The Shell Petroleum Development Company of Nigeria Limited

Internal Investment Proposal

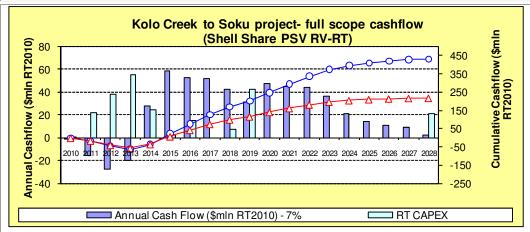
Summary Information

Directorate	Technical Directorate							
Group equity interest	100% in SPDC, whereas JV with a 30% 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 E & P Nigeria (TEPNL 10%), and Nigeria Agip Oil Company (NAOC: 5%)						
Amount		US\$2.7 mln Shell share, MOD, 50/50 of which US\$1.4 mln is requested for approval in this proposal and US\$1.3 mln had been approved in the previous Gbaran Phase 2 Pre FID proposal.						
Project	Pre-FID for Kolo Creek	Deep Developm	ent					
Main commitments	Description	Previously Approved (Shell Share)	Requested Increase (Shell Share)	Complete Pre- FID Budget (Shell Share)	Complete Pre- FID Budget (100% JV)			
	Survey, Land Acquisition & Security	0.2	0.2	0.4	1.2			
	ESHIA	0.1	0.1	0.2	0.6			
	Project Management	0.2	0.4	0.6	2.0			
	FEED	0.6	0.9	1.6	5.2			
	SCD	0.2	-0.2	0.0	0.0			
	Total Pre-FID OPEX (FUS\$ mln)	1.3	1.4	2.7	9.0			

of financing

Source and form This pre-FID 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.

Summary cash flow (Shell Share)



Summary economics (Shell Share)

Summary Economics	NPV7% (USD mln)	RTEP (%)	VIR7%			
Pre-FID – OPEX VIEW	-0.9	NA	NA			
Pre-FID – CAPEX VIEW	-0.7	NA	-1.15			
Full project -Base Case	216.4	44.8	1.37			
* Refer to table 3b for other sensitivities						

Section 1: The Proposal (Management Summary)

1.1 Management Summary

This Pre-FID Investment Proposal requests approval for funding of US\$1.4 mln (Shell Share) to progress the Front End Engineering Designs (FEED), Survey, Land Acquisition and Environmental, Safety & Health Impact Assessment (ESHIA) studies for the Kolo Creek Deep Field Development.

The objective of the Kolo Creek Deep project is to develop about 1.5 Tscf of gas and 56 MMSTB of condensate by the drilling, completion and hook-up of four F2 NAG wells (0.98 Tscf) and an additional three F1 NAG wells (0.57 Tscf) to maintain gas supplies to the Soku Gas Plant and fulfil SPDC JV gas contractual commitments to NLNG Trains 1 to 6.

Approval is thus sought for funding of these pre-FID activities, which must be pursued ahead of the FID decision; not only to yield the detailed project scopes of works, specifications and reliable cost estimate for the economic screening of the project but also to enable execution works to commence immediately upon project approval.

1.2 Previous proposals

In November 2007, a pre-FID Investment Proposal of \$4.57 mln (Shell Share) was approved for the Front End Engineering Designs of the initial Gbaran Ubie Phase 2 Project and the Gbaran VZTX-2 NAG well location preparation and procurement of long-lead materials. Following the reframing of the initial Gbaran Ubie Phase 2 project to 3 separate scopes ((a) Gbaran, Koroama and Epu fields, (b) Kolo Creek Deep field and (c) Ubie field), the initial pre-FID IP approval and expenditure have been allocated to the respective scopes based on the value of each development ((a) \$2.62 mln, (b) \$1.34 mln and (c) \$0.62 mln). All requisite change control and approvals for this post-DG3 change of concept are in place.

The detailed scope and life cycle cost for the full project work scopes can be found in Appendix 1. The estimated yearly expenditure phasing for the full project work scopes is indicated in Table 1 below.

