

# Group Investment Proposal

## Summary Information

Business unit and company	The 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%), EPNL (TotalFinaElf: 10%), Nigeria Agip Oil Company (NAOC: 5%)																																																																																		
Business or Function	Upstream International																																																																																		
Amount	US\$104.0m (Shell Share, 50/50, MOD) of which US\$19.2mln is to be approved in this Revised FID IP proposal. The balance of US \$84.8mln Shell Share was previously approved as FID IP in February 2009.																																																																																		
Project	Western Domestic Gas Interim Growth (WDIG) Project: Ughelli East Node																																																																																		
Main commitments \$Mln (MOD)	<table><thead><tr><th>IP</th><th>Prior Proposal 2009 (100%)</th><th>This Proposal (100%)</th><th>This proposal (Shell Share)</th><th>Total Revised IP (100%)</th><th>Total Revised IP (Shell Share)</th></tr></thead><tbody><tr><td>Location Preparation</td><td>2.1</td><td>0.2</td><td>0.1</td><td>2.3</td><td>0.7</td></tr><tr><td>NAG Wells Drilling and Completion</td><td>41.2</td><td>(6.7)</td><td>(2.0)</td><td>34.5</td><td>10.4</td></tr><tr><td>Flowlines Installation and Hook-up</td><td>27.5</td><td>(18.9)</td><td>(5.7)</td><td>8.6</td><td>2.6</td></tr><tr><td>NAG Facilities</td><td>117.4</td><td>24.8</td><td>7.4</td><td>142.2</td><td>42.7</td></tr><tr><td>Pipelines installation and tie-ins</td><td>45.2</td><td>46.6</td><td>14.0</td><td>91.8</td><td>27.5</td></tr><tr><td>Land Acquisition and Site Preparation</td><td>2.0</td><td>6.3</td><td>1.9</td><td>8.3</td><td>2.5</td></tr><tr><td><b>TOTAL CAPEX</b></td><td><b>235.4</b></td><td><b>52.3</b></td><td><b>15.7</b></td><td><b>287.7</b></td><td><b>86.3</b></td></tr><tr><td>Contingency</td><td>32.7</td><td>10.4</td><td>3.1</td><td>43.1</td><td>12.9</td></tr><tr><td><b>TOTAL P50 CAPEX (Incl. Contingency)</b></td><td><b>268.1</b></td><td><b>62.7</b></td><td><b>18.8</b></td><td><b>330.8</b></td><td><b>99.2</b></td></tr><tr><td>SCD Opex (P50)</td><td>6.8</td><td>1.5</td><td>0.5</td><td>8.3</td><td>2.5</td></tr><tr><td>Pre-FID Opex</td><td>7.7</td><td>0</td><td>0.0</td><td>7.7</td><td>2.3</td></tr><tr><td><b>TOTAL Cost US\$ mln (P50)</b></td><td><b>282.6</b></td><td><b>64.2</b></td><td><b>19.3</b></td><td><b>346.7</b></td><td><b>104.0</b></td></tr></tbody></table>					IP	Prior Proposal 2009 (100%)	This Proposal (100%)	This proposal (Shell Share)	Total Revised IP (100%)	Total Revised IP (Shell Share)	Location Preparation	2.1	0.2	0.1	2.3	0.7	NAG Wells Drilling and Completion	41.2	(6.7)	(2.0)	34.5	10.4	Flowlines Installation and Hook-up	27.5	(18.9)	(5.7)	8.6	2.6	NAG Facilities	117.4	24.8	7.4	142.2	42.7	Pipelines installation and tie-ins	45.2	46.6	14.0	91.8	27.5	Land Acquisition and Site Preparation	2.0	6.3	1.9	8.3	2.5	<b>TOTAL CAPEX</b>	<b>235.4</b>	<b>52.3</b>	<b>15.7</b>	<b>287.7</b>	<b>86.3</b>	Contingency	32.7	10.4	3.1	43.1	12.9	<b>TOTAL P50 CAPEX (Incl. Contingency)</b>	<b>268.1</b>	<b>62.7</b>	<b>18.8</b>	<b>330.8</b>	<b>99.2</b>	SCD Opex (P50)	6.8	1.5	0.5	8.3	2.5	Pre-FID Opex	7.7	0	0.0	7.7	2.3	<b>TOTAL Cost US\$ mln (P50)</b>	<b>282.6</b>	<b>64.2</b>	<b>19.3</b>	<b>346.7</b>	<b>104.0</b>
