

Pre FID 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 operator of an unincorporated JV with a 30% participating interest share.																							
Other shareholders / partners	Nigeria National Petroleum Company (NNPC): 55%, Total E&P Nigeria Limited (TEPNL): 10%, Nigeria Agip Oil Company (NAOC): 5%																							
Amount	\$ 2.5 mln (Shell Share, 50/50, MOD) is to be approved in this proposal																							
Project	AG solution for Umuechem, Nun River, Diebu Creek, Kolo Creek and Etelebou flowstations (AGS Phase 2).																							
Main commitments	<table><thead><tr><th>Description</th><th>This Proposal (100%)</th><th>This Proposa (Shell Share)</th></tr></thead><tbody><tr><td>Completion of detailed design/Permits-Umuechem</td><td>1.9</td><td>0.6</td></tr><tr><td>FEED Update/Detailed design/Permits - Nun River</td><td>1.8</td><td>0.5</td></tr><tr><td>FEED Update/Detailed design /Permits- Diebu Creek</td><td>3.2</td><td>1.0</td></tr><tr><td>Concept studies / FEED - KC/Etelebou</td><td>0.5</td><td>0.2</td></tr><tr><td>Project Management</td><td>0.8</td><td>0.3</td></tr><tr><td>Total Pre-FID 50/50</td><td>8.2</td><td>2.5</td></tr></tbody></table>			Description	This Proposal (100%)	This Proposa (Shell Share)	Completion of detailed design/Permits-Umuechem	1.9	0.6	FEED Update/Detailed design/Permits - Nun River	1.8	0.5	FEED Update/Detailed design /Permits- Diebu Creek	3.2	1.0	Concept studies / FEED - KC/Etelebou	0.5	0.2	Project Management	0.8	0.3	Total Pre-FID 50/50	8.2	2.5
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FEED Update/Detailed design /Permits- Diebu Creek	3.2	1.0																						
Concept studies / FEED - KC/Etelebou	0.5	0.2																						
Project Management	0.8	0.3																						
Total Pre-FID 50/50	8.2	2.5																						
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-Full Project	<div><p>AGS Phase 2: Umuechem, Nun River, Diebu Creek,Kolo Creek and Etelobou LP wells- Full Project Cashflow (Shell Share PSV RV-RT)</p><p>Annual Cashflow (\$ mln RT)</p><p>Cumulative Cashflow (\$ mln RT)</p><p>RT Annual Cash Flow 0% RT CAPEX Cum Cashflow 0% Cum Cashflow 7%</p></div>																							
Summary economics	<table><tr><td>At Ranking PSV (\$60/bbl RT10)</td><td>NPV7% (\$m)</td><td>VIR7%</td><td>RTEP(%)</td></tr><tr><td>Base Case Pre-FID*</td><td>-0.6</td><td>-0.27</td><td>N/A</td></tr><tr><td>Full Project*</td><td>-2.0</td><td>-0.01</td><td>6.7</td></tr></table> <p><i>*Combines all the AGS projects and Kolo Creek/ Etelobou LP evacuation</i></p>			At Ranking PSV (\$60/bbl RT10)	NPV7% (\$m)	VIR7%	RTEP(%)	Base Case Pre-FID*	-0.6	-0.27	N/A	Full Project*	-2.0	-0.01	6.7									
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Base Case Pre-FID*	-0.6	-0.27	N/A																					
Full Project*	-2.0	-0.01	6.7																					

Section 1: The proposal (Management Summary)

This pre-FID Investment Proposal seeks approval of funds for the execution of FEED optimization/detailed engineering design works for AG solution for Umuechem, Nun River and Diebu Creek as well as carrying out conceptual studies/FEED for the evacuation of LP wells from Kolo Creek and Etelebou flowstations to Gbaran CPF.

The full project scope covers the provision of AG processing and evacuation infrastructure for currently producing fields in Umuechem, Nun River and Diebu Creek as well as provision of infrastructure for the evacuation of LP Oil/Gas from Etelebou and Kolo Creek fields.