Table 1: Yearly estimated expenditure (FUS\$ mln)

	Previo	,	Requested Pre-FID					,					
Description	Prior Years	2010	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Total 100% JV (FUS\$ mln)	3.6	0.8	4.6	76.7	135.3	201.7	91.2	9.6	57.5	0.0	31.2	174.1	786.3
Total Shell Share (FUS\$ mln)	1.1	0.2	1.4	23.0	40.6	60.5	27.4	2.9	17.3	0.0	9.3	52.2	235.9

Section 2: Value Proposition and Strategic and Financial Context

2.1 <u>Justification for Pre-FID Expenditure</u>

The proposed Pre-FID expenditures are required to enable FEED and early commencement of surveys, land acquisition and EIA studies, which require at least two years to complete. These activities must be pursued with urgency to enable the drilling of the Kolo Creek F2 wells in 2013.

2.2 Production and Reserves

The Kolo Creek Deep Field Development will develop 1.5 Tscf of gas and 56 MMSTB of condensate from the Kolo Creek F1 and the F2 reservoirs to sustain gas supplies to the Soku gas plant and meet SPDC JV gas supply commitments to NLNG Trains 1 to 6.

The gas supply forecast following the evacuation of the Kolo Creek Deep gas to Soku is shown in Figure 1 below, while the estimated contribution to the NLNG T1-6 supply profile is shown in Figure 2.

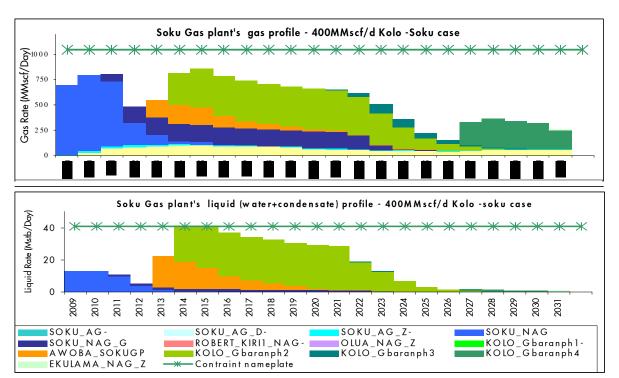


Figure 1: Soku Gas Plant capacity utilization plots (optimised 400 MMscf/d K C Deep Development)

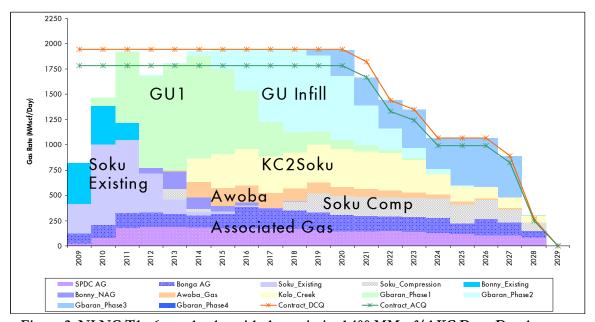


Figure 2: NLNG T1 - 6 supply plot with the optimised 400 MMscf/d KC Deep Development

2.3 Summary Economics

The pre-FID economics was carried out as a cost only evaluation on a forward-looking basis using the project 50/50, IP headline cost estimates. Two scenarios were considered, the first scenario treats entire Pre-FID cost as OPEX, assuming that FID is not taken, while the second scenario splits the Pre-FID costs into proper costs element (Table 2a). The full project (Post FID) evaluation for the project was done using the 50/50 cost estimates and expectation production forecast (Table 2b). Sensitivity analysis was carried out to determine the values of the project at different subsurface realizations and high CAPEX. Given the uncertainty surrounding JV funding for this project as well as Nigerian EP fiscal regime, additional sensitivities on the base case include sensitivity using the 2009 Modified Carry Arrangement (MCA) terms and sensitivity on the Petroleum industry Bill (PIB version 4.2) to determine its possible impact on the project value.

