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>USD $3.75mln Shell share (MOD), 50/50 (USD12.5mln 100% JV)</td></tr>
<tr><td>Project</td><td>SPDC 2010 Flow line replacement campaign</td></tr>
<tr><td>Main commitments</td><td>
<table>
<tr><th>Activity</th><th>Shell Share (US$mln MOD)</th><th>100% SPDC JV (US$mln MOD)</th></tr>
<tr><td>East Asset team flow line replacement</td><td>3.09</td><td>10.3</td></tr>
<tr><td>West Asset team flow line replacement</td><td>0.66</td><td>2.2</td></tr>
<tr><td>Total</td><td>3.75</td><td>12.5</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.</td></tr>
<tr><td>Summary cash flow</td><td>NA</td></tr>
<tr><td>Summary economics</td><td>The project returns an NPV 7% -$0.95 mln (Shell share) and VIR 7% -0.26 with an associated maximum exposure of $2.97mln in 2010</td></tr>
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Section 1: The proposal (management summary)

This Investment proposal seeks approval for US$3.75 mln Shell Share 50/50 MOD (US$12.5 mln 100 JV) for 2010 Flow lines replacement.

This proposal covers the 2010 flow line replacement for SPDC - East and West Division (Land Area) that will add circa 13 Mbopd daily oil productions to SPDC-East & West plus 140MMScf of gas in the West. Some other flowlines in SPDC-West requiring replacement, mainly in the Swamp area, are covered under the West Re-entry project and therefore are not part of this proposal. A total of ca 50km of flowlines is proposed for replacement during the plan period.

It is of utmost importance that we do everything practicable to ensure that the company's business objectives and promises (in terms of production) are met, in this wise, proactively replacing aged flowlines and others with integrity issues resulting from repeated acts of vandalism will help prevent further loss of production.

The selection of lines for replacement is based mainly on a structured replacement plan, as incorporated into the Flowline Integrity Management System (FIMS) and available reserves. In addition, priority was given to producing lines with higher impact on the overall output of the asset teams.

In order to assure on the integrity and longevity, the new lines or replaced sections will be treated with the standard 3-layer PE coating and cathodically protected to minimise corrosion. Post installation surveillance monitoring and data gathering activities would continue to help improve the FIMS and thus future analysis, projections and proactive response time.

The expenditure under this proposal is for a one-year period as detailed below.

Expenditure Phasing (Shell Share - $mln)

Description	**2010(Shell Share)**	**100% JV**
Flowline replacement	3.75	**12.5**

The details of the location and flowlines to be replaced are presented in tables below.

Section 2: Value proposition and strategic and financial context

Specifically, this project will ensure the integrity of 16 oil plus 4 gas flow lines being proposed for replacement, thus adding to production ca 13 Mbopd of oil in both East & West and 140MMScf of gas in the West.

Replacing these flow lines will minimise the risk of leakages and spills due to flowline integrity issues, thereby enhancing SPDC's reputation as a responsible corporate citizen. These benefits will help the sustenance of SPDC's License to operate (LTO) and will facilitate the continued production from SPDC assets in order to meet its production targets.

The sum of F$ 14.87 mln (F$4.462 mln Sell Share) was approved for flow line replacement under the 2009 flow line replacement IP for the replacement of 41 lines. A total of 37 lines (*see tables in Appendix I*) were completed in both divisions, comprising of 12 planned and 25 unplanned flow lines at a total spend of F$14.784mln (F$ 4.435 mln Shell Share).

The 11 flow lines for replacement in 2010 in the East have been selected based on Asset development advice to enable value realisation from NCTL. The total length of the flow lines to be replaced is ca.40km.

Opportunities that come up within the year, but not captured in the list below will be ranked and if executed, a list of revisions and actual work done will be captured in the next IP.

For the West, FIMS advice includes 23 flow lines in the Land Area for replacement in 2010. Budget constraints have necessitated consideration of only 9 lines, as the others fall under the OMLs that SPDC is divesting from. Total length of flow lines to be replaced in the West is 10km. As already mentioned, Swamp flow lines are excluded from this IP as they are being covered under the Re-entry project.

