

# The Shell Petroleum Development Company of Nigeria Limited

## Internal Investment Proposal

### Summary Information

Directorate	Major Projects and Engineering 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																																			
Amount	USD1.07mln Shell Share, MOD, 50/50 (USD 3.59mln – 100% JV)																																			
Project	Pre-FID for Trans Niger Pipeline (TNP) Loop Project																																			
Main commitments	<table><tr><td></td><td colspan="3">USD Mln 50/50</td></tr><tr><td>Description</td><td>100% JV</td><td colspan="2">Shell Share</td></tr><tr><td>FEED</td><td>0.24</td><td colspan="2">0.07</td></tr><tr><td>Survey (As-Built, Land/River)</td><td>1.41</td><td colspan="2">0.48</td></tr><tr><td>Land Acquisition</td><td>0.61</td><td colspan="2">0.15</td></tr><tr><td>SCD/ESHIA</td><td>0.52</td><td colspan="2">0.13</td></tr><tr><td>PMT</td><td>0.81</td><td colspan="2">0.24</td></tr><tr><td>Total</td><td>3.59</td><td colspan="2">1.07</td></tr></table>					USD Mln 50/50			Description	100% JV	Shell Share		FEED	0.24	0.07		Survey (As-Built, Land/River)	1.41	0.48		Land Acquisition	0.61	0.15		SCD/ESHIA	0.52	0.13		PMT	0.81	0.24		Total	3.59	1.07	
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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 and / or the existing shareholder facility. Formal JV partners’ approval will therefore be obtained.																																			
Summary cash flow	Not applicable as analysis is cost only																																			
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### Section 1: The proposal (management summary)

This investment proposal seeks organizational approval for the funding of US\$1.07mln Shell share (3.59mln – 100% JV) to facilitate the execution of Pre-FID activities required for TNP Loophline Project. Due to protracted Ogoni crisis, SPDC freedom to operate and gain operational access to Bomu – Bonny section of the existing TNP trunklines was threatened. Consequently, the statutory routine maintenance activities on the 24” and 28” legs of the TNP could not be executed since 1993. The proposed TNP Loophline will ensure SPDC continuous freedom and license to operate and enable the evacuation of over 460 Mbpd of current land east area production to Bonny terminal by 2014 and therefore improve the reliability of the pipeline system.

The objectives of executing Trans Niger Pipeline Project are to:

- To secure the evacuation of 460 Mbpd (gross) of current Land East production to Bonny Oil & Gas Terminal by providing an alternative route for the Oghale – Bonny section of the TNP which has outlived its design life, inaccessible for maintenance and has poor integrity status.
- Improve Trans Niger Pipeline technical integrity via system reliability enhancement.
- Overcome the production constraints in the TNP due to progressive de-rating of the TNP and its associated environmental risks.
- Provide ullage for developments from Gbaran Ubie, and thereby ensure gas supply to NLNG.
- Provide easy access maintainability, freedom to operate (FTO) and License to Operate (LTO).

The Trans Niger Pipeline Loopline (TNPL) Project was identified early 2007. An opportunity framing workshop was held on the 17<sup>th</sup> August 2007. A project initiation note passed DG-1 1<sup>st</sup> of April 2008. This was followed by project reframing which was done 17<sup>th</sup> April 2008. The project VAR2/3 was held from 15<sup>th</sup> – 17<sup>th</sup> of September 2008. While a DG 3 for the project was held on 26<sup>th</sup> May 2009. Front End Engineering Design (FEED) has been completed on 30<sup>th</sup> April 2010. Detailed Engineering Design is to commence in 2010 and will be concluded by End Q2 2011.

Apart from the BP09 provision (of \$3.582mln) for 2010, there is additional fund required as part of Pre-FID IP. This is the cost of procuring line pipes and induction bends. The amount, \$32mln is part of the \$100.49 mln reflected in 2011, but because this amount is substantial and will be spent before GIP is approved, it is proposed that a notional budget be set up to capture this Pre-FID fund as CAPEX.

