The Shell Petroleum Development Company of Nigeria Limited

Internal Investment Proposal

Summary Information

<table>
<tr><td>Directorate</td><td>Technical Directorate</td></tr>
<tr><td>Group equity interest</td><td>100% in SPDC, whereas SPDC is the Joint Venture (JV) operator of an unincorporated JV with a 30% interest.</td></tr>
<tr><td>Other shareholders / partners</td><td>Nigeria National Petroleum Company (NNPC: 55%), Total: 10%, Nigeria Agip Oil Company (NAOC: 5%) in SPDC-JV</td></tr>
<tr><td>Amount</td><td>US$ 2.2 mln Shell share, MOD, 50/50 (US$ 7.3 mln 100% JV)</td></tr>
<tr><td>Project</td><td>Corporate Uninterruptible Power Supply (UPS) Systems Upgrade Services for SPDC Infrastructure in Warri and Port Harcourt (from 2010 to 2015)</td></tr>
<tr><td>Main commitments</td><td>
<table>
<tr><th></th><th colspan="2">US $mln</th></tr>
<tr><th></th><th>Shell Share</th><th>100% JV</th></tr>
<tr><td>UPS Systems Upgrade Services - West</td><td>1.568</td><td>5.194</td></tr>
<tr><td>UPS Systems Upgrade Services - East</td><td>0.588</td><td>1.960</td></tr>
<tr><td>SCD</td><td>0.044</td><td>0.146</td></tr>
<tr><td>Total</td><td>2.2</td><td>7.3</td></tr>
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<tr><td>Source and form of financing</td><td>This investment will be financed with JV funding and Shell share capital expenditure will be met by SPDC's own cash flow. Formal JV partners' approval will therefore be obtained.</td></tr>
<tr><td>Summary cash flow</td><td>Not applicable.</td></tr>
<tr><td>Summary economics</td><td>
<table>
<tr><th>Summary economics*</th><th>NPV7% (US$ mln)</th><th>RTEP (%)</th><th>VIR7%</th></tr>
<tr><td>Base case</td><td>-0.4</td><td>NA</td><td>-0.25</td></tr>
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Section 1: The proposal

Management Summary

This investment proposal seeks management approval for US$2.2 mln Shell Share (US$7.3 mln 100% JV) to cover full cost of the upgrade of Uninterruptible Power Supply (UPS) Systems in SPDC Warri and Port Harcourt Industrial Areas and Critical Facilities.

The corporate UPS upgrade project is aimed at upgrade and standardisation of Uninterruptible Power Supply Systems in SPDC Warri and Port Harcourt Industrial Areas and Critical Facilities to sustain safe and reliable vital power supply to SPDC facilities and eliminate the risk of catastrophic loss of data, applications, critical hardware and life support systems.

The Corporate Utilities Team in Central Engineering continuously carries out power infrastructure studies and gap analyses on SPDC PH & Warri High Voltage & Low Voltage (HV/LV) electrical power supply and distribution infrastructure and inter-asset HV utilities. These studies have identified a number of critical facilities in Warri and Port Harcourt having obsolete or inefficient Uninterruptible Power Supply Systems, or none at all. These facilities have a high potential for catastrophic failures that cause a high impact on the business, security and logistics, while others could potentially improve the business and reduce operating costs with the required upgrade.

In many facilities, several small stand-alone UPS equipments have been installed to provide uninterruptible power supply to critical equipment. These small UPS units have a high failure rate and a comparatively short life span. In addition, maintenance spares for these units are not readily available and therefore require replacement rather frequently, compared to centralised industrial UPS systems.

The upgrade works will include the design, supply, installation and commissioning of dual-redundant Uninterruptible Power Supply systems consisting of the following:

Adequately sized dual-redundant Uninterruptible Power Supply Systems
Adequately sized Isolation Transformer for galvanic isolation
A Bypass Panel
Pure Sine Wave Filters for harmonic filtration equipment
Adequately sized battery banks with specified minimum autonomy time
Electrical power cables and battery cables and accessories to interconnect the electrical equipment and supply power to load centres
Civil / structural modifications as required
Provision of as built documentations and drawings in specified formats and in accordance with relevant industry standards

The upgrade plan has been phased strategically to optimise value and integration and address critical asset integrity and HSE issues associated with the existing facilities. The summary of commitments and phasing is as shown below.

Table 1: CAPEX Phasing (Shell Share, MOD)

Project		US$ mln, MOD						
		2010	2011	2012	2013	2014	2015	Total
UPS Upgrade Services - West		0.098	0.196	0.0	0.0	0.588	0.686	1.568
UPS Upgrade Services - East		0.098	0.098	0.0	0.0	0.196	0.196	0.588
SCD		0.004	0.006	0	0	0.016	0.018	0.044
Total	**Shell share**	**0.2**	**0.3**	**0.0**	**0.0**	**0.8**	**0.9**	**2.2**
	100% JV	**0.7**	**1.0**	**0.0**	**0.0**	**2.7**	**3.0**	**7.3**

Section 2: Value proposition and strategic and financial context

The facilities selected for upgrade do not have functioning centralised UPS systems to protect critical and sensitive equipment and data in the event of an unplanned power outage. Some of the facilities have several small stand-alone UPS machines providing uninterruptible power to critical equipment. These small stand-alone units do not have dual-redundancy and hence a lower reliability. They also have a short life span and relatively high procurement and maintenance cost, requiring replacement every few years.

