Memorandum to the Board of Royal Dutch Shell plc
Group Investment Proposal

Summary Information

Business unit and company	Shell Petroleum Development Company of Nigeria Limited (SPDC)
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 Exploration and Production Company Nigeria (TEPNL 10%), Nigeria Agip Oil Company (NAOC: 5%)
Amount	US$105mln Shell share, MOD, 50/50 is requested for approval in this proposal of the 100% JV estimate of US$165mln. This proposal includes Shell equity share (30%) of US$50mln and Shell's MCA commitment on NNPC Share(36.67%) of US$56mln
Project	Gbaran-Ubie CPF North Bank Shoreline Protection Project

Main commitments

Description	Complete Budget (100% JV)	Complete Budget (30% Shell Share)	Total NNPC MCA Carry (36.67% Shell Share)	Total Shell Share (Equity + Carry) This proposal
Facilities (F$mln)	151.9	45.6	55.7	101.2
PMT	9.7	2.9	0.0	2.9
Total CAPEX ($ mln)	**161.5**	**48.5**	**55.7**	**104.1**
SCD	3.6	1.1	0.0	**1.1**
Total OPEX ($ mln)	**3.6**	**1.1**	0.0	**1.1**
Total Project ($ mln)	**165.1**	**49.5**	**55.7**	**105.2**

Source and form of financing	This project is to be financed via the Alternative Funding (AF) mechanism The premise for this proposal is the Modified Carry Agreement (MCA) funding vehicle and the proposal is a part of the Gbaran-Ubie 2 MCA bundle.
Summary cash flow (Shell Share)	NOT APPLICABLE(Cost Only evaluation)

Summary economics (Shell Share)

Summary Economics (RV-RT13)	NPV7 (USD mln)	RTEP (%)	VIR7
Base case	-24.3	NA	-0.27
High Capex	-29.3	NA	-0.27

Section 1: The Proposal (Management Summary)

1.1 Management Summary

This Group Investment Proposal requests approval for funding of US$105.2mln Shell Share (US$49.5mln Equity & US$55.7mln Carry) which is required for the execution of the Gbaran-Ubie CPF North Bank Shoreline Protection Project. This project has the objective of protecting the Gbaran CPF shoreline from ongoing erosion caused by Nun river action; this would ensure continuous operation of the CPF throughout its design life and beyond. The project has a P50 cost estimate 100%JV of $165.1mln

RDS Board support for this project was secured in December 2012 as part of the GU2 bundle. Group CFO agreed that separate approvals of the individual GIPs by CEPV are not required as long as the overall headline size stays within the Board mandate. Tables 5&6 in Appendix 2, show that this GIP is aligned with the board approved GFP.

The project is in the Alternative Funding (AF) tranche in BP13. The JV Partners (NAPIMS & IOCs) have been engaged and are aligned on the cost estimates (facilities and owners cost) and delivery schedule. The funding vehicle is the Modified Carry Agreement (MCA). The project cost and schedule targets are outlined in Table 1 below.

1.2 Project Background

The Gbaran Ubie Central Processing Facility (GBU-CPF) is located on the outside bank of a bend on the River Nun, north of Yenagoa (Capital of Bayelsa State). The Nun River is considered to be a direct continuation of the Niger River and is an untrained meandering rainwater discharge river with a sandy river bed which is surrounded by areas covered with clay and silt soils.

As a result of continuous river action, the outer bank of the river (where the GBU-CPF is located) is subject to continuous erosion. The initial plan was to protect the shoreline and riverbed on a portion of the southern section of the GBU CPF shoreline, which involved the installation of Reno mattresses along the shoreline and the adjoining riverbed.

In 2008, a contract was awarded to Pelfaco Nigeria Limited (an indigenous construction company) for this limited scope. However, in August 2010, a section of the Reno mattresses already installed on the GBU-CPF south bank failed and slipped into the Nun River, Investigation following the failure revealed the need to put in place a full protection system for the entire riverbank and bed (north and south of the GBU-CPF jetty) adjoining the GBU-CPF. Furthermore, a P&T study carried out in 2011 indicated that CPF will be impacted in 7 years based on assessed erosion rate of +/- 6m/yr

Consequently, in 2011, the services of an expert company, Nigeria Westminster Dredging and Marine Limited (NWDM) was secured to provide support to the indigenous company as a sub-contractor for the protection of the entire south bank (which was the critical section at that time), using a full rock revetment concept. The rock protection works were completed in September 2012 and 1 year post construction monitoring is currently ongoing.