The line pipes and induction bends will be used elsewhere in other projects should the TNPL fail to receive FID approval.

### **Project Scope:**

The activities covered by this proposal are consistent with the latest revised plan to mature the project to VAR4 in Q1, 2011 and FID in Q3, 2011. The cost estimate of \$1.07mln Shell share for pre-FID scope essentially covers post VAR3 activities to further define the Trans Niger Pipeline Loopline Project that include FEED, and part of Detailed design, EIA, R.O.W Survey/Land acquisition.

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

Description	2010	2011	2012	2013	2014	2015	Total 100% JV	Total Shell Share
<b>Pre-FID</b>	3.59	0.00	0.00	0.00	0.00	0.00	<b>3.59</b>	<b>1.07</b>
<b>Full Scope</b>	0.00	100.49	277.88	183.84	55.52	4.69	<b>622.42</b>	<b>186.73</b>
<b>Life cycle</b>	3.59	100.49	277.88	183.84	55.52	4.69	<b>626.01</b>	<b>187.80</b>

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

Trans Niger Pipeline Loopline Project is an integrity assurance project that will ensure SPDC continual LTO for the greater Port Harcourt fields. In view of the fact that routine maintenance has not been allowed in the past seventeen years due to socio-political crises on the sections of existing TNP that goes via Bomu axis (within Ogoni land), its integrity status has remained uncertain. However, evidence gathered from failed spots/sections in the past limited inspection and evaluation has led to line pressure de-rating and evidence of progressive loss of containment integrity. There is

the likelihood therefore of a catastrophic failure of the line at anytime besides the fact that the line has outlived its design life and has known poor integrity issues.

In the event of a failure, this would result in deferred oil volumes and loss of revenue over a three-year re-construction period. This delayed monetization of the crude oil volume is the value at risk, which is to be gained from the TNP Loop Project.

The proposed loopline therefore seeks to bypass Ogoni land as much as possible to forestall and mitigate impending HSE issues that are associated with the existing legs that go through Bomu. The HSE risks to avoid include environmental pollution, explosions/fire, fatalities and unending litigations.

This project particularly helps in securing liquids export from Gbaran-Ubie thereby ensuring gas export to NLNG in addition to other 3<sup>rd</sup> parties' production and Okoloma liquids.

### Summary Economics

The TNP Loop project premise safeguards the continued production of Land- East SPDC JV BP09 NFA oil to Bonny terminal. The Pre-FID economics is done on a cost only evaluation with the 50/50 cost treated as opex and expensed in 2010. Sensitivity is carried out on the base case treated as CAPEX. Additional analysis is done on the project Full life cycle which has level II 50/50, 100% project expenditure treated as Capex.

Details to the economics analysis are presented in the grid summary table below.

