Internal Investment Proposal

<table>
<tr><td>Business unit</td><td>Upstream International Operated, Nigeria/Gabon, Shell Petroleum Development Company of Nigeria Limited (SPDC)</td></tr>
<tr><td>Shareholders / partners</td><td>Shell 30%, Nigeria National Petroleum Corporation (NNPC: 55%), Total Exploration & Production Nigeria Limited (TEPNL: 10%), Nigeria Agip Oil Company (NAOC: 5%) in SPDC-JV where SPDC is the Operator.</td></tr>
<tr><td>Amount (Shell share) MOD, 50/50</td><td>USD 4.3 Mln Opex
<table>
<tr><th>S/N</th><th>Service Description</th><th>100% JV (USD mln)</th><th>Shell share (USD mln)</th></tr>
<tr><td>1</td><td>Well Test Services</td><td>2.21</td><td>0.66</td></tr>
<tr><td>2</td><td>WHM Ops</td><td>0.2</td><td>0.06</td></tr>
<tr><td>4</td><td>HP Pumping Ops</td><td>0.43</td><td>0.13</td></tr>
<tr><td>5</td><td>WT Support</td><td>0.5</td><td>0.15</td></tr>
<tr><td>6</td><td>SL Support</td><td>1.5</td><td>0.45</td></tr>
<tr><td>8</td><td>IT Support</td><td>0.03</td><td>0.01</td></tr>
<tr><td>9</td><td>SPDC Logistics</td><td>1.69</td><td>0.51</td></tr>
<tr><td>10</td><td>FTO</td><td>0.06</td><td>0.02</td></tr>
<tr><td>11</td><td>Security</td><td>0.45</td><td>0.14</td></tr>
<tr><td>12</td><td>Barges + support</td><td>1.69</td><td>0.51</td></tr>
<tr><td>13</td><td>Dredging</td><td>5.66</td><td>1.70</td></tr>
<tr><td colspan="2">Total OPEX</td><td>14.42</td><td>4.33</td></tr>
</table></td></tr>
<tr><td>Project</td><td>Bonny Non Associated Gas Multi Rate Tests</td></tr>
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Proposal Management Summary

This investment proposal seeks support for US$ 4.3 million Opex (Shell share, P50, MOD) to enable SPDC fund the execution of Multirate Tests in 6 wells planned for Q1 2014. The affected wells are in M1000 NAG reservoir of Bonny field. The project drivers include compliance to statutory requirements and maintaining our contractual obligations; the value is in maintaining our License to Operate, safe guard existing production from these wells and prove additional upside potential (100 to 400 MMscf/d).

- M1000X produced gas (1.21 Tcf), as of end October 2013, had out produced the booked expectation developed ultimate recovery estimate of 31.12.2012 (1.21 Tcf). This implies that there were no volumes left in the book to support future production.
- Dev. Asset Team recently booked additional 1 year production volume of ca. 173 Bscf at 270MMscf/d to provide reserves accounting basis for continued production till 2015.

- The last set of MRT on M1000 wells was carried out in 2008.
- There is clearly an upside potential in M1000; uncertainty is whether this will be a 1, 2, 3 or 4 years (ca. 100 to 400 MMscf/d) extended reservoir life.
- The MRT in the 6 wells is required to address the above uncertainty and results will be used in updating the models required for a more robust production forecast.
- The MRT cost is justified in the expectation case (1 year @ 270 MMscf/d) considering the upside potential.

The project supports SPDC's contractual obligation of fuel gas supply to Bonny Crude Oil Terminal as well as gas (NAG) supply to Bonny NLNG while ensuring the company maintains WRFM minimum standards and statutory requirements. There is an anticipated value upside of US$16.1 million (Shell share, NPV7%, RT14) based on the upstream value which can be realised based on current estimated production profiles and the result of the tests.

Value Proposition and Production Forecast

The key Project drivers are as follows;

- SPDC has a contractual obligation to supply NAG to the Bonny NLNG. The results of the tests are required to correctly assess the deliverability and potential of the NAG wells. This will enable a better management of the supply to NLNG from the NAG wells.
- Statutory obligation required by Nigerian Petroleum industry laws which states that wells be regularly tested (ca. every 2 years) and the last tests in Bonny M1000N were executed in 2008. We have not been complying but we now want to remedy that.
- To support the volumes update of the reservoir for which 31.12.2013 ARPR booking of 2P Reserves of about 173 Bscf was made to support continued production because the UR of the reservoir based on the existing expectation model had been produced. There is potential for an upside (100 to 400 Bscf).