During the construction works for the south bank, some sections on the north bank became critical, as the Nun river action had continued unabated and already installed facilities by the North bank were threatened. As a result of this, SPDC declared emergency on the North Bank in Q3 2011 and sand bags were dumped at critical sections, as a temporary mitigation action to prevent further deterioration and loss of facilities. This temporary measure has secured the bank till date. Additionally, P&T also carried out a feasibility study on the North bank and the full rock revetment concept was selected as optimum

In August 2012, a Contract and Procurement refresh strategy workshop was held with NAPIMS in attendance, at the workshop, NAPIMS's preferred option due to the urgency of the project was a single source award. On further engagement, it was agreed that SPDC should negotiate with Pelfaco and NWDM using the rates from the south back shore protection contract for full rock revetment.

1.3 Targets

The Cost and Schedule targets are contingent upon contract award in February 2015

	P50	P90
Total Project CAPEX (F$mln)	165	182
RFSU	December 2016	

Table 1: Key Project Cost and Schedule Targets

Section 2: Value proposition, strategic and financial context

The overriding business driver is to put in place an effective shore protection along the Nun River in order to safeguard the Gbaran Ubie Integrated Oil & Gas facility against erosion and scour effects of the Nun River

2.1 Summary Economics

The FID economics evaluation was carried out on a forward-looking basis as a "cost only" using contractors cost provided by the project team. Sensitivity analysis was carried out to determine the values of the project at high CAPEX, 1 year project delay and 1.5% mark up due to BVA (Bench marked verified and approved) issues due to NNPC cost disputes. The evaluation assumed funding under the 2008 Modified Carry Arrangement (MCA) terms. The details of the results are in Table 2

PV Reference Date: 1/7/2013	**NPV (S/S $ mln)**		**VIR**	**RTEP**	**UTC (RT $/bbl or**		**Payout-Time**	**Maximum**
Cash flow forward from: 1/1/2013	**0%**	**7%**	**7%**	**%**	**0%**	**7%**		
Base Case								
RV* ($90/bbl or $2.01/mln btu)	-17.4	**-24.3**	**-0.27**	NA	NA	NA	NA	59.3(2015)
Sensitivities (using RV)								
High Capex (Prob < 0.10)		**-29.3**	**-0.27**					
1 year Project Delay		**-22.2**	**-0.27**					
1.5% cost markup due to BVA issues		**-26.4**	**-0.27**					

***Same result applies to SV-RT & HV-RT as there is no revenue stream**

Table 2: Summary economics grid for Gbaran Infill Project

Parameter (Shell Share)	**Unit**	**PDR***	**Low**	**Mid**	**High**	**Comments**
Capex (MOD)	US$ mln	104.0	NA	104.1	125.0	JV & MCA
Production Volume	mln boe	NA	NA	NA	NA	Cost Only
Start Up Date		Mar-16	NA	Dec-16	NA	updated contract award schedule
Opex	US$ mln	1.1	NA	1.1	1.3	SCD
Production in first 12 months	mln boe			NA		cost only

***PDR: Project Delivery Report(latest view)**

Table 3: Key project Parameters (Shell share) used for the economics analysis

Section 3: Risks, Opportunities and alternatives

3.1 Risks and Mitigation Plans

The project employs a comprehensive Risk and Opportunity Management system, with Risks affecting the Cost and schedule analyzed and worked into the project cost estimate and schedule accordingly. The top project risks and mitigation plans are described below;