Providing a centralised, dual-redundant Uninterruptible Power Supply System with adequate autonomy will provide reliable uninterruptible power supply to critical and vital equipment, data and services, reduce manning requirements as well as the maintenance costs.

Standardisation of the UPS installations will also result in reduction in spare holdings, as there will be compatibility of spares across divisions, providing savings in the Total Cost of Ownership (TCoO).

Summary of Economics (Shell Share)

This economics of the Corporate UPS Systems Upgrade Services for SPDC Infrastructure in Warri and Port Harcourt was evaluated as a cost only Non-Oil infrastructure project using 50/50 cost estimate. The project returns an NPV 7% of US$ -0.4mln RT10 and a VIR 7% of –0.25. Sensitivity was carried out to show the impact of High CAPEX. See table 2 below for further details.

Table 2: Summary Economics Grid

PV Reference Date: 1/7/2010	NPV (S/S $ mln)		VIR	RTEP	UTC (RT $/bbl or $/mln btu)		Payout-Time (RT)	Maximum Exposure$mln (RT)
Cash flow forward from: 1/1/2010	0%	7%	7%	%	0%	7%		
SV ($50/bbl RT10)	-0.3	**-0.4**	**-0.25**	NA	NA	NA	NA	$1.2 mln (2015)
RV ($60/bbl RT10)	-0.3	**-0.4**	**-0.25**	NA	NA	NA	NA	$1.2 mln (2015)
HV($80/bbl RT10)	-0.3	**-0.4**	**-0.25**	NA	NA	NA	NA	$1.2 mln (2015)
Sensitivity								
High Capex (+20%)		**-0.6**	**-0.29**					$1.4 mln (2015)

Table 3: Key Projects Parameter Data Ranges (Shell Share)

	Unit	Bus Plan (BP09)	Low	Mid	High	Comments
Capex (MOD)	US$ mln	0.2		2.2	2.6	Budget provision made for 2010 upgrade. While 2011-2014 expenditure to be provided for in Business plan for 2011-2013.
Opex Investment (MOD)	US$ mln	NA	NA	0.04	0.04	
Production volume	Mmbbl	NA	NA	NA	NA	
Commissiom Date	mm/yyyy	NA	NA	NA	NA	
Production in first 12 months	Mmboe	NA	NA	NA	NA	

Economics Assumptions:

SCD of 2% of Total MOD CAPEX Expenditure.
NDDC Levy of 3% Total Expenditure

Section 3: Risks, opportunities and alternatives

Risks

S/N	Risk Description	Mitigation / Remedial effort
1.	Budget & Contracting	There is budget provision for the UPS Upgrades projects selected for 2010 in Warri and Port Harcourt based on the CAPEX phasing above and it is expected that adequate budget will be provided for subsequent years as required.
2.	Community & NCD	The executing contractors shall engage community workers for unskilled and semi-skilled work elements. Training of community workers will also be achieved. The communities will be engaged via the Shell Community Liaison Office.
3.	Security	The Nigerian crisis team headed by the Managing Director is in place to manage the security issues in our operating facilities and environs. Freedom to operate (FTO) will be guaranteed from the host communities before moving to work site(s). In general, the existing security provisions in the SPDC facilities will be latched on to. Contractors will however also make their own security arrangements where deemed applicable. The contractors will be put on "Force Majeure" at minimal cost to SPDC if security in area of operation deteriorates.
4.	HSE	The HSE plan will be prepared and approved by HSE support in the line and will cover all construction / logistics activities hazard analysis and mitigation methods. SPDC HSE policies will be strictly adhered to during

		construction, installation and commissioning. The relevant electrical safety standards - Electrical Safety Rules (ESR) and Electrical Safety & Operations Procedures (ESOP) will be enforced during project implementation. Key personnel shall also have the relevant electrical authorisation and safety certification.

Alternative Considered

Alternative 1 - Do Nothing

The "do nothing" option will result in losses of sensitive equipment, data and services, which are critical to the business. Where several small stand-alone units are used, there will be continuous high procurement and maintenance costs to protect vital data and services at lower reliability.

Alternative 2 – Uncoordinated Upgrade of UPS Installations on As-Need Basis

This option will lead to an uncontrolled increase in spare holdings and a possible proliferation of UPS brands. Upgrades will also be more reactive than proactive, leading to avoidable downtime and increased fuel costs.

Section 4: Corporate Structure and Governance

The existing corporate structure and arrangements of SPDC-JV with SPDC as operator of an Unincorporated JV with 30% interest, with Under Operational Control (UOC) and Joint Controlled Assets (JCA) will be used as the vehicle for the investment and operations. This proposal is within the SPDC corporate structure and governance framework.

Section 5: Functional Support and consistency with Group and Business Standards

This project operates in line with SPDC processes and is supported by the relevant functions: Utilities Infrastructure Team (East & West) and Corporate Security Department. The Finance, HSE/SCD, Legal and Tax Functions have provided functional support for this IP.

