liquefied Petroleum Gas
LPFO – Low Pour Fuel Oil
LWD – Logging While Drilling
MAN – Manufacturers Association of Nigeria
MDs – Managing Directors
MIS – Management Information Systems
MMD – Materials Management Department

MMP – Ministry of Mines and Power
MNOCs – Multinational Oil Companies
MOU - Memorandum of Understanding
MPP – Master Procurement Plan
MT – Metric Tonnes
MTPA – Million Tonnes per Annum
MWD – Measurement While Drilling
NAPAMA – Nigerian Petroleum Assets Management Agency
NAOC – National Agip Oil Company
NAFCON – National Fertilizer Company of Nigeria
NAPCON – National Petroleum Company of Nigeria
NAPIMS - National Petroleum Investment Management Services
NDT – Non Destructive Testing
NEPA – National Electric Power Authority
NCD - National Content Division
NCCF – Nigerian Content Consultative Forum
NCSF – Nigerian Content Support Fund
NETCO - National Engineering and Technical Company
NGC – Nigerian Gas Company
NHU – Naphtha Hydro-Treating Unit
NIMIRA – Nigerian Midstream Regulatory Agency
NIPEX – Nigerian Petroleum Market Place
NLNG – Nigerian Liquefied Natural Gas
NNOC – Nigerian National Oil Company
NNPC – Nigerian National Petroleum Corporation
NPD – National Petroleum Directorate
NPI – National Petroleum Inspectorate
OCTG – Oil Country Tubular Goods
OJT – On the Job Training
OML – Oil Mining License
OPEC – Organization of Oil Producing and Exporting Countries
OPL – Oil Producing License
PACE - Positioning, Aligning, Creating and Enabling
PDMS – Plant Design Management System
PGS – Petroleum Geo-Physical Services ASA
PHRC – Port Harcourt Refining Company
PIB – Petroleum Industry Bill
PMS – Premium Motor Spirit
POS – Point of Sales
PML – Petroleum Mining Licenses
PPL – Petroleum Prospecting Licenses
PPMC – Pipeline Products and Marketing Company
PPRA – Petroleum Products Regulatory Authority
PPT – Petroleum Profit Tax
PSAs – Production Sharing Agreements
PSCs – Production Sharing Contracts
PTDF – Petroleum Technology Development Fund
R&D – Research and Development
SBUs – Subsidiaries
SCCs - Service Contract Companies
SPAs – Sales and Purchase Agreements

SPDC - Shell Petroleum Development Company

STASCO – Shell International Trading and Shipping Company

TAM – Turn around Maintenance

TQM – Total Quality Management

TSKJ – Technip, Saipem, Kellogg Brown & Root, and Japan Gas Corporation CONSORTIUM

UNGL – United Geophysical Company (Nigeria) Limited

VGO – Vacuum Gas Oil

WAPCo – West African Gas & Pipeline Company

WRPC - Warri Refinery and Petrochemical Company

IV. Abstract

Within the NNPC, its subsidiaries are charged with the main responsibility of providing services for the Corporation, they are also given the mandate to outsource services from specialized companies, most of who have been in the Oil and Gas Industry business long enough. From the upstream to the downstream businesses that the Corporation is involved in, some of these subsidiaries go into some sort of partnership in the form of joint venture agreements with some reputable international service companies operating in Nigeria. Notable to mention here is the Integrated Data Services Limited, commonly called IDSL. IDSL has been able to establish this sort of partnership through its joint venture with other specialist companies, and with this step they have been able to give the Corporation a competitive edge.

The IDSL has a working relationship with two companies in the area of seismic data acquisition, on land and swamp. These are the joint venture with United Geophysical Company (Nigeria) Limited, and Petroleum Geo-Services ASA (PGS). With United Geophysical Company (Nigeria) Limited, they achieved the following; acquired Sercel SN 309 for their operation on AGIP JOB, CREW 166 and acquired 4D Seismic Data Acquisition Equipments Sercel SN408 for SPDC JOB, CREW 165. This subsidiary is working very hard when it comes to providing services for the corporation, with an ultimate goal of becoming the centre for the provision of geophysical and petroleum engineering services in the world of the Oil and Gas Industry. It is the intention of this thesis work to identify with the NNPC and describe how the group through its respective subsidiaries provides services for the citizens of the Nigeria and its foreign customers from overseas.

1.0. Introduction

This research is expected to look into the NNPC organizational structure and how services are delivered within the Corporation. For over three decades after it was established, the organization has been involved with several Multinational Oil Companies (MNOCs) in the course of execution of its ultimate goals and objectives. Over this period of time, it had evolved into what it is today through laws being enacted by different government regimes attempting to respond to the trends globally making waves in the industry; agitation within the Niger Delta seeking for resource control; issues related to the environment a resolve by the Corporation wanting to transform itself into a world class profit-driven National Oil Company.

Two attempts were previously made to transform the corporation into a world class company, based on the perceived understanding of its initiator and what was obtainable at the time. Lukman, R. (2009, Reforms-NNPC Top Management Retreat) ‘it will be recalled that in 1988, the corporation in partnership with Arthur Andersen through Total Quality Management (TQM) initiative created the subsidiaries and begun the capitalization of the various business units; and then another initiative was again sought in 2004, when the Corporation in partnership with Accenture established Project PACE, this time the emphasis was on efficiency improvement across the corporation’. This documents the fact of the efforts being put in by the Corporation to change the face of its operation. In both cases the Corporation tried to apply different strategies to achieve the same result-improve on its service delivery to the Nigerian State.

PACE an acronym for Positioning, Aligning, Creating and Enabling, besides its main objective of evolving the NNPC into a high performing National Oil Company (NOC), was also to focus on two sub-objectives so as to sustain best practices in the Corporation; first was in asset and hydrocarbon management and then the requisite human capacity development. In other to fulfill the first sub-objective, there was a significant re-engineering process then in the NNPC, which lead to an improved MIS systems and IT transformation, establishment of the e-market system and the JQS; while the second objective was fulfilled by strengthening its management with the inflow of new recruits. Currently the group is undergoing several reforms both in the upstream and the downstream sectors which will see the NNPC becoming the world class company it wants to be, just like it is obtainable in countries like Norway, Russia, Venezuela, e.t.c.

There is presently before the National Assembly, the Petroleum Industry Bill (PIB) which when passed will change the way and manner in which the Oil and Gas Industry businesses and services are presently operated in the Country, this will cut across the upstream and downstream markets and/or processes. It will be different from what are being rendered today; it will bring about a new era regarding service delivery within the Corporation with respect to the different petroleum agreements already existing today or for future petroleum investments it intends to go into in the future. It is envisaged that this PIB when passed will increase the local content involvement in the industry and reduce the capital flight to the countries of the Multinational Oil Companies (MNOCs). This PIB is being reviewed presently at the National Assembly.

The literature review, is a look into several aspects of the industry as it is today in the country, as well as what had been the practice previously. This will be discussed with a view to drawing experiences from the European markets and how some currently being adopted regarding partnerships moves and joint ventures agreements which if properly implemented will also benefit the Nigerian Oil and Gas Industry. It will also look briefly into the PIB, as a way of reflecting on some of the issues intended to be corrected when the PIB is signed into law and its subsequent implementation. This will be followed by the activities of the MNOCs in the early periods leading up to this time, so as to show how the industry has evolved over the years with different law, practices and reforms. In chapter 4, several arguments are raised regarding the

reasons why the MNOCs are skeptical about transfer of technology; this no doubt will only be seen as their business strategy where there are no laws dictating otherwise in such regions or in the country where they operate. The position of the ‘middle men effect’ in the business and how they also contribute to the bottle-neck in the transfer of technology indigenously will also be discussed. In chapter 4, the importance of partnership between business, labor and executive is discussed and how this has been exploited in Europe, taking an example from the almost collapsed economy of the Irish State. All this and more in chapter 4 attempts to analyze the state of affairs in the industry as it is today and looks at the moves currently being attempted to change the status quo.

In chapter 5, the different inputs obtained from the interviews with (and the ‘filled out’ questionnaires by) the employees from the NNPC are documented. A total of 33 industrial services related questions have been drawn up, each of these questions is treated as a sub-topic and the respective responses from the different subsidiaries discussed. Here the different reforms in relation to service innovation will be discussed, and then the various steps and/or short-term responses that the Corporation puts in place to ensure quick and guaranteed services are made available to the public, will also be discussed. The idea of this thesis work is to look at industrial services in the Oil and gas Industry, using the NNPC as a case study. How its various activities are executed within the upstream and the downstream, how the policies and laws made by the government affects the operations of the Corporation, which in turn affects the services they render. It will first attempt to look at the Corporation’s organizational structure, and then the activities of the various units making up the Corporation and how the services performed by these units otherwise referred to as SBUs and CSUs, sum up to yield the goals and aspirations of the Corporation.

In order to do justice to this thesis work, a brief look at the history of the Corporation, and its associated subsidiaries will be done as well as a look at the management structure of the NNPC, how it oversees the businesses of the different subsidiaries that come under the NNPC. The service structure of the Corporation will be looked into, how its various subsidiaries interact and carry out the businesses in the upstream and the downstream sectors. The problems they encounter in the process of carrying out these services affect will also be highlighted. Of note here is to show why these services are done the way they have been done over the years and the changes that have been made in the process..

The service delivery strategy of the Corporation in ensuring that the final petroleum products get to the customers within and outside Nigeria will be described; this again will be considered for the upstream and the downstream sectors of the industry. Each of the subsidiaries has a role to play in the service delivery strategy of the NNPC, and these roles will come under the upstream or the downstream industry. Finally, the service innovation process embarked upon by the Corporation over the years will be clearly identified, looking at the different successes they had achieved over the years as well as the problems they had encountered in the process. The framework as highlighted here will form the objective of this thesis work and these will be listed below for clarity. This thesis can also serve as a tool for making comparison with the oil and gas industry in other countries and show how the legislation in a particular country can be a governing factor in industrial service.

1.1. Problem formulation

The extent of this master thesis work is meant take an in-depth look into the industrial services in the NNPC, the present state of affairs of the Oil and Gas Industry in Nigeria today. A focus on the Federal Government legislation, NNPC Management practices, the underlying reason for these practices; the overall effects of these legislation and management practices in the

Corporations' service delivery strategy in the upstream and the downstream Oil and Gas Industry business.

1.2. Main Objectives & Sub-Objectives

Oil production is dependent on the foreign technology, the same is applicable to the tools employed in the process of Exploration and Production, and they are manufactured and then transferred into the country by the MNOCs. There have been several initiatives by the Federal Government to develop these technologies, and to a large extent carry out the manufacturing in-house, not much has been achieved in this respect. The main objective of this study is to research the industrial service structure and practice within the Oil and Gas Industry today in Nigeria, with the NNPC as the main focal point. Since this is the government regulatory arm of the oil and gas activities in Nigeria.

So this thesis will be structured to show how the NNPC achieves exploration and production through the different SBUs and/or CSUs in partnership with the MNOCs, who in one way or the other enter into one form of service agreement with the NNPC within the upstream and the downstream of the oil and gas industry. In order to present this work in a systematic format the following sub-objectives will guide the proceedings of these master thesis work;

1. To study the service structure of the NNPC organization, with a view understanding how the different subsidiaries contribute to the overall goals and objectives of the Corporation.
2. To study and identify how the best practices and service delivery strategies of the Corporation, together with effects of Government legislations affects the Corporations' productivity.
3. To study the service innovation process devised by the Corporation over the years with a view to understanding its limitation over the years and identify the Corporations' plan for the (immediate) future.

1.3. Research methodology;

In carrying out this work, I have done the following;

1. Prepared a list of questions to be answered by experienced employees of the NNPC, other experienced employees of multinationals to obtain their views based on their position and the extent of their involvement in the oil and gas business activities.
2. Engaged in discussions with employees in the Oil and Gas Industry to know what they think, with respect to the kind of job they are involved in.
3. Used information available from the company's website which is readily available, as well as information from the company archives obtained from employees. This has formed the bulk of the source of the information in this work.
4. Obtained diverse information outside the NNPC website but related to the oil and gas business in Nigeria as well as other documentation done regarding the history of the oil and gas in Nigeria written by other individuals, news reports, e.t.c.

1.4. Limitations

In carrying out this work information sourcing was difficult, especially getting the information from the people working in the NNPC, many were either too busy to take time out for this sort of discussion or they were too busy to fill out the questionnaire that they were given to help them discuss about the nature of their work in the Corporation. Using the websites had not been easy either, since not all of the NNPC subsidiaries have complete details of what type of services they provide in their websites. Not all the questions prepared in the questionnaire were responded to by the respondents who even volunteered to complete them, the reason being that some were either not too familiar with some of the services provided by the SBUs that would warrant such responses in their SBUs, or their SBUs were not into such services.

A total of 33 questions were prepared in the questionnaire, and out of these not all were responded to. The majority of the questionnaires that came back answered complete were from departmental managers, this was only 15% of the questionnaires filled. This almost detailed feedback from the departmental managers could have been due to their long years of experience in the Corporation. With this, it is possible to conclude that the most documented responses came from those who had been employed with the SBUs and/or CSUs for a long time and as such they had various experiences sufficient to provide the responses they gave. With the help of some employees in the different subsidiaries, it has been possible to document the activities of those SBUs with incomplete online documentation regarding the services they provide for the Corporation and for the public in general. Details from this questionnaire have formed the discussion part- Chapter 5, of this thesis work. A sample of this questionnaire is included in Appendix I

2.0. Brief History of the NNPC and Its Organizational Structure

The Nigerian National Petroleum Corporation, commonly referred to as ‘NNPC’ is the regulatory body of all activities with respect to the Oil and Gas Industry in Nigeria. This is the State Oil Corporation through which the Federal Government of Nigeria regulates and participates in the Country’s Petroleum Industry. The public sector of the Nigerian Oil Industry started as a section within the Mines Division of the Ministry of Lagos Affairs in 1958. During this period, the responsibilities due to this unit were such that it could be managed by one person. Over the years the responsibilities of that unit increased, with the expansion of the Industry operations. In 1963, with oil becoming an important source of the National Income in the Country, the hydrocarbon section of the Mines Division was upgraded to a division within the Ministry of Mines and Power (MMP). As the development activities of oil resources increased, the Department of Petroleum Resources (DPR) which until now was a section of the MMP was further upgraded to a full-fledged ministry in 1975.

The Ministry of Petroleum Resources and Energy was transformed to the Ministry of Petroleum and Mineral Resources. With the establishment of the NNOC in 1971 and then the NNPC’s establishment in 1 April, 1977, the corporation became an integrated national oil company engaged in exploration, production, processing, transportation and marketing of crude oil, gas and their derivatives. The affairs of the NNPC were being managed by a board of directors, duly appointed by the President of the Federal Republic of Nigeria. The board was made up of an alternate Chairman, a Managing Director, and the permanent secretaries of the Federal Ministries of National Planning, Finance and three other members selected from the private sector. In accordance with sub section 4 (2) of the NNPC decree of 1977, a review of the structure of the Corporation was made after a year of its operation.

In October 1985, the corporation was also re-organized into six service units headed by coordinators. The aim of these changes was to encourage innovation, efficiency and effectiveness in the management of the operations of the Oil Industry. The six units were Oil and Gas, Refineries, Petrochemicals, Pipelines and Products, Marketing and Petroleum, and Inspectorate. The inspectorate, which had been an integral arm of the NNPC, was later transferred to the Ministry of Petroleum Resources. Today this inspectorate has been upgraded to become the DPR, and it is under the Ministry of Petroleum Resources. The Ministry is vested with regulatory functions, regulatory functions of the activities of NNPC; the Minister here reports directly to the President of the Federal Republic of Nigeria. In 1988 NNPC was reorganized with a commercial objective into the following (refer to listing below) strategic business units, covering the entire spectrum of oil industry operations: exploration and production, gas development, refining, distribution, petrochemicals, engineering, and commercial investments.

The NNPC has the complete control of all activities related to oil and gas exploration and/developments upstream and downstream, and is also vested with the responsibility of regulating and supervising the oil industry itself on behalf of the Nigerian Government. The subsidiary companies (SBUs) include;

1. National Petroleum Investment Management Services (NAPIMS).
2. Nigerian Petroleum Development Company (NPDC).
3. The Nigerian Gas Company (NGC).
4. The Products and Pipelines Marketing Company (PPMC).
5. Integrated Data Services Limited (IDSL).
6. National Engineering and Technical Company Limited (NETCO).
7. Hydrocarbon Services Nigeria Limited (HYSON).
8. Warri Refinery and Petrochemical Company Limited (WRPC).

9. Kaduna Refinery and Petrochemical Company Limited (KRPC).
10. Port Harcourt Refining Company Limited (PHRC).
11. Duke Oil Services, United Kingdom.

Each of these SBUs is in one way or the other charged with the responsibility of providing services for the Corporation. In addition to these SBUs there are also other divisions referred to as Corporate Service Units (CSUs). These too alongside the SBUs are also charged with the responsibility of providing services for the Corporation. The CSUs are listed below;

1. Research and Development Division.
2. Crude Oil marketing.
3. Renewable Energy.
4. Medical.
5. Engineering and Technical Division.
6. Nigerian Content Division.
7. Nigerian Liquefied Natural Gas (NLNG) and Power.
8. Commercials and Investments.
9. Finance and Account.
10. Corporate Audit.
11. Group Public Affairs Division.
12. Human Resource.
13. Pension and Gratuity.
14. NNPC Retail Limited.
15. Greenfield Export Refinery.
16. Information Technology.

Following today's trend in the business environment, when developing a business according to the related architecture. Salminen & Kalliokoski (2008) are of the opinion that "it is essential that information and communication systems are developed at the same time to support the business evolution, organizational culture and service competence. It is difficult to manage the evolutionary process without changing the organization and competence structure at the same time". Little wonder that CSUs like the information technology and other divisions required to support the overall architecture of the Corporation were established. This thesis will attempt to describe how some of these services are provided for, especially those aspects that are closely affecting the upstream and the downstream operations & businesses of the corporation. The NNPC practices virtually all the various petroleum agreements known to exist today.

At the inception of all its operations in the onshore and shallow waters, the NNPC operated the joint venture form of agreements with several Multinational Oil Companies (MNOCs). This had its problems, and as a result discouraged some of the investors, who were new into the Nigerian system and especially new into the business. When the NNPC was ready to go into Deep Offshore Exploration, they made sure that all the agreements and/or contracts entered into with the MNOCs were PSC/PSA type. In Nigeria, the Multinational Oil Companies (MNOCs) entering into the JV with the NNPC is always made up of a consortium of companies. In this case, one of the companies agrees to be the operator while the others will participate in the JV partnership by way of percentage investment costs they have agreed to contribute; this percentage contribution to the JV investment costs limits their voting rights as far as the arrangement is in force. The gas sub-sector was established in 2006; and it was expected to be a deciding factor in Nigeria's economic and industrialization strategy, as well as the principal growth area for the NNPC and expected to represent one of the bases for the internationalization of its operations.

The subsidiaries are supposed to depend on the revenues they generate. For example, the

revenues of the refinery SBUs is supposed to be from their refining fees paid by the NNPC; PPMC is expected to charge tariffs for the transportation of products through its pipeline network; NETCO is supposed to get its funds from whatever consultation and engineering work it does on behalf of the NNPC, its JV and other clients; the NPDC is expected to thrive as an upstream E&P outfit operating its own concessions; and the IDSL is expected to depend on the fees it charges and/or collects for the data services it provides to companies on a commercial basis. Unfortunately, this has not always been the case; it has never been 100% the case with all the subsidiaries. This is part of the reasons for the proposed transformation of the Corporation, most of which the PIB currently in front of the National Assembly is meant to correct.

2.1. Management Structure of the NNPC

Today, the management structure of the NNPC is such that it is headed by the Group Managing Director, otherwise referred to as the GMD, and six Group Executive Directors, also commonly referred to as GEDs and the Corporation's secretary, who also doubles as Corporation's legal adviser. Each of these GEDs is to supervise the various activities of the directorates. There are six directorates in the NNPC, namely; exploration and production, corporate services, refineries and petrochemicals, finance and accounts, commercial and investments, engineering and technology. Each of the SBUs and the CSUs listed above come under these six directorates. For the purpose of this document, the details will not be looked into. Rather how their activities come under these directorates will be described. The CSUs are headed by Group General Managers, also commonly referred to as GGMs, while the SBUs are headed by Managing Directors, also referred to as MDs.

Within these SBUs and CSUs, there are different departments; each of these department's are headed by managers, who are specialized in different backgrounds, Their skill distribution across these subsidiaries will depend on the business area of the SBU or the CSU. Each of these departments is expected to take care of an aspect of the operations of their respective CSUs or SBUs, providing services where required and their respective Department Managers report to either the MDs or the GGMs, The services provided are either in-house rendered or externally sourced from other specialized companies. In some other cases it could be by their joint venture agreements, these companies could be foreign companies, as in the case of Multinational Oil Companies (MNOCs), or Indigenous Oil Companies; or through contracts, as it is seen in service contracts. Generally, how these services are provided will always be based on a memorandum of understanding (MOU) between the NNPC and the other companies in the JV arrangement.

Each of the SBUs upon its inauguration is given a mandate; this mandate will only reflect the services they render, and this is expected to complement either the upstream or the downstream industry. The sort of services provided will range from engineering services, original equipment manufacturer support services, through to consulting services. The services provided externally are either managed directly by the CSUs or the SBUs. The extent of the activities that will be managed by the subsidiaries will depend on the area of its competence within the group.

