

# The Shell Petroleum Development Company of Nigeria Limited

## Internal Investment Proposal

### Summary Information

Directorate	Technical Directorate																																										
Group equity interest	100% in SPDC, whereas SPDC is the Joint Venture (JV) operator of an unincorporated JV with a 30% interest.																																										
Other shareholders / partners	Nigeria National Petroleum Company (NNPC: 55%), Total: 10%, Nigeria Agip Oil Company (NAOC: 5%) in SPDC-JV																																										
Business or Function	Upstream International (UI)																																										
Amount	US\$ <b>3.05</b> mln Shell share, MOD, 50/50 (US\$ <b>10.19</b> mln 100% JV).																																										
Project	6’x18 km Soku flowstation – Ekulama 1 new junction manifold temporary line.																																										
Main commitments	<table><tr><th></th><th colspan="2">(US\$ Mln)</th></tr><tr><th></th><th>Shell Share</th><th>100% JV</th></tr><tr><td>Procurement</td><td>0.55</td><td>1.85</td></tr><tr><td>Engineering and design</td><td>0.06</td><td>0.2</td></tr><tr><td>Coating</td><td>0.28</td><td>0.93</td></tr><tr><td>Construction</td><td>0.56</td><td>1.85</td></tr><tr><td>Pig Launchers/Receivers</td><td>0.19</td><td>0.63</td></tr><tr><td>Modification works</td><td>0.09</td><td>0.31</td></tr><tr><td>SCD</td><td>0.07</td><td>0.25</td></tr><tr><td>Project Management</td><td>0.55</td><td>1.85</td></tr><tr><td>Contingency (incl. VAT, Inflation, EPC premium)</td><td>0.7</td><td>2.32</td></tr><tr><td><b>Total</b></td><td><b>3.05</b></td><td><b>10.19</b></td></tr></table>				(US\$ Mln)			Shell Share	100% JV	Procurement	0.55	1.85	Engineering and design	0.06	0.2	Coating	0.28	0.93	Construction	0.56	1.85	Pig Launchers/Receivers	0.19	0.63	Modification works	0.09	0.31	SCD	0.07	0.25	Project Management	0.55	1.85	Contingency (incl. VAT, Inflation, EPC premium)	0.7	2.32	<b>Total</b>	<b>3.05</b>	<b>10.19</b>				
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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. F\$4.6m budget has been provided for in the business plan for the project. This reflects a F\$5.59 shortfall. It has been agreed with Planning that this shortfall will be provided for during Q1 2012 budget re-alignment to enable full funding and cost recovery on the project.																																										
Summary cash flow	<div><p><b>Base case forward looking Cashflow (Shell Share PSV RV-RT11)</b></p><table><caption>Estimated Cash Flow Data (\$ mln RT11)</caption><thead><tr><th>Year</th><th>RT Annual Cash Flow 0%</th><th>RT CAPEX</th><th>Cum Cashflow 0%</th><th>Cum Cashflow 7%</th></tr></thead><tbody><tr><td>2011</td><td>0.0</td><td>0.0</td><td>0.0</td><td>0.0</td></tr><tr><td>2012</td><td>2.8</td><td>-2.2</td><td>-2.2</td><td>-2.2</td></tr><tr><td>2013</td><td>1.0</td><td>0.0</td><td>-1.2</td><td>-1.2</td></tr><tr><td>2014</td><td>0.0</td><td>0.0</td><td>-1.2</td><td>-1.2</td></tr><tr><td>2015</td><td>0.0</td><td>0.0</td><td>-1.2</td><td>-1.2</td></tr><tr><td>2016</td><td>0.0</td><td>0.0</td><td>-1.2</td><td>-1.2</td></tr><tr><td>2017</td><td>-0.5</td><td>0.0</td><td>-1.8</td><td>-2.2</td></tr></tbody></table></div>			Year	RT Annual Cash Flow 0%	RT CAPEX	Cum Cashflow 0%	Cum Cashflow 7%	2011	0.0	0.0	0.0	0.0	2012	2.8	-2.2	-2.2	-2.2	2013	1.0	0.0	-1.2	-1.2	2014	0.0	0.0	-1.2	-1.2	2015	0.0	0.0	-1.2	-1.2	2016	0.0	0.0	-1.2	-1.2	2017	-0.5	0.0	-1.8	-2.2
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Summary economics				
	<b>Summary economics</b>	<b>NPV7% (S/S \$ mln)</b>	<b>VIR7%</b>	<b>RTEP (%)</b>
	<b>Base case (RV-RT)</b>	-1.6	-0.59	>50

## Section 1: The proposal (management summary)

The Soku flowstation has been shutdown since May 2007 primarily due to a lack of evacuation capacity for its produced liquids as a result of frequent leaks and vandalism on its principal evacuation pipeline, the GPHSL. The alternative export route using the 18" Soku – Ekulama AG pipeline is also unavailable due to extensive vandalism which has rendered the pipeline unserviceable.