EAST FLOWLINE REPLACEMENT

S/No.	Field	Conduit	Fluid	ANSI RATING	Size of Pipe (INS)	Length of line (Km)	Resvs07 (MMbpd)	Projected 2010 (bopd)	Estimated Conduit Life (years)	COST($)
1	AKASO	AKOS003L	oil	600	4	4.7	1.3654	917.336438	4.07512588	1227875
2	AWOBA	AWOB 3L	oil	600	4	2	1.0659	1054.25378	2.76809551	522500
3	EKULAMA	EKUL026L	oil	600	4	3.833	0.60174	244.576052	6.73604108	1001371.25
4	AWOBA	AWOB 7L	oil	600	4	1.4	4.4486	3125.53808	3.89680199	365750
5	EKULAMA	EKUL024T	oil	600	4	3.058	0.27258	105.766041	7.05598281	798902.5
6	EKULAMA	EKUL035S	oil	600	4	2.3	0.63169	292.269852	5.91738406	600875
7	EKULAMA	EKUL038L	oil	600	4	2.776	0.6295	246.37577	6.99531886	725230
8	EKULAMA	EKUL038S	oil	600	4	2.778	1.1594	470.114521	6.7521084	725752.5
9	EKULAMA	EKUL039L	oil	600	4	2.186	0.54834	229.381959	6.54486128	571092.5
10	AWOBA NORTH WES	AWNW001L	oil	600	4	7.3	2.4327	1206.56879	5.52009105	1907125
11	AWOBA NORTH WES	AWNW001S	oil	600	4	7.3	1.6174	719.159863	6.15746247	1907125
						39.631		**8611.34115**		**10,353,598.75**

WEST FLOWLINE REPLACEMENT

S/No.	Field	Conduit	Fluid	ANSI RATING	Size of Pipe (INS)	Length of line (Km)	Resvs07 (MMbpd)/ Bscf	Projected 2010 (bopd) / MMScf /d	Estimated Conduit Life (years)	COST($)
1	OLOMORO	OLOMW003L	Oil	600	4	2.5	1.8	1265	8368	478,750
2	OLOMORO	OLOMW005L	Oil	600	4	0.5	2.79	900	170.47	95,750
3	KOKORI	KOKR035T	Oil	600	4	1.95	1.33	680	1099.92	373,425
4	KOKORI	KOKR001L	Oil	600	4	1.95	0.52	420	1780.82	373,425
5	EVWRENI	EVWR001L	Oil	600	4	0.5	0.26	200	747.95	95,750
6	UTOROGU	UTOR029T	Gas	2500	6	0.7	50.11	50	7.69	195,000
7	UTOROGU	UTOR031T	Gas	2500	6	0.7	31.11	45	8.55	195,000
8	UTOROGU	UTOR030T	Gas	2500	6	0.7	30.86	45	8.55	195,000
9	UTOROGU	UTOR025T	Gas	2500	6	0.7	63.81	50	7.69	195,000
					TOTALS	10.2				2,197,100
			GRAND TOTAL							**2,197,100**

Summary Economics

The project base case was evaluated on a cost only basis with aim of assessing its value on a forward-looking basis. Additional economic analysis carried out showed that the total value of the oil & gas production at risk amounts to US$359.1 mln (Shell share) at PSV RV, in the event that these flow lines are not replaced. The value at risk evaluation assumes that the likelihood of losing production from the wells is solely dependent on the integrity of the flow lines.