3.0. Mapping the Service Structure in NNPC

The service structure of the Corporation is such that each of the aforementioned SBUs and/or CSUs is able to provide whatever services the employees and / or Corporation will require, in the same vein, they are able to provide whatever services is required by the public.. Understanding the structural dimensions on work systems is pre-requisite to carrying out an effective ergonomic design in an organization. Karwowski, (2006) puts forwards that ‘the structural dimension of work systems should be considered from 3 major socio-technical work system elements; technological subsystem, personnel subsystem and lastly the relevant external environment that permeates the organization and upon which its survival and success depends’, and each of these SBUs have been studied based on complexity, formalization and centralization.

In the setting up of these SBUs and the CSUs, it was planned in such a way that what they are not able to provide they outsource to specialized organizations that are in the business of providing these services. The structural dimension of work within the NNPC is seen to revolve around the 3 socio-technical work systems, within the Corporation more emphasis is put on the personnel subsystem. This thesis will look at each SBU structure and how it utilizes the socio-technical work systems to their advantage and then go on to describe how each of their service quota adds up to the overall service requirement of the NNPC, in providing services for the country.

3.1. National Petroleum Investment Management Services (NAPIMS)

Today there are four different types of petroleum arrangements operating in the Nigerian Oil and Gas Industry. These arrangements preserve the contractual framework within which the NNPC, on behalf of the Nigerian government and the MNOCs conduct Petroleum Operations in Nigeria. These petroleum arrangements include Joint Operating Agreement (JOA), Production Sharing Contract (PSC), Service Contract (SC), and Memorandum of Understanding (MOU). As the name of the company goes, NAPIMS is a petroleum investment management services company. Meaning the sort of services they provide to the Corporation is one of Petroleum Investment Management (PIM). They are responsible for the management of Federation investments in the different petroleum arrangements of the Oil & Gas Upstream Sector, especially the Joint Venture Contracts (JVCs), Production Sharing Contracts (PSCs) and Service Contract Companies (SCCs) as then go on to protect the nation’s strategic interests in the JVCs.

These four petroleum arrangements did not all come into force at the same time, for each type of discovery and oil prospecting, it was one type of petroleum arrangement after the other; this was due to the fact that NNPC wanted to be in tune with the trend of times with respect to exploration in the Oil and Gas industry; and by this made involvement by intending investors in the E&P business easy at every stage. The PSC was to replace the problem of funding characterized by the (old) JV as far as deep water exploration for oil and gas is concerned. Below is a listing of the different Petroleum Arrangements the NNPC is into with the MNOCs. The major strategic roles of NAPIMS in the Corporation making it an essential organ in the industry will also be described below.

3.1.1. Today the following JV arrangements are in place¹

The following list and describes the percentage sharing of the Joint Venture Arrangement currently in place today in Nigeria. It shows the number of companies together in the joint venture and also list the percentage commitment of each of these companies. In each of these JV

¹3.1.1,3.1.2 and 3.1.3 are as documented in NAPIMS Home Page[online]

arrangements the NNPC acts as a regulator.

1. NNPC/Shell/ELF/Agip equity ratio (55/30/10/5).
2. NNPC/Mobil equity ratio (60/40).
3. NNPC/Agip/Phillips equity ratio (60/20/20).
4. NNPC/ELF equity ratio (60/40).
5. NNPC/Chevron equity ratio (60/40).
6. NNPC/Pan Ocean equity ratio (60/40).

The table below clearly describes this sharing arrangement, to the left shows the number of JV Arrangements in place while to the right indicates the percentage ownership of each of these participating companies in the joint Venture.

Joint Venture Agreements of the NNPC with MNOCs.

No of JV Arrangements	NNPC	Shell	ELF	Agip	Mobil	Pan Ocean	Chevron	Phillips
1	55%	30%	10%	5%				
2	60%				40%			
3	60%			20%				20%
4	60%		40%					
5	60%						40%	
6	60%					40%		

Table 3.1.1

3.1.2. The following Service Contracts are in place¹

The following describes the service contracts currently in place and the type of licenses awarded to the company in Nigeria. In the service contracts the intending companies are either awarded the OML- Oil Mining Leases, or the OPL-Oil Prospecting Licenses. Now the Oil Prospecting License is the name given to license awarded during the period covering all of the activities from exploration and leading up to production; and this license subsists until all the 'cost oil' has been recovered by the investors. Once the cost oil has been fully recovered, the license is changed to Oil Mining License. The number following the OML- or OPL- simply indicates the number of the Oil block for which the OML or OPL is awarded, it can also be regarded as the nomenclature by which that particular Oil Block can be identified. Each of the companies shown below is referred to as Service Contract Companies, taking their name from the type of Petroleum Arrangement in place.

1. Addax Petroleum Development Company Limited (OMLs 123/124).
2. ESSO (OPL 209).
3. Addax Petroleum development Company Limited (OPLs 90/225).
4. Nigerian Agip Exploration (NAE) (OPLs 211/125).
5. Chevron (OPLs 250/213/247).
6. NAE/NPDC (OPL 244).
7. Conoco Phillips (OPLs 220).
8. Phillips (OPL 318).
9. ELF (OPLs 221/222).
10. PETROBRAS (OPL 324).
11. SNEPCO (OPLs 212/219/245/322).
12. Oranto (OPL 320).
13. Statoil (OPLs 217/218).

¹ 3.1.1,3.1.2 and 3.1.3 are as documented in NAPIMS Home Page[online]

14. Ocean Energy (OPLs 242/256).
15. ESSO (OPL 214).

3.1.3. Production Sharing Contracts¹

The following MNOCs today are into the PSC Petroleum Arrangement in Nigeria; Statoil, SNEPCO, ESSO, Elf, Nigerian Agip Exploration Limited, Addax, Conoco Phillips and Petrobras, Star Deep Water, Chevron, and Oranto Philips. Irrespective of the sort of Petroleum Arrangement intended by the MNOCs, NAPIMS is at the fore front to review all investment proposals from the MNOCs to ensure that all NNPC guidelines for investment are followed to the latter. With this in check the economic analysis of the country and run based proposed projects and more importantly, the aspirations of the government are achieved. As part of its mandates, by 2010 the NAPIMS is expected to increase the present reserves to 40 billion barrels and the production capacity to 4.5bopd from what it is today.

NIPEX was created in 2005, through NAPIMS by the NNPC to develop a market place where all pre-qualification can be advertised and all interested and qualified companies are able to bid for jobs related to exploration and production on an equal platform. To this they developed the Joint Qualification System (JQS) database, such that, supplier selection and contract approval processes are facilitated, for ease of procuring goods and services between the NNPC, IOCs, and the suppliers. This was expected to enhance transparency in the supply structure of contracting within the Oil and Gas Industry. All activities, of Oil magnates through the PMP are easily regulated and managed by NAPIMS and DPR. This PMP is an on-line bidding system, with various online possibilities, all related to pre-qualification of contracts related to the industry. Since it was created it has been used as a platform to execute various transactions.

The Joint Qualification System (JQS) is expected to provide specific database services, such that it will be easy to source and pre-qualify for services advertised by the ‘oil and gas majors’. All who are into the supply of oil and gas industry tools and services are invited to participate in the pre-qualification exercises in the JQS. As part of its success story, since its inception, it has 2,603 registered suppliers uploaded into the database. NAPIMS is also championing the implementation of the Nigerian Content in relation to Oil and Gas activities. Below is a list of the major strategic roles of NAPIMS, one that defines its role and important in the NNPC structure.

3.1.4. Major Strategic Roles of NAPIMS:

1. Establish a cost monitoring mechanism suitable for maximizing petroleum profit tax to guarantee a higher rate of return.
2. Ensure an increase in the production, whilst maintaining a constant reserve base.
3. Encourage the utilization and commercialization of gas.
4. Ensure that the capability of the country is exploited when it comes to engineering, construction, supplies and material utilization.
5. Ensure that gas flare-out comes to an end, by diversifying the revenue obtained from the crude oil. Though this is yet to be fully accomplished.
6. Encourage the interest of indigenous and foreign companies in frontier areas in terms of exploration.
7. Conducting the Groups’ operations in compliance with the environmental and safety standards in all JV/PSC upstream operations.

¹ 3.1.1,3.1.2 and 3.1.3 are as documented in NAPIMS Home Page[online]

8. NAPIMS is to manage the Federation hydrocarbon resources in an efficient and effective manner such that all operations carried out by the respective JV are in line with the JV arrangements as contained in their licenses. (Joint Operating Agreement, Production Sharing Contract and Service Contract). NAPIMS is at the moment engaged in seven Joint Operating Agreements, ten Productions Sharing Contracts, and one Service Contract.

3.2. Nigerian Petroleum Development Company (NPDC)

As part of the interest of the group to be directly involved in the exploration and production business of the oil and gas industry, the NPDC was setup. According to the NPDC Home page [online] ‘the NPDC commenced operations at the Abura field (OML65) by taking over operations from Mobil with a production of 980 BOPD in 1988. NPDC proposes to drill and complete additional wells, whose initial take off production rate is 4,000 BOPD. Another producing field is the Oredo field (OML 111) which commenced production in 1996 with a daily output of 5,000 BOPD. The current daily production is about 2,800 barrels. A flow station with installed capacity of 6,000 BOPD due for upgrade to 1, 0000 BOPD is located in Oredo, this will allow the production of the condensates reservoir already drilled complete in the field’ Also in production is a mini flow station installed recently, the Oziengbe south field.

Okono and Okpohu in OML 119 offshore are the two new producing wells of the NPDC. According to the NPDC Home page [online] ‘The Company produced its first oil in Okono in partnership with Agip Energy and Natural Resources (AENR) in December 2001, 10 months from starting operations. Lifting was first recorded on February 13, 2002. The field's production capacity per day is 20,000 barrels’. This is the first from a government production offshore. NPDC and AENR signed an MOU for service contract with joint operatorship in December 2002 for the development of Okono and Okpohu. With a sharing formula initially on the ratio 7:3 AENR to NPDC respectively; after its full recovery of its investment cost via ‘cost oil’, NPDC takes 60 percent while AENR takes 40 percent. This field discovered in 1983 with an initial reserve of 56million bbls is now 240million bbls, with an estimated daily production from the field at 50,000BOPD

3.2.1. OPL 244 Deep Water Blocks

NPDC and Nigeria Agip Exploration Ltd (NAE) recorded a success in their bid for OPL 244 deep water block in 2000, when they won the competitive bidding in open acreage and jointly signed a PSC agreement making them contractors to the NNPC.

3.2.2. NPDC'S Gas Utilization Project

With the NNPC’s interest in gas utilization, the NPDC entered the process tapping off gas from its presently producing fields making it possible for them to use gas produced in Oredo and Oziengbe South Fields. 2002 recorded the first for the NPDC in this area.

3.2.3. Current Business Direction

The NPDC presently operates 9 mining licenses, some of which are wholly done by them and some in a partnership with either SPDC or CNL. To maintain the goal of becoming Country’s owned exploration and production Company within the next few years, NPDC is pursuing an accelerated E & P of proven reserves which are underdeveloped throughout all of its blocks as well as commence activities in the deep offshore. The NPDC is pursuing it cause by seeking financial assistance and partnerships that will enable achieve this goal. Today its assets are both onshore and offshore.

3.2.4. Offshore Assets

The table below shows the assets of the NPDC with its joint venture partners, According to the NPDC Home page [online] “OML 119 is NPDC's concession on the continental shelf. Okono

and Okpohu fields are currently producing about 70,000 BOPD. NPDC equally has non-operated interest in nine deepwater acreages”;

Offshore Assets of the NNPC with its Joint Venture Partners²

Concession	NPDC Interest (%)	Operating Partner
OPL 214	15	ExxonMobil
OPL 223	10	Elf
OPL 242	25	Devon Energy
OPL 244	10	Agip
OPL 251	15	Ashbert/ NPDC
OPL 256	5	Devon Energy
OPL 318	20	ConocoPhillips
OPL 325	20	Ashbert/ NPDC
OPL 332	10	BG Nigeria

Table 3.2.4

3.2.5. Onshore Assets

The land assets of the NPDC include; NPDC Home page [online] ‘OML 65 (Abura field) and OML 111 (Oredo and Oziengbe) field. Production is approximately 12,000 BOPD from the fields’ In summary, NPDC provides the following services to the groups which are summarized under exploration, appraisal, and development, production and abandonment topics below;

1. Exploration: acquisition/processing/interpretation of seismic data; volumetric/risk, analysis, exploratory drilling and testing
2. Appraisal: Drilling, re-evaluation/survey/testing of appraisal wells; Development concept study, facilities & concept selection. Performance predictions and economic & portfolio planning/analysis
3. Development: Drill development wells, production optimization, well engineering, field surveillance, reservoir management and Field operations
4. Production: Drill infill wells, well Engineering, work over operations, Intervention & Stimulation, Production Optimization
5. Abandonment: Environmental Impact Assessment (EIA), Effluent Monitoring, Testing/Facilities demobilization, Remediation and Decommissioning.

3.3. Nigerian Gas Company (NGC)

The NGC was established in 1988, as one of the 11 subsidiaries of the Nigerian National Petroleum Corporation (NNPC). It is charged with the development of an efficient gas industry, that will fully serve Nigeria's energy and her industrial feedstock needs through an integrated gas pipeline network and also to export natural gas and its derivatives to the West African Sub-region. As part of its resolve to provide invaluable service to the Corporation and the public in general, NGC Home page [online] “the NGC is adding value to natural gas and making it an energy resource of first choice for the benefit of all stakeholders”. The company was established to efficiently gather, treat, transmit and market Nigeria’s natural gas and its by-products to major industrial and utility gas distribution companies in Nigeria and neighboring countries. Gas will be piped through pipelines and other distribution systems at a price that will yield an optimum

² Table 3.2.4: Showing the Offshore Assets of the NNPC with its Joint Venture Partners is obtained from the According to the NPDC Home page [online]

return on investment. This is already achieved in some parts of the Country, Lagos State and Delta State inclusive.

Today there are eight (8) gas supply systems being run by the NNPC namely: the Sapele gas supply systems, which supplies gas to NEPA Power Station at Ogorode, Sapele; the Aladja system, which supplies the Delta Steel Company Aladja and the Sapele-Oben-Ajaokuta Steel Company and this will form the back-bone of a future Northern Pipeline System; the Imo River-Aba system for gas supply to the International Glass industry Limited PZ, Aba Textile Mills and Aba Equitable Industry. Others are Obigbo North-Afam system, which caters for NEPA Power Station at Afam; the Alakiri to Onne Gas pipeline system for supply of gas to the National Fertilizer Company (NAFCON) for fertilizer production; the Alakiri-Afam-Ikot Abasi system for gas supply to the Aluminium Smelting Plant (ALSCON) and the Escravos-Lagos Pipeline (ELP), which supplies gas to NEPA's Egbin Power Plant near Lagos. Subsequent spur lines from the ELP supply the West African Portland Cement Plants at Sagamu and Ewekoro, PZ Industries at Ikorodu, City Gate in Ikeja Lagos, NEPA Delta IV at Ughelli, and Warri Refining and Petrochemical Company at Warri. There exists several gas projects today which the NGC is currently engaged in, all aimed at utilizing the vast gas reserves of the country as well as creating an avenue for creating investment opportunities for entrepreneurs. Below are some of the projects the NGC is involved in.

3.3.1. West African Gas Pipeline Company (WAPCo)

In the feasibility study carried out for this project, the design was such that it should export gas via pipeline and this was done complete to the West African Countries and Benin, Ghana and Togo, with agreements entered into by the respective Heads of Governments of the aforementioned countries. With its sponsorship from the NNPC (through NGC), Ghana National Petroleum Corporation, Chevron, Shell, Societe Beninoise du Gaz and Societe Togolais du Gaz, the project is still open to investors. WAPCo has a long term plan to extend this pipeline to Dakar (Senegal) ensuring the gas from Nigeria is made available to the whole region.

According to WAPCo's Home page [online] 'WAPCo's main mandate is to transport natural gas from Nigeria to customers in Benin, Togo and Ghana in a safe, responsible and reliable manner, at prices competitive with other fuel alternatives. As per the signed agreement between the Heads of Government, WAGPCo is owned by Chevron West African Gas Pipeline Ltd (36.7%); Nigerian National Petroleum Corporation (25%); Shell Overseas Holdings Limited (18%); and Takoradi Power Company Limited (16.3%), Societe Togolaise de Gaz (2%) and Societe BenGaz S.A. (2%)' The West African Gas Pipeline Authority based in Abuja is the regulatory body for WAGPCo. It is planned that this will be extended to other countries in the further end of Western Africa, and also reaching every part of these Countries.

3.3.2. Trans Nigeria Pipeline

There is a plan by the NGC plans to fully integrate all gas transmission systems in all over the country, Trans Nigeria Pipeline is the name given to this project, the resulting highly interconnected system would provide full flexibility and better management of adjustment of supply and demand throughout the country. There will be several investment options in the domestic market for investors who wish to go into partnership with the NGC depending on which aspect of the business they are interested, ranging from gas transmission, distribution and utilization, the NGC is open to partnership, as well as investors who are willing to go into specific projects such as gas-based Independent Power Plants (IPP) and such energy intensive sectors as cement, glass and paper industries. Smaller investors in the guise 'third parties' could also buy gas from NGC and be involved only at the utilization end of the business. The NGC signed agreements with "Unipetrol Plc / Gas link and Shell Nigeria Gas in this regard for gas

distribution to two major industrial areas in Lagos and Ogun States of Nigeria.

3.3.3. Compressed Natural Gas as Automotive Fuel

With the possibility of utilizing the Compressed Natural Gas (CNG) for transportation purposes as an alternative to vehicle fuel, and the increased desire by the Nigerian Government to export more petroleum products or crude in its raw form, the NNPC is considering other business directions with respect to gas utilization. Gas based fertilizer plants are to be going to be established in line with the government's policies for utilization and monetization of the products.

3.4. The Products and Pipelines Marketing Company (PPMC)

The reorganization of the NNPC in 1988 gave birth to the PPMC, they are charged with the responsibility of sourcing for petroleum products and distributing it across the country to consumers, at a uniform price. It is also the responsibility of the PPMC to ensure that these petroleum products are distributed across the local and international markets in a profitable and efficient manner, and to maintain an uninterrupted flow of refined products from the refineries to the users and/or consumers. They also pump crude oil from Jetties to Refineries across the country for processing. Just like every other subsidiary in the corporation, the PPMC is structured to operate under a Board of Directors headed by a non executive Chairman. The day to day affairs of the PPMC is split into the Managing Director and four(4) Executive directors, this five(5) and five other designations make up what is referred to as the Board in the PPMC, all affairs in the PPMC are managed by the board. The Chief Executive Officer, referred to as the Managing Director is the Chairman of the board and the four(4) Executive Directors are designated as follows; Executive Directors in charge of Operations, Commercials, Account and Services respectively. The Company Secretary/Legal Adviser is Secretary to the Board. Other board members hold the following designations; Manager Information Technology Department, the Head of Internal Audit, the Manager in charge of Materials Management – and all report to the Managing Director.

The directive by the NNPC in 1993, to all its SBUs that all its business and service units imbibe the Total Quality Management (TQM) framework, the PPMC today is run in conformity with the management culture of Total Quality Management (TQM). Hence the culture in PPMC today is that they provide products and services that exceed the desire and expectation of the customers, through the commitment of its management and staffs. It is also the culture of the PPMC to improve on the quality of their projects processes to ensure that every output from the PPMC meets the total quality requirement. The PPMC receives the crude oil from NAPIMS; it then transports these to the refineries for refining to the final products. In order to be able to meet the growing demand of the public, the PPMC have to import some refined products due to the fact that the refineries at some point in time are not able to refine the quantity of petroleum products required.

The locally refined products or the imported ones are received by the PPMC through the import jetties and through pipelines and distributed through the pipelines to strategically located depots, from where they are then transported to the retail outlets, this process is referred to as 'bridging'. Besides through Pipeline transport, there is also the provision for these products to be distributed to the respective PPMC depots across the country through the rail system. The company's main assignment is executed using a network of Petroleum Products Pipelines and Petroleum Products Storage Depots located strategically all over Nigeria. The products pipelines have a total length of about 4500 kilometers. The products are moved through the pipelines through pumping using mainline and booster pumps. A number of pump stations complement the work of the PPMC along the pipelines. The multi-products pipeline which operates on the batch mode is an

integrated system. It links all the depots and Refineries in the country as well as all products import receiving facilities; except the Calabar Depot.

The Company's storage depots are located in Port-Harcourt, Aba, Enugu, Makurdi, Yola, Warri, Benin, Ore, Ibadan, Mosimi, Lagos Satellite Depot in Ejigbo, Atlas Cove (Takwa Bay), Suleja, Minna, Kaduna, Kano, Gombe, Gussau, Jos, Maiduguri and Calabar These Depots are linked by pipelines of various diameters ranging between 6 and 16 inches. In between these depots are pump stations as well as booster stations. The products pumped are PMS, AGO and DPK. In addition, ATK is pumped from Mosimi to Ikeja Airport. Product pumping is done in batches of between 15,000 cm in such a manner as to avoid contamination. Delivery of the various product grades into storage depots is strictly monitored and controlled from control centers located in Mosimi, Warri, Kaduna, Gombe and Port-Harcourt. It is possible to forecast product arrival time in any particular depot once the product leaves the refinery tanks and Jetties.

