

Internal Investment Proposal (Pre-FID IP-Lite)

Business unit	Shell Petroleum Development Company of Nigeria Limited (SPDC)			
Group Equity Interest	30%, with SPDC as Operator of an incorporated Joint Venture (JV)			
Shareholders / partners	Nigeria National Petroleum Corporation (NNPC: 55%), Total Exploration & Production Nigeria Limited (TEPNL: 10%), Nigeria Agip Oil Company (NAOC: 5%) in SPDC-JV			
Amount (Shell Share) MOD, 50/50	Environmental Impact Assessment (EIA)/ Environmental Evaluation/ Biological Monitoring (BM) : 0.88 USD mln SS (MOD) Project Management Team (PMT) Cost : <u>0.18 USD</u> mln SS (MOD) Total : 1.06 USD mln SS (MOD)			
Project	Pre FID IP-Lite for EA Further Oil Development (FOD) Project - Step 1			
Summary Economics	Summary economics	NPV7 (USD mln)	RTEP (%)	VIR7
	Base Case	-0.16	NA	NA
	High OPEX(+25%)	-0.20	NA	NA
	Full Project	105.3	>100%	1.04

Proposal Management Summary

The EA FOD Step I Project Scope is to drill, complete & hook-up 13 new wells and 1 work over from existing drilling platforms DP-A, DP-B and DP-J.

The purpose of this document is to request funds (USD 1.05 mln Shell Share) for Environmental Impact Assessment (EIA), Environmental Evaluation Studies (EES) & Biological Monitoring Studies (BM) plus costs for Project Management (PMT) which will be carried out within the year until approval of the Investment Proposal for the Group Final Investment Decision (FID), which is scheduled for December 2015 (Deterministic).

The EA FOD Project Implementation requires that an EIA approval be secured in time for the delivery of the project. The Department of Petroleum Resources (DPR) has given directive to carry out an Environmental Evaluation and Biological Monitoring Studies for the EA & EJA Fields with the outcome forming the basis for the EA FOD EIA permit.

In addition, the EA Field is a No-Discharge Zone and DPR waiver for discharge has expired. SPDC request to renew waiver in 2011 was rejected by DPR. As it stands, both EES and BM are also mandatory activities for the asset to provide to DPR to guarantee continued production.

There is currently no existing contract within SPDC to accommodate the extensive Biological Monitoring Study scope as approved by the DPR. It is therefore exigent to close the gap by

completing the entire study scope via a separate contract. In addition, the study outcomes will enhance benefits and provide mitigation measures for any adverse impacts (if any) from EA production operations and proposed project, thus, safeguarding people and the environment.

Furthermore, the progress of this project is critically based on alternative funding provision from an International Financier. The International Financier for the project requires an early provision of all relevant approvals to enable their decision on the funding and also require a Q4 2016 On-stream Date for production on the project (FOD Step 1). This requirement has led to a change in the date for the Final Investment Decision (FID) for the EA FOD from Q2 2016 to Q4 2015 thus putting significant pressure on the delivery schedule for the EA FOD EIA permit. In addition, revision by the DPR of the earlier approved studies scope with introduction of an expanded scope has put further pressure on the schedule.

Therefore, if the EA FOD is to be executed in line with revised plan, there is an urgent need for a fast track collation of documentation by April 2015 to satisfactorily meet the investor's requirement and timely support their decision process which helps facilitate funding agreement and guarantee funding provision to progress the project. Also, the project team needs to expedite mobilisation for field data gathering on BM/EIA by May 2015 to facilitate provisional EIA approval by Q4 2015 and final EIA approval by Q2 2016.