This operation would ensure steady fuel gas supply to Bonny Crude Oil Terminal as well as gas to the Bonny NLNG. The project is of production critical importance.

Production Forecast

A production forecast based on the estimated 1 year production in 2014 was made. This is the base case forecast as carried in the 31.12.2013 ARPR.

Table 1, the Production forecast profile based on an estimated 1 year production at 270MMscf/d is presented below:

Note: 31.12.2013 ARPR forecast for Bonny NAG NFA wells (combined for wells 24, 25, 26, 27, 28 & 29T only).

Year	Sales Gas, Mscf/d	Flare Gas, Mscf/d	Own Use Gas, Mscf/d	Prod. Gas, Mscf/d	Condensate, (b/d)
2014	233,585.21	1040.087	4462.622	239,087.67	101.183225
2015	215,860.00	184.286	4468.72	220,513.00	75.183

Summary Economics

The economics for this IP was carried out on a cost-only, forward-looking basis using the project 50/50 level III cost estimate. The costs associated with these wells are treated as OPEX since the tests involve production optimisation. The base case is the consolidation of the cost of the six wells.

The following sensitivities were carried out to reflect how the project stands in different possible scenarios:

- High Opex
- 1 year project delay
- 1.5% Cost mark-up due to cost variations.

We also ran sensitivity on the expected value of the estimated production from the field to check the viability of further tests being carried out on the well

From the results shown in **Table 1**, the project returns a negative NPV7%. Economics details are shown below:

Note: NA: VIR does not apply to the base case due to zero CAPEX (Project cost treated as OPEX)

PV Reference Date: 1/07/2014	**NPV (S/S $ mln)**		**VIR**	**RTEP**	**UTC (RT $/boe)**		**Payout-Time (RT)**	**Maximum Exposure (AT)**
Cash flow forward from: 01/01/2014	**0%**	**7%**	**7%**	**%**	**0%**	**7%**	**yyyy**	**$ mln (YYYY)**
Base Case								
SV-RT ($70/bbl RT13)*								
RV-RT ($90/bbl RT13)	**-3.1**	**-3.1**	**NA**	**NA**	**NA**	**NA**	**NA**	**-3.1 (2014)**
HV-RT ($110/bbl RT13)*								
Sensitivities (on base case)								
High Opex (+50%)		**-4.6**	**NA**					**-4.6 (2014)**
1 Year project delay		**-2.8**	**NA**					**-3.0 (2015)**
1.5% cost mark up due to BVA		**-3.1**	**NA**					**-3.1 (2014)**
Anticipated value due to production from 2014-2015		**16.1**	**NA**					**NA**

*Note same result applies to SV-RT and HV-RT since there is no revenue stream

Economics Assumptions:

- ABCM Opex as provided by the project team was used
- NDDC levy 3% of total expenditure.
- Education tax of 2% assessable profit

Risks and Alternatives

The key risks and mitigation factors for the project are discussed in the table below.

Risk	Impact	Mitigation
Loss of wireline tool in hole.	Execution delay and loss of tools	NPT and increase in well intervention cost. Good house-keeping. Follow procedures for tool make up.
Community disturbances	Delay in project execution	Application of the existing Global Memorandum of Understanding (GMoU) for continuous engagement of the communities, including resolution of any legacy issues in line with the new GMOU interface model and SCD principles/rules-to guarantee Freedom To Operate (FTO).
Health, Safety & Environment	Damage to the environment Damage to Equipment Loss of life and reputation exposure for SPDC	Strict compliance with all SPDC & Group HSE policies and procedures and adherence to WIMS.
Security	Hostage taking, existence of militant groups and threat of insurgence which could threaten project execution.	With improvements in the Niger Delta security following Amnesty programme, it is envisaged that there will be a reduction in Community related NPT. Specific threats will be managed through the Security & Surveillance Centre (SIS) and communicated in good time to those that need to "Know" and "act".
Community Interface	Legacy issues	Community relations for the project shall be conducted using existing SPDC frameworks. Drilling campaign is planned in the Bonny field and GMoU is in place
General		As per SPDC procedures the contractor handling the project will develop a security plan, agreed to by the Contract Holder, and then sent to the Area Security Adviser for review. Thereafter, the reviewed plan is sent to the Security Coordinator/Asset Manager for approval. It is only then that the contractor mobilizes to site to commence well operations.