IP	Prior Proposal 2009 (100%)	This Proposal (100%)	This proposal (Shell Share)	Total Revised IP (100%)	Total Revised IP (Shell Share)																																																																														
Location Preparation	2.1	0.2	0.1	2.3	0.7																																																																														
NAG Wells Drilling and Completion	41.2	(6.7)	(2.0)	34.5	10.4																																																																														
Flowlines Installation and Hook-up	27.5	(18.9)	(5.7)	8.6	2.6																																																																														
NAG Facilities	117.4	24.8	7.4	142.2	42.7																																																																														
Pipelines installation and tie-ins	45.2	46.6	14.0	91.8	27.5																																																																														
Land Acquisition and Site Preparation	2.0	6.3	1.9	8.3	2.5																																																																														
<b>TOTAL CAPEX</b>	<b>235.4</b>	<b>52.3</b>	<b>15.7</b>	<b>287.7</b>	<b>86.3</b>																																																																														
Contingency	32.7	10.4	3.1	43.1	12.9																																																																														
<b>TOTAL P50 CAPEX (Incl. Contingency)</b>	<b>268.1</b>	<b>62.7</b>	<b>18.8</b>	<b>330.8</b>	<b>99.2</b>																																																																														
SCD Opex (P50)	6.8	1.5	0.5	8.3	2.5																																																																														
Pre-FID Opex	7.7	0	0.0	7.7	2.3																																																																														
<b>TOTAL Cost US\$ mln (P50)</b>	<b>282.6</b>	<b>64.2</b>	<b>19.3</b>	<b>346.7</b>	<b>104.0</b>																																																																														
Source and form of financing	This investment will be financed with JV funding and Shell share capital expenditure will be met by SPDC's own cash flow.																																																																																		
Summary cash flow	<div><p><b>WDGIP P forward looking Cashflow (Shell Share PSV RV-RT12)</b></p><p>(Annual Cashflow (\$ mln RT12))</p><p>(Cumulative Cashflow (\$ mln RT12))</p><p>RT Annual Cash Flow 0% RT CAPEX Cum Cashflow 0% Cum Cashflow 7%</p></div>																																																																																		
Summary economics	<table><thead><tr><th>Summary economics</th><th>NPV7% (US\$ mln)</th><th>RETP(%)</th><th>VIR7%</th></tr></thead><tbody><tr><td>Base Case</td><td>44.4</td><td>&gt;50</td><td>2.42</td></tr><tr><td>High CAPEX</td><td>43.6</td><td>&gt;50</td><td>2.06</td></tr><tr><td>FLC</td><td>17.2</td><td>12.7</td><td>0.16</td></tr></tbody></table>				Summary economics	NPV7% (US\$ mln)	RETP(%)	VIR7%	Base Case	44.4	>50	2.42	High CAPEX	43.6	>50	2.06	FLC	17.2	12.7	0.16																																																															
Summary economics	NPV7% (US\$ mln)	RETP(%)	VIR7%																																																																																
Base Case	44.4	>50	2.42																																																																																
High CAPEX	43.6	>50	2.06																																																																																
FLC	17.2	12.7	0.16																																																																																