3.5. Integrated Data Services Limited (IDSL)

Integrated data services limited (IDSL) was setup in the upstream sector of the oil and gas industry to offer services which include the following;

1. Seismic data acquisition and seismic data processing; In the area of seismic data acquisition, IDSL is in a joint venture with United Geophysical company (Nigeria) limited (UGNL) Onshore and Petroleum Geo-Services ASA. Offshore. While for seismic data processing services in Nigeria and then run the IDSL is in a joint venture with Compagnie General de Geophysique (CGG).
2. Reservoir engineering services; IDSL is in a joint venture agreement with a subsidiary of Schlumberger for the provision of engineering services.
3. Storage of the collected data and other management services.

3.6. National Engineering and Technical Company Limited (NETCO)

NETCO was established in 1989 to provide basic and/or detailed engineering, procurement, construction, supervision and project management services to the groups' interest. This they were to acquire through direct involvement in all aspects of the engineering in the oil and gas industry as well as interest that are not oil and gas related. NETCO's main objective was to fulfill the aim of having an engineering company that was wholly Nigerian, so as to enable Nigerians to be skilled in the art of engineering design, and provide the required quota for local content contribution and utilization requirement for Oil and Gas projects to be domiciled in Nigeria. Initially, NETCO was a joint venture between NNPC and American Betchel, Inc; this JV lasted only up till April 1997. NETCO started commercial operations in August 1990 and within the period (7 years) the JV lasted with American Betchel; they had worked on 50 engineering projects which include the Chevron's Onshore Gas Plant at Escravos Gas Project, Phase 1. Today NETCO is a wholly owned NNPC Subsidiary, still in the business of providing engineering services to the group.

Recently, precisely in 2006 and till date, in order to boost the number of Nigerian engineers with the speciality of engineering design, the Federal Government together with PTDF sponsored a training program for Nigerian either already employed or unemployed but who did not have the knowledge of any of the softwares used for engineering design; this was supervised by NETCO. More about this is discussed in the Nigerian Content Division is '**Section 3.12**' below. Its services however extend to the National economy and beyond. They have the vision of being the preferred company as far as engineering and its related services are concerned. The following make up all the services NETCO is involved with;

1. Feasibility Studies.
2. Conceptual Engineering Design.

3. Basic and Detailed Engineering.
4. Project Planning and Scheduling.
5. Cost Estimation and Cost Engineering.
6. Computerized Project Management.
7. Procurement of Engineering Equipment and Material.
8. Construction Management and Supervision.
9. Commissioning and Start-up.
10. Management of the Maintenance of Operating Plants.

3.7. Hydrocarbon Services Nigeria Limited (HYSON)³

First established in 1988 is also referred to as HYSON & Carlson Bermuda Limited, and was formerly a joint venture between NNPC/Chevron Nigeria Limited (CNL). This is now a joint venture between NNPC/Vitol. Carlson Bermuda Limited was initially set-up on the NNPC/Chevron 51%/49% Joint Venture to market NNPC petroleum products and crude oil to the West and Central Africa sub-regions while HYSON on the other hand was set-up on the NNPC/Chevron 60%/40% Joint Venture to provide logistic services to Carlson Bermuda Limited. On 01 January, 1994 Chevron Nigeria Limited, divested its interest to Vitol Energy Bermuda Limited.

The main activities of this subsidiary can be summarized below;

1. Trading of the Nigeria Crude Oil
2. Trading of excess products from the Nigerian refineries and the petrochemical plants.
3. Importation of various petroleum products to augment the short falls in the production from Nigerian refineries.
4. Importation of special crude oil grades used by the Nigerian refineries. For example, the basrah light required by the Kaduna Refinery.
5. They are also involved in the importation of LPG, due to impediments in the oil and gas industry; they diversified to the importation of LPG to augment the short falls experienced in the country due to the demand for LPG. From the 75,000MT used in the country in 2006, HYSON/Carlson Bermuda Limited was responsible for the importation of 35,000MT.

3.8. The Refineries

The refineries are Port Harcourt Refining Company Limited, Kaduna Refining and Petrochemical Company Limited and the Warri Refining and Petrochemical Company limited. They are located in three strategic geographical zones in the country and they are into the business of refining crude oil into petroleum finished products required for both industrial and domestic use and delivered to the PPMC for onward distribution to the Point of sale (POS) for the general public.

3.8.1. Warri Refining and Petrochemical Company

Warri Refining and Petrochemical Company Limited (WRPC) like the other subsidiaries were established in 1978 and had an initial capacity of 10,000 barrels per stream day of crude oil. After a debottlenecking in 1987, it rose to a capacity of 125,000 barrels per stream day. The petrochemical plants, propylene and carbon black were built in 1988 to optimize the refinery. The main business of WRPC is to process crude oil into Petroleum and Petrochemical products. Below are some of the products from the WRPC; Unstented LPG for aerosol purposes,

³ Information regarding the activities of HYSON is not documented in the website [14]. This has been documented based on discussions with employees for HYSON and the employees in NNPC Corporation having direct involvement with HYSON.

Straight-run Gasoline (SRG): (Solvent to Vegetable Oil Refiners). The Polypropylene plant with a production capacity of 35,000 metric tons/year produces Homopolymer which finds its use in the following industries; film industry, fibre (Flat, Yarn) etc, house-hold articles moulding (furniture, crates etc), industrial article moulding (Pipes, containers etc), mechanical/electrical appliances, automotive wares (Battery cases, pumpers, dash-board, etc). WRPC ensures that its operations are in every way compliant with current day environmental regulations; as a result it ensures that the process of separation taking place prior and during refining is environmentally friendly.

3.8.2. Port Harcourt Refining Company Limited (PHRC)

The PHRC is in the Petroleum business to provide efficient petroleum refining services primarily to the nation, at a minimum cost and the international market at competitive prices, while spearheading the development and production of specialized petroleum products. With a total capacity of 210000BPSD, the PHRC Limited is made up of two refineries; the old refinery commissioned in 1965 has a current nameplate capacity of 60,000 Barrels per Stream Day (BPSD) and the new refinery commissioned in 1989 has installed capacity of 150,000 BPSD. The PHRC has five (5) process areas – designated as Areas 1-5. As contained in the PHRC Section, NNPC Group Home Page. [online]⁴ ‘The new refinery is made up of Areas 1-4 while the old refinery is Area 5.

1. Area 1 is made up of the Crude Distillation Unit (CDU) and the Vacuum Distillation Unit (VDU).
2. Area 2 is made up of Naphtha Hydro treating unit (NHU), for hydrodesulphurization of Naphtha; the Catalytic Reforming Unit, for upgrading of Naphtha to reformat of higher Octane value; the Kero Hydro treating Unit (KHU), for treating Kerosene required for aviation use; the Continuous Catalyst Regeneration Unit, for activating and deactivating catalyst from the reformer; Hydrogen Purification, Fuel Gas Vaporizer; Sour Water Treatment and Caustic Treatment units.
3. Area 3 is made up of a Fluid Catalytic Cracking Unit (FCCU), for cracking of Vacuum Gas Oil (VGO) and heavy diesel oil, in order to obtain more valuable products, like PIVIS and LPG; Gas Concentration: Gas Treating and Mercaptan Oxidation units.
4. Area 4 has three process units namely Dimersol, Butane Isomerisation and Alkylation units. The units are designed to produce high octane gasoline blend component.
5. Area 5, which is the old refinery, is made up of the Crude Distillation Unit (CDU); the Platform Unit (CRU), the LPG Unit, as well as utilities section’.

The following products are produced at the PHRC; Liquefied Petroleum Gas (LPG), Premium Motor Spirit (PMS), Kerosene (aviation and domestic), Automotive Gas Oil (AGO - diesel), Low Pour Fuel Oil (LPFO) and High Pour Fuel Oil (HPFO). PHRC produces unleaded gasoline that meets international standard. With the four turbo generators, each with a capacity of 14MW of electricity per hour and four boilers, capable of generating 120 tons of steam per hour, the refinery is self sufficient in terms of power and utilities. The refinery is also capable of generating cooling/service water, plant/instrument air and nitrogen. Its Materials Management Department (MMD) overseas is responsible for the procurement and storage of the spare parts it needs for operation and maintenance. In addition, they have a fire fighting department that handles issues relating to fire hazard. It is within the mandate of the PHRC to provide Petroleum Products and services that will satisfy their customer’s requirements and expectations using modern technology at prices that guarantee customers' value.

⁴ Description of the Refinery Areas 1-5 is obtained complete from the PHRC section of the NNPC Group home page[online]

The structure of its business operations is comprised of two Directorates - the Operations and Services Directorates, both of which are comprised of the following departments Production, Maintenance, Production Programming and Quality Control, e.t.c. (PHRC Section, NNPC Group Home Page[online]). All their activities are coordinated by the Managing Director who is the Chief Executive. In this thesis work, it is not intended to go into the details of describing the type and/kinds of refining that is done in these refineries. This work is only limited to the services each of these subsidiaries provide to the corporation.

3.8.3. Kaduna Refining and Petrochemical Company

KRPC was commissioned in 1980 as NNPC Refinery Kaduna, while its petrochemical plant was commissioned in March 1988. The petrochemical plant and the refinery were combined as one entity when the NNPC embarked on a commercialization exercise, and KRPC was incorporated into a limited liability company in November 1988. Its initial installed capacity was 100,000 Barrels per Stream Day (BPSD). It was established to cater for the growing demand of petroleum products across the country; it was especially to provide the demand for petroleum products in the Northern parts of Nigeria. The Refinery was designed to process both Nigerian and imported crude oils into fuel and lube products. After the de- bottlenecking exercise in December 1985, its installed capacity was increased from 100,000BPSD to 110,000BPSD.

The Petrochemical Plant is a downstream part of the refinery plant and it gets its raw materials, including utility from the Refinery. Kaduna refinery produces premium motor spirit (petrol), dual purpose kerosene (kerosene), automotive gas oil (diesel) and low pour fuel oil (black oil). Kaduna Refining and Petrochemical Company (KRPC) was established to efficiently and profitable manner process crude oil into refined petroleum products and manufacture linear alkyl benzene (LAB), and tins and drums for domestic consumption and export. As part of its objectives, the KRPC management ensures that the existing plants capacities are optimized for production, reduce the plants' operating costs, develop new products from existing facilities for use in downstream industries and extend refining services to the West African sub-region. Like other subsidiaries of NNPC, KRPC is owned 100% by NNPC.

3.9. Duke Oil Services, United Kingdom

The Duke oil Company is into the business of crude oil marketing, it was set up mainly to trade the products of the Corporation in the international arena. Most of its operations are based outside the shores of Nigeria. Just like HYSON its objectives are focused on getting the crude oil to the Groups' international customers. In addition, to this subsidiary and the others previously talked about, NNPC is into a joint venture with several Multinational Oil Companies, for the purpose of developing its Gas potentials. For this purpose it set up the Nigerian Liquefied Natural Gas, the NLNG.

3.10. Nigerian Liquefied Natural Gas limited (NLNG)

The ownership of the NLNG is distributed as follows; NLNG Home page [online] "Nigerian National Petroleum Corporation (49%), Shell (25.6%), Total LNG Nigeria Ltd (15%) and Eni (10.4%). It was incorporated as a limited liability company on May 17, 1989, to harness Nigeria's vast natural gas resources and produce Liquefied Natural Gas (LNG) and Natural Gas Liquids (NGLs) for export". NLNG is responsible for making sales and purchase agreements (SPAs) with interested buyers, while the NLNG trains are wholly managed by Bonny Transport Terminal (BTT). In November 1995, the shareholders signed the final investment decision (FID) to build the Liquefied Natural Gas Plant located in Finima, Bonny Island, Rivers State, Nigeria; while in December 1995 a consortium of four companies going by the acronym TSKJ, T- Technip, S- Snamprogetti, K- M.V. Kellogg, or Kellogg Brown and Root (also commonly referred KBR) and J- Japan gas Corporation got the turn key contract to construct the plant and

residential areas for personnel.

In 1999 the first train for gas transport was ready and the plant was also ready, by year 2000 the second train was ready while the third train was ready in year 2002. Subsequently, the expansion was planned, to accommodate the growing number of customers it was to service across the world, and then the contracts to build trains 4, 5 & 6 was again awarded to TSKJ, this may have been due to their successfulness in the execution of trains 1, 2&3; even though there were other Consortiums that also bided for the execution of the contract for trains 4, 5&6. Train 1&2 was tagged as the ‘Base Projects’. Train 3 was referred to as the ‘Expansion Project’. Trains 4 & 5 was tagged the ‘NLNG plus’ and this was ready in November 2005 (for Train 4) and February 2006 (for Train 5). NLNG Six commonly referred to as ‘NLNGSix’ came on stream in December 2007. The Plant is built on 2.27sq.km of largely reclaimed land in Finima, Bonny Island. Today all six trains are in operation.

Today the plant is able to provide gas to several communities around the region with gas pipelines for transmission passing through over 110 communities. Plans for the construction of train 7 have reached advanced stage and it is expected to come on stream in 2012. Today with all six trains the Nigeria LNG Plant has an overall capacity of some 22 million tonnes per annum (MTPA) of LNG and 4 million tonnes per annum of LPG. It requires about 3.5 bscf/d feed gas intake at full production. It is expected that with train 7 the total production capacity will climb to over 30 MTPA LNG. This has made NLNG to achieve, within a short span, the status of a very reliable supplier of LNG in the Atlantic Basin, serving the European and North American markets.

In other to harness the gas reserves in the country, several gas gathering projects were stimulated and encouraged. In other for the NLNG to be able to receive this gas spread out in various locations across the country they had to go into Gas supply agreements with the various MNOCs executing the various gas projects. These MNOCs were already operating with the NNPC in production of this gas from the gas reservoirs. The NLNG also signed some Sales Purchase Agreements (SPAs) and Free on Board (FOBs) with several customers across the world. Below show the list of SPAs and FOBs already entered into by the NLNG. These buyers are spread across Europe, American and Turkey. With train 7 and the future expansion of the NLNG fleet in Nigeria it is believed that more SPAs and FOBs will be entered into. Besides the NLNG in Bonny Terminal, there is the proposed Brass NLNG that is billed to take off soon; it will be located in Bayelsa State, while the Olokola NLNG will be located in Ogun State Nigeria. Both of them during their construction stage and afterwards will increase the business and service activities in those parts of the country. Table 3.10 shows the various SPAs entered into by the NLNG

List of SPAs the NLNG is into for the Sale of Gas⁵

	OFF-TAKER	RECEIVING FACILITY
TRAINS 1 & 2	ENEL	Montoir de Bretagne.
	GAS NATURAL	Bilbao, Huelva, Cartagena, Barcelona, Sagunto.
	GALP GAS NATURAL (TRANSGAS)	Huelva, Sines, Cartagena.
	GAZ DE FRANCE	Montoir Terminal.
	BOTAS	Marmara Terminal.
TRAIN 3	GAS NATURAL	Huelva, Cartagena, Barcelona.
	GALP GAS NATURAL (TRANSGAS)	Sines, Huelva, Cartagena.
TRAINS 4 & 5	BG LNG	Lake Charles (Louisiana, USA).
	ENDESA	Barcelona, Huelva & Cartagena (Spain), Mugarodos, Sagunto.
	ENI	Sines (Portugal), Huelva (Spain).
	IBERDROLA	Huelva (Spain).
	SHELL	Lake Charles (Louisiana, USA), Altamira (Mexico), Covepoint (Maryland, USA), Barcelona, Bilbao, Cartagena, Huelva & Sagunto (Spain).
	TOTAL	Lake Charles (Louisiana, USA), Zeebrugge (Belgium), Barcelona, Bilbao, Cartagena, Huelva & Sagunto Spain) .
	GALP GAS NATURAL (TRANSGAS)	Huelva, Cartagena (Spain), Sines (Portugal).
Train 6	SHELL	Altamira (Mexico), Covepoint (Maryland, USA), Barcelona, Bilbao, Cartagena, Huelva & Sagunto(Spain),Lake Charles (Louisiana,USA).
	TOTAL	Lake Charles (Louisiana, USA), Zeebrugge (Belgium), Barcelona, Bilbao, Sagunto, Cartagena & Huelva (Spain), Altamira (Mexico).

Table 3.10

Below shows the various gas supply agreements the NLNG has entered up till today, as well as how it manages it shipping services.

3.10.1. NLNG Gas Supply Agreements

The NLNG has entered into gas supply agreements with various JVs operating in Nigeria. They help transport the gases produced in the various fields in the Niger Delta through Pipeline to the LNG at Bonny Island before they are eventually transported onto the ships and sold around the world. Shell Petroleum Development Company (SPDC) Joint Venture is currently supplying feed gas from several fields including Soku, BNAG, Awoba, Cawthorne Channel (on-shore), and Bonga, EA (off-shore) fields. In the future, the current supply will be supplemented by associated and non-associated gas from other gas fields such as Forcados Yokri and Odidi. There is a plan to also deploy the presently being built Gbaran/Ubie fields, which bring in additional volumes for the six-train complex, and to compensate for depletion of existing older fields.

⁵ NLNG Sales Purchase Agreement as detailed in table 3.10 has been obtained from NLNG Home Page [online]

The gas supply to plant in the Elf Joint Venture (EPNL) is obtained from their Onshore fields; Obite, Ibewa and Obagi. Presently, there is the expansion project OML58, News Red Orbit [online] "which will when designed cause an increased gas production capacity from 10.6 million cubic meters per day at present, to 15.6 million cubic meters per day". In addition, rich gas from its Offshore Amenam field is sent to NLNG, as well as the gas supply form Akpo fields which came on-stream in 2009. Nigeria Agip Oil Company (NAOC) Joint Venture supplies gas mainly from Mbede and Obiafu- Obrikom fields. Omoku, Ebegoro, Ogbogene and Ebocha are available as supplementary fields. NAOC will also deliver gas through supply nodes in Tuomo, Tebidaba and Ebocha / Irri fields. Train 6 required 670 MMscfd of additional feed gas. This will raise the total gas requirement of the company's Bonny Island natural gas liquefaction plant to 500MMscfd. The gas is transmitted to 6 Train complexes through 6 independent pipeline systems. GTS-1/2/4 and BNAG piping systems are on-shore, while GTS-3 and -5 are off- shore lines. Below is a table showing the different gas supply agreements entered into by the NLNG, to meet the demand of its SPAs and FOBs

NLNG Gas Supply Agreements⁶

PROJECT	TRAIN	JOINT VENTURE COMPANY	NNPC/EPNL*	NNPC/NAOC*/POCNL
		NNPC/SPDC*/NAOC/EPNL		
Base Project	1 & 2	53.33 %	23.33 %	23.33%
Expansion	3	69.5%		30.43%
NLNGPlus	4 & 5	53.33%	23.33%	23.33%
NLNGSix	6	53.85%	23.33%	23.33%
Consolidated	All	55.85%	24.43%	19.72%

* - Operator

Table 3.10.1

3.10.2. Shipping Services for the NLNG

Bonny transport terminal was set up to provide shipping services to NLNG. Besides the long term SPAs it has entered into with multinationals, it has also entered a free on board (FOB) master spot LNG sales and purchase agreement with some other interested buyers. Whenever there is an excess production of gas then these are sold off on the spot. The total numbers of ships currently being used for the NLNG operations are 24 in number. NLNG Home Page [online] "Shipping for the 'Base Projects started with 7 ships with cargo capacity (100%) of between 121,952 and 132, 588 cubic meters, for transporting the LNG to buyer all over Europe.

The first 6 ships are owned by the NLNG through its wholly owned subsidiary the Bonny Gas Transport Limited (BGT)" the 7th ship also known as LNG Delta is under charter from Shell Bermuda Overseas Limited. 11 new ships were built to take care of the transportation needs of trains 3, 4 & 5. While 6 was built for train 6. Anglo-Eastern Group AESM manages 4 out of the ships and Shell International Trading and Shipping Company Limited (STASCO) manages 9. Bergensen Worldwide Gas owns 4 ships and SBOL 1 ship. Out of the six ships to be used in Train 6, five of them are under charter agreements. Three ships are from Bergensen (built in

⁶ Showing NLNG Gas Supply Agreements has been obtained from NLNG Home Page [online]

Daewoo Shipyard, South Korea) and two from NYK (Nippon Yusen Kabushiki Kaisha) built in Samsung Shipyard, South Korea.

3.10.3. BGT Shipping Safety Record

All the fleets used for transportation of gas in the NLNG are operated using NLNG standards. This is done through:

1. Audit programme for the shipboard and management systems safety
2. Improving the HSE practices and standards all year round.
3. Reporting and/or analysis of accidents and incidents occurring during operations are carried out and also shared with other vessels.
4. The above is ongoing and results will continue to be monitored and evaluated. The NLNG safety policy covers the ships.

In order to be able to achieve its organizational set goals and objectives, the NNPC set up all these subsidiaries based on the business need of the organization. As stated earlier, the GEDs are responsible for overseeing all the activities of the different subsidiaries, the services they provide are monitored by these GEDs just to ensure that they are in line with organization set standards. In addition, to the SBUs the CSUs are also providing services for the corporation. This work will go on to identify some of the CSUs (due to incomplete information available on all the CSUs) and the nature of their services they provide for the corporation. Each of these CSUs come under the supervision of one of the GEDs identified above, it all depends on the nature of the service that falls under their mandate.