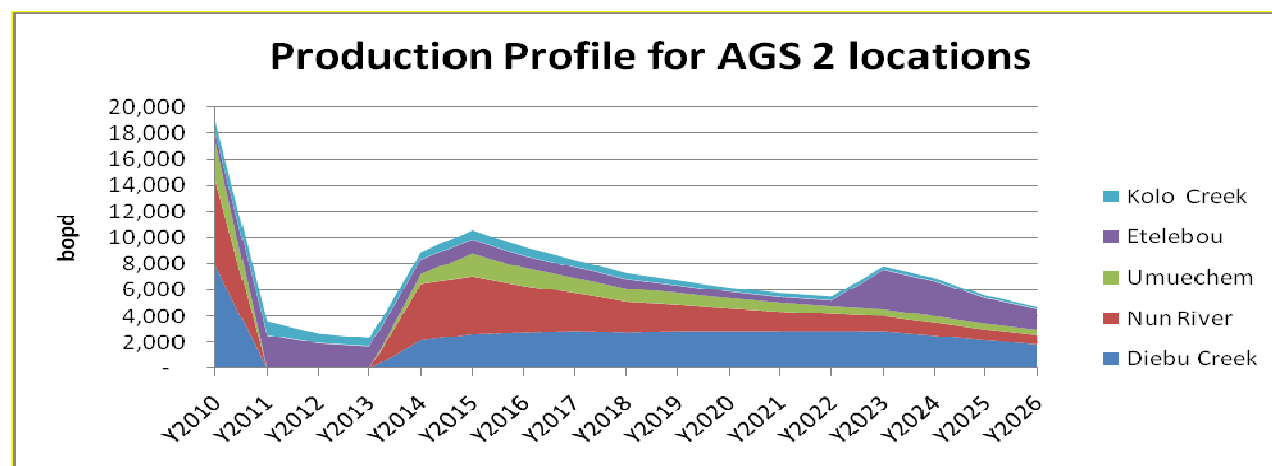
The Proposed Gas Flaring Bill 2009 (already passed by the National Assembly) makes it mandatory for all operators to stop routine gas flaring post December 2010 with high penalties for flaring after the deadline. Execution of this project is therefore key to SPDC flares down plan and will also protect circa 20,000 bopd NFA production and +/-77MMboe reserves from these 5 fields when the Gas Flaring Bill 2009 comes into effect (See Table 1).

Table 1: Summary Project Information

Location	First Gas (50/50)	Forecast oil Production (Kbopd) 2015	Forecast AG Production (MMScf/d) 2015	NFA Reserves MMboe	Total Investment USD mln
Umuechem	Mar 2014	1.8	2.4	9.3	166.8
Nun River	Sept 2014	4.4	4.2	16.6	165.0
Diebu Creek	Sept 2014	2.6	8.4	29.4	266.8
Etelebou- LP Wells	Sep 2014	1.0	1.3	14.9	30.5
Kolo Creek LP Wells	Sep 2014	0.7	3.7	7.1	34.1

FEED works for provision of AG solution to Umuechem, Nun River and Diebu Creek were completed in 2008 under the overall AGS portfolio but detailed design could not continue due to lack of funds in 2009. However, the earlier FEED work which was carried out based on 2005 production forecasts for Umuechem, Nun River and Diebu Creek needs to be optimised to cater for declining production forecast as reflected in the BP09 production forecast.

In addition, the current Gbaran nodal design does not provide facilities for handling LP fluids from the satellite fields in Kolo Creek and Etelebou. The original design rather envisaged the decommissioning of the existing Kolo Creek and Etelebou flow stations and the flowing of all HP & XHP production from these fields to Gbaran CPF for processing. LP production in Etelebou and Kolo Creek was to be deferred thus no LP handling infrastructure are available at the Gbaran CPF. In view of the substantial remaining LP reserves in these fields and to cater for future pressure decline of the existing HP wells, this Pre-FID IP seeks funds for the development of a feasible strategy/concept for evacuating the LP production from both Kolo Creek and Etelebou to avoid this deferral from both fields.



Background

The full scope for the AG Solutions Project covers the provision of AG facilities in the following stations: Egbema West, Otumara, Adibawa, Bonny, Diebu Creek, Nun River, Umuechem, Ughelli West and Oguta. Selection of these stations were later streamlined and ranked using a DRB approved criteria (Economics, Technical maturity, Asset sensitivity, SFR & Accessibility/Exposure).