Table 1: Economics for 2010 Flow lines replacement and Hook-up (Shell share only)

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%**		**AT**
Base Case								
SV ($50/bbl RT10)	-0.63	**-0.95**	**-0.26**	NA	NA	NA		
RV ($60/bbl RT10)	-0.63	**-0.95**	**-0.26**	NA	NA	NA	NA	2.97 (2010)
HV ($80/bbl RT10)	-0.63	**-0.95**	**-0.26**	NA	NA	NA		
BEP (RT $/bbl)					NA	NA		
Sensitivities(Using RV-RT)								
High Capex(+15%)		**-1.1**	**0.25**				NA	3.42(2010)
Value at Risk		**359.1**	NA				NA	NA

Table 2: Key Project Parameter Data (Shell Share)

Parameter	Unit	Bus Plan (BP09)	Low	Mid	High	Comments
CAPEX (MOD)	US$ mln	11.3	NA	3.8	NA	
Investment OPEX (MOD)	US$ mln	NA	NA	NA	NA	
Production Volume	mln boe	NA	NA	NA	NA	
Start Up Date	mm/yyyy	NA	NA	NA	NA	
Production in first 12 months	mln boe			NA		

Economics Assumptions:

1. For cost-only evaluation, no revenue stream applied.
2. For value at risk and cost-benefit analysis, the following assumptions apply:
   - Gas sales price to NLNG T1-6 @ $1.63/MMbtu in 2010 at PSV RV
   - Gas sales price to Domgas @ Nigeria Gas Master Plan (NGMP)
   - SPDC Generic OPEX assumption:
     - Oil variable and fixed OPEX - $0.5/bbl and 4% of cum. oil CAPEX respectively
     - Gas variable and fixed OPEX - $0.3/boe and 2% of cum. gas CAPEX respectively
   - GHV of 1000 btu/scf for gas to Domgas & 1150btu/scf for gas to NLNG
   - Associated Gas Framework Agreement (AGFA) incentive was assumed to apply.
   - All the gas is assumed sold
   - NDDC levy of 3% total expenditure.
   - Education tax of 2% assessable profit.
   - 10% of the project CAPEX is assumed as abandonment cost

Section 3: Risks, opportunities and alternatives

Alternative Considered

Do nothing: This implies leaving the flowlines as is. This option however, will expose the company to the risk of possible spills and production losses resulting from integrity related leakages and its attendant corporate reputation issues.

Shut off High-risk flowlines; this is a commercially unviable option especially for high producers and will impact on our production system capacity and stability.

Opportunity

Opportunity exists to achieve the following:

Reinstate integrity of the affected flowlines.

Ensure continuity in meeting statutory obligations on integrity of the oil and gas flowlines.

Avert possible flowline failures (rupture)

Assure continued oil and gas production in support of the production promise.

Risks

The principal risks associated with this project and key mitigation measures are, but not limited to:

Risks Category	Risk Description	Mitigation/Remedial Effort
Commercial	Delays Internal & External approvals	Delays in securing internal and joint venture partners' approval could delay the project. Prompt, aggressive and continuous engagement of JV partners will be ensured throughout the project execution.

	Delays in procurement of materials	The engineering team will finalize discussion with SCM on the procurement of standard hook up items as stock items.
Risks Category	**Risk Description**	**Mitigation/Remedial Effort**
Technical / Operational	Limited Indigenous vendor with adequate capacity	The technical evaluation criteria will be robust and stringent enough to screen out incompetent vendors Provision of experienced personnel for the project and rigorous supervision of contractor using all available project management tools.
	Unnecessary replacement of good lines.	The flowlines to be replaced is selected by obtaining and analysing the relevant fluid and static data, UT measurements, followed by a review leak history in last 5years and failure investigation. The result of this checks are kept and updated regularly in the flowlines information management system (FIMS)
HSE Risk	HSE hazards and Interface problems with existing habitation.	Detailed job hazard analysis prior to commencement of work. Proper supervision
	Pollution of environment due to flowline leaks as a result of poor asset, which can lead to loss of ISO14001 certification, and consequently loss of production (LTO) if deteriorated flowlines are not inspected and maintained.	Flowline Integrity Management System (FIMS) has been put in place for better prediction of flowline integrity to eliminate leaks.
Managing community issues	Potential delay due to pressure to use labour from communities.	• Community will be proactively engaged • Terms of agreement during FTO engagements (labour employment, sub contracting & community support). • FTO will be secured via SPDC community relations officers for the various communities. • Vendors to employ community workers to execute non-technical scopes of the projects.
Security	Threat to Personnel & Assets. Disruptions to commencement/ execution/completion of flowline replacement activities.	• Front-end planning of flowline replacement activities includes development of activity-specific security plans, in consonance with relevant Asset security plans. • SPDC Security Risk Exposure Matrix (SREM) will be routinely applied for evaluation of real-time risk on flowline replacement projects. • Use of government security forces (Joint Task Force – JTF) to provide protection for operational sites. • Structured approach to community entry for flowline activities, in close collaboration with SPDC Sustainable Community Development (SCD) Team,