3.11. The Group Learning Department –Under Group HR Division

The Group Learning Department (GLD) is one of the departments under the Group HR division and is functionally responsible for Learning and Development across NNPC Group. All learning activities in GLD are driven by and aligned to the business priorities of the corporation. GLD operates an all inclusive policy of carrying along all stakeholders to enlist their buy-in and support. GLD's activities are checked and rechecked to ensure cost effective and timely delivery. This demands thorough planning and consultations within the leadership of the department. Currently the method of delivery includes the normal formal classroom setting, OJT, projects and cross-functional postings. It is believed that these will go a long way to justify the mission of GLD and help in the achievement of its vision within the Corporation.

In order to meet NNPC's business aspirations, which are primarily to improve operations in the upstream and downstream sectors of the Oil and Gas industry, there has been a major overhaul of NNPC's business processes. They first identify an employee's needs within the SBUs and/or CSUs he/she is employed, then they try to match this need/deficiency with existing courses, workshops, seminars or trainings relevant for the execution of the job being performed or expected to be carried out by an individual. The GLD then recommends these employees for the specific courses, workshops, seminars or trainings to their departmental heads, who in turn approves the employee for human capacity development; with the approval from the SBU/CSU departmental head, the GLD then goes on to look for the appropriate consultant organization that is able to provide these courses in-house or within consultant premises. They even go to the extent of securing a retainership of some consultant training companies, if a particular training is a pre-requisite standard for an employee career progression within the group. In return, having acquired this skill and/or knowledge from the training, courses, workshop the employee is better positioned to perform duties hitherto carried out by consultant companies.

The realities of this, is a gradual withdrawal of Government funding/subsidy, value re-orientation, a Corporation that is profit driven, where transparency and accountability becomes

the norm. GLD over the next 5 years plans to;

1. Reposition Learning and Development to meet the aggressive growth challenge for the NNPC.
2. Create a Learning Organization capable of exploiting business opportunities and competitive demands.
3. Develop a nimble and agile Learning Organization with an aggressive response time to learning needs – Learning at the speed of the business.
4. Take advantage of emerging Learning Technologies.
5. Run an efficient and cost effective Learning organization.
6. Develop deep skills in Learning and Development (GHRLD workforce).

According to Human Resource NNPC Group Home page [online] “In its efforts to re-structure Learning & Development in NNPC, the following Sections were created;

1. Technical Operations Learning
2. Non-Technical Learning.
3. Leadership Development Learning.
4. Skills and Competence Development.
5. Knowledge Management and Learning Systems.
6. Business and Logistics Support.
7. Library and Archives”.

The first three are engaged in core learning activities, while the last four provide supportive roles to the department.

3.12. Nigerian Content Division

The NCD was set-up by the NNPC for the sole purpose of championing the increase in Nigerian content involvement in Oil and gas Industry activities and to increase the awareness amongst the MNOCs for the need to make this a part of their operating plan if they wanted to continue investing in the country. The objectives of the local content policy are:

1. Promoting a legal framework that will guarantee active participation of local content without compromising established design standards.
2. Ensure that the framework will promote value in Nigeria, through the utilization of local raw materials and human resources.
3. Ensure the Nigerian content involvement is stable, measurable and sustained. The roadmap for Local Content initiative is as follows:
 - i. Increase the Nigerian Content to 70% by 2010 from what it is today.
 - ii. Develop a legal framework that will guarantee complete compliance of local content.
 - iii. Promote an increase in participation of Nigerian companies in EPCC activities and/or services.
 - iv. Plan a program for the immediate use of locally made materials.
 - v. Set-up guidelines for the increase of local staffing of the MNOCs.
 - vi. To establish strategic plans for transfer of technology.

The Nigeria content bill will make the DPR taker part in the processing procedures of expats into the country. It will also be expected for professional bodies in the country to make sure that such expats entering the country have the right qualifications for the job they are brought into the country to come and carry out. This will apply to all sectors of the business. Although the focus now is on upstream activities of the MNOCs, midstream activities (such as gas and power projects), and downstream activities (all refinery, petrochemicals and other related activities). This will ensure that all sectors of the economy are well reposition to benefit from the gains of the Oil and Gas Industry. Some of the achievements experienced in the sector are as follows:

1. A record of 2,500,000 engineering man hours in-house.

2. An increased fabrication tonnage of the construction work done in Nigeria.
3. Financial support in the training of several Nigerian engineers in the use of PDMS and HYSYS.

The NCCF was also established with eight sectorial working committees that will be responsible for following up all the activities related exploration and production. According to the NCD Home Page [online], ‘the NCCF comprises of representatives from the Oil and Gas Industry, Organized Private Sector, MAN, Bankers committee and Nigeria Society of Engineers’. Each body organizes a monthly meeting to obtain inputs from their respective members’ feedback for onward planning and implementation in the agenda for Nigerian Content.

All the bodies mentioned above interface with the indigenous companies and the IOCs to identify opportunities early enough, ensure that there is the right local capacity and where it is deficient it is able to identify a qualified competence outside and this will be part of their submissions in response to the ITTs (Invitation to Tender) In any case what is possible to be performed in-house is specified in the response to the ITT and what will be outsourced will also be specified before these jobs are issued to any contractor. It is worth mentioning here that as a result of the active monitoring of contract awards by the NNPC/NAPIMS, there was a significant achievement by Nigerian companies in the servicing of the oil and gas contracts, and this is still increasing today. Key features of the NCSF:

1. There is the sum of USD350million as a working capital for local suppliers at low interest rate.
2. NNPC and IOCs are willing to provide the sum of a USD100million that will be based on a framework with a legal guarantee to local suppliers.
3. Out of the initial USD350million, the sum of USD345million will be guaranteed from at least 10 the local banks.

3.13. Research and Development Division

In order to solve the operational and technical problems through the application of research of scientific results and the application of technology, the Research and development Division, commonly referred to as the R&D was set up. R&D has highly qualified personnel and experienced engineers. NNPC, R&D is in the process of getting the ISO 9001 and Environmental 14000 certification. This will make its practices recognized internationally. R&D division is involved in both the upstream and downstream of the oil and gas industry. Below is a description of the activities they are involved in within the industry.

3.13.1. Upstream Services

The services provided by the R&D to the group with respect to upstream include; R&D Section, NNPC Group Home page[online]: “Basin Analysis, Petroleum Source Rock Evaluation, Seismic Studies, Reservoir Simulation, Formation Evaluation, Reservoir Characterization, Bio-stratigraphic studies, conservational and special core analysis, Geochemical and Geophysical studies, PVT Analysis” The R&D is also involved in sourcing materials for drilling fluid locally, local sourcing of materials for drilling fluids, gravel pack and other inputs used in exploration and production of crude oil, formulation of drilling fluids from local raw materials, formation damage studies, enhanced oil recovery methods, e.t.c.

3.13.2. Downstream Services

The downstream activities the R&D is involved in for the Corporation include; R&D Section, NNPC Group Home page[online]: ‘troubleshooting of plants operational problems, improvements of existing processes and development of new ones, new products development in fuels, lubes, bitumen and petrochemicals, natural gas utilization for the production of solvents and other catalysts characterization, development of refractory from local raw materials,

environmental protection efforts, pre and post environmental impact analysis, industrial waste management, pollution abatement studies, bioremediation, remission problems and its control, toxicological studies, catalysis development, air monitoring of a given industrial area, petroleum products testing, total crude assay, analytical chemistry”.

To date the following projects have been executed by the R&D division of the NNPC; “analysis of cores for SPDC, Mobil and NAPIMS, Sedimentological & Biostratigraphic analyses of Osioka South-2. Well, Pollution abatement & remediation studies of PHRC, Crude Oil assay for KRPC, WRPC, PHRC, Mobil, DPR, etc, Biostratigraphic Services contract in OML 118 and OPL 219 Offshore of Niger Delta-5 Wells, Atlas Cove Environmental Impact Assessment, Integrated Basinal Studies for the Chad Basin. These so far look into the way services are provided within the corporate structure of the NNPC as far as the development of the upstream and the downstream oil and gas industry is concerned.

4.0. Literature Review

4.1. Petroleum Industry Bill

The PIB is a single document and perhaps one of the most comprehensive piece of legislation ever written for the Oil and Gas Industry in Nigeria. It is expected to set-out the basis from henceforth, as well as binding in a legal and regulatory manner all activities carried out in the Industry once it is passed into law. This legal literature currently before the Nigerian National Assembly is compliant with the current industry practices when compared to virtually all oil producing and exporting countries. Lukman (2009) states that ‘the PIB combines 16 different Nigerian petroleum laws in a single transparent and coherent document. This is the first time that such a large scale consolidation has happened anywhere in the world’. The PIB was the final submission from the Oil and Gas Sector Reform Implementation Committee that was set-up 20 April, 2000. When eventually passed into law, this document will prepare the way for the establishment of institutions that will checkmate the activities of the existing JVs between the NNPC and the MNOCs operating in Nigeria, turn the NNPC into a fully-capitalized and profitable National Oil Company, create institutions with new fiscal regimes that will improve the government take in the industry, remove all clauses and hence remove the confidentiality presently existing in the industry operations and then completely deregulate the downstream sector of the Oil and Gas Industry.

From the Petroleum Industry Draft Bill [2009] the following institutions are to be borne by the implementation of the PIB;

1. National Petroleum Directorate (NPD) will be expected to replace the Ministry of Petroleum Resources and would be solely devoted to policy formulation and securing maximum benefit of the industry for Nigeria.
2. National Petroleum Inspectorate (NPI) will be expected replace the Department of Petroleum Resources (DPR) and serve as technical regulator of the industry.
3. Petroleum Products Regulatory Authority (PPRA) will be expected serve as commercial regulator for the downstream sector.
4. Nigeria Petroleum Assets Management Agency (NAPAMA) will be expected replace NAPIMS and serve mainly as a cost regulator for the upstream sector managing the country’s investment in the industry by benchmarking to ensure that business is conducted in the most efficient manner.
5. Nigerian Midstream Regulatory Agency (NIMIRA) will be expected regulate midstream and gas operations.
6. National Petroleum Research Centre will be expected serve as a world class research institute with mini research centers dedicated to each of the production basins in Nigeria”.

There are lots of speculations that these new companies that will be created may not make much impact when compared to the ones existing today, since previous administrations of government have always come with one sort of reform or the other. It is expected that these reforms will bring about the incorporation of the present JVs, making them limited liability companies. Incorporating the existing JVs requires that each of them have a board that is responsible for managing issues relating to regulation of its cost to ensure that each entity is in itself competitive. Hence the question ‘why do we create NAPAMA’ pops up. Due to the fact that NAPAMA is expected to act as a regulator. The structure of these IJVs would naturally be expected to be like the NLNG structure, with the hope that the staffing procedures will not be political as it is seen today, where each of the subsidiaries is populated by the government nominees. If the staffing arrangement of these IJVs will also depend on the percentage sharing or contribution in the IJVs (considering the average of 55% NNPC share in existing JVs), then it would mean that naturally, more indigenous employees will be seen across the IJVs. It is worthy

to mention here that part of the major proposals of the PIB is to increase the NNPC's share in the various petroleum arrangements to 70% from what it is today. With this the Government need not influence the staffing; rather staffing policy will be based on the percentage interests in these IJVs.

With the PIB, it is expected that the new companies will be transformed from government agencies to a fully capitalized and integrated oil companies, ones that are profit-driven so as to create a competitive with industry that can be scaled with any other anywhere else in the world. In other to ensure that these new companies formed will have a new beginning, NNPC will cease to exist. Rather the National Petroleum Company of Nigeria (NPCN or NAPCON), will replace the present NNPC and its structure will be made up of all the existing subsidiaries and/or departments within the NNPC. It is envisaged that its functions will be purely commercial functions and governed by a 'board of directors' that will be headed by a non-executive chairman.

With this new arrangement the NNPC can only be an operator and not both (regulator and operator) as it is today; National Petroleum Assets Management Agency (NAPAMA) will be a merger of NAPIMS and COM Department. Since 1977, when it was first established, the talk making the rounds in the NNPC had always been one to do with reforms, it has always been developing and then achieving goals and objectives that will set the Corporation on the same level as other successful oil companies in other parts of the world that are recording successes in their operations. There has always been the talk for the practice in the Corporation to be like it is obtainable in other successful state-owned oil companies like Statoil of Norway, Petrobras of Brazil, PETRONAS of Malaysia, and PDVSA of Venezuela. Due to one form of problem or the other arising from poor formulated policies, the proposed reforms never achieved its aim and objectives. The extent of government interference in the Corporation could not be imagined or even estimated.

With the new face of the NNPC or better put NPCN it is expected that only dividends will be paid to the government at the end of the year as opposed to the monthly payments that is the practice today, this will then require the constitution to be amended to support this aspect of the PIB. Since the 1999 constitution did not envisage a dividend-paying NNPC. Section 162 of the Nigerian Constitution may have to be revised to include this. The present proposal in the PIB has attracted the most strident comments from the MNOCs operating in Nigeria, especially in the aspect that deals the new fiscal regime for the upstream sector of the industry. The Federal Government believes that gains from the industry is small compared to other countries, and intends to improve on its tax collection. The PIB removes the Petroleum Profit Tax (PPT) and replaces this with the Hydrocarbon Tax (a resource tax), this will have a direct relationship with the company's production and not profit, so if company's production is on the increase then the HPT will be high and low if otherwise. This new clause in the Bill will subject oil companies to the payment of the Companies' Income Tax (which they do not pay today); the size of the acreage will determine the royalties they pay; make sure that tax collected for oil exploration is different from the tax paid for gas exploration as well as develops a system that is totally responsive to fluctuations in oil prices so as to take advantage of the profits that will be accrued in the period.

With the new Bill, every company will be expected to pay the same rents, taxes and royalties irrespective of where they operate, upstream or downstream. This will no doubt remove the preferential treatment given to those who invest offshore, and create an opportunity for investors where there are economic potentials. With this several new partnerships could be formed to tap-off the huge oil and gas reserves in the country. The MNOCs and some indigenous companies

has cried out to oppose some of the proposals in the bill, while some have pledged their support for this same bill, others think some of the provisions in the bill could cause a slow growth and development of the industry. They think that most of the clauses in the bill are unclear and could even be misinterpreted thereby jeopardizing the whole investment plan in the country. They think these clauses could make the petroleum industry in the country unattractive, thereby reducing the capital investments by half in the next 10 years.

If the thoughts of those who think that the PIB is leading to an unattractive investment in the Oil and Gas Industry in Nigeria will hold true, then rents collected by the government will be on the decrease in the long-term and overall economic growth greatly affected. The government will have to strike a balance between taking a significantly higher stake from industry operations and ensuring the sustainable growth of the industry to ensure that it can take anything at all. The design of the PIB is expected to remove the confidentiality in industry operations, which presently exist today. The texts contained in all of contractual documents for securing the blocks will now be made open to the public, so as to remove the corruption that has bedeviled the country for a long time and make transactions in the Oil and Gas Industry in Nigeria one most opaque transactions in the whole world. The Government intends to fully resolve the issues relating to deregulating the downstream so that the PIB is able to have a framework for take-off.

The Nigerian Government believes that the energy security of the Nation will depend on the long term framework in place that will ensure that the Nation is capable of delivering petroleum products for a long time in a cost competitive manner. Usman, A.(1999) states that ‘however, leaving product prices to market forces in an economy such as ours which is almost entirely dependent on petroleum products will cause tremendous social dislocation’. With the decline in the petroleum product prices today, the energy security of the nation may not be able to be sustained with its present framework, since increase in the financial reserve of the Government had always been a function of the quantity and the price of crude sold. Increased local content should definitely be one area that should be exploited, so that there is a guarantee that revenues are also indirectly obtained from the industry. The PIB represents the biggest change in terms of reforms ever embarked upon by a government in the petroleum sector in forty years. According to the PIB there are four central objectives this will be able to achieve;

1. To make the collection of Government revenue easier.
2. To easily make profits when there is high increase in Oil prices.
3. To ensure more revenues is collected from huge developments in deep offshore region
4. To improve the employment situation and business environment through small Oil and gas fields investments.

It is expected that after this overhaul, it should then be easy to calculate what the government makes from the sale of crude by any Nigerian individual, without waiting for monthly and annual reports from the government as may be required. The main emphasis on this proposed revenue system by the Government is how it collects its royalties. With the new system the economic circumstances will decide the take made by the government. This will be achieved by two measurement systems, production and gas. That is one will be based on the daily production of the oil or gas field. The other scale will be based on present oil or gas price. It is also expected that the royalties will differ in the four zones across the country for sourcing petroleum products; onshore, shallow offshore, deep offshore and inland basins. So if there are high prices as observed in 2008, Nigeria reaps huge benefits from the sale of petroleum products

As earlier stated every contractor company will be expected to pay corporate income tax, without exceptions. The Petroleum Profits Tax would now be in two parts; Corporate Income Tax and the Nigerian Hydrocarbon Tax (NHT). The latter cannot be subtracted for the former; each will

be a separate tax and will apply appropriately. Simplification of the NHT will make tax audit easier. Nigeria did not expect the inherent disadvantages when it opted to enter into PSC type of petroleum arrangement in 1993 especially for deep water blocks licensing system. From an international perspective, all deals done in 1993 for the PSC licensing were bad and unfavorable deals for Nigeria. Royalties were 0% to the Nigerian treasury. There was a generous tax credit given to the prospecting MNOCs, as far as the MNOCs were concerned it was a Tax holiday, this completely wiped out any taxes that would have been accrued by the Federal Government. The take by the Federal Government on previous petroleum arrangements are considered low when this is compared to what is received by other producing and exporting nations.

Therefore, the Nigerian Government collects much less from these arrangements when this is compared to its partners in the JVs, and also comparing this to other petroleum exporting nations, Nigeria is taking so much less and hence making huge losses in its Oil and Gas deals. Successful implementation of these reforms in the industry could see the end of an era- project execution. With full implementation of the Nigerian content law and the increase in the local content involvement in oil and gas deals awarded in the country, there would be a subsequent increase in the country's gross domestic product which has seen its growth rate at maximum at 7.1% within the last 7 years. Today the growth rate is at 3.8%. For deep water operations, the PIB provides that the increased royalties and a new tax framework. This Bill is expected to create a strong basis for renegotiation of the existing and/or unfavorable contracts, to ensure that a fair deal is given to the host nation (Nigeria). This share can be seen as considerable when compared to other important oil exporting nations.

For there to be a considerable increase in employment and business sectors, small oil and gas field development should be encouraged. With this indigenous firms can become petroleum industry investors too, especially since there are other smaller Oil and Gas Firms from other parts of the world that are able to invest in Nigeria. The PIB will be expected to encourage these firms through low royalties and taxes. With this the problem of unemployment can also be reduced greatly, since indigenous firms can provide employment opportunities alongside the MNOCs. Besides the improving the fiscal conditions by way of proper revenue collection, the Government also intends to improve on its acreage management.

In the old arrangement, several companies are made to occupy acreage that is not allocated to them, except that these blocks for which they have been given licenses border around these acres; some of which are entirely gas fields. Previously, no consideration was given to acreage management. As a result there were several untapped gas fields bounded by oil fields. In this new arrangement these acreage will have to be released to the government who will then allocate it to intending gas investors, so long as the operator of a particular field does not have the license to explore for both oil and gas. As it is today, there is no access to acreage for gas exploration by new investors, this harms petroleum investment activity. As contained in the PIB, petroleum companies will be required to return acreage which is currently contained in their existing Oil Prospecting Licenses (OPL) and Oil Mining Leases (OML) that is not under exploration for gas. It is hoped that 30% of the acreage bordered by oil fields will have to be released to the Government so as to enable intending gas investors to take over. We could then have a situation where two licenses will be awarded in the same location for exploration and production, one for gas and the other for oil.

NNPC today is 100% owned by the Nigerian Government. Though the new NNPC will still be wholly government organization, but with autonomy, to be able to operate itself as a company set-up to make profits. Any organization that does not have one of its mandates to include 'profit generation' is socially irresponsible. Taxes will then be paid by the NNPC just as other MNOCs

operating in Nigeria do today. Restructuring itself in this manner will no doubt be a huge challenge for the NNPC. Shortage of funds acts as a bottle-neck to the development of gas fields located in shallow and deep water. To ensure that the new company formed by this reform is able to cope in the industry, it will participate just like the existing MNOCs when it comes to financing projects. They will have to source for funds.

As previously stated, there is the provision for transforming the existing Joint Ventures (JVs) between the MNOCs and the NNPC into Incorporated Joint Ventures (IJVs) and these will be registered as limited liability companies under the laws of Nigeria. The ownership and staffing structure of the respective IJVs would mirror the present holding of parties in the existing JVs. This would mean that each IJV would be responsible for sourcing for funds for executing its operations. The idea would be to turn these IJVs to a purely commercial company. The number of shares will reflect the current interest in the joint ventures. The new incorporated joint ventures will pay for new projects from their cash flow and through borrowing. Lack of funds occasionally experienced in field development and expansion will come to an end. It is believed that this will promote the interest of the Nigerian Content. No project will be approved if a comprehensive local content plan is missing or incomplete. According to NCD Home page [online], the Nigerian Content Plan is expected to include obligations on the part of the investor with respect to:

1. Acquiring local goods and services.
2. Preparation of the guidelines that will assist local companies.
3. Creation of employment for Nigerian citizens.
4. Identification of training, education and their requirements
5. Support research and development in the industry.
6. Regular reporting and verification of the Nigerian Content Plan throughout the various stages of project execution and completion.