### ***Section 1: The proposal (management summary)***

This investment proposal seeks support for the additional funding of US\$19.2mln (Shell share) having previously obtained approval for US\$84.8 (Shell share) in 2009 for the development of Ughelli East field. The development scope – includes drilling of wells, installation of flowlines, building of a new NAG processing facility that will be located at Utorogu (11 km from Ughelli), installation of export pipelines and related miscellaneous/integration works at existing Utorogu and Ughelli NAG Plants required to deliver the Western Domestic Gas Interim Growth (WDIG) project.

SPDC Western operational area currently supplies an average of 400MMscf/d to meet gas supply obligations in the Western domestic gas network. SPDC gas supplies come predominantly from NAG plants with following capacities: Utorogu (320MMscf/d), and Ughelli-East (90MMscf/d).

Overall gas demand in this network is on the increase due to ongoing rehabilitation of Power holding Company of Nigeria (PHCN) thermal power plants (Ughelli and Egbin), new industrial consumers, supply commitments to West African countries via the new West African Gas Pipeline (WAGP) Project and new power plants under the Federal Government's National Integrated Power Projects (NIPP). The Nigeria government is exerting strong pressure on Independent Oil Companies (IOC) in Nigeria to increase gas supply to the new and existing thermal power plants to boost power output into the national grid. This Investment Proposal will therefore support government aspiration to rapidly increase national power generation capacity and boost gas supply to local industries.

Ughelli East NAG nodal project aims at developing additional 60MMscf/d of gas from Ughelli-East field as its contribution to the additional 150MMscf/d promised by Shell. Thus the existing 90Mmscf/day gas plant presently situated in Ughelli East will be replaced with a new 150MMscf/day plant and will use a JT-LTS process system to meet WAGP specification. In line with the decision to establish a domestic gas processing hub at Utorogu, the new plant will be located near the existing Utorogu NAG plant with a completion date of 31/12/2012.

**Contracting Strategy:** an umbrella Gas Handling Facilities' Contract (S17893) signed on 09/09/2008 is being used to execute the engineering, procurement, installation and commissioning of the new 150MMscf/d NAG Plant and integration works at Utorogu. The associated pipelines contract has been awarded to Daewoo Nigeria Limited. Flowlines will be installed via existing flowlines construction call-off contracts.

Since after the last IP approval; there have been some changes to the scope of the project due to:

- a. The need for the project to conform to Asset Integrity Process Safety Management (AIPSM) Standards which stipulated a list of minimum mandatory DEPs. This requirement has now being built into the scope of this project which was initially based on international standards.
- b. Increase in the scope of integration between the new NAG plant and existing facilities (NAG 1 and Utorogu flowstation). The scope of the original GIP did not envisage significant integration between the existing and new Utorogu gas plants. The additional integration scope now include single operator window between the two gas plants, inlet piping integration, etc. There is also an additional requirement to lay 2No condensate lines from the new gas plant to the Utorogu flowstation.
- c. Increase in Ughelli Gas Plant brown field scope. The scope of the new GIP now includes a requirement to execute revamp scope to address asset integrity scope to keep the Ughelli Gas Plant into operation up until after the new gas plant is commissioned and its operation stabilised.
- d. As a result of the deteriorating security situation in Niger Delta, the amount to be expended on security has also been increased above the estimated provided in the approved GIP.

It is pertinent to note that the total commitment to date (August 2011) – is about **US\$240** mln. It is projected that the total IP budget will be committed by end of 2011 by which time this IP is expected to have been approved.

### **Project Scope:**

The Ughelli East field NAG development entails the installation of a new 150 MMscf/d NAG plant with a JT-LTS processing system near the existing Utorogu NAG Plant, re-routing of new and currently producing Ughelli East NAG wells to the new Utorogu location, installation of return sales pipeline to Ughelli East sales manifold to service existing consumers around Ughelli East (Beta Glass Ltd, PHCN Ughelli and Delta Steel Company, Aladja) and connection to existing Escravos Lagos Pipeline System.

The new wells have been drilled and completed in Q4 2008 and gas produced from these wells will be piped, together with other Ughelli East wells, via a new 12" bulkline to the new Utorogu NAG plant for processing.

FEED and Detail Design have progressed while procurement of Long Lead Items is circa 80%.

Summary of project scope to ensure delivery of 150 MMscf/d of gas from the Ughelli East field is as follows:

### Sub-Surface Scope

- Drill and complete one conventional gas well LMBI-1 in M6000X reservoir. Done in Q2, 2008
- Drill and complete one conventional gas well in M5000X reservoir. Done in Q4, 2008.