HSE management	Compliance	The HSE management of the project shall be coordinated by the Well Engineering department with implementation actions agreed by key stakeholders. All activities are to be planned and delivered under the current drive to achieve 'Goal Zero'. Controls will be put in place to mitigate the identified hazards and effects, subjected to continual supervisory oversight to ascertain their adequacy and effectiveness throughout the execution phase. Recent experience has shown that, poor attitude and non-compliance with procedures remain the main root causes in most of the HSE incidents recorded in SPDC. On a company-wide scale, huge exposures have also been identified in non-core drilling contractors and secondary logistics activities. These areas require closer supervision. Learning from incidents is important to bring about the desired improvements in HSE practice during repair and restoration of the wells. The learning will be disseminated to all the staff involved in the project, including contractors and their sub-contractors to avoid incidents.

Alternatives

Do-Nothing scenario is not an option considering the statutory requirements as well as gas contractual obligation requirements. The government regulatory body requires that wells be regularly tested (ca. every 2 years) and the last tests in Bonny M1000N were executed in 2008. SPDC has a contractual obligation to supply NAG to the Bonny NLNG. The results of the tests are required to correctly assess the deliverability and potential of the NAG wells. The results will also be used to update the models to correctly assess the remaining reserves in this reservoir and determine its accurate production forecast.

Do-Nothing will result to loss of value (zero reserves) whereas some more can still be realised. An upside reserves alternative was considered.

Carbon Management

The produced gas from BONN 24T will be processed and used as fuel gas in the terminal while that from BONN 25T, 26T, 27T, 28T and 29T will be produced to Bonny NLNG. Carbon emission will be minimal as is currently the practice in the field.

Corporate Structure and Governance

This proposal is within the SPDC corporate structure and governance framework.

Group and Business Standards

This proposal and the execution of the project are consistent with the Group Business standards. Functional supports for this proposal have been provided by Technical, Finance, Legal, Treasury, Social Performance and Tax functions etc.

Project Management, Monitoring and Review

The project plan has been drawn and agreed by all stakeholders [Swamp East Long Term Resource Optimization Team (LTRO), Well, Reservoir and Facilities Management Team (WRFM), Wells and Engineering Hub Teams, Sustainable Development and Community Relations].

There will be regular progress reports of the well delivery activities to Development Onshore Manager, the Development General Manager and to the JV Partners. All significant reviews and follow up actions had been done in the Development and Engineering Teams. Following successful completion, the wells will be handed back to the Swamp East Production Operations Team.

Budget Provision

This project was not included in BP12 budget and the 2012/13 JV Programme. Efforts are being made to include it into the incremental budget of 2014.

Group Financial Reporting Impact

The post-tax expenditure related to this project will have limited impact on group financial results.

Disclosure

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

Financing

This investment will be financed with JV funding, so formal JV approval will be required. The Shell share of the investment will be financed by SPDC's own resources.

Taxation

There are no unusual Taxation features.

Final Signature (Optional – all support and approvals done in eIP)

for : **Upstream International Operated, Nigeria/Gabon**	
Name: Van Bunnik, Jan	*Name: Ojulari, Bayo*
Date:	*Date:*
Approved	*Approved*

Appendix A - Detailed Project Parameter Data

Project Focal Point / Indicator	Simon Roya UIO/G/DNE
DRB: Decision Executive if applicable	NA
DRB: Members if applicable	NA

Performance Parameters	Unit	*BPX-1*	GIP	Variance details
Total GIP Opex (Shell share)	USD Mln	NA	4.3	*Opex activity.*
FID Date	MMM/YY	NA	NA	*Deviations from BP explained*
First Oil/Gas Date	MMM/YY	NA	NA	

Performance Parameters	Unit	*BPX-1*	GIP	Variance details
Proved Developed Reserves (GES(1) @ RV-RT)	MMboe	NA	5.4	
Expectation Developed Reserves (GES or SWIS(2))	MMboe	NA	9.6	
UDC (3) (MOD)	USD/boe	NA	0.45	**Opex used**
Gas - Capacity (100%)(4)	MMscf/d- Gas	NA	270	**Gas Nomination @ 27/12/2012**

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

(1) GES: Group Entitlement Share

(2) In PSC environment quote SWIS.

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

(4) Initial stable oil flow or first 3 months average production rate.

Major Milestones

Date	Description
1	
2	
3	
4	
5	

Table is not applicable