**Table 2: Economics Grid - Pre-FID**

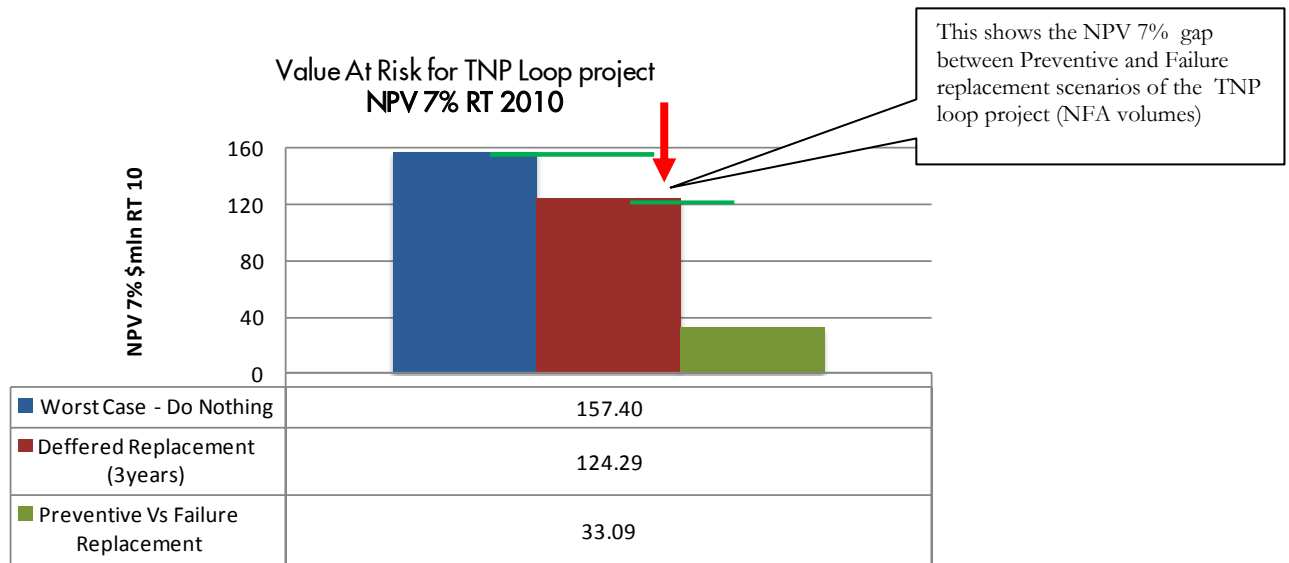
PV Reference Date: 1/7/2010	NPV (S/S \$ mln)		VIR	RTEP	UTC (RT \$/boe)		Payout-Time (RT)	Maximum Exposure (RT)
Cash flow forward from: 1/1/2010	0%	7%	7%	%	0%	7%	yyyy	\$mln
<b>Base Case</b>								
SV (\$50/bbl RT 10)	-0.16	<b>-0.16</b>						
RV (\$60/bbl RT 10)	-0.16	<b>-0.16</b>	NA	NA	NA	NA	NA	0.16 (2010)
HV (\$80/bbl RT 10)	-0.16	<b>-0.16</b>						
BEP (RT \$/bbl)								
<b>Sensitivities (using RV)</b>								
Pre-FID Cost treated as Capex		-0.27	-0.25	NA	NA	NA	NA	0.85 (2010)
1.5% on Pre-FID Cost from BVA issues		-0.19	NA	NA	NA	NA	NA	0.19 (2010)
Full Project Scope (Cost only)		-83.17	-0.54	NA	NA	NA	NA	105.28 (2013)

Parameter	Unit	Bus Plan (RV)	Low	Mid	High	Comments
Capex (MOD)	US\$ mln	na	na	na	na	
Opex (MOD)	US\$ mln	1.07	na	1.07	na	
Production Volume	mln boe	na	na	na	na	
Project Completion Date	yyyy	na	na	Q2 2015	na	
Production in first 12 months	mln boe			na		

In the situation where this project is deferred to a later time (three years), the Preventive option shows significant savings to replacement option at NPV 7% RT 10 \$33.09mln Shell Share.

At the worst case scenario, where this project is not undertaken at all, the Value-at-risk is NPV 7% RT10 \$157.4mln Shell Share which represents the NFA oil volume (till 2029)

**Chart 2: Value At Risk scenarios**



### Economics Assumptions

The following assumptions are applied:

#### Base case

- Pre-FID Cost treated as Oil Independent Opex expensed in 2010
- NDDC levy 3% of total expenditure

#### Full Project Cycle

- Full project cost are 50/50 estimates and treated as capex
- NDDC levy 3% of total expenditure

#### Value At-Risk

- Oil PSV of \$60/bbl RT10
- SPDC Generic Oil variable of \$0.5/bbl was applied
- Fixed opex derived from Facility ARPR Dec. 2009
- Education Tax of 2% oil assessable profit.
- Facility life span of 20years
- NDDC levy 3% of total expenditure