		to avoid unnecessary tensions. • Use of information provided to the asset teams via the Integrated Pipeline Systems Surveillance (IPSS) contracts. • Own security arrangements by installation contractors subjected to review / acceptance by SPDC security dept prior to implementation.

Section 4: Corporate structure, and governance

The existing corporate structure and arrangements of SPDC-JV with SPDC as operator will be used as the vehicle for the investment and operations. The project assurance model of the ORP-lite would be implemented.

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

Conducting our business in a safe and responsible manner is the bedrock upon which SPDC policies and practices are founded. Increasing and sustaining production is the primary commercial aspirations of the company. The safe and efficient execution of this project represents technical directorate's contribution to this overarching goal. Support from other functional teams will also be secured to ensure a seamless project execution.

SPDC HSE and SDCR~~CD~~ policies will be strictly adhered to with a view to minimise the risk of accident and disruptions to work programme. The 3 Golden rules and 12 Life saving rules will be continually emphasised as an essential step in attaining GOAL ZERO.

In addition, a project-specific HSE plan incorporating all the potential hazards relating to these projects will be put in place.

Contractor's HSE plan will be reviewed to ensure it adequately addresses all possible hazards of the project and communicated to contractor staff in kick-off meetings, daily tool box meetings and site inspections.

Social Performance Management

Freedom to operate (FTO) will be secured from all affected communities. For communities covered by operational GMoU's this will be through their respective Cluster Development Board. For those without operational GMoU's individual FTO's will be through the community representatives.
The key benefits that will be offered are: employment opportunities, community support, sub-contracting to community vendors and associated community content initiatives. To manage social performance (SP) in the project, 2% of the total project cost will be used for the engagements and community support. The Asset/SDCR teams will manage social performance in the project.

Section 6: Project management, monitoring and review

A project Engineer will be dedicated to this project to monitor progress on daily and weekly basis.
Project site representatives will also be employed for this project to ensure that vendors' carry out the scope of work as stated in the contract document and that good quality project is delivered to the asset teams.
Post-investment review for this project will be included in the overall scope.

Section 7: Budget provision

There is a budget provision for the proposed commitments in the 2010 business plan. With proper project management, the financial commitments of these projects will not exceed the expenditure limits.

Section 8: Group financial reporting impact

The financial impact of this proposal on Shell Group Financials is as indicated in the table below.

US$ mln	2010	2011	2012	2013	2014	Post 2014
Total Commitment	3.75	0.00	0.00	0.00	0.00	0.00
Cash Flow						
SCD Expenditure	0.00	0.00	0.00	0.00	0.00	0.00
Capital Expenditure	3.75	0.00	0.00	0.00	0.00	0.00
Operating Expenditure	0.11	0.00	0.00	0.00	0.00	0.00
Cash Flow from Operations	0.63	0.68	0.64	0.64	0.61	0.10
Cash Surplus/(Deficit)	(3.12)	0.68	0.64	0.64	0.61	0.10
Profit and Loss						
NIBIAT +/-	0.17	(0.05)	(0.05)	(0.05)	(0.05)	(0.41)
Balance Sheet						
Average Capital Employed	2.26	4.15	3.60	3.23	2.83	5.09

Section 9: Disclosure

Media Relations Protocol, Investor Relations Protocol and Market Abuse Directive Guidelines will follow approved SPDC procedures.

Section 10: Financing

The project will be funded from SPDC's JV budgetary provision for 2010 – 2011 activities to an amount not exceeding USD12.5 Mln.