One important resource for Nigeria's future is natural gas. Considering the enormous gas reserve in the country today, it is expected that the consumption will be at the same rate as it is produced, but that is not the case. There is still large volumes of gas flaring in the country today, new power plants being constructed have no access to natural gas. Few gas based industries are in place today, in the PIB, it strictly provides that the domestic gas distribution should be a priority, so as to ensure that the citizens are benefiting from the natural resources at minimum cost. The bill contains a recommendation that compels the development of the gas master plan.

To ensure that investment in the gas industry is encouraged, royalties and hydrocarbon taxes here a low. Just like it was experienced in the PSC regimes when investors were offered 'tax holidays' under the Corporate Income Tax, the low royalties and hydrocarbon taxes will be used to encourage the construction and installation of gas processing plants and gas pipelines. All these provisions form a coherent and attractive framework for new and additional investment to create the midstream infrastructure required. Also considered in the PIB, Oil Prospecting Licenses (OPLs) and Oil Mining Leases (OMLs) will be renamed, Petroleum Prospecting Licenses (PPLs) and Petroleum Mining Leases (PMLs) respectively and they can only be granted / issued by the Minister through a 'truly competitive' bid process which would be open and accessible to all qualified companies. Further to this, the PIB separates oil and gas licenses and leases. Therefore, with a PPL or PML the license holder can only carry out activities related to exploration and production of oil or gas and not both. Therefore with the PIB we could see a situation where there are two license holders to one single block. One will be carrying out activities related to Oil E&P while the other will be carrying out activities related to gas E&P.

4.2. Overview of the MNOCs Activities in Nigeria

The exploration activities of Oil in Nigeria began with a German Company, the German Bitumen Corporation in 1908 in the Araromi area of Ondo State. This was the first attempt to search for hydrocarbons in Nigeria, although this did not yield any success, its operations were terminated during the outbreak of the first world in 1914. The next major effort was seen when the Anglo Dutch consortium of Shell D'Arcy known today as Shell Petroleum development Company (SPDC), was made in 1937 and this was after they had obtained the sole concession rights covering the whole territory in Nigeria; Shell D'Arcy's operations were again terminated by the outbreak of the second world war and as a result operations were not to resume until 1947. After many years of search and an investment of over NGN 30 million, in 1956 a commercial discovery of petroleum was recorded at Oloibiri in the Niger Delta. Production and export of Oil started in 1958, from Oloibiri field in the present Rivers State at 5100 barrels per day.

The sole concession of Shell D'Arcy was reviewed in 1959, and then exclusive exploration rights were also granted to other companies of other nationalities, in line with the policy of increasing the pace of exploration activities in Nigeria, while at the same time ensuring that the country was not too dependent on one company or nation when it came to oil exploration and production. It is these companies that are referred today as the MNOCs. With the success of Shell in Nigeria Oil Business, and with the review of the concessionary rights to explore for oil in Nigeria other Multinational Oil Companies were encouraged to participate in the E & P business in Nigeria; in 1961 Mobil, Gulf, Agip, Statrap (now Elf), Tenneco and Amoseas (now Texaco/Chevron), joined in the exploration for oil in both onshore and offshore. The next discovery was made by Gulf on the Okan field of former Bendel State in 1964. Since then the discoveries made are numerous and by the different MNOCs as a result there was an increased participation of not just the Oil majors but also service companies from these countries where the MNOCs come from

With the discoveries of these other companies and the Nigerian Government was happy to open its doors to other companies willing to invest in the business. All the Nigerian Government was interested in was just to collect the royalties and other dues from these MNOCs as well as regulating the laws which allowed them to operate. This could be expected since at the time the technology for the exploration and production business was completely alien to the Nigerian People. With the growing awareness of the Nigerian people, the Nigerian Government made a move like other industrialized nations, for example Mexico, Venezuela, e.t.c. who are also into the business of oil exploration and production, not just to collect royalties but to also be involved in the business of exploration and production. As a result all the activities of the MNOCs in the countries were reviewed. It is worthy to note that before it was reviewed, all the services required by these MNOCs were provided for by companies and/or agencies from the respective countries of the MNOCs; from the main technology used in the exploration and production to the catering services required by the staffs of these MNOCs who were on the field, all these were sourced internationally and then imported into the country.

Part of the effects of the Nigerian Civil war in 1970, was making oil to be predominant and strategic in the economy of Nigeria; aware of its production capabilities and the need to be more involved in the activities of the Oil and Gas Exploration business, Nigeria joined the Organization of Oil Exporting Countries (OPEC) in 1971 as the eleventh member. In the same year, the NNOC was established by decree 18 of 1971. The NNOC was charged with responsibilities for upstream and downstream activities in the industry. There was a Ministry of Petroleum resources operating concurrently with NNOC. Its functions were mainly regulatory and did not involve any participation. However, in 1977 the NNOC and the Ministry of Petroleum Resources were merged to form the NNPC by decree 33 of 1977. The functions of

NNPC necessarily combined the commercial objectives of the NNOC, namely, exploration, production, transportation, refining, processing, marketing and research, including the regulatory functions of the former Ministry of Petroleum Resources.

4.3. Lease Administration

In Nigeria today, the PSC arrangement is being used to operate the deepwater blocks and inland basins. The PSC trends in Nigeria since the first entrant in 1973 have been encouraging. In 1991, witnessed the first PSC agreement in Nigeria Deepwater, with an allocation of over 6,000km acreage, since then the PSC acreage has increased to over 50,000.00 square kilometers as at 2003. These contract areas indeed hold the key to the realization of government's desire of increasing the nation's current oil reserves of 30 billion in 2003 and 40 billion barrels by the year 2010. Competitive bidding is used in the award of the licenses for deepwater blocks on a continuous exercise.

Operations in the deepwater blocks in Nigeria are governed by the PSC and other relevant laws in Nigeria. The fiscal regime is robust and flexible for attractive investment. Presently, in Nigeria deepwater environment, Government signed into Law, the provisions of the 1993 PSC through the Deep Offshore and Inland Basins Production Sharing Contracts Act No 9 of 1999 and as amended to authenticate its legality and applicability to lease administration in Nigeria. The Department of Petroleum Resources has the sole authority to monitor and regulate activities of the Nigerian Oil and Gas Industry. They are in charge of watching all companies licensed to carry out any petroleum activity in the country making sure they comply with all the clauses contained in the terms and regulations contained in their licenses.

It also monitors the industry's operations to make sure that the nation's goals and aspirations are met, and ensures that these operating companies are carrying out their operations industry's standard and best practices. It takes into account records and data of the industry's operations and notifies the Government all they need to know regarding the activities and occurrences in the petroleum industry. The Department over the years has helped to create a conducive business environment for investors in this sector hence the tremendous continuous growth.

4.4. Indigenization/Nationalization Argument

According to Turner (1982), 'foreign contractors are well established, experienced and familiar. They may be owned in part or in full by the Oil Company or may be based in its country of incorporation'. With this strong description of the MNOCs by Turner, one can imagine the mindset when they insist on using their own foreign suppliers, and claiming they have the required capacity development for their business. With lack of laws in place making them do otherwise, there is no motivating, compelling or incentive factor that encourages the establishment of local contracting capacity or to patronize those contractors that exist, except in very peripheral areas such as grounds maintenance, transport, food supply or minor civil engineering. Importation of these services into the country has always been the case; Saipem for example, with its New Operational Base at the Rumuolumeni area of Port Harcourt, is the home of several expatriates (largely Italians) till today, ranging from the top manager that takes care of affairs in the offices to the cook, that prepares traditional Italian meals for the Italians being accommodated there at the New Operational Base.

Saipem constructed a housing unit inside this base, to house all its Italian employees; with this they remove the need to patronize the local landlords or hotels. Though this is the norm with other MNOCs, except for a few that patronize the local landlords. You have a situation where the transfer of oil technology for much of the actual operation does not occur without government intervention. Technology connected with the exploration and production phase is not, however, monopolized and unobtainable. Anez, (1975) 'the Government Oil authorities of some OPEC

member states have successfully separated the various aspects of the technology package and indigenized the capacity to obtain, use and generate various aspects of technology used in the extractive phases of the industry; the case of Algeria is instructive'. Today, Algeria seems to have a control of their industry. Sonatrach, the Algerian State Oil Corporation set up in 1963, had established partnerships with nine oil field service firms since 1966. The terms setting up these partnerships were to ensure that these MNOCs were able to recoup all their investments in 15 years during which the technology had to be completely transferred to the indigenes.

By first nationalizing the technical structure serving the oil industry, Algeria was able to acquire 100 per cent ownership of the exploration and production companies by 1974 and achieve almost total control of operations. According to Anez, (1975) & Nore, (1980); 'dependence on foreign sources of essential exploration and production technology was reduced or eliminated. Sonatrach developed the capacity to hire foreign contractors to do specialist jobs'. There were no laws in place that would enable these technology to be transferred to the Nigerians, after several consultations by the government and other interest groups in the country, and reports by committees set up by the government, they have been able to come up with laws that will make it mandatory for the MNOCs to effect swift technology transfer to the Indigenes. There is also expected to be a defined succession period for the specialist jobs currently being held by the expats from respective countries of the MNOCs operating in the country today. After this succession period, Nigerians should understand in detail these specialist jobs and be able to act in that capacity.

To address the situation, the Federal government set up the Nigerian Content Department within the NNPC, and with this set a target for indigenization within the oil and gas industry to 70% by 2010 from what it is today. In addition, presidential directives have been issued with the aim of domesticating a significant portion of economic derivatives from the oil and gas industry. To deliver on these directives and targets, the Nigerian National Petroleum Corporation (NNPC) has put in place a comprehensive Nigerian Content development strategy currently being rolled out. This is expected to be passed into law in 2010. This will be one of the frameworks for the PIB to take-off.

4.5. The Displacement and Globalization Argument

Foreign oil company management resists the transfer of technology for use in the processing of crude and gas into petroleum products as part of its efforts to avoid their displacement in the upstream and downstream areas. If an oil exporting government establishes an export refinery, not only does the oil companies lose a portion of their crude supply (since these have to refined in the country) and get displaced in the refining industry, but their international product markets may be penetrated and taken over by the 'newcomer' state oil company. This can be understood, since part of their products is being refined, there could be a shortage at the international markets, thereby leaving their customers to the mercy of the newcomers. This threat to market control is especially serious, since state oil corporations have access to crude at no more than the set production, and therefore can afford to engage in price competition.

Consequently, oil companies do all they can to avoid the venture in the downstream operation. A major means of doing this is to create obstacles to the transfer of technology required in the processing of crude oil. In 1973, the period of huge shortage of crude oil, there was an exchange of technology between the major players in the industry. The MNOCs resisted the acquisition of oil technology expertise by nationals, as part of wider company imperative to retain control of their operations. The coordination, flexibility, size and organization of huge multinationals depend very much on the communication between management at various levels. Communication usually occurs most readily among those who share a common cultural background. Reliability and loyalty are further ensured by common class and status affiliation, as

well as long years of corporate training and service.

While the foreign oil companies do train low and medium level technical assistants, administrators and some engineers, they limit the career development of local oil men to some extent, given local consciousness and political demands. A few showcase indigenes move in the top echelons as window dressing, while the oil companies deliberately avoid and resist the transfer of technical know-how. Expatriates strive to remain in charge of key functions and in those jobs positions that are essential to the actual work carried out in the production of the oil from the oil blocks. Expatriates usually do the supervision of contractors and the maintenance of equipment, when the oil companies have a choice. Foreign oil companies have accommodated nationalist sentiments by recruiting and training nationals for management positions. According to Turner, 1980 ‘the majors, in particular the European firms, British Petroleum and Shell, do such to minimize their losses by adapting to, foreseeing and guiding social and political change, while simultaneously encouraging commitment by an indigenous stratum to the institutions and values of capitalism’. This could explain the position of the MD in SPDC Nigeria, presently being occupied by a Nigerian and this has been like this for almost 8 years now.

4.6. Political Economy Argument

Turner (1980) argues that ‘if the government can bring about transfer of technology and know-how, how one can explain the absence of considerable progress in the acquisition of oil technology in many oil exporting developing countries’. The struggle between the middle class which is a product of colonialism and technocracy is being further championed by the military dictatorship. This had been the case in Nigeria Oil and Gas Industry, throughout the military era. Naturally, the ownership of the oil in any country is vested in the sovereignty of the state and critical examination of the country’s economic policies will describe in detail why there is a high level of under-development domination of the foreign companies the industry in the country.

It is argued that the Comprador style of the Nigerian state for example, prevents it from carrying out the transfer of oil technology and more broadly, from initiating the development of capitalist production. In Nigeria, the middle class or intermediary class in the business is based on the local commercial class. Middlemen became numerous and influential as a result of the oil boom, and with the policy of import substitution and the state’s policy of intervention to foster economic development. As government expenditure and bureaucracy grew, the number of bureaucratic compradors establishing triangular relations with middlemen and foreign suppliers, increased. The logical ally of the technocrat cadre, a local capitalist class of producers, does not exist in Nigeria. Without such support, technocrats lack significant influence in the Nigerian State and the comprador state is unsteady, because it has been unable to override specific capitalist interests in favor of broader considerations of national policy. Comprador authority within institutions of state derives from the senior and usually administrative positions held by members of the group. Professionals and technocrats have been in subordinate posts in the bureaucracy since the colonial period. Technocrats in the oil administration are marginally more influential than technocrats elsewhere; due to their knowledge of the world oil and the support they receive from OPEC policies and oil technocrats in other exporting countries.

However, the base work notable with respect to future actions of Nigeria oil technocrats, is those oil companies which seek to compete with the firms that have a more weighty role, and one in which oil is managed by a sector clearly isolated from the rest of the state apparatus. Oil technocrats may be amenable to coexistence with the foreign oil companies on more organized and nationalistic terms, especially if companies support them in resolving the non-antagonistic contradiction between themselves and compradors. Apparently, oil technocrats resemble a stratum, which seek to become a national bourgeoisie. The scope and force of technocrat oil

policies are more probably symptoms of their powerlessness than indications of their commitment to replacing foreign oil companies with integrated state corporations. However, it is observed that middleman comprador alliance has been successful in suppressing the technocratic function within the state. Along with this suppression goes the possibility of any significant state transfer of technology (Turner, 1976).

Generally, although these determinants to a large extent explain the differences in the levels of technological development among developing countries, yet, countries that present favorable indices of these determinants have also remained technologically backward. It is obvious that these developing countries, in spite of their success in conditioning their environment for the inflow of technology, do not have the capacity in terms of trained manpower to acquire and develop technology. The result is the free entry and exit of foreign firms in the economy of these countries and the beginning of fresh negotiations for economic independence from the powerful organizational network of multinational corporations.

4.7. Nigerian Content in Perspective

This is the quantum of composite value added or created in the Nigerian economy by utilizing value created through Nigerian human and material resources for the provision of goods and services for the Petroleum Industry within acceptable quality, health, safety and environment standards in order to stimulate the development of indigenous capabilities. With the huge investments made by the Federal Government of Nigeria in the oil and gas sector of the economy, an average of \$10 billion USD per annum, its contribution to GDP growth has been minimal, due to the fact that the capacity utilization of indigenous technology is very poor, evident from the over 80% of work value carried out abroad. This has led to a dearth in jobs, skills development, capacity building / utilization and lack of sustained national economic development.

The Nigerian Content Policy seeks to promote a framework that guarantees active participation of Nigerians in oil and gas activities without compromising standards. The policy also focuses on the promotion of value addition in Nigeria through the utilization of local raw materials, products and services in order to stimulate growth of indigenous capacity.

The Federal Government is optimistic that its policy will result in steady measurable and sustainable growth of Nigerian Content throughout the oil and gas industry. With the Nigerian content in force it is expected that by the end of the year 2010 the percentage of work done in the country should be at least 40-45%.

The Nigerian Content Division comprises of three (3) Departments:

1. Capacity Building
2. Planning
3. Monitoring

Collectively, these three departments are charged with the responsibility of studying best practices and advise the NNPC Management accordingly on the Nigerian Content; obtain the applicable data from industry and plan new opportunities, the NCD currently has developed over 20 intervention projects to bridge local capacity gaps in the industry. These projects range from infrastructure upgrades, resource training and certification, information management and financing. Help to develop strategies for capacity building, skill competency and supplier enhancement; drive the Nigerian Content Implementation and monitor its compliance by the MNOCs. The Nigerian Content Division will be actively involved in the review of ITTs, evaluation of bids, and monitoring of projects during implementation to ensure NC compliance. Provisions are also made in the draft bill for sanctions against defaulters. Coordinate the sectorial working committees

The NCD as part of capacity building undertook the following;

1. In collaboration with PTDF, embarked on training 1000 engineers in basic engineering design in 2006. As at today, the plan in place is to train 300 engineers per quarter.
2. The NCD is currently in collaboration with PTI Warri and other global certifying bodies to facilitate the certification and training of 1000 welders. Facilitate the certification and training of over 1000 welders.
3. Working with industry stakeholders to enable local manufacture of steel plate and pipes. There is a business case that is drawn-up and presented to prospective investors.
4. Upgrade of some selected fabrication yards in collaboration with PTDF and INTSOK, to ensure local fabrication is on the increase.
5. The NCD is trying to make funds available to local contractors at low and competitive interest rates, so that they can execute contracts through the launch of the Nigerian Content Support Fund (NCSF).
6. NCD is developing a Nigerian Content capacity database.

4.8. Directives & Regulations

In order to ensure that the NCD had a smooth take off, directives and regulations were enacted to ensure that as a minimum there was a smooth transition from the previous condition in the NNPC to the intended transformation expected by the NNPC with the setting up of the NCD, these are to be for the short term and they are expected to be implemented upstream projects to be based in Nigeria. It is hoped that these directives and regulation will no doubt help the NCD achieve the local content capacity expected in the by the end of year 2010. The directive and the regulations are contained in Appendix II.

4.9. The Strategic Partnership Approach

Recently, the Federal Government of Nigeria adopted the strategic partnership approach with the Delta State Government in the development of the gas resources for the purpose of economic development. This joint venture will be geared towards harnessing the abundant gas resources in the state with the sole aim of creating jobs through the numerous industries that would be established by investors. This will transform the Corporation from a cost centre to a commercial National Oil Company.

4.10. Definition of Strategic Partnership

Collecting bargaining issues always seem to cause a conflict between business, executive and labor. These are issues that go a long way to distort the polity of any country if not properly handled. |Since each of business, labor and the executive realize the impact of not reaching a consensus when it has to do with economic issues, there is the need for each to define its goals and objective ensuring that where there are conflicts between them a consensus has to be agreed upon when it borders on economic issues. They know that if the economy dies then all three also die. This could be the reason why some European countries have led economic development in the world, since each of business, labor and the executive work closer. In Europe the process of collaboration of business, labor and the executive is termed social partnership. Where the issues involved were strategic to the development of the economy then it was termed strategic development. It is important to understand how these partnerships have evolved in these small European countries so as to be able to appreciate its importance in societal building. Worthy to mention growing Irish economy that made a tremendous bounce back from its near bankruptcy.

4.11. Considering the Irish Case for Partnership

The Irish economy entered a crisis in 1986, the Irish economy was in crisis with unemployment at over 16%, and with its national debt on the increase they were entering a point where they would not be able to pay back, the country was going bankrupt, the country was almost

becoming a failed nation. This led to the release of the report with respect to how to solve the debt crises of Ireland, and in that same year 1988, According to Strategic Partnership Study Group [online] ‘the National Economic and Social Council (a body representing government, business and labor) recommended a radical shift in economic strategy’. The various agencies in government and private organizations agreed to work together to turn the nation’s economy around. Together, they put together a framework that led to one of the surprising economic recoveries the world ever witnessed in the west.

At the end of 2001, after the implementation of the far reaching decisions by the committee, the Irish economy had an unemployment rate under 4%, with a manageable national debt, with taxes at its lowest ever and a growing fiscal surplus in its annual national budget. This success had been achieved in part through social and strategic partnerships. This caused the three, labour, business and government leaders to abandon their ideological differences and decided to go on a path of shared socio-economic strategy .With an agreement by these organs on what the problems were that was bedeviling the country, they took long-term approaches to guarantee economic and social change. These steps taken by the committee, brought about direct foreign investment in 1990. This saw the migration figures into Ireland from other parts of the world on the increase, one never experienced in Ireland before.

Partnership today in Ireland goes beyond the relationship between business, executive and labor, as a result, business, labor and government come together to analyze options and only the feasible and viable option as far as socio-economic growth is concerned is allowed, so that the decision to build the economy is a collective one. Ireland still has several challenges today, but not one to take them through the dark history of the late 80s.

4.12. The Core Elements of European Partnerships

With social partnerships, diversity and similarity amongst different systems should be expected. This has led to the creation of structures and institutions with diverse responses to economic issues when related to their unique history, culture and economic circumstances. It is, therefore, not possible to identify a ‘correct’ or ‘superior’ model, that can be adopted for socio-economic partnerships, although much is to be learned by the observation of each. According to Strategic Partnership Study Group [online] ‘Each European social or strategic partnership is based on six functions that are served by different institutional arrangements in each country’ these are listed below.

1. Acquiring and independent analysis of socio-economic data.
2. This output of the independent analysis of data is further interpreted by a joint team of the partners.
3. After the joint interpretation by the partners they agree on a consensus on the challenges and develop a strategy together.
4. At the national level there is collective bargaining and industrial relations.
5. Based on the economic situation the strategy developed is further implemented.
6. Depending on the achievements of this partnership and result of the joint consultation, this is extended to other sectors of the economy at different levels.