### Section 3: Risks, opportunities and alternatives

<b><u>RISKS</u></b>	<b><u>MITIGATION MEASURES</u></b>
<b>Technical / NCD</b> – Implementation of the Nigerian Content directives (NCD). 1) In-country design capability is limited; and this can result in delay of the TNP Loop project schedule. 2) The use of HSAW linepipes which SCC mill in Abuja produces has no sufficient track record in hydrocarbon transportation when compared with LSAW formed pipes.	1) SciN FEED office will undertake TNPL Project Front End and Detailed Engineering design for early procurement / fabrication. 2) Project team is following up with discipline focal points in Shell reconfirm viability the TNPL project. Also with SCC to sort out the capability to cope with a large order.
<b>Project Schedule:</b> TNPL project First Oil Date P (10/90) is January 2014 exploring options for acceleration. P (50/50) First Oil Date is Q2 2015. Niger Delta security situation may impact the delivery dates.	Project strategy will explore steps to achieve the first oil date .
<b>Economic, Commercial &amp; Statutory</b> – Any late placement of execution contracts due to delays in JV approvals, statutory approvals / licences – EIA, PTS, OPL will impact start of execution with attendant impact on the project delivery date.	Regular engagement with NNPC – NAPIMS / NCD and other JV partners, DPR, NIWA etc.
<b>Organizational-</b> Resourcing of the Major Projects Team UIG/T/PP managing project.	Two Pipeline Engineers have been identified to join the project team during Q2 2010.
<b>Political</b> – General election is scheduled to hold in the country early next year 2011. This could impact the collation of data & Land acquisition due to increase restive nature of the youth during this period.	Continuous Community Engagement
<b>Integrity</b> – Integrity of TNP line (Bomu – Bonny Axis) over 17years span is suspect, since access to carry out integrity checks or maintenance has been denied.	Fast tracking of the TNPL project will forestall any eventualities, which may result in integrity issues.
<b>HSE</b> – Health and safety risks based on HSE-MS hazard registers	Measure will be carried out to ensure HSE risks are maintained at ALARP.
<b>Security</b> – The TNPL route transverse a lot of communities. As such, community interface, HSE and security issues are particularly significant on this route. This was heralded by the continuous hostage taking, armed attacks and attacks on the oil export pipeline and bunkering activities. Escalation in Niger Delta security situation can also impact this commitment.	Continuous community / Local/State governments' engagement. Allowance will be made available for community assistance/development program within the project costs. Recent Amnesty program declared by Federal Government, since Q4 2009, has brought relative peace to the volatile Niger Delta region.
<b>Social Risks-</b> <b>MOSSOP/Ogoni Issue (Oghale Manifold):</b> Any E&P activities in Ogoni by SPDC will result in a negative media backlash for SPDC.  <b>Non-Deployment of GMoU in Ogoni:</b> GMoU is SPDC's interface model with cluster communities. Ogoni community will likely clamour for GMoU	Top level engagement with Rivers State Government to lead stakeholder/issues management in Ogoni in line with SPDC current issues management framework for Ogoni (Governor/SPDC MD). Project specific I-GMoU model will be deployed in Ogoni to manage interface with cluster communities.

deployment in their area as part of FTO assurance.	
<b>Alignment with Greater Port-Harcourt (GPH) Master Plan:</b> Proposed routes might conflict with GPH master plan which will necessitate re-route and design mid-way into project execution.	Project will latch on to on-going engagement with GPH on the AGBADA DOMGAS pipeline route to ascertain any impact on selected TNP route.

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

NAPIMS and DPR were engaged severally and invited to project assurance review (PAR 2, 3), contract strategy workshop and VAR 3 audit exercise.

The existing corporate structure and arrangements of SPDC-JV with SPDC as operator will be used as the vehicle for the investment and operations. Meanwhile, an SPDC Decision Review Board (DRB) will continue to advice.

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

Functional support for the proposal is provided by Finance (EPF, GPB, FCG), Treasury (FT), Tax (FX), Legal (LG) and Contracting & Procurement. (CP). The proposal has the strong support of the Nigerian government. In addition to supporting SPDC's license to operate, the project contributes to Shell's sustainable development efforts through improvement of Nigerian power generation and thus to economic development. Furthermore, the project directly enables the monetization of Shell equity gas.