Risks	Mitigations
1. HSSE & SP Risks	
a. Personnel Transfer, Jetty to Boat/barge (Drowning/Man over-board) during waterborne operations	- On site induction for all personnel. - Deployment of only HUET/swimming-certified persons for water waterborne operations. Enforce buddy system for workers near or on water. Provide effective supervision /monitoring throughout the project phase. Provide life buoys and life lines for every vessel. - Deploy only approved personal floatation devices (PFDs) /work vest. - Provide and test Emergency Response preparedness
b. On Land & water transport (driving /boating)	- Carryout regular Craft/vehicles inspection and Maintain Craft/vehicle to manufacturers recommendations to avoid malfunction/breakdown - Enforce driver/quarter master education program (DEP/MCA) to assure competence. Equipment selection to suit flood level. Carryout campaigns and implement Alcohol and drugs policy to avoid mal-operation due to such influence - Develop / Implement land/marine Journey Mgmt plan/procedures - Routine monitoring of drivers/quartermasters. - Deploy appropriate signage to reduce impact on 3rd party
c. Objects Under Tension/loading and offload of rocks	- Develop a maintenance plan for equipment and implement to eliminate equipment breakdown/ failure - Ensure stable base/ structural support, to avoid tilting - Deploy trained /competent operator to man equipments to avoid human error /Mal-operation - Use lifting plan to manage all lifting activities
d. Weather (on land, water)	- Avail Weather information (forecast) through the use of sky scanners - Avoid working in thunderstorm and under rain. - Evacuate to safety - Train Personnel in the hazard of weather - Cease all overhead work when wind speed is 40km/h or above
e. Community unrest /3rd party interference	- Develop and Implement Project Labour Agreement alongside steady state GMOU to reduce community unrest/inference. - Develop and implement a stake holder engagement plan - Maintain a complaint register and resolve all legacy issues, if any.

	- Ensure implementation of GMOU with host communities before construction commences.
f. Security	- Develop and deploy an approved security management plan that includes; security risk assessment and manning level
2. Hazardous waterborne operations which aggravates during high flood and high current seasons	Robust HSE Plan to be launched at Contract kick off meeting and monthly reviews/audits carried out. Project team to put in place a strong HSE supervisory team.
3. Limited dry weather window which if missed pushes construction over to following season thus elongating project completion period	Proposed contractor has prior scope and location experience, performance incentive in contract to drive performance would also be included. Additionally, the project team would also ensure close monitoring during project execution
4. Pelfaco/NWDM in consortium agreement for the execution of the project, however there is the potential that one of them may not adhere to the terms stipulated in the consortium agreement	The terms of the agreement has been worded to ensure that both parties are jointly and severally liable.
5. Poor quality work due to Contractor lacking right resources and experience to perform work in highly turbid water;	Provide adequate quality control survey during construction. Apply learning from the South Bank Protection works which has just been completed.
6. Need for sufficient tax base of SPDC as the MCA recovery mechanism is largely dependent on having a sufficient tax base within SPDC Ltd to absorb the capital allowances associated with the carry amounts	Analysis shows that SPDC Ltd has sufficient tax base to recover the MCAs and achieve the desired IRR
Opportunities	
The project will provide an opportunity for skill and capacity transfer to local contractor and personnel	

3.2 Alternatives

The Option of using Sheet piling was considered however alternative was not taken as a result of the following reason

1. The use of rock revetment is similar to the design used for the South bank which has been completed
2. Availability of material and installation technology for sheet piles from water are not readily available in Nigeria

Section 4: Carbon Management

This project is considered carbon neutral as the sources of emissions that come from this project are fugitives from equipment / machinery being used (cars, cranes, barges.etc) and these are negligible

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 Shell Group Business Principles, policies and standards. Functional support for this proposal is provided by Projects & Technology (P&T), Finance, Social Performance, Contracting & Procurement, HSE, Operations, Legal, Security, Treasury, Controllers and Tax functions.

Section 7: Project management, monitoring and review

Project Assurance is in place for all work scope and management of change. This is a "P&T executed" project with P&T being accountable for the delivery of technical project integration and execution. A DRB with UI Nigeria and P&T participation is in place.

Section 8: Budget Provision

It is proposed that at FID, the project budget requirement will be from the alternative funding tranche. In line with current AF agreements, it is expected that project FID OPEX and project management costs will continue to be funded via the regular JV budgetary process.