To better manage funding issues, the project was broken into two phases: AGS Phase 1 and AGS Phase 2. IP for AGS phase 1 project comprising Otumara-Saghara, Adibawa, Utorogu, Ughelli West, Ughelli East and Bonny was approved in October 2009 and work has commenced in earnest. FEED work was carried out for Nun River, Diebu Creek & Umuechem. However, there is need to optimise this work as there has been significant reductions in expectation volumes from these fields in the BP09 forecast. It is expected that the huge CAPEX savings from FEED optimisation (re-sizing of facilities, Pipelines & facilities) will significantly improve project economics.

In addition, the original Gbaran project plan envisaged the decommissioning the existing Kolo Creek and Etelebou flow stations and produce these fields via the Gbaran CPF. XHP and HP bulklines have been installed to evacuate these fields to Gbaran CPF for processing. However, no bulklines have been installed from either fields for the purpose of evacuating the LP wells (6Mbpd Gross from Etelebou and 4Mbpd Gross from Kolo Creek). Consequently, LP production will be deferred in Kolo Creek and Etelebou on commissioning of the Gbaran CPF. A concept selection study for the evacuation of Etelebou/Kolo Creek LP production has just been concluded. The study recommended the use of Multiphase Pumps (MPPs) as the most viable option of evacuating the bulked LP fluids to Gbaran CPF. This concept will have to be taken through FEED and detailed engineering design. Funding for this activity is covered in this pre-FID IP.

The phased project expenditure for each of the four nodes is shown below.

Table2: Phased Project Expenditure

in USD Mln MOD, (50/50), 100% (Including Contingency and SCD)	2010	2011	2012	2013	2014	Total
Umuechem (CAPEX + Pre-FID OPEX)	0.6	16.2	48.6	48.6	48.6	162.6
<i>Umuechem (OPEX-SCD)</i>		0.4	1.3	1.3	1.3	4.2
Nun River (CAPEX + Pre-FID OPEX)	0.7	16.0	48.1	48.1	48.1	160.9
<i>Nun River (OPEX-SCD)</i>		0.4	1.2	1.2	1.2	4.1
Diebu Creek (CAPEX + Pre-FID OPEX)	0.7	25.9	77.8	77.8	77.8	260.1
<i>Diebu Creek (OPEX-SCD)</i>		0.7	2.0	2.0	2.0	6.7
Etelebou LP (CAPEX + Pre-FID OPEX)	0.3	2.9	8.8	8.8	8.8	29.7
<i>Etelebou LP (OPEX-SCD)</i>		0.1	0.2	0.2	0.2	0.8
Kolo Creek LP (CAPEX + Pre-FID OPEX)	0.3	3.3	9.9	9.9	9.9	33.2
<i>Kolo Creek LP (OPEX-SCD)</i>		0.1	0.3	0.3	0.3	0.9
Total (50/50)	2.6	66.0	197.9	197.9	197.9	663.2

Section 2: Value proposition and strategic and financial context

The primary objective of this project is to manage reputation loss and LTO loss risks in the light of the government's flare down target. A law enforcing flares down compliance through the application of high penalties for flaring post 31.12.2010 is currently awaiting assent by the executive arm of government. The Shell Group is equally committed to eliminating routine flaring in its operations.

This project is also critical to safeguard NFA production of about 20Mbopd and 20MMscf/d post 31.12.2010 flares-out date from Umuechem, Nun River, Diebu Creek, Kolo Creek and Etelebou. NFA reserves in these fields is +/- 77 MMboe

Summary Economics

The base economics for this pre-FID IP was evaluated on a forward-looking and cost only basis, as the full value of the project would only be achieved on full project execution post-FID. The Pre-FID spend was treated as CAPEX. Sensitivities include treatment of Pre-FID as OPEX assuming the project does not take FID and life cycle pre-FID economics that incorporate 2008 Pre-FID spend for Diebu Creek, Nun River and Umuechem.

The full project (including this IP pre-FID spend) was evaluated on a forward-look basis using 50/50 CAPEX estimates and the BP09 NFA production forecast (Oil and AG) of the affected fields except Kolo Creek and Etelobou LP evacuation where we have updated forecasts as a results of reclassification of some hitherto HP wells to LP wells.