4.13. What are the Key Lessons from European Partnerships

The key lessons to learn from the European partnership are listed below;

1. The crises brought about the need for coherence economic and social policies. Each partnership is characterized by one form of economic and/or social experience.
2. It called for an effectiveness and joint efforts when it had to do with issues bordering on the economy.
3. For voluntary coordination to yield results, each participating body must understand the

challenges facing the economy, and each must have a solution that can be jointly discussed and common areas of interest identified. The consensus reached will be based on the joint analysis and interpretation of data carried out.

4. There has to be a shift from ideals to pragmatic approach to solving issues, and this will be jointly planned. All parties in this case must be in agreement, and this will be based on experience not on imaginations.
5. Since the consensus is reach by all the parties involved in developing the economy, the delay experienced in changes in the economy can be understood. With the view that the long term benefits far outweigh the immediate gains of individual interest.
6. Partnerships at the national level are not able to handle disparities that have arisen. As a result executive, labor and business are encouraging partnership across every strata of the socio-economic cadre.
7. The non-profit sector in Ireland is even recognized as one of the pillars of the economy, although this is not the case in other parts of Europe, even though they have access to the public policies.
8. Strategic partnership has not provided a complete solution for the business, executive and labor. There are still conflicts between these. Except that the focus now is economic advancement while all other interest are made secondary.

4.14. Youth Restiveness in the Niger-Delta

For the better part of the year 2005 till today it is clamour for resource control in the Niger-Delta. As earlier stated in the course of this work, the MNOCs were reluctant to carry out technology transfer to neither the citizens of the country nor the people in the communities in which they operate. Part of what the PIB is intended to implement is the level of involvement of Nigerian content in the operations of the industry. The MNOCs will be able to detail the extent of involvement of the local in their operations, the level of trainings that will be provided as well as community development programme that will be in place to ensure that services to the industry eventually become 100% in-house; except for where more specialized skills are required; but then a time plan for ensuring that such skills are eventually domiciled in the country will have to be spelt out. The PIB will further strengthen the partnership approach the NNPC intends to go into with the Delta State government. This will also go a long way to solve the problem of insecurity created by this clamour for resource control.

There is also a plan by the NNPC to go into partnerships with all the states involved in the production of Oil and gas, besides the delta state, this would develop an attractive fiscal, communication, marketing and security package that would motivate investors to see these States as a haven for investment. Such partnerships would develop the gas resources in these States within a short a time as possible in order to attract investors to the state from all parts of the world, accelerate the industrial growth of the state in the areas of petrochemicals, fertilizer plants and other gas related factories, economic fortunes of the people and help to sustain the peace in these states.

5.0. Discussions

Discussions here are mostly based on the inputs obtained from the questionnaire (Appendix II). This was distributed to employees in different SBUs and CSUs of the NNPC. A total of 33 questions, all industrial services related were prepared in this questionnaire, the idea was to see how some each of these subsidiaries carry out services are described by the employees. Not all the questions asked were responded to due to the fact that the questions were either not reflecting what was being done in the SBUs and/or CSUs, or the person answering this questionnaire could only provide responses to the extent of his/her involvement in the group with respect to the duties he/she performs in the SBU or CSU.

5.1. Industrial Service and the Nigerian National Petroleum Corporation

The term "Industrial Services" tells us about the services between the organizations in the community. It is usual to describe 'industrial services' as inclusive deeds, processes and performances that take place between the various organizations. In today's society it is major activity in most organizations, that mean they are dependent on assistance in the areas they have lack of expertise. Industrial service in the NNPC Corporation can be viewed as the services between the different subsidiaries and between the subsidiaries and the common Nigerian citizen as well as its customers from abroad.

Industrial services in the NNPC can take a number of definitions depending on which SBU and/or CSU is being considered. In some other cases, the process of industrial service in the NNPC will only be complete after more than one SBU/CSU executes its primary mandate in the corporation, this can be perceived in PPMC while it is transporting the raw crude oil to the refinery; while in some other cases the industrial service process will only involve one subsidiary, in this case the PPMC will also be considered when it is transporting the products of the refined crude oil to the point of sales (POS) across the country. For other subsidiaries this would also be the case, the product involved will determine the industrial service process. The product of the service provided by each of these subsidiaries will be different, as service is transferred from one SBU and/or CSU to the other. Kumar & Kumar (2004) states that 'to increase the productivity of the organizations it is important that they cooperate in the various services. With the cooperation we will increase price competition which makes the prices of services forced down. In addition, it will create many new jobs'. Here we simply see a direct relationship between productivity and employment. In any case improvement of the services in the Corporation will increase the productivity and this in turn will increase employment.

Looking again at the Pipeline and Product Marketing Company (PPMC), Industrial service refers to the effective transportation of crude oil to the refineries, and effective and efficient distribution of petroleum products to the local market at a minimum cost, thereby satisfying the customers in the best possible way; in other words, PPMC executes industrial service first to another SBU (the refineries) and then to the general public utilizing the refined crude. Whereas, in the R&D Subsidiary, industrial service refers to the analysis carried out in the study of products and suspected petroleum products for the client. In IDSL, industrial service refers to the activities prior and leading to the acquisition of seismic data necessary for the determination of the extent of exploration and production activities to be carried out in a particular onshore or offshore field. In the case of the IDSL, the sort of services it provides will only be utilized by another subsidiary; in this case it is the subsidiary that will be responsible for the exploration and production activities. For all the other subsidiaries the definition of industrial service will always involve one or more other subsidiary, all in a bid to ensure that petroleum products get to the citizens with ease and at the cheapest possible rate whilst still sustaining the corporations' set goals and objectives.

5.2. What Do the Customers Want

Depending on who is the final recipient of the service to be provided, whether it will be another subsidiary or a corporate service unit (CSU), quality of service cannot be compromised. For example the PPMC responsible for the transportation of raw crude to the refineries, either by pipeline transport or by tanker transport have to make sure that besides the transportation of the crude to its destination, the quality of crude being transported has to be of the correct grade as required. The PPMC ensures that a proper QA/QC is performed to guarantee that the crude getting to the refineries meets the specification for refining. In the same vein, the finally processed crude that will be also be transported either through pipeline or tankers has to be of the correct quality that ought to be sold to the public.

The PPMC also makes sure that the correct grade of products is reaching the customers for purchase. As part of the research done for this Master Thesis, regarding what the customers wanted, respondents from PPMC indicated in the questionnaires that, “irrespective of the end product of the service being provided by the subsidiaries the customers were only interested in the efficiency and effectiveness of the product”. The customers these services are provided for wanted value for the money they were putting to get a product. They were also interested in a service that is affordable, in which case no matter how small the money they were in possession of, they could purchase the sort of service they desired and this is what the Corporation is working to achieve.

From the foregoing analysis, from the NNPC it can be concluded that the customers want value, convenience with respect to availability of products and ease of purchase and they also want quality. Grönroos, (2000), ‘this is a sort of value generating process where the product of service is not like the case of products produced in factories but a service product created in customers’, it is this sort of value that the NNPC provides for its customers; because customer satisfaction is crucial to the business of the NNPC it is making its product and service strategies in tune with the needs of its customers, making their customers as close as possible, and trying to provide the customers with quality services.

5.2.1. People influence in ‘Customer Wants’

The NNPC realizes the importance of its people in making sure it gets its customers what they really want. People have a major influence on a service system, as they have the tendency to do their own thing when lacking the proper guidance, resulting in poor efficiency and errors. A production-line approach to service helps to standardize a lot of things in the service area and give people the much needed direction. As a foundation, proper training of the staff is essential, and this knowledge should be taught at a fundamental level so that all service representatives can learn to manage parts for their particular territories adequately. Apart from the training an employee receives on assumption of office there are other trainings that are designed for the employee depending on the perceived departmental need for that employee. An assessment of the employee set skills which he or she has acquired from the first day on the job is done every other year by a departmental head, just to make sure that an employee occupying a position is qualified to attend to customer wants.

The GLD ensures that the people involved in the day to day running of the business of the NNPC are better equipped with the skills they require to handle the intrigues involved in customer satisfaction. The GLD understands the importance of knowledge in business (KIB), knowing that this will form the basis for the success story of the Corporation in terms of capacity development. For this to be realizable it is important that the right skills are identified and applied to the necessary job and the job requirements. Davenport *et al.*, (1998) defines knowledge in business as the “application of information combined with experience, context,

interpretation and reflection; it is a high value form of information that is ready to apply to decision and action”. So in order for this knowledge in business to be properly developed it was necessary for them to understand the customer processes and then develop the competence of the employees of the corporation, to be able to respond to the needs of their customers. To this end the GLD has secured the retainership of some consultancy companies who provide training courses for the employees of the Corporation to ensure that customers are better served by employees who understand what they want. Every employee will then be required to bring in their background knowledge into the respective departments of the SBUs, their respective background knowledge will be developed with the different courses, seminar and/or workshops they are made to attend to make them aware and acquire those skills they require to tackle the various challenges that the corporation encounters in serving its customers.

5.2.2. ‘Customer Feedback’ influence on ‘Customer Wants’

This is intended to form part of the move by the NNPC to guide the employee competence development in response to the needs of the customers; the Corporation employs the customer feedback into its inputs for change in their operations. This is one of the many strategies the Corporation utilizes to ensure that what they are giving out is what the customer wants. In almost all the subsidiaries the only method of measuring the customer satisfaction is by the use of drop boxes at strategic points in the buildings. So that people can easily drop-in their comments. This is flawed by the fact that not all the users of their products are actually visiting the Company premises to know if there is a drop box, let alone leave a comment. Though on the Corporation’s website there is the opportunity for people to leave a comment regarding their opinions but again this will only be accessible to those who have access to technological advancement.

In any case the Corporation ensures that it creates an avenue for customer feedback to be input in its operations so as to ensure that due considerations are given to what the customer really wants. As part of its response to the yearnings of the customers, recently when there was a severe shortage of petroleum products across the country, the NNPC management had to take drastic measures so as to ensure that their products were available to the customers. This saw the creation of the ‘NNPC War Room’ with its members selected from the group executive directors whose groups were directly or indirectly responsible for the handling of the petroleum products. As contained in the group’s website, NNPC Creates War Room[online] “a practical respite to the intractable fuel situation in the country appeared on the horizon Wednesday with the creation of an ‘NNPC War Room’ by the Group Managing Director of the Corporation, Mohammed Sanusi Barkindo with an express mandate to members of the group to end the fuel queues noticeable in some cities especially Lagos and Abuja within the next seven days” To underscore the importance of the assignment, members of this committee were made to spend part of their working hours on the 11th floor GMD boardroom which would serve as the venue of the war room by the NNPC GMD.

5.3. Optimization of Service with Respect to Value and Cost

The way and manner a service is provided will determine the cost the service would be worth as it is expected to be paid out by the customer. This cost will be a function of how the service provider goes about the process of providing service. Most of the questionnaires filled out by employees from each of the subsidiaries showed that their customers are always interested in receiving cheap services. As part of the responses, an employee from Greenfield Refinery Projects Division was of the opinion that redefining the risk bearing framework of the project and protecting the partners confidence in the project is the way service is optimized when compared to value and cost. For the employees at PPMC, getting the petroleum products to the customers at the minimal cost is the way they create value for their customers. This same response is what is obtained from employees in all the other subsidiaries.

When talking about value creation we will need to understand the product and/or service reliability. If the reliability of the product cannot be guaranteed then it is difficult to talk about value creation. Product unreliability can lead to loss of value and wastage. Over the years the Corporation has tried its best to curb the practices of some dubious middle men; these middle men compromise the quality of the petroleum products delivered at the point of sales by the corporation all in an attempt to make more profits. At the delivery point, it is always unadulterated products that are delivered by the middle men. They prefer to make more profits at the expense of the end consumers. How to eliminate these middle men is one of the moves made by the NNPC when they decided to open retail outlets, refer to section 5.12 below.

5.4. How the Unreliability of a Product can Compromise Service Value

In today's world, quality satisfaction derived from products consumed will go a long way to affect the product manufacturer and the consumer how reliable the products are will reflect in the relationship between the manufacturer and their customers. This today seems to play a major role in the selection process of goods and-or products consumed. Both the manufacturer and the consumer will be on opposite site ends in terms of product reliability. So it is very possible what is perceived as satisfactory to the manufacturer may seem otherwise to the consumer. In the case of the adulterated petroleum products sometimes carried out by the middle men, the middle men in this case will be the manufacturers (since the products they deliver is quite different from what is previously manufactured by the NNPC) on one side of the coin and the end users- consumers of the adulterated products will be on the other side of the coin. The middle men will create a problem of preventing the customers from getting value from the petroleum products produced by the Corporation. Consistency of quality service, within the shortest possible time, as well as minimizing the cost of this service processes and a plan to consistently improve on the service is the goal of the Corporation.

5.5. Type of Product Support and After Sales Service Provided for Customers

Depending on the nature of the business each of the subsidiaries, they offer some sort of product support and after sales service to their customers. With product several factors have to be taken into consideration. It is important that organizations that survive on selling product spares are able to create a system that keeps track, or follows the products they are selling. All kinds of support and assistance possible to be provided by the equipment manufacturer is referred to as product support. It is important to develop a clear strategy for product support, often in the design phase of the product. Markeset & Kumar (2004) "Then precautionary steps would be taken to ensure that the product is delivered in the standard and quality that the customers have been promised". For the Corporation the type of product support varies with the SBU and/or CSU involved.

In NAPIMS, product support refers to the reviewing of contractual incentives to its contractors, while for the PPMC, product support means maintenance and training provided for its subcontractors; for Greenfield Refinery Projects Division, product support means the guidance on the policy and regulations as it applies to project execution in Nigeria, which it provides for its intending investors, prior to contract approval and after contract award. Looking at the different definitions proffered for product support goes to show what sort of product support each subsidiary is capable of providing. This will confirm the theory put forward by Markeset & Kumar (2004) "What constituted the product support for a few decades ago were maintenance, service and repair". If we compare the traditional product support with the current product support, especially when this is compared to the sort of product support in the NNPC and the definition it takes we see that today's product support gives weight to the statement put forward by Markeset & Kumar.

Defining product support in terms of the NNPC shows that its definition will cover a much wider scope. On the other hand, after sales service is refers to the sort of service provided by the product manufacturer after the sales of the product. This is an agreement between the two parties and usually is a standard procedure in the process. The warranty period is dependent from product to product, and depends on functionality and figure as well as reliability and maintainability. Some of the sales agreement gives the buyer rights to services, free of charge for a given period of time. For the subsidiaries in the NNPC the sort of after sales service will also be different from one subsidiary to the other, very few of the respondents had something to say regarding the sort of after sales service they provide for their customers. For example the engineering and technical services division, the sort of after sales service they provide has to do with the specific technical advisory services they provide to their customers depending on the product.

5.6. Service Delivery Strategy of the NNPC

The overall service delivery strategy of the NNPC as a corporation can be seen as the sum of the individual service delivery strategies of the respective SBUs, to ensure that petroleum products after exploration, production and refining, gets to the consumers according to their demand. There is usually the problem of the refineries not being able to meet the demand of the consumers, it is also the responsibility of the PPMC to determine the extent of capacity demand the refineries cannot meet and import from overseas; all refined petroleum products it receives at its jetty, whether imported or refined in Nigeria are transported through tankers, or pipelines to the respective storage locations across the country from where they are further required to be transported to the respective dealers (major and independent marketers) across the country.

Overall, it was the main responsibility of the NNPC to provide the crude and market it to the major and independent marketers, once the products leave the respective PPMC depots there was little or almost no control by the NNPC over the various product lines they had distributed, with respect to ensuring that it gets to the public through these independent marketers. In order to be able to have a great level of control over its products, NNPC took some steps to ensuring that all the products it was producing got to the public, within the shortest possible time, cheaper and of required quality grade too when this is compared to what is previously obtainable from the independent marketers. Successive attempts have been made by several Nigerian Governments to ensure that besides the quality of service being provided for the consumers (users of petroleum products in the country) the providers of these services were not short-changed in trying to provide this services. They had to make sure that there was a system in place that could guarantee that the current players and intending players will besides rendering quality services make the profits they intend to make from doing business. In other to be able to define the service strategy of the industry this will be treated under the upstream and the downstream sector of the oil and gas industry the Corporation is involved in.

5.7. Upstream

It was important that the Government by virtue of its position in the life of the Corporation took decisions that would bring about growth, as most of the steps in reforming the Corporation previously did not yield completely the desired results, due to the fact that there were not proper law in place to ensure that the process of exploration and production for the NNPC was making it a profit making organization. In some other cases it was because the policies already in place did not suit the sort of risk that are inherent in the business, as a result most MNOCs were scared of investing since they were not sure of what the end results will be. Many MNOCs want to be able to calculate the feasibility of the business and with the several tools available to do this it was safer them to determine the equivalent cost of the risk to the cost of investment.

Tools such as internal rate of return, opportunity cost of investment, present value, net present value, e.t.c., each of these have been used by most MNOCs intending to invest in the Oil and gas Industry business, to determine if it is safe to invest before going ahead to actually commit their funds in the business. When the result in each case was not positive then it was safer not to risk the unknown. This caused the Federal Government to take some necessary steps to ensure that it was a win-win situation for the Corporation and the MNOCs.

5.8. Type of Awarding License

In 1938, the first exploration license was granted to Shell Nigeria, which was then known as Shell D'Arcy. Oil and Gas operations in Nigeria were effectively commenced in the year 1956, marking the year of its first commercial find, during this time and until the year 1971 Shell had the control its find with respect to exploration. With Nigeria's membership in OPEC (organization of Producing and Exporting Countries), Nigeria began to take control of its oil and gas resources just as it is the practice in other OPEC member-countries. This they achieved with Joint Operating Agreements (JOA); with this other Multinational Oil Companies like Elf, Mobil, Agip and joined Shell in the exploration activities in Nigeria; like every system it had its inherent problems. In order to guarantee that petroleum products were made available to the ever increasing population, meets the demands of its international customers, and to sustain the economy which currently depended a lot on the proceeds from oil; the Government had to change from the JOA when it was considering exploration in the deep offshore terrain.

5.9. New Legislation.

With the emergence of deep offshore operations across the world, and as Nigeria was interested in extending its Oil and Gas exploration activities beyond the onshore they had to change from the JOA to the Production Sharing Contract (PSC) in order to encourage investors. "Two new Decrees affecting the upstream sector were promulgated by the outgoing Military regime in the first half of the year, i.e. the Deep Offshore and Inland Basin Production Sharing Contract Decree no. 9 of 1999 and its Amendment Decree (Decree No. 26 of 1999). The new decrees effectively amend existing statutes and regulations relating to deep offshore and inland basin acreages and introduce changes to fiscal regulations (e.g. taxation, royalty payments, etc.) aimed at implementing the results of extensive negotiation and discussions over time between the Nigerian Government and major players in the upstream sector"[69]. With the new Decree No. 9 stipulated, autonomy for the National Petroleum Investment Management Services (NAPIMS), a division of the NNPC was established. Considering its strategic positioning in the Nigerian economy, the NNPC tried to resist autonomy for NAPIMS since NAPIMS was incorporated as a separate entity, it created a ground for the NNPC to lose its immunity and also could likely become embroiled in commercial litigation, thereby severely disrupting the nation's upstream sector. The position of the NNPC's was accepted and the decree 9 reversed and amended with Decree No. 26 making the NAPIMS a subsidiary of the NNPC.

Under the PSC, mineral resources are owned by the state, which brings in the prospecting exploration company as a contractor to provide technical and financial services for exploration and development operations. The prospecting company usually assumes the entire exploration cost risk, and receives a specified share of production as a reward for its initial investment, operating expenses, and the work performed. With this the MNOCs willing to obtain the oil prospecting licenses (OPL) could confidently spread their tentacles in the deep offshore. As a way of being able to operate efficiently in the deep offshore, field development solutions which provided more economic benefits under this arrangement were initiated; this saw the emergence of projects like the Chevron's Agbami FPSO, Shell's Bonga & Sea Eagle FPSOs, Mobil's ERHA FPSO, and Agip's ABO FPSO, Total's AKPO FPSO as well as Total's USAN FPSO currently ongoing (billed to come on-stream in 2011).

5.10. New Guidelines for Crude Oil Lifting and Surplus Products Sales.

Government issued new guidelines relating to product lifting, surplus product lifting, and surplus product sales. The new guidelines (essentially a re-hash of existing guidelines) are aimed at shutting out middlemen, by virtually eliminating any margins on Government production prices and ultimate commercial sales prices. Under the new guideline, it is the policy of Federal Government of Nigeria to streamline procedures for those wishing to buy and sell the Nigerian crude oil.

5.10.1. Who May Apply⁷

1. A bona fide end user who owns a refinery and retail outlets abroad. Details of the applicant's facilities, markets and volumes of crude oil processed over the last three years must accompany the application.
2. An established and globally recognized large volume trader. Such applicant must provide evidence of its global network, its activities and volumes of crude oil handled in the last three years.
3. A company that has built an export oil refinery in Nigeria.
4. An upstream investor who has acquired an Oil Prospecting License (OPL) and must have completed a minimum amount of work on the concession. Details of such accredited investment and activities must accompany the application.
5. Any applicant must have a minimum annual turnover of at least \$100 million and net worth of not less than \$40 million.
6. Successful applicants must show commitment to the development of the Nigerian economy by investing in any number of investment opportunities that abound either in the oil industry or other sectors or, as an alternative, in the short run, meaningful and sizeable investment in community development project(s) in the oil producing areas as may be acceptable. Investment areas include:
 - i. Upstream investments - to increase our oil reserves and production capacity;
 - ii. Downstream projects in refining, processing, distribution and storage of petroleum products.
 - iii. Gas utilization projects.
 - iv. Solid mineral development and industries with foreign exchange earning potentials.