Section 9: Group Financial Reporting Impact

There are no unusual accounting issues related to this GIP. Expenditure related to the project will be accounted for in line with Group Policy. The financial impact of this proposal on Shell Group Financials is as indicated in the table below:

US$ mln	2013	2014	2015	2016	Post 2016
Total Commitment	**7.4**	**41.7**	**46.4**	**9.7**	**0.0**
Commitment Phasing - SCD Opex	0.1	0.4	0.5	0.1	0.0
Cash Flow					
Capital expenditure	7.3	41.3	46.0	9.6	0.0
Cash Flow from Operations	1.2	7.9	16.7	18.1	47.4
Cash Surplus/(Deficit)*	-6.1	-33.4	-29.2	8.5	47.4
Profit and Loss					
NIBIAT +/-	0.2	1.4	2.5	1.0	-17.2
Balance Sheet					
Average Capital Employed	3.2	23.8	57.0	69.2	12.4

Table 4: Financial implications of the Project

Section 10: Disclosure

Material disclosures, if any, will be done in line with the Group Disclosure Guidelines.

Section 11: Financing

The pre-FID portion of this investment has been financed with JV funding. It is expected that financing for the main project scopes shall be through the MCA funding mechanism. NNPC approval has been obtained for project scope and cost and the MCA agreement has been signed off with the JV partners.

Section 12: Taxation
MCAs are no longer unusual in the oil and gas fiscal structure with the FIRS. SPDC Ltd will ensure that all information required for the tax return and tax audit robustness can be accessed. Relevant tax/fiscal risk is as discussed under Section 3 above.

Section 13: Key Parameters
Approval is sought for US$105mln (Shell Share), for the execution of the CPF North Bank Shoreline Protection Project

Section 14: Signatures
This Proposal is submitted for approval.

Supported by:

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Bernard Bos
FM Nigeria & Gabon
Date.... /.... /....

For Business Approval:

.....
Erwin Nijsse
VP Finance Operated
Date.... /.... /...

For Business Approval:

.....
Harry Brekelmans
EVP UI Operated
Date.... /.... /....

Appendix 1: Assumptions

Economics Assumptions

- Education Tax of 2% assessable profit.
- NDDC levy of 3% total expenditure.
- Abandonment estimated as 10% of total RT CAPEX.
- Condensate was treated as oil and taxed under Petroleum Profit Tax - PPT (PPT tax rate of 85%).
- ARPR 31/12/2012 variable OPEX for Gbaran CPF was used.
- SPDC Generic Opex was used for new infrastructure
    - Oil fixed OPEX - 3% of cum. oil CAPEX,
    - Gas fixed OPEX – 3.5% of cum. gas CAPEX

MCA Assumptions

- Partial recovery of the carry costs through a Tax Relief against Petroleum Profit Tax currently at 85%,
- OPEX and PMT not carried under current MCA arrangement. This difference will be funded through the normal JV base budget cash calls.

The additional MCA assumptions below would only apply when there is a revenue generating project that would benefit from this project.

- All project costs on the MCA to be recovered through cost oil.
- Remaining carry costs recovered through Carry Oil (following the fiscal depreciation schedule),
- Share Oil (to be paid as agreed amount over a minimum period) calculated based on the agreed Profit Oil ceiling of IRR 8%.
- Recovery to be completed by 2019 (before expiry of the Oil Mining Lease).

Appendix 2: Scope & Cost Estimate for the Gbaran CPF North Bank Shoreline Protection Project

SCOPE

Mobilise all personnel, material and equipment to provide full revetment and bed protection of the Gbaran-Ubie Central Processing Facility North Shoreline of approximately 1000 metres. The scope includes the following:

- Site data revalidation surveys (Bathymetric and Geotechnical)
- Detailed design
- Dredging to prepare the riverbed/bank to receive protection works and for sand filling works
- Procurement, delivery and installation of 2,200 units of 6mx2mx0.23m Maccaferri type Reno Mattresses underlain with approved quality geotextiles materials.
- Procurement, transportation and installation of approx 280,000 MT of rock
- Provision of full and real-time survey for bed / bank preparation, sheet piling and rock placement operations.
- Installation of Small Craft Intrusion Barriers (SCIB) System.
- Provision of project management services.
- 1 year post installation monitoring works

COST ESTIMATE

The cost estimate (MOD 100% JV) for the full Gbaran CPF North Bank Shoreline Protection Project is as shown below.