Table 2a: Summary economics grid for Kolo Creek Deep Field Development (Pre-FID investment)

PV Reference Date: 1/7/2010	NPV (S,	/S \$ mln)	VIR	RTEP	UTC (R	T \$/boe)	Payout- Time (yyyy)	Maximum Exposure \$mln (RT)
Cash flow forward from: 1/1/2010	0%	7%	7%	%	0%	7%		AT
OPEX View								
SV (\$50/bbl RT10)	-0.9	-0.9	N/A					
RV (\$60/bbl RT10)	-0.9	-0.9	N/A	N/A	N/A	N/A	N/A	
HV (\$80/bbl_RT10)	-0.9	-0.9	N/A					
BEP (\$/bbl)					N/A	N/A		
CAPEX View								
SV (\$50/bbl RT10)	-0.6	-0.7	-1.15					
RV (\$60/bbl RT10)	-0.6	-0.7	-1.15	N/A	N/A	N/A	N/A	
HV (\$80/bbl RT10)	-0.6	-0.7	-1.15					
BEP (\$/bbl)					N/A	N/A		
Sensitivities on CAPEX (using RV RT)							
Life Cycle Economics for Pre-FID		-1.4	-1.20				N/A	

Key project Parameters (Shell Share)

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Parameter	Unit	Low	Mid	High	Comments		
OPEX (MOD)	US\$ mln	0	1.4	0.0	Pre-FID spend only		
Investment Opex	US\$ mln	0	0.0	0.0			
Sales Volume	mln boe	0.0	0.0	0.0			
Start Up Date	mm-yy	NA	NA	NA			

Table 2b: Summary economics grid for Kolo Creek Deep Field Development (FLC investment)

Table 2b: Summary economics grid for Rolo Creek Deep Field Development (FLC investment)								
PV Reference Date: 1/7/2010	NPV (S/S \$ mln)		VIR	RTEP	UTC (RT \$/bbl or \$/mln btu)		Payout-Time (RT)	Maximum Exposure (S/S \$ mln)
Cash flow forward from: 1/1/2010	0%	7%	7%	%	0%	7%		
Base Case								
SV (\$50/bbl & \$1.37/Mscf RT10)	327.0	160.5	1.02	37.9%	5.5	6.4		
RV (\$60/bbl & \$1.63/Mscf RT10)	430.7	216.4	1.37	44.8%	5.5	6.4	2015	69.0 (2013)
HV (\$80/bbl & \$2.15/Mscf RT10)	638.1	328.3	2.08	56.5%	5.5	6.4		
BEP (RT \$/boe)					NA	NA		
Sensitivities (using RV)								
High Capex (Prob < 0.10)		208.2	1.15				2015	79.0 (2013)
Low Reserves (Prob < 0.85)		186.4	1.18				2015	69.0 (2013)
High Reserves (Prob < 0.15)		220.5	1.40				2015	69.0 (2013)
Base Case under PIB terms (v4.2)		33.6	0.21					
Base Case with MCA funding		215.6	0.68				2016	28.9(2013)
Full Life cycle		215.7	1.36				2015	69.7 (2013)

2.4 <u>Economics Assumptions</u>

Pre-FID Investment

- Pre-FID evaluation is treated as cost only
- AGFA incentive applied to base case

Full Project Scope

- AGFA fiscal incentive applied for gas sales to NLNG Trains 1 to 6
- Condensate will be spiked into oil and treated as oil
- ARPR (31/12/2009) variable OPEX for Gbaran gas plant used for evaluation
- NDDC Levy of 3%
- Education Tax of 2% assessable profit
- GHV of 1150Btu/Scf was used for NLNG
- 10% of total project RT CAPEX assumed as abandonment cost

