

# The Shell Petroleum Development Company of Nigeria Limited

## Internal Investment Proposal

### Summary Information

Directorate	Technical Directorate		
Group equity interest	100% in SPDC. SPDC is the JV Operator of an unincorporated Joint Venture with a 30% interest.		
Other shareholders / partners	Nigerian National Petroleum Corporation (NNPC) 55%; TotalFinaElf (10%); and Nigeria Agip Oil Company (NAOC) 5%.		
Business or Function	Exploration & Production (EP)		
Amount	US\$ 3.1 Shell share, MOD, 50/50 (US\$10.24 mln 100% JV)		
Project	Provision of Subsurface & Wells Software, Workflow Support Services, and Technical Computing Hardware Maintenance		
Main commitments		<b>US\$Mln</b>	
		<b>Shell Share cost</b>	<b>100% JV</b>
	3RD Party Software Maintenance	0.27	0.91
	PMI - Software Usage & Maintenance	1.63	5.42
	System Mgt, Consultancy, Consumables & Projects	0.72	2.40
	Hardware Maintenance	0.45	1.50
	<b>TOTAL</b>	<b>3.07</b>	<b>10.24</b>
Source and form of financing	This investment will be financed with JV funding and Shell share capital expenditure will be met by SPDC's own cash flow. Formal JV partners' approval will therefore be obtained.		
Summary cash flow	Not Applicable		
Summary economics	The project returns an NPV 7% \$-0.47 mln (Shell share) with an associated maximum exposure of \$0.5mln in 2010.		

## ***Section 1: The Proposal***

### **Management Summary**

- Subsurface & Wells IM/IT Provides information technology and data management services for engineers across the full spectrum of Subsurface EP Activities, covering seven primary disciplines (Geomatics, Geology, Geophysics, Petrophysics, Well Engineering, Production Technology and Exploration).

Budget available to this team used to support Development and Exploration work by:

1. Securing access to a portfolio of software tools for SS&W user community. This involves license charges, maintenance & support charges. It also involves continuously benchmarking cost with available competition.
2. Providing workflow support and consultancy for software users
3. Maintaining workstations, server hardware and specific collaboration/integration facilities (Real-Time Operations Center, Virtual Reality Center)

### **Project Assumptions**

- Not more than 5% increase in total user community in Exploration and Development.
- SSA IT is successful in maintaining DeskTop Key (DTK)
- Availability of enabling contracts with SIEP, Local Software & Service Vendors

## ***Section 2: Value proposition and strategic and financial context***

All data types used for subsurface development studies are stored electronically in databases. Integrity and accessibility to these databases are maintained from the budget made available under this activity. Analysis and interpretation of the data is also carried out using software that is made available to subsurface users through the activity being proposed in this document. Without the continuous use of these software tools and the associated data, painstakingly acquired by Shell over many years of operation in Nigeria, none of the exploration and field development projects ongoing/planned will be viable.

Subsurface and Wells IM/IT strategy to ensure that the portfolio of software, data and related services are provided at optimum cost is to:

1. Continuously rationalized functionalities to reduce duplication and ensure that they are fit-for-purpose
2. Continuously benchmark the costs of these solutions with competing solutions in the open market
3. Ensure that volume of software licenses and service are aligned with the number of staff (demand).

## Summary of Economics

The project was evaluated as a cost (OPEX) only project using 50/50 cost estimate. The project returns an NPV7% RT10 of US\$-0.47 mln. See table 1 below for further details.

**Table 1:** Summary Economics Results (Shell Share RT10)

PV Reference Date: 1/7/2010	NPV (S/S \$ mln)		VIR	RTEP	UTC (RT \$/bbl or \$/mln btu)		Payout-Time (RT)	Maximum Exposure (S/S \$ mln)
Cash flow forward from: 1/1/2010	0%	7%	7%	%	0%	7%		AT
<b>Base Case</b>								
SV (\$50/bbl RT10)	-0.47	-0.47	NA	NA	NA	NA		
RV (\$60/bbl RT10)	-0.47	-0.47	NA	NA	NA	NA	NA	0.5(2010)
HV (\$80/bbl RT10)	-0.47	-0.47	NA	NA	NA	NA		
BEP (RT \$/bbl )					NA	NA		