Description	COST PHASING				
	2013	2014	2015	2016	Total
Facilities Capex 100% JV (FUS$mln) - less PMT& SCD	10.1	60.5	67.6	13.7	151.9
Total Capex 100% JV (FUS$mln) - less PMT&SCD	10.1	60.5	67.6	13.7	151.9
PMT 100% JV (FUS$mln)	1.9	3.2	3.0	1.5	9.7
Opex 100% JV (FUS$mln)	0.3	1.4	1.6	0.3	3.6
Total 100% JV (FUS$ mln)	**12.3**	**65.1**	**72.2**	**15.5**	**165.1**
Shell Share Equity (30%)	3.7	19.5	21.7	4.7	49.5
MCA Carry Shell Share (36.67%)	3.7	22.2	24.8	5.0	55.7
Total Shell Share (FUS$ mln)	**7.4**	**41.7**	**46.5**	**9.7**	**105.2**

Table 4: Yearly estimated expenditure

Gbaran Ubie Phase 2 MCA 2 Projects	100% SPDC JV	Shell Equity Share	SPDC LTD MCA Share	Total Headline Size
Bonny NAG Minor Reservoirs Devt.	116	35	42	**77**
Gbaran Ubie 2A (C4+Epu+ Koroama+NB)	1018	305	352	**657**
Gbaran Ubie 2 B (Kolo Creek)	721	216	245	**461**
Soku NAG Compression	92	28	33	**60**
Soku Pipeline (All 4 loops)	460	138	159	**297**
Total – Gbaran Ubie 2 MCA 2 Bundle	2407	722	831	**1553**
All Values in $Million				

Table 5: Excerpt from Group Finance Proposal showing projects with the MCA2 Bundle

	BASIS FOR THE GFP				BASIS FOR THE NB GIP			
	100% JV cost	Shell Equity Share	SPDC Ltd Share	Total Headline Size	100% JV cost (GIP)	Equity Share (GIP)	SPDC Ltd Share	IP Request - Infill
Total Infill project cost	925	277	339	617	164	49	60	110
Total NB project cost	165	50	61	110				
Total cost	**1,090**	**327**	**400**	**727**	**164**	**49**	**60**	**110**
Pre-FID (JV Funded)	(55)	(17)	(20)	(37)		-	-	-
SCD - Infill	(14)	(4)	(5)	(9)				-
SCD - NB	(4)	(1)	(1)	(2)	(4)		(1)	(1)
	1,018	**305**	373	678	161	49	59	108
PMT Element - Infill	(45)		(17)	(17)				-
PMT Element - NB	(8)		(3)	(3)			(3)	(3)
			353	**658**	**161**	**49**	**56**	**105**

Table 6: Reconciliation between the GFP and the GIP

GLOSSARY

AF – Alternative Funding

CPF – Central Processing Facility

DRB – Decision Review Board

ESFS – Estimate & Schedule Fact Sheet

GHG – Green House Gas

GMoU – Global Memorandum of Understanding

HEMP – Hazard & Effects Management Process

HSE – Health, Safety & Environment

HV – High Value

IOC – International Oil Companies

MCA – Modified Carry Agreement

MOD – Money of the Day

NAG – Non Associated Gas

NAPIMS – National Petroleum Investment Management Services

NLNG – Nigeria Liquefied Natural Gas Limited

NPV – Net Present Value

PMT – Project Management Cost

PPT – Petroleum Profit Tax

PSV – Project Screening Value

RFSU – Ready For Start Up

RT – Real Term

RTEP – Real Term Earning Power

RV – Ranking Value

SCD – Sustainable Community Development

SV – Screening Value

VIR – Value Investment Ratio