In doing this the Federal Government has been able to increase oil and gas reserves and the country's production capacity.

5.11. Downstream

As part of its resolve to provide quality and timely services to the Nigerian citizens and to guarantee that quality petroleum products to the citizens of Nigeria the Federal Government also set up some machinery in the downstream just like it has done upstream. This would ensure that as long as there was production of crude upstream, the downstream sector was well equipped and positioned to receive, refine and sell the quantity of crude oil required by the customers.

5.12. NNPC Mega Retail Outlets

As part of its delivery strategy in ensuring that the refined petroleum products get to the consumers within the shortest possible time as well as ensuring that unadulterated products are delivered to the respective zones across the country, the NNPC embarked on its own retail

⁷ New Guidelines for Crude Oil Lifting and Surplus Products Sales information obtained directly from the Crude Oil Marketing Section, NNPC Home page[online]

outlets, such that it can easily market the refined products to the consumers, just like it is done by the independent marketers. In all developing countries, their national oil companies operate across the supply chain, including the strategic downstream sector and it is not only seen from commercial perspective but also from national security implications. As earlier stated, once these refined products leave the NNPC depot at Mosimi, Lagos State where it is stored and further distributed across the country it is difficult to control the way and manner it is further distributed by the independent marketers.

The NNPC retail outlets also commonly referred to as ‘NNPC Mega Station’ are managed by NNPC retail. This is one of the CSUs set up by the Corporation to address the problem of fuel and/products shortage across the country. The NNPC retail was to establish and operate strategic outlets for safe reliable and profitable retailing of petroleum products nationwide and in international markets. As part of the Corporation’s plan to change improve on the supply of its petroleum products across the country, its goal it to own 50% of the Pump stations across the country.

5.13. NNPC Partnership with Independent Marketers

As part of its strategies to spread the distribution of petroleum products across the country, the Nigerian National Petroleum Corporation (NNPC) had to go into a partnership with some independent oil marketing companies, in other to use their retail outlets in getting the products closer and easily available to consumers. This gave the NNPC some measure of control over how these products are distributed once they are available at the respective depots of the independent marketers; by this the pumping through pipeline across the country was reduced. Thereby eliminating the uncertainty of pipeline transport, where products’ availability and reliability could not be guaranteed as a result of pipeline vandalisation.

5.14. Privatization & Deregulating the Downstream Sector

The low capacity utilization of Nigeria’s state-owned refineries and petrochemicals plants in Kaduna, Port Harcourt, and Warri, the sorry state of disrepair, neglect, and repeated vandalisation of the state-ran petroleum product pipelines and oil movement infrastructure nationwide, the collateral damage of institutionalized corruption, with the frightening emergence of a local nouveau riche oil mafia that controls, and coordinates crude oil, and refined petroleum products pipeline sabotage, and theft ("illegal bunkering") nationwide, the insatiably corrupt military ‘task force operatives’ that assist diversions of both crude oil and petroleum products, and large-scale cross-border smuggling of petroleum products, all of which are the root causes of the protracted, and seemingly intractable severe fuel crises that have bedeviled the country relentlessly, for close to a decade now, are all predictable outcomes of the Government involvement in the downstream sector of the Nigerian Petroleum Industry, over the past quarter of a century.

The Nigerian government knew it would be too expensive to build and operate refineries as much as it would require products to be processed for the large demand it gets as a result, they invited interested companies to invest, but this did not work. There were cases of several companies foreign and local that collected licenses and did not go ahead investing in the downstream. Since the Government still controlled the downstream pump price. In 2006 the refineries were overhauled to increase their market value and set the stage for privatization. Khan (1994) states that ‘disruptions in the Nigerian downstream sector have deeper and more immediate domestic political implications for the country than those that may occur in the upstream sector’. Nigerians believe that they should enjoy low gas prices and as a result react violently through means possible for the Government to feel their agony when it comes to paying high for petroleum products and they are also bitter at the Government’s intention to privatize and deregulate the downstream sector.

As Khan implicated by the statement above, such disruptions from the public disturb the normal state of affairs of the Government, and this usually raises the security level of the country, sometimes there are such discussions as the Military taking over government when there exists such instability or uproar due to public protest. The goal of the Nigerian government in adhering to the principles of privatization and liberalization is influenced by the successes of other countries in doing the same. Kupolokun. 2004; ‘the GMD of NNPC noted that the intended goals are;

1. Privatizing and deregulating price controls will remove the natural monopoly existing in state owned enterprise.
2. Encouraging more companies to be involved in the supply chain will create completion and make the market competitive.
3. Provide extra funds required to cater for the socio-economic needs of the average Nigerian by removing the subsidy in the downstream.
4. Increase the Foreign Direct Investment (FDI) into the Nigerian economy.
5. Reduce the cost of transportation of products and people.

Handling the present problem of deregulation is one problem the Nigerian Government is fully aware that it cannot take care of alone, and the Government is aware of the potential effects on the labour market. In the short term it could lead to unemployment, high prices could also lead to job cuts in the refinery. The new owners will definitely want to bring about a new era in the refinery and downsizing would be one of the first steps it would take to cut costs of production. Schipke (2001) States that ‘Countries in which government was a dominant player in terms of both ownership and intervention are also likely to have highly regulated labour markets. Hence, a reduction in government ownership without the simultaneous liberalization of the labour market will lead to increases not only in temporary but also permanent unemployment’. From history, it is possible to analyze what the outcome will become from the public when a new policy is put forward by the Federal Government; naturally, the Government would rather wait and see the outcome, that is risk the unknown outcome rather than avoid the unknown.

To this end the Nigerian agency that is responsible for the sale of Government properties, the Bureau of Public Enterprises (BPE) undertook a study, after which it came up with a solution, that instead of divesting the entire 100% to a core investor, 49% should be sold to Nigerians, part of which will be kept for current employees to acquire. Employees are also given the option of severance packages if they agree to resign before the actual sale takes place.

5.14.1. The Effects of Privatization and Deregulation

Despite the repulsion the subject has greeted within the public, whenever the issue has been brought up, the Nigerian government has decided to go ahead with the policy. The Government believes it is the only way it can put an end to the incessant shortage of petroleum products the Country is always faced with, despite the complete disapproval of a wide section of Nigerians. The Government believes that the subsidy put on petroleum products can be used to improve other sectors of the economy that is suffering neglect. It is worth mentioning that the biggest gain will be in savings generated from divesting in the sector. As already state funds spent on subsidy will be free for other activities.

According to the World Bank Journal Issue 14 (1992) ‘Potential savings in the downstream sector are defined as the difference between the actual cost of supplying petroleum products to consumers (either through imports or by refining crude) and a benchmark cost corresponding to the procurement of these products from world markets under competitive conditions; and are subdivided into three categories: procurement, refining and distribution’. One question that bears to mind is how the Government can start up a competition, without causing collusion between the eventual buyers of the refineries, since these refineries in themselves are natural monopolies. Once sold, the Government may not be able to control the price fixing by the new owners. There has to be a policy that allows the Government control price fixing, otherwise the idea of the deregulation would have been useless, the citizens would have to pay so much before they can get the products. From

experience, the Government has tried several approaches in terms of country reforms without success. So if the Government is truly interested in seeing this through it should ensure that all interest is taken into consideration and then a policy that will benefit the country in the general sense is adopted, not minding what a section of the Nigerian people think. It is true that some people will reject the privatization and deregulation approach without really knowing the details of what it is about. It is also the responsibility of the Government to educate people on this. Once it is able to win the confidence of a wide section of Nigerians then securing an approval from the senate will be swift.

There is the possibility of the Government wanting to go ahead with its proposal without doing this and then cause there to be instability on the polity. Though the Bill is presently being reviewed at the National Assembly, it may not entirely look into the concerns of the public. The Bill provides for all MNOCs-the majors presently in Nigeria, i.e. ExxonMobil, Shell, Elf and Chevron to refine at least 50% of their take in the crude oil in the country. This will increase the players and subsequently lower costs. The MNOCs do not like the idea but as it is they have to gamble between doing it and remaining in the business or creating an opportunity for others to take over their rein in the country. From the foregoing we see that the Corporation is trying to change the way most of the business is done in the Country. There had always been attendant problems with each new change in strategy. In both the upstream and the downstream, the Corporation is trying to remove whatever monopoly may exist with any of the major marketers or the independent marketers for the downstream, as well as remove the attendant problems relating to investing in exploration and production business, which may tend to discourage investors for the upstream.

5.15. Service Innovation Process in the NNPC

For the NNPC the innovation process comes with the organizational changes or transformations it implements. When NNPC was set up initially it was organized on Divisional basis. We had the Divisions headed by General Managers under a Managing Director, this was in 1977. In 1985 there was re-organization; NNPC was restructured into Sectors, and the Sectors were headed by Sector Coordinators (Operations and Services) who reported to a Managing Director. This continued till 1988 when the subsidiaries were created. This was after a lot of studies, plans, workshops which resulted in the Directorate structure; which is what we still have today. We have six Directorates, each one being headed by a Group Executive Director who reports to the Group Managing Director. Each subsidiary, now semi autonomous has its own Board of Directors headed by the Managing Director who is responsible for the day to day affairs of the company. In addition to this there are also some divisions that report directly to the Group Managing Director, this includes Audit, Corporate Services, TQM and Corporate Planning and Development Division (CPDD). This structure still exists today. NAPIMS was created as a Service Unit alongside the subsidiaries to manage the government's interest in the Multinational Petroleum Companies and reports directly to Corporate Headquarters.

In line with using several tools available today in the corporate world as we know it, the Corporation has tried its best to ensure that whatever bottlenecks it is experiencing in discharging its daily duties are purged from the system. The reason it adopted the TQM approach in 1988 and the Project PACE in 2004. There is no telling at this point when such moves will end since, the NNPC just like any Multinational Company today is striving how best it can deliver quality service to its customers while it survives as an organization that wants to make profit.

5.16. Challenges of the Service Innovation Process in the NNPC

Just like every establishment or organization the NNPC has had its own fair share of challenges in meeting its goals and objective as far as service delivery is considered. There sometimes exist a difference between that which was promised initially and what is eventually delivered. Judging from when the NNPC came into force as the Nations Oil Company, it had tried a number of

transformations in a bid to improve on its services. The first time it was decided to embark on a transformation in the corporation was in 1988, when the Corporation in partnership with Arthur Andersen brought about the TQM initiative that was required to be implemented throughout the whole Corporation. Every manager, department head, employee was required to be tutored on the merits of TQM. As a result courses, seminars, workshops on TQM were carried out to ensure that everyone knew what in tune with the change sweeping the corporation at the time.

In 2004, the brand name for the transformation was Project PACE; this was done in partnership with Accenture. Prior to the establishment of Project PACE the corporation was faced with key issues which included a lack of focus; weak culture of accountability for results; non-capitalization; absence of execution/commercial mindset; adequate leadership; inadequate managerial capacity and weak enabling process. The Project PACE after its inauguration in July 2004 was expected to be executed in two phases. Phase 1 would be concerned with determining what exactly was the root cause of the aforementioned problems the Corporation was faced with; this was also referred to as the diagnostic phase. At the end of this phase, it was expected that there would be a perceived enhanced performance of its stakeholders towards the NNPC, as well as an optimal understanding of the key strategic objectives.

Phase 2 was to be concerned with the improvement of Professionalism & Excellence, Teamwork & Open Communication, Ownership & Consequence Management, Safety, Innovation, Performance Empowerment and Entrepreneurship, Respect & Trust. Measuring gaps between the service delivered and what is initially promised. All these did not get the Corporation where it expected to be in the list of International Oil and Gas Companies around the world. This was due to either one government policy which did not allow in entirety the goals of each of these two earlier transformations. Today the Petroleum Industry Bill in front of the National Assembly is expected to go beyond the aims and objective of the earlier agenda of the transformations by changing the way the Corporation does it business. The first two transformations were more concerned with the People and the Management style of the Corporation.

The changes in these did not go very far since the way the business did not change. It is quite understandable that if the system should change then the whole organization should change in entirety, which is change in the way the Corporation does business, change in the management style as well as change in the people attitude. It is hoped that this bill will be properly reviewed for whatever loopholes may exist in it before it is passed into law.

5.17. Performance Measurement and Management of the Corporation.

Performance measurement system can be defined as a system of procedures, methods and standards established in an organization for the selection and use of quantitative measures of capacities, processes, and outcomes to develop information about critical aspects of activities, including their effects on the public. Taking a look at a typical business environment, several procedures will be outlined for the methods for performance measurement based on agreed standards, depending on the geographical location of the business activity or based on common agreed standards of service; this will help create a system of check-and-balance ensuring that the organization is meeting the desires of the customer and the public in general. Performance measurement is the ongoing monitoring and reporting of program accomplishments, particularly progress towards pre-established goals. It is typically conducted by a program or agency management.

Performance measures may address the type or level of program activities conducted (process), the direct products and services delivered by a program (outputs), and/or the results of those products and services (outcomes). A “program” may be any activity, project, function, or policy

that has an identifiable purpose or set of objectives. The measures employed can be on a daily basis, weekly or even on a monthly basis; but whichever duration is adopted it should be able to provide a precise assessment of how well an organization is meeting its set goals and objectives. It is all about fulfilling the organization's goals and objectives based on set values. There is need for these performance systems to be considered in the macro ergonomics design of the organization. As earlier stated, all these would be geared at achieving the organization's set goals and objectives whilst ensuring that they are making sufficient profits to remain in business and the public which it serves is satisfied with its products and services. In the NNPC, each of the subsidiaries has its own performance measurement and management system. This serves as a guiding tool for re-assessing their performance, that way it is possible to tell if the subsidiary in question is meeting its set goals and objectives.

Each and every subsidiary has a mandate as setting it up as a part of the Corporation. It is this mandate that forms the basis of their performance measurement and management system/ it is the responsibility of the managing directors of the various subsidiaries to hold daily and/or weekly meetings to ascertain the progress it is making in terms of its goal and objectives. In some other cases the appraisal of its employees by departmental head tells the SBUs and/CSUs that the employees are better equipped to meet their customers desires and hence actualize the mandate of the Corporation. Normally, it is the practice in the Corporation for an employee to move up to a certain job position after a certain number of years, after spending a period of say, 3 years. After a period of 10 years it is expected that the same employee would have risen to a strategic position, this is one way a subsidiary can say it is meeting its targets when it comes to employee development and employee's ability of serving its the Corporation's customers. In some other cases the employees could be required to attend some courses and interviews before they can be confirmed for a particular position (as in the case of management positions).

There is usually a margin of 'pass' set in the assessment, such that only those that are in this margin will be qualified to be promoted and referred to as a management staff. As a management staff, it comes with more responsibilities and roles within the Corporation, so it is expected that people moving up to this cadre of the organization are qualified to hold such portfolios. With this the NNPC is sure that its standards are never compromised. All these are the Corporation's ways of measuring its competence in terms of taking its place in the global arena of the Oil and Gas Industry.

6.0. Summary and Concluding Remarks

The growth in the industry will no doubt be a gradual process, this can be inferred from the different stages it has had to go through all these years. In addition, delays in the passage of bills into law and the slow pace of implementation of laws in Nigeria is one angle too that may delay the industry reforms. Otherwise, the proactive nature of the Corporation in trying to solve daily problems it encounters through its workforce is applaudable, except that its visions are occasionally cut short by different government policies, legislation and the change in the leadership of affairs of the Corporation. With the new leader championing his/her own ideals.

6.1. Present Situation of the NNPC

The Nigerian National Petroleum Corporation is currently undergoing a series of reforms. Recently it completed a Turn-Around-Maintenance (TAM) work going on at its refineries across the country. It is expected that the shortage of fuel that occasionally occurs around the country will subside. This was in response to the yearnings of the citizens of the country, who had suffered on the occasion of the scarcity of the petroleum products. More focus has been on the downstream sector lately in terms of improving on the services to the country by way of the Corporations' activities while in terms of the upstream sector, it is expected that the PIB in the National assembly will change the face of service in the Oil and gas Industry across the country.

At its stakeholders forum for gas to it was agreed that a 'war room' be set up to follow up on the decisions reached as regards tackling the problem of power outage in the country, it is expected that the following will be achieved accelerate pipeline construction that is required for attaining power generation and evacuation, ensure effective project management to facilitate target completion of gas supply and power plants, fast track contract processes without compromising integrity and due process, repairing and securing the trans-Forcados pipeline to achieve power generation through use of technology, security and community. It would also review and revise the domestic gas obligation to ensure realistic delivery and sustainability. It will be recalled that a similar war room set up to tackle the persistent fuel shortage across the country has led to easing off the challenge related to supply and/or distribution of petroleum products.

6.2. The future of Industrial Service in the NNPC

It is hoped that like other oil companies worldwide the NNPC will also be an international company in every sense, being able to go out and invest in viable markets. As of today the NNPC has its interest in Nigeria. The hope is that in the future just like the Federal Government has done in partnering with the governments of Ghana, Benin and Togo under the auspice of the Economic Community of West Africa State (ECOWAS) to achieve their long term goal of energy security by setting up the West African Gas and Pipeline Company, it will also go out into the world and look for viable markets where it can invest on a long term. Just like we have countries like Netherlands in the guise as Shell, France in the guise as Total and the USA in the guise as ESSO and Chevron, the NNPC can also represent Nigeria and go into partnerships that will be beneficial for the country.

With the different Bills currently in the National Assembly, it is envisaged that the level of indigenous patronage will be on the increase. It will be an increase of the local manpower and a decline in the foreign skills, except in situations where such required skills cannot be found locally. It is not exactly clear now what the actual percentage of the Nigerian content is involved in projects awarded by the Federal Government to the MNOCs, but it is expected that by the end of 2010, this should be at least 70%. If the provisions to be made in the different bills for development of the Nigerian Content with respect to Oil and Gas exploration and production in the country are adhered to by the MNOCs, then the industry will experience an increase of more skilled individuals as well as indigenous companies who are capable of supplying all sorts of

services required during the various processes involved in the upstream and the downstream business.

This will also mean that these indigenous companies intending to bid for such services will have to obtain the certifications and proven experience that qualify them for such services. They have to be recognized both locally and internationally by the different authorizing bodies responsible for such products and services. This will encourage companies who have been less bothered about maintaining standards, have a rethink about their method of operation especially when quality and reliability is involved, since these two are the main key to value obtained in service. To ensure that there are companies in the country that are qualified to take on specialized jobs previously handled by foreign companies, it is expected that the Corporation will bring out guidelines streamlining what is required of indigenous companies intending to bid for service supply to the MNOCs.

This will bring about a sort of check on companies that are not interested in developing their standards and cause only a few qualified companies to get such roles. The NNPC can also use that as a measurement system just to show that it has got qualified indigenous companies that can handle such supplies required by projects in the Oil and Gas Industry. In a nutshell, the development of indigenous skills can then be measured over a period of time. There is also the possibility of foreign companies having local partners, from the engineering companies to the equipment manufacturers. This can especially be observed from companies who have been in the country long enough and cannot imagine losing all their investments to Nigerian Content, the option of having a local partner is not ruled out, this is already occurring with some engineering companies.

Crestech today in Nigeria is a joint venture between Technip France and Crestville, Nigeria, Delta Afrik today is a joint venture between Worley Parsons, of the United States and Deltatek, Nigeria. Together these companies have already in different execution stage for projects in Nigeria. Others like Foster Wheeler, KBR, and a host of others that have been executing projects in the country long enough are in the discussion stage with some indigenous companies, the companies to evolve from these talks should be made know in the not too distant future.

7.0. Suggestions for Further Research

As a way of improving the decision to go into reforms and be sure that these reforms are surely the solution to the problem of the industry in Nigeria the following is suggested for further research. Lessons learned from the past reforms by the NNPC based on what it did not achieve and the reason why this was so. Under this the following should be considered. The objectives for these reforms should be set out and then each of this can be studied in details to understand if it was achievable in the first place based on existing government legislation, and then if not was it achieved. If it was not achieved what obstacles were encountered, were these obstacles documented. Were the unachievable objectives of these reforms documented? Were the right people actually carrying out this implementation?

References

Adams, G. A. (2001). Deregulation of the Downstream Sector of the Petroleum Industry, Post Express Newspaper, Lagos, Nigeria.

Anez, C. (1975). The Transfer of Technology in Algeria. SPRU, University of Sussex, UK.

Braide, K. M. (2003). Deregulation: An Executive Guide for Elder Statesmen.

Braide, K.M. (1997). Guaranteeing Petroleum Products Self-Sufficiency in Nigeria; Annual Dinner Guest Lecture of the Nigerian Society of Chemical Engineers, held at Shell Club, Port Harcourt, Nigeria.

Centre for Energy Economics CEE “New Era in Oil and Gas Value Creation”, Bureau of Economic Geology, Jackson of Geosciences the University of Texas at Austin.

Chima, R.I., Owioduokit, E.A. & Ogoh, R., (2002). Technology Transfer and Acquisition in the Oil Sector and Government Policy in Nigeria: African Technology Policy Studies Network (ATPS).

