

## Group Investment Proposal

Business unit	Upstream International (UI)		
Shareholders / partners	Shell 30%, Total; 10%, Nigeria Agip Oil Company (NAOC: 5%, Nigeria National Petroleum Company (NNPC: 55%)		
Amount (Shell share) MOD, 50/50	USD10.5 Mln Capex		
Project	Forcados Water Disposal Line Repair and Rehabilitation.		
0	NPV (USD mln)	RTEP (%)	VIR
Project title			
Base case	-2.8	>50	-0.28
Low case			
High case			

### Proposal Management Summary

This proposal seeks approval for the repair and rehabilitation of the offshore section of the 36” Forcados Water Disposal Line, thereby restoring it to its integral state, in order to guarantee & sustain continuous production of oil, condensate & associated gas production from all SPDC Western fields in line with statutory and regulatory requirements.

The Water Disposal pipeline was commissioned in 1997 to dispose formation water at approximately 3km offshore Forcados waters after crude oil from the entire Western fields and other third party producers is dehydrated at Forcados Oil Terminal (FOT). During statutory underwater inspection survey, the pipeline was discovered to have been severed thereby hampering the diffusion process and therefore was not compliant to Department of Petroleum Regulations (DPR’s) minimum requirement for formation water disposal. It has become expedient to restore the pipeline water disposal functionality and forestall the risk of shut down of the entire production of Western fields by Regulators.

Though the repair of the Water Disposal line to its original length and functionality as proposed does not meet the revised EGASPIN requirement set out by the DPR in 2001, but the DPR by its letter will be willing to issue a Waiver against the revised requirement if the broken disposal line is restored to its original functionality. The long term solution compliant with the revised EGASPIN requirement is the subject of a different project being progressed through the Opportunity Realisation Process.

This project aims to fully rehabilitate the damaged offshore section of the pipeline to guarantee/secure continuous production of oil & associated gas production from all the Western fields in line with statutory and regulatory requirements.

Total Shell share Capex is USD 10.5 mln (50/50, MOD) with a 16% contingency employed in the estimate. Variance exists with BP but approval shall be sought to accelerate work completion in Q1, 2015 due to the sensitivity.

Capex (MOD)	2014	2015	2016	2017
Commitment Phasing	7.3	27.8	0.0	0.0
OP'14 Capex Phasing	5.0	8.5	12.7	11.7

## Value Proposition and Economics Summary

### Economics Summary

The economics evaluation was done as a “Cost Only” evaluation on a forward looking basis using level 3 costs and OP14 production forecasts provided by the project team.

The project value is -\$2.8mln (SS RV RT14).

Sensitivities were done to assess the following:

1. The impact of High CAPEX (+15%),
2. Low CAPEX (-10%) and
3. The value at risk.

The value at risk if the project is not executed is \$4.3bln.

<b>PV Reference Date: 1/7/2014</b>	<b>NPV (S/S \$ mln)</b>		<b>VIR</b>	<b>RTEP</b>	<b>Maximum Exposure (RT) (\$mln)</b>
<b>Cash flow forward from: 1/1/2014</b>	<b>0%</b>	<b>7%</b>	<b>7%</b>	<b>%</b>	
<b>Base Case</b>					
<b>RV (\$90/bbl)</b>	-2.0	-2.8	-0.28	>50	-13.4
<b>Sensitivities (using RV)</b>					
<b>High Capex (+15%)</b>		-3.2	-0.28		
<b>Low Capex (-10%)</b>		-2.5	-0.28		
<b>Value @ Risk</b>		4,330	NA		

*SV and HV not evaluated as they have same value as the RV. Cost Only evaluation*

### Economics Assumptions

- Oil Price of \$90/bbl (with applicable Forcados Offsets) was used for both oil and Condensate
- Gas sales to domestic market Aggregate Domgas PSV-RT14 based on Nigeria Gas Market Plan (NGMP) 1.68/mmbtu.
- Condensate was treated as Oil and taxed under PPT (PPT tax rate of 85%).
- Gas taxed under CITA with Associated Gas Framework Agreement (AGFA) incentive.
- Flare fees of \$3.5Mscf
- SDPC Generic fixed Opex used as follows (for the Base Case):

- Oil fixed of 3.0% of cum. Oil CAPEX
- Variable Opex of \$2.80/boe
- SDPC Dec 2014 ARPR fixed and variable Opex applied to respective facilities (for the value at risk evaluation) except for Uzere East FS.
- NDDC levy of 3% total expenditure.
- Education tax of 2% assessable profit.
- Abandonment cost is estimated at 10% of RT CAPEX
- Social Performance cost is estimated at 2.5% of total project MOD CAPEX
- Crude handling charge of \$2.50/bbl MOD applied for Uzere East Facility