The base case for the full project is the consolidation of all the facilities covered under the AGS phase2 (Umuechem, Nun River, Diebu Creek) as well as the Kolo Creek and Etelobou LP wells evacuation that make up this pre-FID IP.

The value of the individual project is also shown. The evaluation for Diebu Creek AGS, Umuechem AGS returned –ve NPVs while Kolo Creek, Etelobou LP evacuation and Nun-River returned +ve NPVs.

Further evaluation was also carried out assuming Diebu Creek and Nun River evacuation through NAOC facilities. This incorporates tariff to be paid on Diebu Creek and Nun River AG volumes.

Additional scenarios modeled were the effect of proposed PIB legislation and situation where no AG solution is put in place.

Results are provided in the tables below:

Table 2: Economics Grid –Pre FID

PV Reference Date: 1/7/2010	NPV (S/S \$ mln)		VIR	RTEP	UTC (RT \$/boe)		Payout-Time (yyyy)	Maximum Exposure \$mln (RT)
Cash flow forward from: 1/1/2010	0%	7%	7%	%	0%	7%		AT
Base Case Bundle								
SV (\$50/bbl RT10)	-0.4	-0.6	-0.27					
RV (\$60/bbl RT10)	-0.4	-0.6	-0.27	N/A	N/A	N/A	N/A	1.8 (2011)
HV (\$80/bbl RT10)	-0.4	-0.6	-0.27					
BEP (\$/bbl)					N/A	N/A		
Sensitivities (using RV RT)								
Pre-FID Costs Treated as OPEX	-1.7	-1.6	N/A				N/A	1.7 (2011)
Life Cycle Economics*	-1.0	-1.4	-0.39				N/A	2.6 (2011)

*Includes Diebu Creek, Nun River & Umuechem 2008 Pre-FID cost

Key Project Parameter Data (Shell Share)

Parameter	Unit	Low	Mid	High	Comments
Capex (MOD)	US\$ mln	0	2.5	0.0	Pre-FID spend only
Investment OpeX	US\$ mln	0	0.0	0.0	
Sales Volume	mln boe	0.0	0.0	0.0	
Start Up Date	mm-yy	NA	NA	NA	

Table 3: Economics Grid – Full Project

PV Reference Date: 1/7/2010	NPV (S/S \$ mln)		VIR	RTEP	UTC (RT \$/boe)		Payout-Time (yyyy)	Maximum Exposure \$mln (RT)
Cash flow forward from: 1/1/2010	0%	7%	7%	%	0%	7%		AT
Base Case (Bundle)*								
SV (\$50bbl RT10)	47.5	-10.1	-0.07					
RV (\$60/bbl RT10)	68.6	-2.0	-0.01	6.7			2022	112.0 (2014)
HV (\$80/bbl RT10)	111.2	14.4	0.10					
BEP (\$/bbl)								
Sensitivities (using RV RT)								
No AGS, pay flare penalty	142.6	49.9	N/A				N/A	3.0 (2014)
PIB Sensitivity for base case		-20.7	-0.14					
Base Case Single facility (using RV RT)								
Diebu Creek (Gas to NLNG)	17.1	-4.8	-0.08				2024	44.9 (2014)
Nun River (Gas to NLNG)	30.3	2.9	0.08				2021	27.8 (2014)
Umuechem (Gas to Domestic Market)	-1.4	-6.7	-0.18				N/A	28.2 (2014)
Kolo Creek (Gas to NLNG)	3.8	0.9	0.12				2018	5.9 (2014)
Etelobou (Gas to NLNG)	18.8	5.5	0.79				2018	5.3 (2014)
NAOC Option (Bundle)*								
SV (\$50bbl RT10)	46.3	-7.1	-0.05					
RV (\$60/bbl RT10)	67.4	1.1	0.01	7.3			2022	97.7 (2014)
HV (\$80/bbl RT10)	110.0	17.5	0.13					
Sensitivities (using RV RT)								
PIB Sensitivity for NAO Option Bundle		-13.8	-0.11					
NAOC Option Single facility (using RV RT)								
Diebu Creek-NAOC Option	17.0	-1.8	-0.04				2023	32.6 (2014)
Nun River-NAOC Option	29.3	3.1	0.09				20121	25.8 (2014)