Section 6: Project management, monitoring and review

The Corporate utilities team in conjunction with the location services team will monitor the project during execution. Post implementation reviews will be carried out 6 months after commissioning. The project execution will be in line with Shell Project management guidelines.

Company site representatives (CSR) will be employed for these projects to ensure that contractors execute the scope of work as stated in the contract document to the specified quality requirement.

The contractor shall also be required to have own project management services for the work.

Section 7: Budget provision

There is a budget provision of US$0.2mln Shell share (US$0.7mln 100% JV) in 2010. While the remaining balance of US$2.0mln Shell Share (US$6.5mln 100% JV) will be requested year on year based on the phased execution plan.

Section 8: Group Financial Reporting Impact

The financial impact of this proposal on Shell Group financial is as outlined in the table below:

US$ mln	2010	2011	2012	2013	2014	Post 2014
Total Commitment	0.20	0.30	0.00	0.00	0.80	0.90
Cash Flow						
SCD Expenditure	0.00	0.01	0.00	0.00	0.02	0.02
Capital Expenditure	0.20	0.29	0.00	0.00	0.78	0.88
Operating Expenditure	0.01	0.01	0.00	0.00	0.02	0.03
Cash Flow from Operations	0.03	0.09	0.09	0.09	0.21	1.42
Cash Surplus/(Deficit)	(0.17)	(0.21)	0.09	0.09	(0.59)	0.52
Profit and Loss						
NIBIAT +/-	0.01	0.01	(0.01)	(0.01)	0.03	(0.29)
Balance Sheet						
Average Capital Employed	0.12	0.42	0.55	0.48	0.91	10.94

Section 9: Disclosure

Disclosures, if required, will be done in line with existing Group and SPDC policies and guidelines

Section 10: Financing

This investment will be financed with JV funding and Shell share capital expenditure will be met by SPDC own cash flow. Formal JV partners' approval will therefore be obtained.

Section 11: Taxation

There are no unusual Taxation features.

Section 12: Key Parameters

Approval is required for the proposed commitment and expenditure for Corporate UPS Upgrade Services for SPDC Infrastructure in Warri and Port Harcourt for US$2.2mln (Shell share, 50/50).

Section 13: Signatures

This Proposal is submitted to Regional Information Manager, EP-IT Africa for approval.

Supported by:

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Ogunjimi Kayode

EPF-G-PI

Date ……/……/……

Approved by:

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Igwegbe, Augustine A

EPT-IT-G

Date ……/……../……

Initiator: *Babs Abinusawa (Mr)*

Project Manager (EPG-TPEU)

Date …../…../…..

Appendix.

Table 4: Details of Project Scope & Budget Phasing ($mln Shell Share MOD)

Project	US$ mln, MOD					
	2010	**2011**	**2012**	**2013**	**2014**	**2015**
UPS Upgrade Services - West	Upgrade of UPS Power Supply Systems for Air Operations, IA Ogunu – Design, Supply, Installation & Commissioning of UPS machines, isolation transformer, bypass panel & batteries Upgrade of UPS Power Supply Systems for Edjeba Offices & ELV – Mobilisation, detailed design, procurement of LV power cables & battery cables	Complete UPS Power Supply Systems for Air Operations, IA Ogunu – Procure, install & commission sine wave filters, LV power cables & battery cables, final system integration & commissioning, as built documentation. Complete UPS Power Supply Systems for Edjeba Offices & ELV – Supply, Installation & Commissioning of UPS machines, isolation transformer, bypass panel, batteries & sine wave filters, final system integration & commissioning, as built documentation	Nil	Nil	Upgrade of UPS Power Supply Systems for SITP, Edjeba – Design, Supply, Installation & Commissioning of UPS machines, isolation transformer, bypass panel, batteries & sine wave filters Upgrade of UPS Power Supply Systems for Osubi Airstrip – Design, Supply, Installation & Commissioning of UPS machines, isolation transformer, bypass panel, batteries & sine wave filters	Complete UPS Power Supply Systems for SITP, Edjeba – Procurement, Installation & Commissioning of LV power cables & battery cables, final system integration & commissioning, as built documentation Complete UPS Power Supply Systems for Osubi Airstrip – Procurement, Installation & Commissioning of LV power cables & battery cables, final system integration & commissioning, as built documentation
UPS Upgrade Services - East	Upgrade of UPS Power Supply Systems for Geomatics IA PHC – Mobilisation, detailed design, procurement of LV power cables & battery cables	Complete UPS Power Supply Systems for Geomatics IA PHC – Supply, Installation & Commissioning of UPS machines, isolation transformer, bypass panel, batteries & sine wave filters, final system integration & commissioning, as built documentation			Upgrade of UPS Power Supply Systems for Kidney Island PHC – Design, Supply, Installation & Commissioning of UPS machines, isolation transformer, bypass panel, batteries & sine wave filters	Complete UPS Power Supply Systems for Kidney Island PHC – Procurement, Installation & Commissioning of LV power cables & battery cables, final system integration & commissioning, as built documentation