Section 11: Taxation

The flowline replacement project is taxed with oil fiscal regime. Capital expenditure is tax deductible at the statutory rate of 85% under the Petroleum Profit Tax Act 2004. Fiscal depreciation is given over 5 year's straight line with 1% retention in the fifth year. In addition, a one off investment allowance of 5% is claimable on the capital expenditure.

Section 12: Key Parameters

Consideration is required of the soundness of the expenditure commitments for:

The 2010 SPDC flowline replacement for the sum of US$3.75 mln (Shell share).

Section 13: Signatures

This Proposal is submitted to EPG Technical Director for approval.

Supported by:	Approved by:
.....	.....
OGUNJIMI Kayode	*BIRCH, Andrew*
EPF-G-PI	EPG-TP
Date ..../..../....	Date ..../..../....

Initiator: *Nwadiuto Onyekwelu*

Mr Project Manager (EPG-TPEA)

Date …/…./….

Appendix I : Table showing Conduit List Planned for Replacement in 2009 including their execution status

S/NO	Field	Tag number	Fluid	LINE SIZE (INS)	LINE LENGTH (KM)	Net Potential (bpd)	Rem Res (mmbl)	Estimated Conduit Life	Cost ($)	Status
Status of 2009 IP										
EAST										
1	Cawthorne channel	CAWC3FLO43S	OIL	4	2	3862	24.19	17.2	589,678	executed
2	Cawthorne channel	CAWC3FLO41S	OIL	4	2	3155	13.73	11.9	264,162	executed
3	Cawthorne channel	CAWC 37L	OIL	4	0.9				79,501	executed
4	Imo river	IMOR 1FLO22L	OIL	4	0.7	230	0.23	2.7	89,675	executed
5	Imo river	IMOR 1FLO26L	OIL	6	2.9	236	0.73	8.5	120,830	executed
6	Soku	SOKUFLO26T	OIL	4	2.83	743	0.54	2	338,332	executed
7	Awoba	AWOBFLO07S	OIL	4	1.4	4344	5.94	3.7	285,097	executed
8	Agbada	AGBD2FLO46L	OIL	4	1.36	170	0.87	14		Not executed
9	Imo river	IMOR 1FLO19L	OIL	4	0.551	151	0.43	7.8		Not executed
10	Agbada	AGBD2FLO02T	OIL	4	2.1	1238	2.51	5.6		Not executed
11	Imo river	IMOR 1FLO58L	OIL	4	2	597	1.26	5.8		Not executed
12	Imo river	IMOR 2FLO21L	OIL	4	3.7	65	0.17	7.2		Not executed
13	Imo river	IMOR 2FLO25L	OIL	4	3	301	0.5	4.6		Not executed
14	Obigbo North	OGBNFLO25T	OIL	4	2.73	396	2.86	19.8		Not executed
15	Obigbo North	OGBNFLO28S	OIL	4	3.5	245	0.04	0.4		Not executed
16	Akaso	AKOSFLO03L	OIL	4	4.7	2036	2.26	3		Not executed
17	Akaso	AKOSFLO07L	OIL	4	3.95	1625	1.72	2.9		Not executed
18	Akaso	AKOSFLO13L	OIL	4	2.44	888	1.59	4.9		Not executed
19	Awoba	AWOBFLO03S	OIL	4	2	867	0.9	2.8		Not executed
20	Awoba	AWOBFLO05L	OIL	4	2.2	1341	1.87	3.8		Not executed
21	Awoba	AWOBFLO06L	OIL	4	3.5	1023	4.07	10.9		Not executed
22	Awoba	AWOBFLO07S	OIL	4	1.4	4344	5.94	3.7		Not executed
23	Cawthorne channel	CAWC1FLO16L	OIL	4	1.55	97	0.18	5.1		Not executed
24	Cawthorne channel	CAWC1FLO22S	OIL	4	2.5	918	0.57	1.7		Not executed
25	Cawthorne channel	CAWC1FLO23L	OIL	4	6.01	1158	5.47	12.9		Not executed
26	Cawthorne channel	CAWC2FLO16S	OIL	4	1.6	493	0.68	3.8		Not executed
27	Cawthorne channel	CAWC3FLO41L	OIL	4	1.7	625	17.77	77.9		Not executed
WEST										
28	Escravos Beach	ESCB011S	OIL	4	0.74	383	0.47	3.4	166,344	Not executed
29	Sapele	SAPLW006L	OIL	4	2.484	396	0.65	4.5	241,761	executed
30	Sapele	SAPLW0012S	OIL	4	2.006	1033	2.48	6.6	201,012	executed
31	Sapele	SAPLW023T	OIL	4	4.00	23	0.03	3.6	371,000	executed
32	Sapele	SAPLW024T	OIL	4	4.00	558	0.68	3.3	371,000	executed
33	Forcados Yokri	52B01 Bulkline to NB	OIL	6	2.00	1785	2.95	4.5	483,000	Not executed
34	Forcados Yokri	52B01 Bulkline to NB	OIL	6	2.00	501	0.35	1.9	438,000	Not executed
35	Forcados Yokri	95B01 Bulkline to NB	OIL	6	2.00	769	0.89	3.2	483,000	Not executed
36	Forcados Yokri	51B01 Bulkline to Yokri FS	OIL	6	2.40	1323	1.26	2.6	570,600	Not executed
NAG Wells - WEST										
37	Utorogu	UTORW026T	GAS	6	0.6		16.43		116,400	Not executed
38	Utorogu	UTORW027T	GAS	6	0.6		55.25		116,400	Not executed
39	Utorogu	UTORW029T	GAS	6	0.6		67.23		116,400	Not executed
40	Utorogu	UTORW030T	GAS	6	0.6		34.98		116,400	executed
41	Sapele	SAPLW018T	GAS	6	3		19.42		402,000	Not executed
					94.91					