The completion of BM/EIA will facilitate the achievement of the main value drivers of the EA FOD which are:

- Achieve additional field development with reward of 50.6MMstb;
- Improve cash flow from operating asset and contribute to SPDC growth aspiration;
- Utilize the available ullage in the FPSO to maximize asset utilization;
- Reduce the unit operating cost by increasing the production in the field

The approved scope of work to be executed for the BM contract includes but not limited to:

- Measurement of the biological effect of the effluent using Laboratory bred organisms exposed to the effluent and other waste water,-acute and chronic (bioaccumulation) tests,
- Determination of the relationship between the physicochemical characteristics of the recipient medium as influenced by the effluent on the functional or structural aspects of the biological community.
- Determination of Eco toxicity, Bio-concentration and Bio-magnification of the effluent constituents within five trophic levels.

The cost basis is detailed in the value proposition paragraph.

Value Proposition and Economics Summary

The company estimate is based on prevailing market rates obtained through market survey and experiences drawn from the just concluded Bonga Field Biological Monitoring Studies

(2014) and benchmarked with contract N02003056 with cost estimate breakdown shown in table 1:

Table 1: BM/EIA Cost Breakdown

EA FOD EIA and Biological Monitoring Study VS Bonga Biological Monitoring Costs				
	Item	EA Budget Estimate (F\$)	Bonga Expense (F\$)	Remarks
1	Environmental Baseline (EIA for EA FOD) and Biological Monitoring Data Gathering and analyses and reporting including procurement of test organisms and Habitat	1,571,694	569,984	Scope of EA bigger than Bonga and now include provision for procurement of organisms and Habitat water/ Natural Seawater (Items 6 & 11, below)
2	Hire of Work Vessel (MV Meleody) and Security vessel	668,532	1,155,142	Different vessels for Shallow and Deep Offshore, resp.
3	Remaining FMENV Desktop Approval processes (Panel Review and Accessed charges)	78,906	37,500	Bonga did not do Desktop; cost was for chopper hire.
4	Personnel Carrier & Security Vessel for Regulator's witnessing of, fishing activities and Sea Water Trucking from Bonny (@\$18,000 per day for 43 days)	0	774,000	Some part of the cost captured in number 1.
5	Fuel for Work Vessel (including security)	100,184	330,009	Shallow and deep offshore locations,
6	Supply of Juvenile fish, Mollusc and Crustacean using a fishing Fishing Trawler	0	530,079	(integrated in Item 1, above)
7	Logistics Bookings, Flights and accommodation for all personnel involved (Fight/logistics for regulators x2 each (DPR, FMENV, NIMASA + SPDC CSRs) for the	240,679	191,371	This includes Cost for dedicated DPR staff for the EA EE/BM Study participation and joint review session. EA study duration is longer than for Bonga.
8	Personnel Carrier (Shadowing fishing	0	5,451	based on Approval not required for EA
9	Navigation and Positioning Contract -	19,325	87,142	Shallow and deep offshore locations,
10	Cost of Hilux from KI to Trans Amadi Daily	9,086	9,416	Supervision of lab work, etc.
11	Fuel , PC , Tug boat and security crew	0	69,272	(integrated in Item 1, above)
12	Personnel Logistics: Accommodation and Feeding for Dedicated Driver & Rep for (120	12,429	4,660	One additional rep to remain in the lab; from Bonga's experience.
14	Cost of Tug Boat from Bonny Terminal to KI	0	119,011	Lab Bred Organism to be used (integrated in Item 1, above).
15	Technical Support from Shell Global Solution including Microtox and SPME Bioassay	100,000	100,000	For EA, This cost covers Fate and Effects study/ Produced Water Discharge
	Sub-Total	2,800,835	3,983,037	
	Contingency (5%)	140,042	199,152	
	Total Estimated Cost (inc. 5% contingency)	2,940,877	4,182,189	

The associated total PMT cost Pre-FID is 0.6 mln USD. This project cost will be treated as Opex in line with the classification of all Pre-FID costs and the detailed cost breakdown leading to the Shell Share is shown in table 2:

Table 2: Cost Breakdown Grid (Shell Share)

Cost Description	USD (mln)	Shell Share (USD mln)
BM/EIA	2.94	0.87
PMT	0.60	0.18
Total	3.54	1.06

Risks and Alternatives

To deliver the BM/EIA, the project team has to manage the following significant risks and issues:

Funding

Issue & Risk: Without a satisfactory Biological Monitoring and EIA assessment, the EIA approval from DPR would not be assured and the International Financiers will not fund the project.