#### **Sustainable Community Development**

A Social Performance & Community Affairs Plan is being developed for the project. The project will utilize the GMoU structure for interface management with about 44 communities in project area.

In line with Act 58 of 1988 an EIA process has commenced for the entire TNPL Route, which will the collection of Biophysical, Social & Health data over two seasons before the end Q1 2011.

Continuous engagement of the community, including resolution of any legacy issues in impacted areas, shall continue in line with the new SCD principles / rules with regards to ensuring effective community engagement/participation, to guarantee Freedom To Operate (FTO) and eliminate community interface related to down time. All aspects of the project are being executed in line with the Statement of General Business Principles and other SPDC policies.

A stakeholder management framework will be developed to manage peculiar project interface in Ogoni land.

#### **HSE and Security Management**

The HSE performance for Trans Niger Pipeline Loopline (TNPL) Project will be consistent with SPDC's HSE targets. Since it is a swamp / offshore location, stringent HSE rules would apply, especially swimming and medical fitness of every personnel to be deployed. All water borne operations shall be carried out in accordance with SPDC's guidelines and policies. All land and marine transport activities shall comply with the procedures and standards set out in The Shell Transport Management system (LT-MS) Manual Doc. No SPDC 2000-082.

Site security management plan covering movement of materials, personnel and worksite will be in place and signed off.

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

The Major Projects Team UIG/T/PP is managing the project. This project has been matured in line with the Opportunity Realization Process (ORP) and has undergone all the mandatory Value Assurance Reviews (VARs). An Estimate and Schedule review was carried out in April 2010. Key decision gates have been reviewed by SPDC's main Decision Review Board and the Project Manager appointed. Value delivery will be ensured through regular (PERT) reviews and challenge from EP-Projects, SGSI and various Performance reviews within the Major Projects Team organization in SPDC.

## ***Section 7: Budget provision***

The commitment of USD1.07mln Shell share is covered by the 2009 JV Base Budget.

## ***Section 8: Group financial reporting impact***

The financial impact of this proposal on Shell Group financial is as outlined in the table below

<b>US\$ mln</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
<b>Total Commitment</b>	1.07	0.00	0.00	0.00	0.00
<b>Cash Flow</b>					
Pre-FID Expenditure	1.07	0.00	0.00	0.00	0.00
Capital Expenditure	0.00	0.00	0.00	0.00	0.00
Operating Expenditure	1.08	0.00	0.00	0.00	0.00
Cash Flow from Operations	(0.31)	0.15	0.00	0.00	0.00
Cash Surplus/(Deficit)	(0.31)	0.15	0.00	0.00	0.00
<b>Profit and Loss</b>					
NIBIAT +/-	(0.16)	0.00	0.00	0.00	0.00
<b>Balance Sheet</b>					
Average Capital Employed	0.07	0.07	0.00	0.00	0.00

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

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

## ***Section 10: Financing***

The project will be funded with JV funding and Shell share capital expenditure will be met by SPDC's own cash flow, as other major investments in SPDC. Formal JV partners' approval is already obtained to commence project.

## ***Section 11: Taxation***

The income tax from the project would be in accordance with Petroleum Profit Tax Rate and relevant income tax applicable.

## ***Section 12: Key Parameters***

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

- Pre-FID commitment for the Trans Niger Pipeline Project requiring the amount of US \$1.07mln (Shell share).
- As the project is still at its pre-FID stage and pre-payment for the linepipe procurement will be required, we seek finance approval to raise a notional budget /charge capex wbs for the linepipe costs (\$32mln).

## ***Section 13: Signatures***

This Proposal is submitted to SPDC Technical OR Production Director OR GM Finance for approval.

Supported by:

.....

*Chris Nwoke*

FUI/FB

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

or

Supported by:

.....

*Andrew Birch*

UIG/T

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

*Initiator:*

\_\_\_\_\_

*Amoo Oladele*

*(UIG/T/PP)*

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