Section 3: Risks, Opportunities and Alternatives

3.1 <u>Risks and Mitigation Plans</u>

Risk	Planned Mitigation
Funding constraints	Pre-FID funding requirements will be met through the usual JV funding arrangements. However, there is currently no agreed funding mechanism for the post FID phase. IOC partners are currently exploring alternative funding mechanisms, which may be based upon NLNG financing via pre-payment for gas sales. Progress on this must be made during 2010 to support the tendering of major contracts.
Continued insecurity in the Niger Delta region	Mitigation for this risk is handled at a corporate and Nigerian National level and, if situation persists could negatively impact the project schedule and first Gas Date. However, prior the mobilization for drilling and construction works, a detailed security plan will be worked in conjunction with the Area Security Advisor – Major Projects and approved by the Head Security Operations, East.
Community Issues	For the Gbaran Ubie Project (including EGGS-2), a program of sustainable community development activities has been agreed and documented in Global Memoranda of Understanding (G-MOU) and Project Labor Agreements (PLA) signed by all relevant parties. New G-MOU and PLA will be needed for Kolo Creek Deep Field Development and community interfaces will be managed in a consistent manner with Gbaran Ubie Phase 1 and EGGS-2 projects.
FDP approval from DPR	Statutory approval for the Kolo Creek Deep F2 development and F1 appraisal FDP is still awaited from DPR. The project team is utilizing help from JV Partners and NAPIMS and has held further engagements and presentations to DPR to also forego the F1 appraisal. Whilst late approval of the FDP would cause delays to completion of the FEED planned in 2010, the project team has mitigated against DPR's refusal to forego the F1 appraisal by its inclusion in the project base scope.
Contracting tender approvals from NAPIMS	Prequalification evaluation for the advertised scope of work was put on hold by NAPIMS due to NAPIMS request for 3 rd party reserves certification. The reserves certification has been completed and reviewed with JVPs and the prequalification exercise is ongoing. The project schedule is premised on issuing the EPC technical tenders in August 2010, giving enough time to specify the project scopes and resolve bidder's list approval from NAPIMS.

Long term disposal of liquids from Soku	Condensate evacuation from the Soku Gas Plant has negatively impacted gas export availability due to endemic bunkering and in 2009 a stop-gap condensate spiking project was brought on stream. A separate project is at the feasibility stage to replace the GPHSL with a more deeply buried oil & condensate pipeline from Soku to San Barth to provide a long-term export route for condensate separated at the Soku Gas Plant. The need for this
	new pipeline is independent from the Kolo Creek Deep investment decision.
Tax proposals in the Petroleum Industry Bill	The PIB is being read in the National Assembly. The current interpretation is that if enacted as drafted, it would have a major negative impact on the upstream project's economics and threaten continued investment in the gas supply projects required to sustain midstream revenues. A specific guarantee was obtained from NNPC that the existing gas fiscal terms will continue for NLNG Trains 1-6 supply projects. However, confidence is not high that existing tax agreements and assurances from the Government can be relied on to protect against the effects of policy changes. The PIB sensitivity included in the economics summary table assume this guarantee will not protect the project. PIB fiscal changes are not expected to apply to NLNG's own business, although there is clearly a risk of further fiscal assault.

3.2 Alternatives

The alternatives of processing Kolo Creek Deep gas at Gbaran or Soku have been evaluated. Considering the declining Soku production, the resource base in the Soku and Gbaran nodes and the need to minimize capital investment, the option of evacuating Kolo Creek Deep gas to Soku optimizes SPDC's infrastructure usage in the short term and maximizes ullage-options for both the Soku and Gbaran areas.

Further alternatives were also evaluated for 500, 400 and 300 MMscf/d production rates from Kolo Creek Deep to Soku. The 500 MMscf/d Kolo Creek Deep option would require a finger type slug catcher and additional condensate stabilization capacity at the Soku gas plant, because it is competing with the Awoba NAG project for liquid handling space. The 300 MMscf/d Kolo Creek Deep Development option results in minimum CAPEX, but will not fulfill SPDC supply obligations to the NLNG T1-6 in the short term. Short/medium term supply obligations can be met with the 400 MMscf/d Kolo Creek Deep Development.

Section 4: Carbon Management

The Kolo Creek Deep facilities including all tie-ins at Soku will be designed for non-routine flaring or venting of gas. The facilities CO₂ emissions and intensity will remain below the EP Carbon Management materiality criteria. During FEED, addendums will be written to the Gbaran Ubie Phase 1 and the Soku Gas Plant Greenhouse Gas Emissions and Energy Efficiency (GHG and EE) Plans.

Section 5: Corporate Structure, and Governance

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

Section 6: 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 7: Project Management, Monitoring and Review

The DG-3 change of concept to process Kolo Creek Deep gas at Soku Gas Plant has been approved by the DRB meeting of 19th July 2009 and reviewed by the PERT of 2nd to 6th of November 2009. EVP

approval has also been secured for the sufficiency of assurance activities and to proceed to Define Phase. The Gbaran Ubie project team will execute the project in order to capture lessons-learnt from the earlier developments. There is an identified Decision Executive, Business Opportunity Manager, Project Manager and Operations Manager. The existing Gbaran Ubie Phase 1 Project Delivery Advisory Board (PDAB) 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 PDAP.