Mitigation: Following engagements with DPR, the Terms of Reference (ToR) for the BM/EIA has been approved and ITT has been issued with a view to conclude contracting process and award contract in April and mobilise in May for the field data gathering once the Pre IP-Lite is approved.

Local Content Requirements

Issue & Risk: The Nigerian Content Development Management Board (NCDMB) guideline requires compliance to local content utilisation, field execution and analysis to be performed in-country.

Mitigation: The project team has taken the risk of non-compliance to the NCDMB guidelines into consideration and ensured that the contracting strategy has minimised this risk. The contractors under consideration for ITT are 100% local contractor.

Incompetent Contractor/Personnel

Issue & Risk: Execution of these project activities by an incompetent contractor / contractor personnel resulting to increased HSE risk and potential ineffective emergency response.

Mitigation: To mitigate this risk the project, environmental and commercial teams have put in place a thorough ITT and assessments (capability and commercial) to ensure that the competency, capacity and standards required are fully guaranteed.

Dropped Object during Lifting Operation

Issue & Risk: Accidental dropping of object during loading and unloading of equipment into vehicle/vessel can result to injury to personnel or damage to the equipment.

Mitigation: The project team shall ensure that only trained personnel are employed in loading/unloading operations of equipment; daily tool box meetings are held; full site supervision

is in place, appropriate and adequate PPEs are used; only pre-mo-bbed equipment are used and overloading of vehicles/vessels/boats are avoided.

Alternatives

Alternatives considered was to use any existing contract within SPDC to close the gap, unfortunately no suitable contract currently exist in the company as this scope was just newly introduced by the DPR. The EIA/EES scope is however via an existing call of contract with the SPDC environment team.

Carbon Management

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

Corporate Structure and Governance

The existing corporate structure and governance arrangements of the EA FOD with SPDC as operator still subsist for this investment.

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.

Project Management, Monitoring and Review

There is an identified Decision Executive, Business Opportunity Manager, Front End Development Manager and Project 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 DRB.

Budget Provision

The project is included in the OP'14 base plan, but budget amount has been revised. The requested amount is for the project to execute one-off BM/EIA (USD 2.9 million – 100%, USD 0.87 million – Shell Share), 12 months project management team expenditure (USD 0.6 million – 100%, USD 0.18 million – Shell Share). The Pre-FID IP- Lite will be funded via JV, being a FEASEX spend. The current 2015 budget provision is Only 40% of total budget requirement for these activities. Shell share capital expenditure will be met by SPDC's own cash flow and/or the existing shareholder facility.

Group Financial Reporting Impact

No material finance reporting impact.

Disclosure

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

Financing

Shell share of the capital expenditure will be met by EA FOD own cash flow – the EA FOD is not generating cash at this stage, so SS will be paid by SPDC Ltd and Unit Partners' funding. Expenditure related to this project will be accounted for in line with Group Policy.

Taxation

There is no unusual Taxation feature.

Functional Support

N/A

Signatures

<p><i>Supported by:</i></p> <p>.....</p> <p><i>Okunade, Mojeed O SPDC-FPT/PO</i></p> <p><i>FM Projects Nigeria Onshore / Shallow Water</i> Date</p> <p>...../...../.....</p>	<p><i>Approved by:</i></p> <p>.....</p> <p><i>Olagunju, Toyin AA SPDC-PTP/O/N</i></p> <p><i>GM Project Nigeria - Operated</i></p> <p>Date/...../.....</p>
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Note on Approval Authorities

For values above \$2mln, the Finance Manager, Country Chair, GM Production, GM Development, GM Gas, GM Commercial & GM HSE Rob Muster is authorised persons.