*Combines all the AGS projects and Kolo Creek/Etelobou LP evacuation

Economics Assumptions

- 31/12/2009 ARPR (Annual Review of Petroleum Resources) OPEX were used.
- GHV of 1000 btu/scf for gas to Domgas and 1150 btu/scf for gas to NLNG.
- Associated Gas Framework Agreement (AGFA) Fiscal incentive applied.
- Flare penalty of \$3.5/Mscf non-tax deductible.
- NDDC levy of 3% total expenditure.
- Education tax of 2% assessable profit.
- Abandonment cost is estimated at 10% of total project RT CAPEX
- Tariff of \$0.50/Mscf applied to Nun-River and Diebu Creek (NAOC option) for gas processing and transportation to NLNG from NAO facilities

Section 3: Risks, opportunities and alternatives

Risks

Technical: The concept selection report for Etelebou/Kolo Creek recommends the use of Multiphase Pumps (MPPs) for evacuating the bulked LP fluids to Gbaran CPF. There is limited experience in the installation/operation of these pumps within SEPCiN.

Mitigation: Implementation of Flawless Project Delivery (FPD) will ensure flawless start-up and operations phase. Specialist Original Equipment Manufacturer (OEM) support contract will be put in place as part of the contracting strategy to provide initial support. The Product Flow Asset Team (PFAT) will be engaged as part of Operational Readiness & Assurance (OR&A) to plan for staff competence development to cope with the operational and maintenance challenges.

Economic and Commercial: Late placement of Execution Contracts due to lengthy contracting processes will impact start of execution with attendant impact on the project delivery date.

Mitigation: Regular engagement with NAPIMS/NCD and other JV partners will continue. Government has demonstrated its willingness to grant waivers for the use of existing contracts to execute domestic gas related projects. We will continue to explore this option as much as possible for the successful execution of the project.

HSE: Some HSE risks/impacts are associated with this project and have been captured in the risk register. Some of these include ROW deforestation, water and road transport hazards, noise pollution hazards, etc.

Mitigation: Measures will be carried out to ensure HSE risks are maintained at ALARP. Land take for construction activities will be minimized and existing ROWs will be used as much as practicable. A management plan is already being put in place to manage economic, social and Health impact of the project's activities and will form part of our commitment to the government for an EIA. Where outright waivers are sought in line with the enablers required for early acceleration of all Domgas and AGS related projects, this management plan will still be implemented. A construction HSE-MS will be developed, compliance with Goal Zero and the Life Saving Rules will be a project priority.

Political: The Gas Flaring Bill 2009 makes it mandatory for all operators to stop routine gas flaring post December 2010 with high penalties for flaring after the deadline. This is a challenge to business continuity. There is also a political transition/election in Nigeria in May 2011 with attendant security and political risks.

Mitigation: The National Independent Power Projects (NIPP) steering committee comprising all stakeholders (IOC, NAPIMS, Ministry of Power, DPR, NASS, etc) will be continuously engaged to reduce the political risks to ALARP.

Political: The current version of the Petroleum Industry Bill is perceived as not being conducive for long term investments in the Oil & Gas sector in Nigeria by international oil companies (IOC).

Mitigation: The International Oil companies through the OPTS are working closely with all stakeholders to review the provisions of the bill. It is envisaged at this stage that the version finally passed into law will be more investor friendly. Developments will continue to be monitored

Funding: JV funding support has been obtained in 2010. However, there is a residual risk in securing multi-year funding given uncertainties in government revenue (fluctuating oil prices) and changing funding priorities.

Mitigation: The government has thus far demonstrated its commitment to providing continuous funding to all domestic gas and Flares-Out related projects through the establishment of the special Nigerian Independent Power Projects (NIPP) budget. This is expected to reduce funding pressures in the event of fund paucity in the subsequent years. However engagements will continue to a secure ring-fenced budget for this project as Gbaran CPF which is the sink for most of the flowstations in this proposal will also provide swing volumes for the NIPP plant located in Gbaran.

Community and Social: The project cuts across a large number of communities with potential community issues, such as non deployment of GMoU and community content, which could delay the smooth execution of the project.

Mitigation: Social performance and community affairs strategy detailing community issues management, grievance handling process, community content and social investment will be developed to ensure robust interface with communities and effectively mitigate social risks.

Security: Recent escalation in hostage taking and attacks on the oil export pipeline system in this region poses a significant threat to project execution.