### Surface Scope

- **Process Facilities:** Design, procure, and install a new 150MMscf/d NAG processing plant complete with gas dehydration, JT LTS, hydrocarbon dewpointing, separation facilities, metering, condensate stabilisation and export.
- **Pipelines:**
  - Install 12" x 14 km wet gas bulkline from Ughelli East to Utorogu NAG Plant.
  - Install 12" x 14 km gas return pipeline from Utorogu NAG Plant to Ughelli East sales manifold to service the captive market – existing local customers.
  - Install 10" x 2.5km stabilised condensate line (Utorogu NAG Plant to Utorogu Flowstation)
  - Install 10" x 2.5km unstabilised condensate line (Utorogu NAG Plant to Utorogu Flowstation)
  -
- **Flowlines:**
  - Install a well bulking manifold at Ughelli.
  - Install 6" x 4.5 km gas carbon steel replacement flowlines and hook-up to new Ughelli bulking manifold;
  - Install 6"x 4 km flowlines for the new wells LMBI-1 and M6 Ughelli East bulk manifold;
  - Install 8"x 14 km test line from Ughelli East bulk manifold to the new NAG plant at Utorogu;
  - Install the associated 22.5m fibre optic cable between Wellheads and the Central Control Room at Utorogu.
- **Well corrosion management:** Procure and install corrosion inhibitor storage and injection package, and 2" x 22.5 km corrosion inhibitor lines to all wells.
- **ROW and Site Acquisition/Site Preparation:**
  - Acquire 15 m x 14 km land for the expansion of existing ROW for the pipelines and testline.
  - Acquire 300 m x 300 m land at Utorogu for the installation of the new plant and future development
  - Carry out bush clearing, de-stumping and sand filling of new NAG plant location at Utorogu.
- **Offgas Compression:** Procure and install 12MMscf/d off-gas compression package to handle NAG plant off-gases only.

- **Integration/ Brownfield scope:** Brownfield scope for this project has five major elements; (a) Isolate, degas and spade-off of the old Ughelli East NAG Plant, (b) Flowline bulking at old Ughelli East NAG Plant inlet manifold area, (c) Flowlines and piping tie-ins, instrumentation and telecoms system interfaces with existing Utorogu NAG plant & Flowstation; (d) Utilities interface and tie in works and (e) Rehabilitation of Ughelli East gas plant to continue to supply of gas to captive customers (PHCN, Beta Glass and Delta Steel Company) pending the completion and commissioning of the new Utorogu NAG Plant.

See Attachment-1 for a schematic overview of the Western Domestic Gas Supply Network.

Installation of the new NAG plant is scheduled for completion in 2012 with a 1<sup>st</sup> gas date of Dec 2012.

**Table-1: Western Domestic Gas Interim Growth Project (Utorogu/Ughelli East): Phased Expenditure**

P50 Cost Phasing (\$mln, MOD) - 100%								
Description	Prior Years	2008	2009	2010	2011	2012	Total	Shell Share
Location Preparation for NAG Wells		2.3					2.3	0.7
NAG Wells Drilling and Completion		34.5					34.5	10.4
Flowlines Installation and Hook-up		1.0	1.2			14.0	16.2	4.9
NAG Facilities			16.4	41.8	41.7	70.3	170.2	51.0
Pipelines Installation and Tie-ins			10.8	19.0	25.5	3.0	58.3	17.5
Land Acquisition and Site Preparation		0.4	4.7	0.4	2.7		8.3	2.5
<b>TOTAL COST CAPEX (excluding contingency)</b>	<b>0.0</b>	<b>38.2</b>	<b>33.0</b>	<b>61.2</b>	<b>70.0</b>	<b>87.4</b>	<b>289.8</b>	<b>86.9</b>
Contingency	0.0	0.0	0.0	0.0	0.0	40.9	40.9	12.3
<b>TOTAL P50 CAPEX (including contingency)</b>	<b>0.0</b>	<b>38.2</b>	<b>33.0</b>	<b>61.2</b>	<b>70.0</b>	<b>128.3</b>	<b>330.7</b>	<b>99.2</b>
SCD Opex (P50)		1.4	1.4	2.3	1.7	1.5	8.3	2.5
Pre-FID Opex	3.9	3.8	0.0	0.0	0.0	0.0	7.7	2.3
<b>TOTAL P50 Cost</b>	<b>3.9</b>	<b>43.3</b>	<b>34.4</b>	<b>63.5</b>	<b>71.7</b>	<b>129.8</b>	<b>346.6</b>	<b>104.0</b>

