The Shell Petroleum Development Company of Nigeria Limited

Internal Investment Proposal

Summary Information

<table>
<tr><td>Directorate</td><td>Technical Directorate</td></tr>
<tr><td>Group equity interest</td><td>100% in SPDC, whereas SPDC is the Joint Venture (JV) operator of an unincorporated JV with a 30% interest.</td></tr>
<tr><td>Other shareholders /partners</td><td>Nigeria National Petroleum Company (NNPC: 55%), Total: 10%, Nigeria Agip Oil Company (NAOC: 5%) in SPDC-JV</td></tr>
<tr><td>Amount</td><td>US$7.13 mln Shell share, MOD, 50/50 (US$23.78 mln 100% JV)</td></tr>
<tr><td>Project</td><td>12“ Adibawa delivery line & 14“ Okordia – Rumuekpe trunk line Sectional Replacements.</td></tr>
<tr><td>Main commitments</td><td>
<table>
<tr><td></td><td colspan="2">FID</td></tr>
<tr><td></td><td colspan="2">(US$ Mln)</td></tr>
<tr><td>Work Element Description</td><td>Shell Share</td><td>100% JV</td></tr>
<tr><td>Line pipe Procurement</td><td>0.43</td><td>1.43</td></tr>
<tr><td>SD Engagement (SCD)/Security</td><td>0.67</td><td>2.24</td></tr>
<tr><td>Engineering, Procurement & Construction (inclusive of bulk/shortfall material procurement & coating of line pipes/bends).</td><td>5.54</td><td>18.45</td></tr>
<tr><td>Project Management</td><td>0.50</td><td>1.66</td></tr>
<tr><td>Total</td><td>7.13</td><td>23.78</td></tr>
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<tr><td>Source and form of financing</td><td>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.</td></tr>
<tr><td>Summary cash flow</td><td>Cost only evaluation. Cash flow not applicable.</td></tr>
<tr><td>Summary economics</td><td>
<table>
<tr><th>At PSV-RV-RT11</th><th>NPV7% (S/S $ mln)</th><th>VIR7%</th><th>RTEP (%)</th></tr>
<tr><td>Base case</td><td>-1.6</td><td>-0.27</td><td>NA</td></tr>
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Section 1: The proposal (management summary)

This Investment Proposal requests approval for funding of US$ 7.13 mln Shell Share (US$ 23.78 mln 100% JV) to cater for the full funding of the 12"x 8.3 km Adibawa delivery line & 14"x 33.0 km Okordia – Rumuekpe trunk line sectional replacement works.

- **Pipeline Number 1:** 12-inch x 8.3km Adibawa delivery line (circa. 5.5 km long sectional replacement).
- **Pipeline Number 2:** 14-inch x 33.0km Okordia – Rumuekpe trunk line (circa. 1.0 km long section replacement at San Breiro river crossing).

Pipelines 1 & 2 have been in continuous service for decades but have been known to have serious flow assurance problems and mechanical constriction (in the case of the 14" x 33km Okordia – Rumuekpe trunk line) which had thwarted previous attempts to for statutory inspections thereby eliciting asset integrity issues.

Pipeline Number 1 currently transports an average of 3,000 bbl/d crude oil from the Adibawa field to the Okordia manifold and subsequently through the 14" Okordia – Rumuekpe trunk line. Recently in 2010 there was an effort by the pipelines asset team to change out a section of the pipeline measuring approximately 3km long, leaving outstanding section for replacement. It is therefore expedient to complete the replacement to derive value.

Pipeline Number 2 currently transports an average of 3,000 bbl/d from Adibawa & Ubie fields to the Rumuekpe manifold and onward transmission to Bonny Terminal via the Trans Niger Pipeline system. This pipeline is known to have a mechanical constriction at the San Breiro river crossing thereby hampering previous efforts to clean and inspect this pipeline.
Adibawa – Okordia delivery line is dependent on Okordia-Rumuekpe trunk line in the pipeline network and full value can only be realised when conditions of both pipelines are good. Opportunity also exists to execute both works as a package based on their co-locations.

The main objectives of the projects are:

a. Guarantee/secure oil & associated gas production from the Adibawa & Ubie fields especially when the domestic gas project is completed.
b. Improve the technical integrity of the pipelines by facilitating statutory inspections and compliance to regulatory requirements.