Mitigation: The Federal Government of Nigeria has recently implemented an amnesty programme for all the militants in the area. The programme appears to have recorded some measure of success so far. It is hoped that this and promises of improved infrastructural development in these areas will bring sustainable peace. The project will minimise exposure through offsite fabrication where possible. Being a mostly swamp operation, the project will also work closely with the Head, Security Operations, Eastern Division in order to leverage on existing SPDC security arrangements in these nodes for logistics and other support.

Opportunities

- Current HP wells in Etelebou and Gbaran will eventually become LP. Provision of LP evacuation infrastructure will enable continuous filling of Gbaran CPF capacity in the long term.
- Opportunity to register projects with CDM and draw an income stream from tradable Certified Emissions Reduction Certificates (CERTS).
- Opportunity to ride on substantial goodwill from GMoU, EGGS-2 and Gbaran IOGP social investment in some of the AGS-2 locations

Alternatives

The following alternatives been considered:

- 1) An opportunity for CAPEX reduction exists in the tie-in of the SPDC AG pipeline from Nun River & Diebu Creek fields to the 24" NAOC pipeline from Ogbainbiri to OB/OB at Angiamagbene, near Nun River field. Technical discussions with NAOC on ullage availability, gas composition and water dew point specifications have been concluded while commercial negotiations are yet to commence. We will explore this option while retaining a new pipeline to Gbaran Ubie as the base case.
- 2) SPDC would continue to operate the fields until end 2010 and then, possibly, shut in the fields in line with the flares down directives: This would raise significant major issues about Shell's commitment to Nigeria, the Joint Venture, abandonment liabilities, and protection of the environment. About 20Mbopd and 20MMscf/d will be shut-in from these three stations if this project does not go ahead as well as the potential for reserves growth from the area that would be lost. Abandonment costs could also be very substantial.
- 3) Continue to produce the fields and pay flaring penalty till end of field life: This is not recommended when viewed against environmental concerns, imminent stiffer penalties when the new Flaring bill is signed into law, the impact on company reputation and the Group's commitment towards Flares Out.

Do nothing is not an option considering that this project is required to show SPDC's full commitment to comply with the no flaring policy albeit at a delayed date.

Section 4: Carbon management

The purpose of this project is to limit green house gas emissions to the environment. Opportunity will be pursued to register the Project under the Clean Development Mechanism (CDM) in order to access an income stream from tradable Certified Emissions Reduction Certificates (CERTS) which will enhance project economics and make it more competitive compared to others in the investment funnel. In addition, the project will introduce technological solutions for associated gas utilisation in Nigeria.

Section 5: Corporate structure, and governance

This project fits within the existing SPDC corporate structure 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 will be provided for in the full project scope. Additionally, there will be a focus on Nigerian Content Development (NCD) as already indicated above. Functional support for this proposal is provided by the Finance, Supply Chain Management, Legal, Treasury and Tax functions.

Section 7: Project management, monitoring and review

The SODA project team (UIG/T/PD) under the Major Projects organisation is managing the project. A Project Assurance Plan already exists for the AGS portfolio with project specific DRB, DE and BOM in place.

Section 8: Budget provision

The full project is in SPDC's BP'09 plan with a budget provision of US\$ 6.3 Million for pre-FID activities in the 2010 Budget book for Umuechem, Nun River and Diebu Creek. A provision of \$582,000 was also approved for decommissioning of Kolo Creek/Etelebou. The Budget Control Committee (BCC) process will be used to secure funds for the pre-FID activities as flowstation decommissioning is not planned in 2010.

Section 9: Group financial reporting impact

The Financial impact of this activity on Shell Group Financials is as contained in the table below:

US\$ mln	2010	2011	2012	2013	2014	Post 2014
Total Commitment	0.8	1.7	0.0	0.0	0.0	0.0
Cash Flow						
Pre-FID Expenditure	0.8	1.7	0.0	0.0	0.0	0.0
Capital Expenditure	0.0	0.0	0.0	0.0	0.0	0.0
Operating Expenditure	0.8	1.7	0.0	0.0	0.0	0.0
Cash Flow from Operations	-0.2	-0.4	0.2	0.0	0.0	0.0
Cash Surplus/(Deficit)	-0.2	-0.4	0.2	0.0	0.0	0.0
Profit and Loss						
NIBIAT +/-	-0.1	-0.3	0.0	0.0	0.0	0.0
Balance Sheet						
Average Capital Employed	0.1	0.2	0.1	0.0	0.0	0.0

Section 10: Disclosure

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

Section 11: Financing

This investment is expected to be financed with JV partners funding (within the Domgas budget), and Shell Share of capital expenditure will be met by SPDC's own cash flow.