**Table -1A Phased Expenditure of Additional Funding**

P50 Cost Phasing (\$mln, MOD) - 100% SPDC JV					
Description	This IP				Total Investment
	2011	2012	2013	Total 'This IP'	
Location Preparation for NAG Wells					2.30
NAG Wells Drilling and Completion					34.50
Flowlines Installation and Hook-up					18.92
NAG Facilities		27.37	17.18	44.55	172.90
Brownfield & Integration				0.00	2.08
Land Acquisition and Site Preparation				0.00	8.27
Pipelines Installation and Tie-ins		18.08		18.08	91.76
Site Offices and Accommodation				0.00	0.00
<b>TOTAL P50 CAPEX (including Owners cost &amp; contingency)</b>		<b>45.45</b>	<b>17.18</b>	<b>62.63</b>	<b>330.73</b>
SCD Opex (P50)		1.50		1.50	8.30
Pre-FID Opex					7.65
<b>TOTAL P50 Cost</b>		<b>46.95</b>	<b>17.18</b>	<b>64.13</b>	<b>346.68</b>

## **Section 2: Value proposition and strategic and financial context**

This project aims to develop about 277 Bscf of gas reserves to supply additional 60MMscf/day of incremental gas volumes into the West domestic gas network through the drilling, completion and hook-up of 2 new development gas wells by 2012. Hence, approval of this IP will ensure SPDC is able to deliver part of the 150MMscf/day of gas already committed to the Nigerian Government for local gas market. This will also prepare Ughelli East for the growth project. The installation of the new JT-LTS plant at Utorogu will also unlock some 80 MMscf/d from low pressure and high temperature wells that current Utorogu JT-LTS is unable to produce to WAGP specification for transportation via ELPS.

The project has gone through ORP processes up to VAR4 in 2007 with Ughelli East as the plant location. Action points were closed out and signed off by GM Projects. However, following the change

in plant installation location to Utorogu, DRB approval was obtained for the change in location. This is supported by the fact that the scope of Gas Handling Facility remained essentially the same except for the bulking of the well streams to Utorogu and some level of integration between this new plant and the existing Utorogu JT-LTS plant.

### Summary Economics

The base economics was evaluated on a forward looking basis using the incremental cost and the BP11 production forecast.

Sensitivities carried out on the base case include:

- High Opex
- High and Low Reserves
- 1 Year schedule delay
- Project with ring fencing
- 1.5% cost mark up due to NNPC cost disputes on BVA (Bench-marked Verified Approved)
- FLC (Full Life Cycle) - showing the value of total project scope (all the prior costs and the projected future cost required to deliver the project).

**Table 2: Ughelli East Node Economics Grid**

PV Reference Date: 1/7/2012	NPV (S/\$ \$ mln)		VIR	RTEP	UTC (RT \$/boe)		Payout- Time (RT)	Maximum Exposure (RT)
Cash flow forward from: 1/1/2012	0%	7%	7%	%	0%	7%	yyyy	mln
<b>Base Case</b>								
SV-RT (\$50/bbl RT11)	42.5	31.1						
RV-RT (\$70/bbl RT11)	59.7	44.4	2.42	>50	1.53	1.69	2014	US\$ 10.82 mln (2012)
HV-RT (\$90/bbl RT11)	100.0	74.5						
<b>Sensitivities (on base case)</b>								
High CAPEX (+ 15%)		43.6	2.06				2014	US\$ 12.81 mln (2012)
High Reserves		51.0	2.78				2013	US\$ 9.24 mln (2012)
Low Reserves		25.4	1.39				2014	US\$ 11.61 mln (2012)
1 Year schedule delay		44.5	2.30				2014	US\$ 10.94 mln (2013)
Project with ring fencing		43.9	2.40				2014	US\$ 5.945 mln (2012)
1.5% cost mark up due to BVA		43.2	2.24					
PIB (House Version 12.0)		TBA	TBA					
FLC		17.2	0.16				2015	US\$ 64.01 mln (2012)