CIA-The World Book-Field Listing- National Product real Growth Rate (online). Available from: < <https://www.cia.gov/library/publications/the-world-factbook/fields/2003.html> > [Accessed 08-06/2010].

Crude Oil Marketing Department. (online) Available from: < <http://www.nnpcgroup.com/index.php> > [Accessed 28-01/2010]

Crude Oil Marketing Home Page. Available from : < <http://www.nnpcgroup.com/crude-oil-marketing> > [Accessed 28-01/2010].

Davenport, T. H., De Long, D. W. and Beers, M. C. (1998). Successful Knowledge Management Projects; Sloan Management Review, 39(2) (winter) pp43-57.

Duke Oil. (online) Available from : < <http://www.nnpcgroup.com/nnpc-group/duke-oil> > [Accessed 20-01/2010].

Gas Master Plan: NNPC Collaboration with Delta State Government; Available from: < <http://www.nnpcgroup.com/public-relations/news-a-update/239-gas-master-plan-nnpc-collaborates-with-delta-state-to-generate-industrial-growth> > [Accessed: 24-01/2010].

Gronroos, C., (2000). Service Management and Marketing: A Customer’s Relationship Management Approach, 2nd edition. Chichester: Wiley.

History of the NNPC. (online). Available from : < <http://www.nnpcgroup.com/history> > [Accessed 28-01/2010].

Hydrocarbon Services Nigeria. (online). Available from: < <http://www.nnpcgroup.com/nnpc-group/hyson> > [Accessed 20-01/2010].

Ibanga, I., (online). The Economic of Privatizing and Deregulating the Nigerian Downstream Oil Sector, Valore International < <http://www.florin.com/valore/ifiokibanga.html> > [Accessed 20-03/2010].

Integrated Data Services Limited. (online). Available from :< <http://www.nnpcgroup.com/nnpc-group/idsl>> [Accessed 20-01/2010].

Joint Venture Agreement of the NNPC. (online). Available from:
<<http://www.napims.com/joint.html>> [Accessed 20-01/2010].

Kaduna Refining and Petrochemicals Company (WRPC) Home Page (online). Available from:
<<http://www.nnpcgroup.com/krpc>> [Accessed 20-01/2010].

Karwowski, W. (2006). International encyclopedia of ergonomics and human factors, Volume 3, Taylor and Francis Group, ISBN 13 978 0 415 30430 6.

Khan, Sarah A. (1994). Nigeria: The Political Economy of Oil. Oxford University Press. p. 127.

Kumar, R. and Kumar, U. (2004). A Conceptual Framework for the Development of a Service Delivery Strategy for Industrial Systems and Products. Journal of Business and Industrial Marketing, Vol. 19 Issue – 5, pp. 310-319.

Kupolokun, F. (2005). Liberalization: The Experience of the Nigerian Petroleum Sector. Alexander's Gas and Oil Connections Volume 10, issue No. 2, 27 Jan. 2, 2005.

Liyanage, J.P., (2007). Compendium: Module 1- Performance Measurement and Management – Emerging Challenges and Industrial Trends, Faculty of Science and Technology, University of Stavanger, Norway.

Lukman, R. (2009). Keynote Address by the Honorable Minister of Petroleum Resources on the Proposed Petroleum Industry Bill (PIB); Abuja, Nigeria. Available from :<
<http://www.nnpcgroup.com/petIndsBillDocs/SpeechByHonorableMinisterToIndustry.pdf>>
[Accessed 20-01/2010].

Lukman, R. (2009). Reforms: NNPC Top Management Retreat (online) Available from:
<<http://www.nnpcgroup.com/public-relations/news-a-update/206-reforms-nnpcll-get-it-right-this-time-around-lukman>> [Accessed 20-01/2010].

Markeset, T. & Kumar, U. (2004). Product Support Strategy: Convectional versus Functional Products; Journal of Quality in Maintenance Engineering, Vol. 11 No. 1.

Mayorga-Alba, E. (1995). Deregulation and Reform of Petroleum Markets - Energy Issues; FPD Energy Notes 6; World Bank Group, Washington D.C.

National Engineering and Technical Company. (online). Available from:
<<http://www.nnpcgroup.com/nnpc-group/netco>> [Accessed 23-01/2010].

National Engineering and Technical Company Home Page. (online). Available from:<<http://netco-nnpc.s5.com/about.html>> [Accessed 23-01/2010].

National Petroleum Investment Management Services. (online) Available from:
<<http://www.nnpcgroup.com/nnpc-group/napims>> [Accessed 20-01/2010].

Nigerian Content Division Home Page. (online). Available from:

<http://www.nigcontent.com/index.php?option=com_content&task=view&id=12&Itemid=50>
[Accessed 28-01/2010].

Nigerian Content Division Home Page. (online). Available from:

<http://www.nigcontent.com/index.php?option=com_content&task=view&id=29&Itemid=56&limit=1&limitstart=0> [Accessed 28-01/2010].

Nigerian Content Division Home Page. (online). Available from:

<http://www.nigcontent.com/index.php?option=com_content&task=view&id=29&Itemid=56&limit=1&limitstart=1> [Accessed 28-01/2010].

Nigerian Content Division Home Page. (online). Available from:

<http://www.nigcontent.com/index.php?option=com_content&task=view&id=31&Itemid=58>
[Accessed 28-01/2010].

Nigerian Gas Company. (online). Available from :< <http://www.nnpcgroup.com/nnpc-group/ngc>> [Accessed 22-01/2010].

Nigerian GDP – Real Growth Rate - Economy (online). Available from:

<http://www.indexmundi.com/nigeria/gdp_real_growth_rate.html> [Accessed 08-06/2010]

Nigerian Liquefied Natural Gas Home Page. (online). Available from:

<<http://www.nlng.com/NR/exeres/F48DE9A7-F3F3-4A8E-929A-0C34F1CFF92B%2Cframeless.htm>> [Accessed 28-01/2010]

Nigerian Liquefied Natural Gas Home Page. (online). Available from:

<<http://www.nlng.com/NLNGnew/operations/Gas+Supply.htm>> [Accessed 28-01/2010].

Nigerian Liquefied Natural Gas Home Page. (Online) Available from:

<<http://www.nlng.com/NLNGnew/operations/Shipping.htm>> [Accessed 28-01/2010].

Nigerian Liquefied Natural Gas Home Page. (Online).(online) Available from:

<<http://www.nlng.com/NLNGnew/operations/Expansion+Project.htm>> [Accessed 28-01/2010].

Nigerian Petroleum Development Company. (online) Available from:

<<http://www.nnpcgroup.com/nnpc-group/npdc>> [Accessed 20-01/2010].

Nigerian Petroleum Development Company Home Page. (online). Available from:

<http://www.npd-ng.com/index.php?option=com_content&view=article&id=22&Itemid=11>
[Accessed 20-01/2010].

Nigerian Petroleum Development Company Home Page. (online). Available from:

<http://www.npd-ng.com/index.php?option=com_content&view=article&id=21:offshore&catid=8:asset&Itemid=12;cf95D1AA11=2AC464D8A!YTEyMDA3MDpzZWN1cmVoZGF1dGg62RudNA/eI4wSeJ4AeMU41w==> [Accessed 20-01/2010].

Nigerian Petroleum Market Place Home Page. (online) Available from:

<<http://www.nipex.com.ng/>> [Accessed 23-01/2010].

Niskanen, W.A. (1968). The Peculiar Economics of Bureaucracy; American Economic Review;

Papers and Proceedings; 58; 298.

NNPC Corporate Profile. (online) Available from : < <http://www.nnpcgroup.com/corporate-profile/about-annpc> > [Accessed 17-01/2010].

NNPC Creates War Room Available from <<http://www.nnpcgroup.com/public-relations/news-a-update/265-fuel-supplydistribution-challenges-barkindo-creates-war-room-to-end-fuel-queues>> [Accessed: 24-01/2010].

NNPC Creates War Room to Tackle Gas Utilization.(online) Available from: <<http://www.nnpcgroup.com/public-relations/news-a-update/294-annpc-gas-to-power-stakeholders-create-war-room-to-tackle-electricity-challenge-target-4750-mw-for-thermal-generation-by-december-2010>> [Accessed 20-03/2010].

NNPC Home Page-Human /Organizational Development. (online) Available from: <<http://www.nnpcgroup.com/development>> [Accessed 20-01/2010].

NNPC, Human Resources.(online) Available from:<<http://www.nnpcgroup.com/human-resource>> [Accessed 23-01/2010].

NNPC Reforms.(online) Available from:<<http://www.nnpcgroup.com/public-relations/news-a-update/103-unveiling-the-future-annpc>> [Accessed 20-01/2010].

NNPC Management Structure.(online) Available from:<<http://www.nnpcgroup.com/corporate-profile/annpc-management>> [Accessed 17-01/2010].

NNPC Ownership of Petrol Stations (online) Available from: <<http://www.nnpcgroup.com/public-relations/news-a-update/244-annpc-targets-50>> [Accessed 19-02/2010].

NNPC, Research and Development Department. (online) Available from: <<http://www.nnpcgroup.com/annpc-group/r-a-d>> [Accessed 29-01/2010].

NNPC Transformation News: Available from :<<http://www.nnpcgroup.com/public-relations/news-a-update/258-barkindo-sets-annpc-transformation-in-full-gear>> [Accessed: 24-01/2010].

Nwokeji, G.U., (2007) Nigerian National Petroleum Corporation and the Development of the Nigerian Oil and Gas Industry: History, Strategy and Current Directions, University of California, Berkeley Prepared in Conjunction with an Energy Study sponsored by the James A. Baker III Institute for Public Policy and Japan Petroleum Energy Centre, Rice University. Available from: <http://www.rice.edu/energy/publications/docs/NOCs/Papers/NOC_NNPC_Ugo.pdf> [Downloaded: 15-02/2010]

Nutavoot P., (2004). Partnerships in oil and gas production-sharing contracts Centre on Regulation and competition (CRC), Emerald Group Publishing Limited University of Manchester, Manchester, UK.

Patton, J. D. & Bleuel. W. H. (2000). After the Sale: -How to Manage Product Service for Customer Satisfaction and Profit. The Solomon Press. New York NY

Perotti, E.C., (1995). Credible Privatization; American Economic Review; 85; 847.

Petroleum Industry Draft Bill. (2009). Available from:

<<http://www.nnpcgroup.com/petIndsBillDocs/PIBDrapftBill2008.pdf>> [Downloaded 27-01/2010]

Pipeline Products and Marketing Company.(online)Available from:

<<http://www.nnpcgroup.com/nnpc-group/ppmc>> [Accessed 20-01/2010].

Port Harcourt Refining Company (WRPC) Home Page (online).Available from:

<<http://www.nnpcgroup.com/nnpc-group/phrc> > [Accessed 20-01/2010].

Production Sharing Contracts of the NNPC. (online). Available from:

<<http://www.nnpcgroup.com/psc>> [Accessed 20-01/2010].

Salminen,V.;Kalliokoski,P., (2008). Challenges of Industrial Service Business Development,[e-paper] Lappeenranta University of Technology & VTT Technical Research Centre of Finland Available from:<<http://www.almaden.ibm.com/asr/summit/papers/lutsalm.pdf>>[Accessed 20-01/2010].

Schipke, A. (2001). Why do Governments Divest? : The Macroeconomics of Privatization: Berlin: New York: Springer. P.67.

Service Contract Agreement of the NNPC. (online). Available from:

<<http://www.napims.com/contract.html>> [Accessed 20-01/2010].

Strategic Partnership Study Group, (2002) “Strategic Partnership How Business, Labour and Government Collaborate in Europe’s High Performance Economies” Province of Newfoundland and Labrador. Available from: < <http://www.nfl.nf.ca/Summary.pdf> > [Downloaded 01-03/2010]

Turner, T. (1976). Multinational Corporations and the Instability of the Nigerian State Review of African Political Economy No. 5,

Turner, T. (1980). Nigeria: Imperialism, Oil Technology and the Comprador State” In Oil and Class Struggle. P. Nore and T. Turner (eds). Zed Press, London, UK.

Usman, A. (1999), Development in the Nigerian Oil Industry; Abuja, Nigeria.

Available from :< http://www.foakinrele.com/pdfs/oil&gas/development_nigeria.pdf> [Downloaded 13-03-2010].

Warri Refining and Petrochemicals Company (WRPC) Home Page (online) Available from:

<<http://www.nnpcgroup.com/nnpc-group/wrpc> > [Accessed 20-01/2010].

West African Gas Pipeline Company Home Page. (online)Available from:

<<http://41.204.59.211:81/ind.php?hpdt=1>> [Accessed 22-01/2010].

World Bank,(1992). Africa Technical Department, Industry and Energy, Division Note, No. 14, p. 3-5.

Appendix I - Questionnaire

Below is the format of the questionnaire made for the purpose of obtaining information, to be used in carrying out this work. This questionnaire was given to employees of the NNPC to assist in providing information regarding how services are run today in the NNPC.

Format of the Questionnaire

13 March, 2010

Master Thesis Topic - Industrial Services Perspective of the Oil and gas Industry “A Case Study of the Nigerian National Petroleum Corporation

Student Name. Dennis Esefolo Inegbedion

Course of Study: MSc. Offshore Technology Within “*Industrial Asset Management*”
Specialization.

Institution: University of Stavanger, Norway.

As part of the fulfillment of Master Degree Programme at the University of Stavanger, I will be required to complete my thesis on the above topic. Below is a list of questions that should assist you helping me with answers for the completion of my thesis work. I will only require your inputs to the extent of your experience (no proxy responses) and the subsidiary you are employed in; if you have had the opportunity to work in different subsidiaries, please respond based on all the subsidiaries you have been involved in. Please take your time to reads through the questions and provide answers as appropriate, you need not disclose your identity, or any information about yourself.

Lastly, you can make your response as short and as precise as possible and straight to the point. Thank you for your time and assistance.

Subsidiary.....

Years of experience.....

Sex.....

Job Designation.....

Questions relating to Industrial Service execution in the NNPC.

1. What is a service?
2. What does service mean in your subsidiary?
3. What is the product of the service your SBU (CSU) provides?
4. What is the difference between a “service” (i.e. service product) and a “supplier” in your subsidiary?
5. What is the difference between a “service” and a “product” in your subsidiary (i.e. goods or product)?
6. What is the value in / of service in your SBU/CSU?
7. Who is the immediate customer of your service (you can name a subsidiary and/or organization, if not directly to the Nigerian citizens)?
8. Who is the final customer of your service (you can name a subsidiary and/or organization, if not to the Nigerian citizens)?
9. What do your customers want?
10. What kind of services does your SBU/CSU provide?

11. How do you optimize service with respect to value and cost?
12. What is the “key” connection between an OEM (original equipment manufacturer) and a your SBU or CSU?
13. What is type of “after sales services” does your SBU/CSU provide to you immediate customer?
14. What is type of “product support” does your SBU/CSU provide to your customers?
15. From your experience what other services other than spare parts do the customer often require?
16. In your opinion to what extent is “after sales services” you provide to your customers necessary?
17. What services are delivered “before the sale”?
18. What does service strategy mean in your SBU/CSU?
19. What kinds of service strategy exist in your SBU/CSU?
20. In your opinion what role do you think your knowledge (technical background) plays in services and/or service delivery?
21. How is a service contract service contract negotiated in your SBU?
22. How many service contracts currently exist in your SBU/CSU as of today?
23. How does your SBU/CSU implement a service strategy?
24. What measures are in place to measure the gaps (if any) that exists between what is delivered and what is promised to the customer?
25. What performance measures are in place to reassess the service delivery strategy of your SBU/CSU?
26. What sort of feedback channel is in place by your SBU/CSU through which it receives inputs from its customers?
27. What does (industrial) service innovation mean in your SBU/CSU?
28. How is industrial service innovation in your SBU/CSU different from the innovations in other SBUs/CSUs, and other companies?
29. What performance measures are in place to assess the innovations carried out by your SBU/CSUs?
30. Judging from your experience in your SBU/CSU what service innovations have been implemented and what is the effect on the service delivery?
31. What are the challenges faced by the innovations in service (judging from your experience in the SBU/CSU)?
32. What activities make up the industrial service innovation process carried out in the past?
33. What service innovations are initiated by your suppliers and how does this affect the contractual relationship with your SBU/CSU?

Appendix II – Directives and Regulations –*From the Directives and Regulations Section of the NCD website*

This dictates the framework of the bill setting up the Nigerian Content Division.

DIRECTIVES⁸

Key Levers for Successful Nigerian Content Implementation

Short-Term directives for the industry

Short term directives have been issued by the NNPC to all stakeholders in the industry indicating the scope of work on all E&P projects that must be executed in Nigeria. These are as follows:

1. FEED and detailed engineering design for all projects is to be domiciled in Nigeria.
2. Project management teams and procurement centers for all projects in the Nigerian Oil and Gas industry must be located in Nigeria.
3. Henceforth, all operators and project promoters must forecast procurement items required for projects and operational activities and forward the materials list to the NCD on or before 31st January of every year. Also, a Master Procurement Plan (MPP) for ongoing and approved projects should be submitted to the NCD of NNPC on or before 31st January of every year.
4. Fabrication and integration of all fixed (offshore and onshore) platforms weighing up to 10,000 Tons are to be carried out in Nigeria. For the fixed platforms (offshore and onshore) greater than 10,000 Tons, all items in directive 5, pressure vessels and integration of the topside modules are to be carried out in Nigeria.
5. Henceforth, fabrication of all piles, decks, anchors, buoys, jackets, pipe racks, bridges, flare booms and storage tanks including all galvanizing works for LNG and process plants are to be done in Nigeria.
6. Henceforth, all flow-lines and risers must be fixed and must be fabricated in Nigeria except for special cases to be demonstrated and approved by NCD.
7. Henceforth, Assembling, testing and commissioning of all Subsea valves, Christmas trees, wellheads and system integration tests are to be carried out in Nigeria.
8. All FPSO contract packages are to be bid on the basis of carrying out topside integration in Nigeria. A minimum of 50% of the total tonnage of FPSO topside modules must be fabricated in Nigeria.
9. All third party services relating to fabrication and construction including but not limited to NDT, mechanical tests, PWHT as well as certification of welding procedures and welders must be carried out in Nigeria. Nigerian Institute of Welding must certify all such tests in collaboration with international accreditation bodies.
10. All operators and project promoters must ensure that recommendations for contract awards in respect of all major projects being forwarded to NNPC/constituted boards of such oil and gas companies for approval must include evidence of binding agreement by the main contractor with Nigerian Content Subcontractor(s). Such agreements shall indicate the cost and detailed scope including total man-hours for engineering, tonnage and manhours of fabrication and relevant defining parameters for materials to be procured locally as well as other services.
11. Henceforth, all low voltage earthing cables of 450/750 V grade and control, power, lighting cables of 600/1000 V grade must be purchased from Nigerian cable manufacturers.
12. Henceforth, all Line-pipes, sacrificial anodes, electrical switchgear paints, ropes, pigs, and heat exchangers and any other locally manufactured material and equipment must be sourced from in-country manufacturers.

⁸ Directives is contained in the NCD Home page [online] – Directives and Regulations Section

13. All carbon steel pressure vessels shall be fabricated in Nigeria.
14. All seismic data acquisition projects, all seismic data processing projects, all reservoir management studies and all data management and storage services are to be carried out in Nigeria.
15. Henceforth, all waste management, onshore and swamp integrated completions, onshore and swamp well simulations, onshore fluid and mud solids control, onshore measurement while drilling (MWD), logging while drilling (LWD) and directional drilling (DD) activities are to be performed by indigenous or indigenous companies having genuine alliances with multinational companies.
16. Henceforth, coating of all Line-pipes and threading of all oil country tubular goods (OCTG) are to be carried out in Nigeria.
17. Henceforth, all concrete barges and concrete floating platforms are to be fabricated in-country.
18. Henceforth, operation and maintenance of offshore production units, FPSO and FSO in particular, are to be performed by Nigerian companies.
19. All international codes and standards used in the industry are to be harmonized to support utilization of locally manufactured products such as paints, cables, steel pipes, rods, sections, ropes etc and to improve capacity utilization in local industries. Clauses that create impediments for/exclude participation of local companies should not be included in any ITT.
20. Operators and project promoters must ensure that recommendations for contract award for all drilling contracts shall include a binding agreement at technical evaluation stage for the sourcing of Barite and Bentonite from local manufacturers.
21. Henceforth, all projects and operations in the Oil and Gas industry must demonstrate strict compliance with provisions in the Insurance Act 2003 and submit a certificate of compliance issued by NAICOM to NCD as part of technical evaluation requirements for insurance or reinsurance Contracts. In this respect, NAICOM verified Gross underwriting capacity of Nigerian Registered Insurance companies must be fully utilized to maximize Nigerian Content before ceding risk offshore.
22. Henceforth, all projects and operations in the Oil and Gas industry must demonstrate strict compliance with provisions of the Cabotage Act.
23. All operators and service providers must make provisions for targeted training and understudy programs to maximize utilization of Nigerian personnel in all areas of their operations. All operators must therefore submit detailed training plans for each project and their operations.

REGULATIONS⁹

Nigerian Content Development Bill

A draft Nigerian Content Development Bill has been submitted by NNPC to the Federal Government and is being reviewed by the National Assembly. The regulation which is the responsibility of the Directorate of Petroleum Resources (DPR) will be in place once the bill is enacted.

⁹ Regulations is as contained in the NCD Home page [online] – Directives and Regulations Section