Extensive efforts have been made to repair both lines, with considerable resources committed to making a total of 549 repairs on both lines. Despite this, hydro tests of both repaired lines have not been successful, and their technical integrity has not been assured for their resumption in service. Consequently, a decision was taken in Q4 2010 to discontinue further repair efforts on both lines.

In the mean time, the gas-cap blowdown in Soku field is ongoing and continuous production of the gas cap without consonant production of the oil rim is detrimental to future oil development from the field. In addition, the production of 400 – 600MMScf/d of gas might be jeopardized as DPR has indicated that it might withdraw SPDC's LTO in Soku field if a firm/resourced plan for producing the oil rim is not put in place.

A permanent pipeline solution to Soku liquids evacuation is currently being progressed by the Pipelines and Facilities Abandonment (UIG/T/PP) department. Engineering design for these pipelines, which incorporates an improved bunker resistance design philosophy, has been completed and construction/installation is planned to commence in Q1 2012, with first oil scheduled for Q1 2014.

Following the discontinuance of repair efforts on existing Soku liquid evacuation pipelines in Q4 2010, a Work Stream was set-up to quickly evolve an interim evacuation solution for Soku liquids. The option selected was the construction of a 6" x 18km pipeline from Soku – Ekulama 1 New Junction Manifold to enable production of Soku flowsation liquids.

The overall project expenditure phasing is not required since the project is planned for completion within a year.

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

Survey, EIA, SD engagement and Engineering Design are required to progress the project up to actual site installation. Land acquisition may not be required if the currently waiver in circulation to installed the pipeline within existing ROW is approved. NAPIMS approval for the execution of the project is in progress and hopefully will secure approval. Contract for the execution of the project is in place (call off contract with Asset team) and in house Engineering design for the project is about 95% complete. In addition, 70% of the required materials including linepipes are available and the sourcing of the balance 30% will be achieved before proposed site mobilization date of Q1 2012.

The strategic benefits and value proposition from executing the project are as follows:

- To satisfy DPR requirements and maintain LTO for Soku Gas Plant.

- To provide interim evacuation capacity for Soku Flowstation liquids to Ekulama 1 New Junction Manifold and onwards to the recently completed Nembe Creek Trunk Line (NCTL) at San Barth Manifold.

## Summary Economics

The economics for this IP was evaluated on a forward-looking basis using 50/50 MOD level 3 cost estimates and NFA production forecast from the project team. The evaluation shows the value that will be derived from laying the pipeline and unlocking NAF volumes. Additional sensitivities were carried out on the base case to show the value under different scenarios. The sensitivities are:

- High CAPEX,
- Associated Gas (AG) produced from Soku flow station not flared,
- The permanent line is installed in Q1, 2014 (just after the temporary line is removed)
- Project with ring-fencing,
- 1.5% Benchmark Verified and Approved (BVA) provision for costs disputes with NAPIMS,
- Petroleum Industry Bill (PIB) - version 12.

Details of the economics are in the table 1 below:

**Table 1: Economics Grid**

PV Reference Date: 1/7/2011	NPV (S/S \$ mln)		VIR	RTEP	UTC (RT \$/boe)		Payout-Time (RT)	Maximum Exposure (RT- After Tax)
Cash flow forward from: 1/1/2011	0%	7%	7%	%	0%	7%	(yyyy)	\$mln (yyyy)
<b>Base Case</b>								
SV (\$50/bbl & \$1.30/mmbtu RT11)	-5.8	-5.1	-1.87	>50	24	22		
RV (\$70/bbl & \$1.73/mmbtu RT11)	-1.8	-1.6	-0.59	>50	24	22		2.8 (2012)
HV (\$90/bbl & \$2.27/mmbtu RT11)	2.1	1.9	0.69	>50	24	22		
<b>Sensitivities (using RV)</b>								
High CAPEX (P90)		-1.8	-0.54					3.4 (2012)
Project with ring fencing		-10.8	-3.96					14.2 (2017)
AG from Soku FS not flared		11.6	4.24				2012	0.8 (2012)
The Permanent line is installed in Q1, 2014 (after the temporary line is removed)		31.3	0.42				2016	57.1 (2014)
1.5% cost markup due to BVA issues		-2.7	-0.94					
PIB House_v12		0.5	0.18					

## Key Project Parameter Data Ranges (Shell Share)

Parameter	Unit	BP11 Provision	Low	Mid	High	Comments
Capex (MOD)	US\$ mln	NA	NA	2.98	3.58	Project not in BP11. CAPEX provided by the
Opex (MOD)_Project	US\$ mln	NA	NA	NA	NA	ARPR OPEX
Production Volume	mln boe	NA	NA	1.65	NA	NFA volume for 2 years
Start Up Date	mm/yy	NA	NA	Q3/2012	NA	