**Table 3: Key project parameters (Shell share)**

	Unit	Bus Plan BP11	Low	Mid	High	Comments
Capex (MOD)	US\$ mln	98.4	16.9	18.8	21.6	Forward look CAPEX for Low, Mid and High.
Opex (MOD)	US\$ mln	NA	NA	0.5	NA	Forward look SCD OPEX
Production volume	Mmboe	21.0	12.9	22.3	22.4	
On-stream Date	mm/yyyy	Dec-12	NA	Dec-12	Jan-13	

### Economics Assumptions:

- Oil PSV of \$70/bbl RT11.
- SPDC NGMP Dom gas price of \$0.34/mmbtu RT11.
- ABC Opex provided by the project team
- Condensate treated as Oil and taxed under PPT.
- Gas taxed under CITA with Associated Gas Framework Agreement (AGFA) incentive.
- Flare Penalty of US \$3.5/mscf non-tax deductible.
- GHV of 1000Btu/scf.
- SCD Opex provided by the project team.
- NDDC levy 3% of total expenditure.
- Education tax of 2% assessable profit.

### ***Section 3: Risks, opportunities and alternatives***

The principal risks associated with this proposal and key mitigation measures are as follows:

**Schedule Delays/Committed Delivery Date:** Main Contractor's ability to execute multiple EPC projects concurrently will affect successful project delivery; managing interfaces, adequate experience personnel, cashflow issues and meeting commitments to sub-contractors. *Mitigation:* Put in place close collaboration mechanism and support to Contractor by deploying the skills of discipline and project engineers. Monitor executive capacity growth on a quarterly basis with emphasis on meeting contractual commitments to sub-contractors/vendors in timely manner. Engage Contractor's leadership and ensure commitments are not skewed in favour of cost saving to the detriment of schedule.

#### **Gas Pricing & Commercial issues –**

The existing Ughelli Gas Plant currently supplies PHCN Delta power plants and Beta Glass Industry. Beta Glass takes an average of 2 MMscf/d while PHCN takes the rest of Ughelli Supply, circa 90 MMscf/d with supply being augmented by NGC's supply from Utorogu via the ELPS. The supply to the PHCN Delta is currently not covered by contract. However, going forward and with the implementation of the new commercial framework under the Nigeria Gas Master Plan (NGMP), it is intended that the supply arrangement is formalized with a contract between SPDC-JV and PHCN. In line with this, SPDC-JV has received a Gas Purchase Order for the supply of gas to PHCN Delta with volume ramping up from the current level to 124MMscf/d in 2015. It is intended that the new contract will be negotiated with essentially the same terms as the recently executed PHCN Egbin GSAA. Negotiations between SPDC-JV and PHCN will commence in November 2011 with a target execution date in Q1 2012.

The applicable prices for gas delivery under the new contract will be as mandated by FGN for gas to power i.e \$1.50/mmbtu from end 2011, \$2.00/mmbtu from end 2013 and post 2014 indexed to the prevailing average OECD inflation rate, but at all times subject to export parity.

For Beta Glass, the current contract price indexation formula will continue to apply until the contract is migrated to the new NGMP Commercial Framework where the mandated FGN price for gas to industries (capped at \$3.00/Mscf) will apply.

**HSE** – HSE risks are inherent in projects of this nature, especially with interfacing works in close proximity to an existing producing asset. Also, the new plant is to replace the existing plant which is over 40 years old and the depleting integrity has resulted in the loss of one production train. Further delay in this replacement project could lead to unpleasant reputation issues for the JV.

*Mitigation:* Execution activities will be carried out strictly in line with approved Project HSE Plan and in accordance with the Engineering and Major Projects HSE MS to ensure the identified HSE risks are managed to ALARP level. The Goal-Zero mindset and attitudes will be fostered during execution. SIMOP Plan will be developed and used to manage concurrent operations during reliability runs and cross over to the new gas plant. Also, considering the strategic importance of the gas supply from the existing Ughelli East gas plant & to safely maintain supply from the old obsolete plant, instrumentation & controls are currently being upgraded to keep the plant alive until the new plant at Utorogu is completely installed and commissioned.

**Production Forecast & Subsurface** - The production forecasts are subject to normal levels of uncertainty inherent in subsurface evaluations. An abridged Field Development Plan for this interim project has been approved by DPR. This is expected to roll into larger Western Domestic Growth opportunity currently at DG1 covering Ughelli-East, and Utorogu fields.