The funding approval being sought via this investment proposal will cover all requirements of the project: Surveys, Land acquisition, SD engagements/Security, Project Management, line pipe procurement & coating as well as Construction/Commissioning works.

The overall project total expenditure and phasing is summarised in the table below for both pipelines as follows:

Table 1: Project Expenditure Phasing (US$ Mln MOD 50/50)

Description	2011	2012	Total
12" x 8.3 km Adibawa delivery line (circa. 5.5km length).	0.11	15.55	**15.66**
14" x 33 km Okordia – Rumuekpe trunk line (circa. 1.0km river crossing section).	0.06	8.06	**8.12**
TOTAL			**23.78**

Section 2: Value proposition and strategic and financial context

The proposal for the subject sectional replacement works is premised on the following reasons;

- **Guarantee/Sustain oil export from Adibawa field**

Both pipelines need to be upgraded to ensure continuous and sustained oil production from the Adibawa field and hence safe guard average production (3,000 bbl/d and 3.4MMscf/day) from that field over the next 25 years.

- **Adherence to Statutory Requirement (LTO)**

The non-piggable state of these pipelines (for over 15 years) due to the high volume of entrained sand, corrosion and constriction, means that the assets cannot be inspected in line with the company asset integrity and Government regulatory policies to secure their continuous safe operation. The assets are highly at risk of failure with obvious negative consequences of occurrence.

- **Strategic Benefit to the Adibawa flares-out project**

The availability of the associated gas infrastructure currently being constructed by the DOMGAS team for Adibawa is premised on the uptime of both the 12" x 8.3km Adibawa and 14" x 33.0km Okordia – Rumuekpe pipelines.

- **Fast track Opportunity**

The proposed fast track option/strategy is to execute the works by latching onto the existing DOMGAS contract as a variation order, with associated benefits that will include significant cost reduction advantage for joint execution synergy, SCD benefits and also minimised HSE risks during simultaneous construction works.

Summary Economics

The economics for this Adibawa delivery line and Okordia-Rumuekpe trunk line sectional replacements FID IP was evaluated on a forward-looking basis using the 50/50 level 3 cost estimates from the project team. The project is a cost only evaluation and the economics results for the base case are restricted at PSV-RV-RT11 since there is no impact on the project value at PSV-SV-RT11 and PSV-HV-RT11.

Sensitivity analysis carried out on the base case includes:

- High CAPEX,
- The value at risk i.e. No Further Activity (NFA),
- Project with ring-fencing,
- 1.5 Benchmark Verified and Approved (BVA) provision for costs disputes by NNPC,
- Petroleum Industry Bill (PIB).

Details are in the table 2 below:

Table 2: Economics Grid (Shell Share) –

PV Reference Date: 1/7/2011	NPV (S/S $ mln)		VIR	RTEP	UTC (RT $/boe)		Payout-Time (RT)	Maximum Exposure (RT- AT)
Cash flow forward from: 1/1/2011	0%	7%	7%	%	0%	7%	(yyyy)	$mln (yyyy)
Base Case								
RV ($70/bbl & $1.73/mmbtu RT11)	-1.2	**-1.6**	**-0.27**	NA	NA	NA	NA	*6.2 (2012)*
Sensitivities (using RV)								
High CAPEX (+15%)		**-1.8**	**-0.27**				NA	*7.1 (2012)*
Project with ring-fencing		**-6.8**	**-1.15**				NA	*7.8 (2037)*
Value at risk (NFA)		**144.9**	**NA**				2014	*1.0 (2012)*
1.5% cost markup due to BVA issues		**-1.9**	**-0.31**					
PIB (House v12)		**-2.4**	**-0.41**					

Key Project Parameter Data Ranges (Shell Share)

Parameter	Unit	BP11 Provision	Low	Mid	High	Comments
Capex (MOD)	US$ mln	7.7	5.8	6.5	7.4	The costs figures from the IP were derived by the cost estimating team from an existing contract, which the project team intends to use for the works, which came after the BP '11 had been firmed-up.
Opex (MOD)_Project	US$ mln	0.2	0.6	0.7	0.8	SCD OPEX. The issue of pressure on OPEX for the execution of the works will be highlighted and managed with the Finance team for needed budget offset when required.
Start Up Date	mm/yy	NA	NA	Q4/2012	NA	

Economics Assumptions

- SCD OPEX costs provided by the project team and treated as OPEX.
- NDDC levy of 3% total expenditure.
- Abandonment cost estimated at 10% of total project RT CAPEX.