Section 12: Taxation

There are no unusual taxation features at this stage

Section 13: Key Parameters

The following is the key aspect of this proposal:

- Approval for Implementation of Pre FID Investment in support of AG Solutions Project (Umuechem, Nun River, Diebu Creek, Kolo Creek & Etelebou) for USD 2.5 mln Shell Share, MOD, 50/50 (USD 8.2 mln 100% JV).

Section 14: Signatures

This Proposal is submitted to UIG/P for approval.

Supported by:

For Business Approval

.....

.....

Oghenejobo, Mason O SPDC-UIG/P/F

Nwoke, Chris O SPDC-FUI/FB,

Date / /

Date.... / /

For Shareholder Approval :

.....

Igwegbe, Augustine A SEPA-ITUI/F,

Date / /

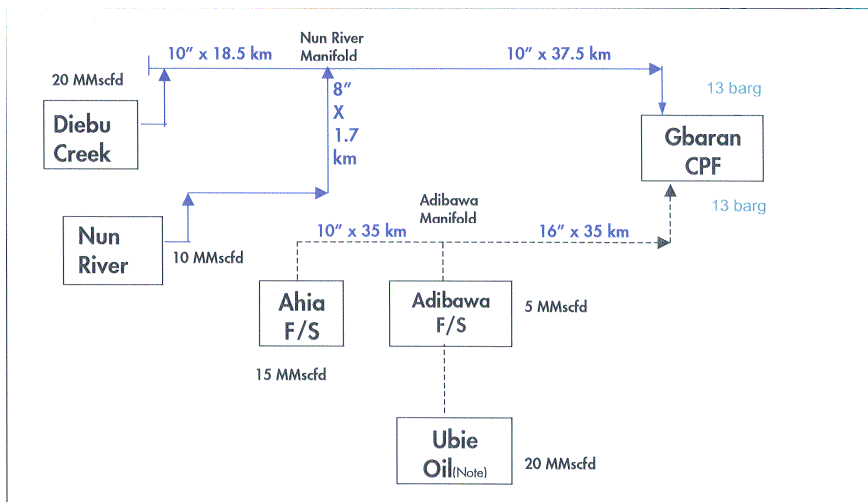
Initiator: Toyin Olagunju

UIG/T/PD

Appendix-1: DETAILED PROJECT SCOPE OF WORK

1 Diebu Creek/Nun River:

- **Conceptual studies/FEED – Completed**
- *Detailed Engineering design /Reviews* *This pre-FID IP*
- *Permits & Consent* *This pre-FID IP*
- Procure/Install 20mmscf/d compressor at Diebu Creek Flowstation
- Procure/Install 10mmscf/d compressor at Nun River Flowstation
- Procure/Install 8" x 1.7km AG P/L from Nun River Flowstation to Nun-River manifold
- Procure/Install 10" x 56km AG P/L from Diebu Creek to Gbaran CPF via Nun River manifold.



2 Umuechem Node:

- **Conceptual studies/FEED – Completed**
- *Detailed Engineering design /Reviews* *This pre-FID IP*
- *Permits & Consent* *This pre-FID IP*
- Procure/Install 20mmscf/d booster compressor (gas engine driven) 2-stage compressor to boost Umuechem gas to nearby Agbada CPF for further compression and treatment.
- Procure/Install a 12" x 14km AG P/L from Umuechem to Agbada (CS X65-300#).
- Procure/Install a 6" x 14km gaslift return P/L from Agbada to Umuechem (CS X65-600#).
- Procure/Install 2No. 3 x 6 ligament gaslift manifold
- Procure/Install 11No. 2" x 3km gaslift lines within Umuechem field.