*Mitigation:* The gas resources in Ughelli-East field were reviewed to select optimal target reservoirs. This reservoir selection was subjected to discipline assurance reviews. The target M5 and M6 reservoirs have no oil rims. The design philosophy is such that the proposed NAG plant is modularised and skid-mounted, allowing relocation of modules in part or whole to another site where NAG processing is required for growth opportunity. Also, the process selection criteria for the new plant take cognisance of the future decline in well potential in the life of the field.

**Escalation in Project Cost** - High oil prices and busy market conditions have resulted in increased project delivery costs. An umbrella call-off EPC contract for the Gas Handling Facilities was awarded to

install the facility. Also, due to increasing number of kidnapping incidents, the use of additional JTF soldiers bring with it project cost escalation.

*Mitigation:* The proposal is based mainly on approved contracts for the major items viz: Facilities – MAKON Engineering and Technical Services; Pipelines – Daewoo. The scope on the MAKON Contract has been recently reviewed with scope and commercial variation in Contract whose approval is in process.

**Community Disturbance** – The project is located in the Nigerian Niger Delta that has witnessed community unrest and security issues. Recently, there have been increased agitations from multiple communities laying claims to the same piece of land.

*Mitigation:* An integrated Sustainable Community Development & Security Plans have been developed by the project team to address legacy issues, skills development and sustainable development. The integrated plan is in line with SPDC Big Rules for Sustainable Community Development. PGMOU covering Ughelli & Utorogu clusters has been developed and agreed to by all parties. It is currently awaiting Government Signature. The Nigerian Government is also re-doubling efforts to increasing efforts to address in a sustainable way the Niger-Delta problem. The recent launch of the Niger-Delta Development Master Plan and increased funding to Niger Delta Development Commission (NDDC) by the government and creation of Niger Delta Ministry are expected to significantly improve current restiveness in the area

The execution strategy for this project mirrors the offshore installation method where complete equipment skids are fabricated, tested at secure off-site locations and then installed on site within a limited period. In addition to the existing Utorogu Security network, SODA Project has its own dedicated JTF team that provide additional security manpower. This will reduce the security and community exposure at site.

**Nigerian Content Directive (NCD) Requirement** - It is a requirement of NCD that certain percentage of works in Nigerian Oil and Gas industry should be domiciled in-country. Non-compliance constitutes a fatal flaw in any contract submission to NAPIMS for approval.

*Mitigation:* The contractor's NCD plan is being monitored to ensure the promise made at the onset of the project is not compromised. The quality management system, work methods and procedures is also being reviewed. Where deficiencies are found, SPDC will provide increased supervision and monitoring.

## **Opportunities:**

**Funding** Since inception of the Domgas Projects, Government has consistently provided budget/fund for Independent Power Plants (IPP) gas supply projects including this project . Current Government priorities to ensure gas supply to IPP indicate continued assured funding for ongoing projects.

## ***Section 4: Carbon management***

Management of small quantities of greenhouses gases is being guided by recommendations from Shell Group Greenhouse Initiative and pilot study. Expected greenhouse gas sources in this project are principally from gas engine drivers, fugitive emissions from compressors and generators.

## ***Section 5: Corporate structure, and governance***

The Project is being executed within the existing SPDC corporate structures and governance.

## ***Section 6: Functional Support and consistency with Group and Business Standards***

This proposal complies with Group Business Principles, policies and standards. Full functional support covering SCD is provided for in the full project scope. Additionally, there is focus on Nigerian Content Development (NCD) as already indicated above. Functional support for this proposal is provided by the Finance, HSE, Supply Chain Management, Legal, Treasury, and Tax functions.



## ***Section 7: Project management, monitoring and review***

A Major Project Team under SPDC's technical function is managing the project. The Project assurance plan is compliant with ORP stipulations.