## Risks and Alternatives

### Key risks and alternatives

Funding constraint	Funding is planned to be met through the usual JV funding arrangements, hence provision has been made in OP14, whilst prompt funding is being managed by timely & regular engagements of JV Partners.
Statutory Compliance & Asset Integrity	Execution of the rehabilitation works will minimise company's exposure to possible reputational risks which could result from non-compliance with statutory regulations.
Security Challenges	Security challenges shall be managed by deploying a robust security provision/plan based on current reality in the Forcados area to forestall negative impact on overall project schedule. Furthermore, the security cost build up is robust to cater for the estimated duration.
Community Issues	Effective SP Management strategy shall be deployed to address this risk and minimise attendant delays which may lead to cost escalations for the offshore resources.
Cost escalation	The work is planned for execution during the calm weather window period of November 2014 – March 2015 to minimise downtime due to unfavourable weather. Strict Project Management practices shall be deployed to ensure project completion within the window and to avoid cost escalation.
Nigerian Content	NCD risk in this proposal is very minimal; the Contractor approved by NAPIMS is a fully owned Nigerian company engaged in emergency pipeline repairs works in line with local content provisions approved in the existing EPRS contract.

## Carbon Management

The proposal will not add appreciable amounts of flare gas hence Carbon Management effects have not been considered.

## Corporate Structure and Governance

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

## Group and Business Standards

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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.

## Project Management, Monitoring and Review

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

## Budget Provision

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The project was included in the OP'14 base plan with a 50/50 Capex estimate of USD 37.9 Mln (JV spend) from 2014 – 2017 however, the project has a very short execution window between Q4 2014 – Q1 2015 hence the budget required for accelerated execution (Q4 2014 – Q1 2015) is USD 35.1Mln. Approvals shall be obtained for budget to accelerate works.

## Group Financial Reporting Impact

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There are no unusual accounting issues related to this GIP. Expenditure related to the project will be accounted for in line with Group Policy.

## Disclosure

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

## Financing

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Shell share of the capital expenditure will be met by SPDC's own cash flow and JV funding. Expenditure related to this project will be accounted for in line with Group Policy.

## Taxation

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Appropriate tax treatment in line with statutory requirements.

## Functional Support

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## Signatures

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*Supported by:*

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*Nijssse, Erwin SIEP-FUI/O*

*VP Finance Operated*

*Date ...../...../.....*

*Approved by:*

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*Droll, Markus SEPA-UIO/G*

*VP Nigeria & Gabon*

*Date ...../...../.....*

## Appendix A - Detailed Project Parameter Data

Project Focal Point / Indicator	Niyi Salami PTP/O/NP
DRB: Decision Executive if applicable	Bayo Ojulari UIO/G/D
DRB: Members if applicable	

Performance Parameters	Unit	OP'14	GIP	Variance details
Total GIP Capex (Shell share)	USD Mln	37.9	35.1	<i>16% contingency employed.</i>
FID Date	Mar/15			<i>Requirement for accelerated project execution.</i>
First Oil/Gas Date	MMM/YY			

Performance Parameters	Unit	OP'14	GIP	Variance details
Proved Developed Reserves (GES <sup>(1)</sup> @ RV-RT)	MMboe			
Expectation Developed Reserves (GES or SWIS <sup>(2)</sup> )	MMboe			
UDC <sup>(3)</sup> (MOD)	USD/boe			
Oil - Initial Rate (100%) <sup>(4)</sup> Gas - Capacity (100%) <sup>(4)</sup>	b/d – Oil MMscf/d- Gas			

**NOTES:** Conversion of gas volumes to boe: use SIEP standard conversion of 1 Bcf = 0.1724 MMboe

<sup>(1)</sup> GES: Group Entitlement Share

<sup>(2)</sup> In PSC environment quote SWIS.

<sup>(3)</sup> UDC: SS Project Capex/GES Developed Expectation Reserves (or SWIS in PSC environment)

<sup>(4)</sup> Initial stable oil flow or first 3 months average production rate.

## Major Milestones

Date	Description
Nov '14	Contract Mobilisation
Jan '15	Mobilisation of Contractor to site
Mar '15	Complete Rehabilitation works
Mar '15	Re-commission rehabilitated pipeline
Mar '15	Complete site restoration/demobilisation