Section 8: Budget Provision

The budget for the 2010 pre-FID works has been approved at DEVCOM and is in the SPDC JV Base budget for 2010.

Section 9: Group Financial Reporting Impact

The Financial impact of this activity on Shell Group Financials is as indicated in the Table 3 below

Table 3: Cash flow/financing impact table/forecast

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US\$ mln	2010	2011	2012	2013	2014	Post 2014
Total Commitment	1.37	0.00	0.00	0.00	0.00	0.00
Cash Flow						
Pre-FID Expenditure	1.37	0.00	0.00	0.00	0.00	0.00
Capital Expenditure	0.00	0.00	0.00	0.00	0.00	0.00
Operating Expenditure	0.04	0.00	0.00	0.00	0.00	0.00
Cash Flow from Operations	(0.40)	0.20	0.00	0.00	0.00	0.00
Cash Surplus/(Deficit)	(0.40)	0.20	0.00	0.00	0.00	0.00
Profit and Loss						
NIBIAT +/-	(0.21)	0.00	0.00	0.00	0.00	0.00
Balance Sheet						
Average Capital Employed	0.10	0.10	0.00	0.00	0.00	0.00

Section 10: Disclosure

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

Section 11: Financing

The pre-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. However, there is currently no agreed funding mechanism for the post FID phase. Discussions are ongoing with JV Partners to explore alternative funding mechanisms, which may be based upon NLNG financing via pre-payment for gas sales. It is expected that this agreement will be concluded before the project takes FID.

Section 12: Taxation

The main tax risk related to this proposal is the enactment of the Petroleum Industry Bill (PIB), included as sensitivity in Table 2. PIB version 4.2 has been used as sensitivity to reflect the uncertainties surrounding the applicable fiscal regime. Recent interpretations from government and the industry show that the project economics would be reduced to an NPV of \$33.6mln following enactment of the PIB.

Section 13: Key Parameters

Approval is sought for additional US\$1.4 mln (Shell Share, to progress the FEED, Surveys, Land Acquisitions and ESHIA for the Kolo Creek Deep Development) bringing the aggregate Pre-FID expenditure on the Kolo Creek Deep Development to US\$2.7 mln (Shell Share).

Section 14: Signatures

This Proposal is submitted to SPDC Organisational Representatives for approval.

Supported by:	For Business approval:
Rob Van Velden (SPDC Finance Director, EPF-G-T) Date://	Andrew Birch (General Manager Onshore/Shallow Offshore Projects, UIG/T/P) Date://

Initiator: Joseph Ike, UIG/T/PNP

Appendix 1: Details and Cost Estimate (MOD 100% JV) for the Kolo Creek Deep Development

The scope of the Kolo Creek Deep field development consists the following:

- 1. Drilling and completing of four NAG wells to target the Kolo Creek Deep F2 reservoir (0.98 Tscf)
- 2. Drilling of one appraisal well into the F1 reservoir
- 3. Drilling and completing of three NAG wells to target the Kolo Creek Deep F1 reservoir (0.57 Tscf)
- 4. Installation of a remote field manifold at the Kolo Creek Oil and NAG Manifold Location
- 5. Install (on-plot) flowlines from the wells to the Kolo Creek NAG manifold
- 6. Install a 20-inch, 40 km long carbon steel pipeline (with corrosion inhibition) from the Kolo Creek Manifold to the Soku Gas Plant designed to evacuate 400 MMscf/d from Kolo Creek NAG Manifold
- 7. Installation of a slug catcher at the Soku Gas Plant

Details of the cost estimate (MOD 100% JV) for the full scopes of the Kolo Creek Deep Development Project can be found below.

50/50 MOD Cost Estimate (US\$ mln)					
Description					
Location Preparation	55.6				
Drilling and Completion	340.1				
Pipeline and Hook-up	20.4				
NAG Facilities	314.3				
SILS	6.6				
ESHIA	0.6				
Project Management	24.4				
Total CAPEX (100% JV)	762.0				
FEED	5.2				
SCD	19.1				
Total OPEX (100% JV)	24.3				
Total (100% JV)	786.3				
Total (Shell Share)	235.9				