## ***Section 8: Budget provision***

The project is in the SPDC BP10 programme with budget provisions for 2011 of \$70.00 Mln. Update this section with BP11

## ***Section 9: Group financial reporting impact- to be updated after economics re-run***

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

US\$ Million	Prior Years	2011	2012	2013	2014	2015	Post 2015
<b>Total Commitment</b>	<b>44.55</b>	<b>21.53</b>	<b>37.93</b>				
<b>Cash Flow</b>							
SCD Expenditure	1.53	0.51	0.45				
Pre-FID Opex	2.30						
Capital Expenditure	40.72	21.02	37.48				
Operating Expenditure		0.66	1.68	0.50	0.55	0.89	22.29
Cash flow From Operations		4.47	12.94	33.62	30.79	27.44	142.98
Cash Surplus/(Deficit)		(16.55)	(24.54)	33.62	30.79	27.44	142.98
<b>Profit and Loss</b>							
NIBIAT +/-		0.41	1.91	17.17	18.05	17.49	132.55
<b>Balance Sheet</b>							
Avg Capital Employed		8.48	30.19	35.19	20.59	9.24	(5.78)

## ***Section 10: Disclosure***

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

## ***Section 11: Financing***

This investment will be financed with JV funding and Shell share of the expenditure will be met by SPDC's cash flow.

## ***Section 12: Taxation***

There are no unusual taxation features save for the risk of the government abolishing AGFA (see text under Section 3 on risk).

Since Government's disputed cancellation of the MOU, it is expected that NDDC Levy will only be deductible against PPT, rather than offset against Education Tax as modelled, but the impact on the Project economics of this will be minor.

## ***Section 13: Key Parameters***

The following are the main aspects of this proposal:

- Approval for additional FID investment of \$19.2 mln Shell Share, MOD, 50/50 (\$64.1 mln 100% JV) for the execution of the remaining scope of Western Domestic Gas Interim Growth Project (Utorogu/Ughelli East).
- This brings the total funding for this project to \$104.0 mln Shell share (\$346.6mln 100% JV), with previous approval of \$84.8 in February 2009 IP.

## ***Section 14: Signatures***

Supported by:

For Business approval:

.....

.....



**Maarten Wetselaar (FUI)**

Date .... / .... / ....

**Malcolm Brinded (ECMB)**

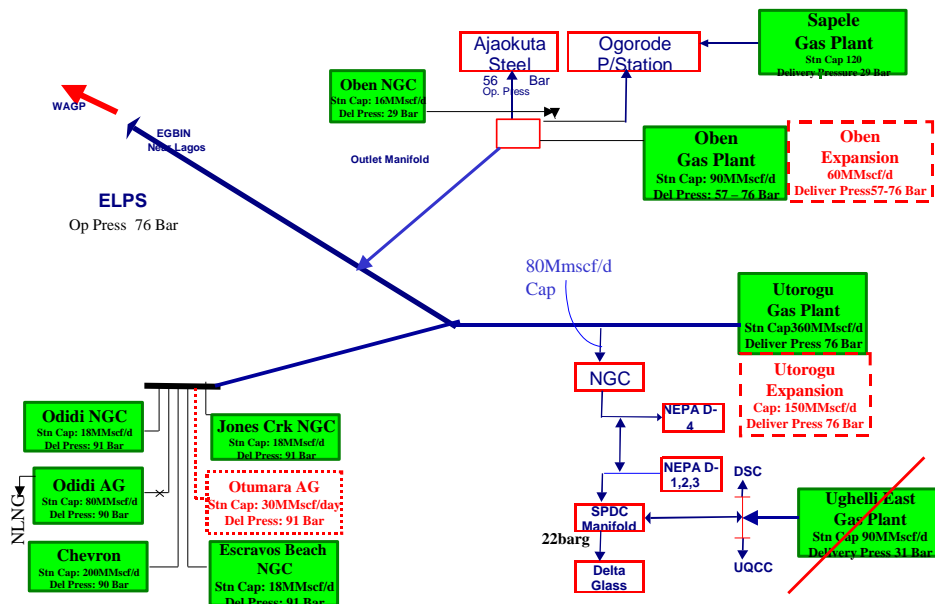
Date .... / .... / ....

*Initiator:*      *Toyin Olagunju/Wolter Wielenga (UIG/T/PD)*

## ATTACHMENT-1

### Western Domestic Gas Supply Network Schematic

#### Western DomGas Network (Medium Term)



## ATTACHMENT-2

Figure-1: Incremental Western Domestic Supply and Demand Gas Forecast