## **Economics Assumptions**

- Oil PSVs of \$70/bbl @RV-RT-11 include Bonny offset of \$0.51/bbl RV
- Gas will be sold to NLNG T1-6 at \$1.73/Mmbtu @RV-RT-11
- AG from Soku FS in 2012 and 2013 will be flared.
- Oil taxed under PPT (PPT tax rate of 85%)
- Gas taxed under CITA with Associated Gas Framework Agreement (AGFA) incentive.
- 31/12/2010 ARPR fixed and variable OPEX for Soku FS was applied.
- SCD was estimated as 2.5% CAPEX.
- Education Tax of 2% assessable profit.
- NDDC levy of 3% total expenditure.
- GHV of 1150btu/scf.
- Flare Penalty of \$3.5/Mscf was applied and is not tax deductible.
- Abandonment was estimated as 10% of total RT CAPEX.

## **PIB economics assumptions:**

- National Hydrocarbon (NHT) tax of 50%
- CIT is 30% of taxable income and is not deductible from NHT
- SCD was estimated as 2.5% CAPEX.
- Education Tax of 2% assessable profit.
- NDDC levy of 3% total expenditure.
- Flare Penalty of \$3.5/Mscf was applied and is not tax deductible.
- Abandonment was estimated as 10% of total RT CAPEX.

## ***Section 3: Risks, opportunities and alternatives***

<b><i>Risk</i></b>	<b><i>Planned Mitigation</i></b>
Funding constraints	Funding requirements will be met through the usual JV funding arrangements.
Continued insecurity in the Niger Delta region	Mitigation for this risk is handled at a corporate and Nigerian National level and if this situation persists, it could negatively impact the cost, project schedule and first oil date. However, prior to mobilization for construction works, a detailed security plan will be developed in conjunction with the Area Security Advisor – Major Projects.
Community Issues	A few pipeline communities to transverse during execution. This requires increased resources and may lead to delays and cost escalation. This would be mitigated by early engagement and incorporating dedicated SCD personnel in the project team to proactively manage the process.
Cost escalation	Bid price escalation is now frequent in facility tenders due to Nigeria-specific issues including the Niger Delta security situation. The cost estimates will be fully benchmarked including an ESAR review prior to DG4.
Nigerian Content	Risks associated with the Local Content Act are incorporated and might not be potent as identified call-off contractors are all local/Nigerian.
HSE	This project will be executed under an existing contract for Asset Engineering with a developed and operating HSEMS where all HSE risks associated with pipeline construction in the swamp terrain are being managed. The risk register will be reviewed to include HSE risks that may be specific to this project.

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

The existing corporate structure and governance arrangements of SPDC-JV with SPDC as operator still subsist for this investment.

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

This proposal complies with Group Business Principles, policies and standards. Functional support for this proposal is provided by Finance, Social Performance, Supply Chain Management, HSE, Operations, Legal, Treasury and Tax functions.

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

There is an identified Decision Executive, Business Opportunity Manager, Project Manager and Operations Manager. The existing Major Projects Decision Review Board will control any major change proposals and will monitor value delivery based on regular (PERT) reviews. Projects & Technology oversight will be exercised through membership of the Project DRB.

**Section 7: Budget provision**

The budget for the Project in 2012 will be presented and approval secured during the December 2011 DEVCOM run.

**Section 8: Group financial reporting impacts as updated by Finance team are as stated below.**

	2012	2013	2014	2015	Post 2015
<b>Total Commitment</b>	<b>3.05</b>				
Cash Flow					
SCD Expenditure	0.07				
Pre-FID Expenditure					
<b>Capital Expenditure</b>	<b>2.98</b>				
Operating Expenditure	8.01	15.21	3.53	3.53	7.06
Cash flow From Operations	-3.33	-2.51	6.48	-0.01	0.45
Cash Surplus/(Deficit)	-6.32	-2.51	6.48	-0.01	0.45
Profit and Loss					
NIBIAT +/-	0.24	0.49	-0.5	-0.5	-1.01
Balance Sheet					
Avg Capital Employed	3.28	8.06	6.06	2.33	0.7

**Section 9: Disclosure**

Materials disclosures, if any, will be done in line with the Group and SPDC Disclosure policies and guidelines.

**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.

**Section 11: Taxation**

There are no unusual Taxation features.

**Section 12: Key Parameters**

Approval is sought for US\$3.05mln Shell Share for engineering design (via SPDC FEED Office), Route Survey, ESHIA & Land Acquisition, procurement of materials and construction of the temporary 6” pipeline.

***Section 13: Signatures***

This Proposal is submitted to GM Onshore/Shallow Offshore Projects for approval.

Supported by:

For Business approval:

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*Chris Nwoke*  
(SPDC Business Finance (Major Projects))

Date:..../..../....

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*Toyin Olagunju*  
(GM Onshore/Shallow Offshore Projects,  
UIG/T/P)

Date:..../..../....

*Initiator: Kingsley Enuezie, UIG/T/PPL*