Table showing Unplanned Conduit List Replaced in 2009

ADDITIONAL FLOWLINE WORKS EXECUTED IN 2009 - EAST (UNPLANNED)										
1	Agbada	AGBD007LS & GLL	OIL	4	4.5				223,806	Completed
2	Alakiri	Alak034T	GAS	6	0.95				453,357	Completed
3	Awoba	Awoba 8T	OIL	4	3.2				403,024	Completed
4	Awoba	Awoba 2T	OIL	4	1.5				120,123	Completed
5	Adibawa NE	Biseni-Adibawa BL & TL completion	OIL	6	11				358,139	Completed
6	Belema	BELE009T	OIL	4	4				339,917	Completed
7	Bonny	BONY023T	GAS	6	1.6				353,497	Completed
8	Bonny	BONY024T	GAS	6					200,570	Completed
9	Cawthorne channel	CAWC029T	OIL	4	1.6				269,833	Completed
10	Cawthorne channel	CAWC024T	OIL	4	2.7				328,311	Completed
11	Cawthorne channel	CAWC 21L/S	OIL	4	2.4				277,859	Completed
12	Ekulama	EKUL039S & 40T	OIL	4	2.186				735,384	Completed
13	Imo river	IMOR026S	OIL	6	2.9				120,830	Completed
14	Imo river	ImoR 26 GLL	GAS LIFT	2	2.9				60,415	Completed
15	Imo river	IMOR010 GLL	GAS LIFT	2	2.4				120,380	Completed
16	Imo river	IMOR022 GLL	GAS LIFT	2	1.1				35,870	Completed
17	Kolo creek	Kocr 20T Completion	OIL	6	3				128,109	Completed
18	Kolo creek	Kocr 16T	OIL	4					89,830	Work was aborted
19	Soku	Soku W21L & 31S	OIL	4	2.6				441,435	Completed
20	Soku	SOKU W16S, W23S	OIL	4	1.4				455,027	Completed
21	Soku	SOKU W8T, 48S & 11S	OIL	4	5				683,472	Completed
ADDITIONAL FLOWLINE WORKS EXECUTED IN 2009 - WEST (UNPLANNED)										
22	Sapele	SAPLW001S		4"						Completed
23	Sapele	SAPLW006S		4"						Completed
24	Sapele	SAPLW025L/S		4"						Completed
25	Sapele	SAPLW026L/S		4"						Completed