## Key Project Parameter Data Ranges (Shell Share)

Parameter	Unit	Bus Plan (BP09)	Low	Mid	High	Comments
CAPEX (MOD)	US\$ mln	NA	NA	NA	NA	
Investment OPEX (MOD)	US\$ mln	3.07	NA	3.07	NA	
Production Volume	mln boe	NA	NA	NA	NA	
Start Up Date	mm/yyyy	NA	NA	NA	NA	
Production in first 12 months	mln boe			NA		

## Economic Assumptions:

- Expenditure treated as Oil Independent OPEX.
- NDDC Levy of 3%

## Section 3: Risks & Controls

**Significant and unanticipated change price changes:** As software vendors reserve the right to change the price of their software without consulting their clients, a significant and unanticipated change in the cost of the software packages will affect Subsurface & Wells ability to deliver this activity successfully. In this event only some of the software packages will be available to users. Additional funds may be required. This also applies to workflow consultancy / application support services being provided through Third Parties.

The control against this risk is to be pro-active in monitoring happenings in the industry. Contracts for the software licenses and vendor services should also be built to ensure that payments guarantee access to the application/service for an agreed period that will enable SPDC make alternative arrangements in the event of unacceptable change in license or service charges.

**Technology failure:** Information Management relies heavily on an efficient and stable IT infrastructure. Failures in basic IT infrastructure will erode confidence in solutions being deployed. Significant failure of the IT Infrastructure on which the software are made available to users will affect the successful delivery of this activity.

The control against this risk is to develop service-level-agreements with Infrastructure Management Team that will guarantee a minimum level of availability that has been agreed with the customers. In

addition, Subsurface and Wells IM/IT has disaster recovery procedures in place to restore services in the event of serious failures.

**Adherence to guiding processes/procedures:** Subsurface & Wells IM/IT has guidelines that govern the behaviour of people who use the information systems. These guidelines are to ensure information security and optimum performance of the systems. If software users and support staff fail to adhere to the guidelines, this can have significant effects on delivery of this activity.

#### ***Section 4: Corporate structure, and governance***

The existing corporate structure and arrangements of SPDC-JV with SPDC as operator will be used as the vehicle for the investment and operations.

#### ***Section 5: Functional Support and consistency with Group and Business Standards***

All activities are in line with Group Business Principles and Standards.

#### ***Section 6: Project management, monitoring and review***

Execution of this activity will be monitored by the Planner for Subsurface & Wells IM/IT Team, who will provide quarterly reports on progress against plan to all stakeholders. This includes among others, ensuring compliance to activity/project work-scope & schedule; this is to ensure adherence to Contract Work Scope and ensuring that all the required quality tests and associated quality control requirements for this activity is satisfied. The Contractor shall therefore be required to make necessary provision to ensure compliance with all the functional/technical specification in the course of delivering their services.

#### ***Section 7: Budget Provision***

There is a provision of USD \$10.24 mln in 2010 budget for the implementation of this activity

#### ***Section 8: Group Financial Reporting Impact***

The financial impact of this proposal on Shell Group Financials is as indicated in the table below:

US\$ mln	2010	2011	2012	2013	2014	2015
<b>Total Commitment</b>	3.07					
<b>Cash Flow</b>						
Commitment OPEX	3.07					
Pre-FID Expenditure						
Capital Expenditure						
Operating Expenditure	0.09					
Cash flow From Operations	(1.35)	0.87				
Cash Surplus/(Deficit)	(1.35)	0.87				
<b>Profit and Loss</b>						
NIBIAT +/-	(0.47)					
<b>Balance Sheet</b>						
Avg Capital Employed	0.44	0.44				

#### ***Section 9: Disclosure***

Media Relations Protocol, Investor Relations Protocol and Market Abuse Directive Guidelines will follow approved SPDC procedures.

***Section 10:    Financing***

This investment will be financed with JV funding and Shell share capital expenditure will be met by SPDC's own cash flow. Formal JV partners' approval has therefore be obtained.

***Section 11:    Taxation***

No specific Group, regional or country sensitivities exist. There are no unusual tax considerations.

***Section 12:    Key Parameters***

Consideration is required of the soundness of the expenditure commitments for the following;

- The Provision of Subsurface & Wells Software, Workflow Support Services, and Technical Computing Hardware Maintenance for SPDC for a sum of \$10.24 mln.

***Section 13:    Signatures***

This Proposal is submitted to SPDC Technical Director for approval.

For Business approval:

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**Bart Lismont**

**VP Technical**

Date .... / .... / ....

Initiator:        Osasu Ogbeide  
                     EPT-IT-G-SW