3 Kolo Creek/Etelebou Node:

- *Conceptual studies review /FEED* *This Pre-FID IP*
- Detailed Engineering design /Reviews
- Procure/Install 6x4"x1500# inlet manifold at Etelebou and KC respectively; 2 nos
- Procure/Install 1# 2500bopd capacity multiphase pump at Etelebou
- Procure/Install 1# 1000bopd capacity multiphase pump at KC
- Procure/Install Connecting line from MPP to Etelebou HP bulkline (12"x 0.1km)
- Procure/Install Connecting line from MPP to KC HP bulkline (16" x 0.1km)

Appendix 2: DRB approved weighted Score /Ranking of AGS fields- 2007

Priority (Rank order)		Scores Economics		Scores Technical Maturity		Scores Assets Sensitivity		Scores SFR		Scores Accessibility/Security		Total	
	WEIGHTED FIELDS		55%		10%		10%		10%		15%	1.00	Remark
	Maximum Score	3	1.65	3	0.3	3	0.3	3	0.3	3	0.45	3.00	
1	EGBEWA WEST	3	1.65	2	0.2	3	0.3	1	0.1	3	0.45	2.70	To be funded by NPD, Under NOV arrangement.
2	OTUMARA	2	1.1	3	0.3	3	0.3	3	0.3	2	0.3	2.30	More attractive with NFA+STA, Gas for WAGP/Domestic.
3	ADIBAWA	2	1.1	3	0.3	3	0.3	1	0.1	3	0.45	2.25	Crucial to Nodal Gas production, gas is for NLNG, Via Gbaran
4	BONNY	2	1.1	2	0.2	1	0.1	2	0.2	3	0.45	2.05	Project team to confirm position with Dokey team.
5	DIEBU CREEK	2	1.1	2	0.2	3	0.3	2	0.2	1	0.15	1.95	Attractive on NFA+STA, based on separate gas pipeline to Gbaran (NLNG). Part of Nun river node and crucial for Bayelsa State Government oil revenue. Shutting this field will jeopardise our relations with BSG & therefore, re-entry.
6	NUN RIVER	2	1.1	2	0.2	3	0.3	2	0.2	1	0.15	1.95	Crucial to Bayelsa State Government oil revenue, FLB located in Nun river, crucial to node.
10	OGUTA	1	0.55	2	0.2	3	0.3	3	0.3	3	0.45	1.80	Field to be operated by AGIP under NOV arrangement. AG scheme for NFA+STA only.
8	UMUECHEM	1	0.55	3	0.3	3	0.3	1	0.1	3	0.45	1.70	NFA+STA prospect depressed, FOD makes it more attractive.
9	UGHELLI WEST	1	0.55	2	0.2	3	0.3	1	0.1	3	0.45	1.60	Positive NPV, economics Depressed.
11	EGBEWA	0	0	2	0.2	3	0.3	1	0.1	3	0.45	1.05	Negative NPV, Economics Depressed
12	ORON	0	0	2	0.2	3	0.3	1	0.1	3	0.45	1.05	Negative NPV, Economics Depressed
13	EWUREN	0	0	2	0.2	3	0.3	1	0.1	3	0.45	1.05	Negative NPV, Economics Depressed
14	UGHELLI EAST	0	0	2	0.2	3	0.3	1	0.1	3	0.45	1.05	Negative NPV, Economics Depressed
15	OGIN	0	0	2	0.2	3	0.3	1	0.1	3	0.45	1.05	Negative NPV, Economics Depressed

Detailed Description of Priority Ranking Criteria;

1. Economics: This reflects the economic attractiveness of the fields, and is based on the NFA+STA, and NFA+STA+LTA (Where available)
2. Technical Maturity: This reflects the stage of development of the project, and hence the ability to achieve FID.
3. Assets Sensitivity: This gives an indication of the spread of assets in the fields and the assets exposure which will directly translate to well/facilities securing costs, re-entry costs and close-in costs.
4. Scope For Recovery (SFR): This relates to the scope for recovery in the fields, including undeveloped reserves.
5. Accessibility/Security : This relates to the LTO in the fields, and the security exposure of moving assets and personnel to these locations.

The above criteria were weighted on the basis of importance to the Project Objectives of achieving flares out and protection of Production/Assets. Each criterion was scored on a scale of 0 to 3; 0 being Poor, 3 being good. Ranking was based on the sum of the weighted score.