Value at Risk economics assumption:

- 2011 Oil prices for Bonny applied.
- Gas sold to NLNG T1-6 @ NLNG T1-6 contract price.
- Oil taxed under PPT.
- Gas taxed under CITA with Associated Gas Framework Agreement (AGFA) incentive.
- SPDC 31/12/2010 ARPR (Annual Review of Petroleum Resources) OPEX for Adibawa FS and Gbaran for Ubie FS used.
- NDDC levy of 3% total expenditure.
- Education Tax of 2% assessable profit.
- GHV of 1150BTU/scf.
- Abandonment cost estimated at 10% of total project RT CAPEX.

PIB economics assumptions:

- NHT depreciation schedule is 4x20%, 19% for qualifying expenditure.
- CIT depreciation schedule is 3x25%, 24%, for qualifying expenditure.
- NDDC levy calculated as 3% of expenditure
- 20% of overseas cost treated as non-deductible for determination of NHT taxable income
- CIT is 30% of taxable income and is not deductible from NHT

Section 3: Risks, opportunities and alternatives

Risk	*Planned Mitigation*
Funding constraints	Funding requirements will be met through the usual JV funding arrangements. Provision for funding of 2011 activities are already captured in BP10 JV Base budget, whilst funding for 2012 is being managed by timely & regular engagements of JV Partners.
Technical Integrity	Fast tracking of these sectional replacement projects will mitigate/minimise attendant risks (asset, people, environment & reputation) against these losses, which is a high probability in view of the fact that the candidate pipelines do not have credible inspection records in line with statutory regulatory requirements.
Security Challenges	Security challenges shall be managed by deploying a robust security provision/plan based on current reality in the area to forestall negative impact on overall project schedule. Furthermore, the security cost build up is robust to cater for this reality.
Community Issues	Though there is very little uncertainty in terms of local knowledge of the communities that the pipeline activities will traverse, effective SD management strategy shall be deployed for these projects using existing benchmarks from the DOMGAS project (which is happening around the same axis). Effective SD Management strategy shall be deployed to address this risk and minimise attendant delays which may lead to cost escalations. Robust provisions have been made for SCD related costs estimates.
Cost escalation	Though contract cost escalation due to security challenges is a key risk especially in the Niger Delta, but this risk shall be addressed by benchmarking requirements with realities on recent/similar projects. Contingency employed is 8% execution control contingency in the cost estimate.
Nigerian Content	NCD risk in this proposal is very minimal; most of the line pipes shall be procured using local vendors. NCDMB has recently approved imports of small diameter line pipes for these projects. The construction/commissioning Contractor for the works have high local content provision to satisfy local content requirement.

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 (PERT) reviews. Projects & Technology oversight will be exercised through membership of the technical DRB.

Section 7: Budget provision

Budget provision has been made in the JV Base budget for 2011. Budget for the works shall be sourced in 2012 from JV partners. Proactive engagements are currently ongoing with JV partners.

Section 8: Group financial reporting impact

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

US$ Million	2011	2012	2013	2014	2015	Post 2015
Total Commitment	**0.05**	**7.08**				
Cash Flow						
SCD Expenditure		0.67				
Pre-FID Expenditure						
Capital Expenditure	0.05	6.41				
Operating Expenditure		0.21				
Cash flow From Operations		**-0.28**	**1.43**			
Cash Surplus/(Deficit)	-0.05	-6.69	1.43			
Profit and Loss						
NIBIAT +/-		0.2				
Balance Sheet						
Avg Capital Employed	0.03	3.5	6.23	5.51	5.51	5.51

Section 9: Disclosure

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

Section 10: Financing

The FID portion of 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

Completion of both should have appropriate tax treatment in line with statutory requirements.

Section 12: Key Parameters

Approval is sought for US$7.13 mln Shell Share to complete the entire scope of the 12" Adibawa and 14" Okordia – Rumuekpe sectional replacement projects.

Section 13: Signatures

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

Supported by: For Business approval:

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Olujinmi Lawal,
(PD FM/SNEPCO FD, FUI/FP)

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

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Andrew Birch,
(GM Onshore/Shallow Offshore Projects, UIG/T/P)
Date: ..../..../....

Initiator: Niyi Salami,
(UIG/T/PPL)
Date: ..../..../....