The Shell Petroleum Development Company of Nigeria Limited

Internal Investment Proposal

Summary Information

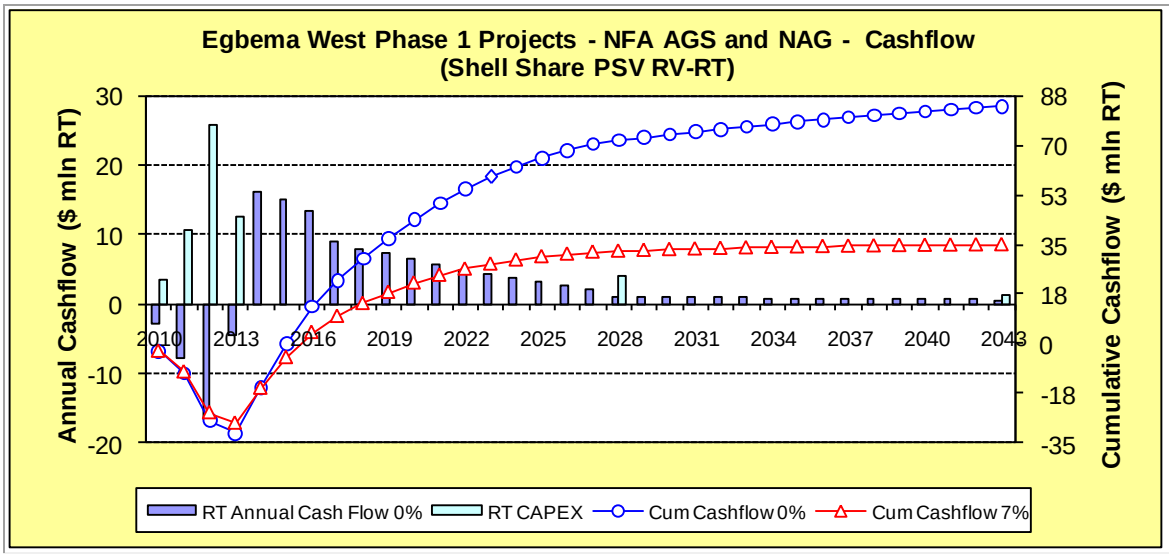
Directorate	The Shell Petroleum Development Company of Nigeria Limited (SPDC)
Group equity interest	100% in SPDC, where SPDC has a 30% interest in the unincorporated SPDC JV. NPDC (a subsidiary of NNPC) operates this field.
Other shareholders / partners	Nigeria National Petroleum Corporation (NNPC: 55%), Total EP Nigeria (TEPNG: 10%), Nigeria Agip Oil Company (NAOC: 5%).
Business or Function	Upstream International
Amount	US$ 45.5mln CAPEX and US$ 1.22mln SCD OPEX in addition to the pre-FID Capex of $ 9.06 mln previously approved, bringing the total to $55.78mln (Shell share, 50/50, MOD)
Project	**Egbema West Phase-1 Projects** comprising: i) NFA Associated Gas (AG) Solution and ii) Non-Associated Gas (NAG) Development

Main commitments

	Costs US$'mln (50/50 MOD)				
Description	Previous Request Pre-FID (S/S)	This Request (Shell Share)		Total Funding	
		NAG Pre-FID	NFA & NAG FID	Shell Share	100% JV
Egbema West Access Road	2.03			2.03	6.77
NFA AGS Facilities	6.97		3.00	9.97	33.24
NAG Dev. Drilling		0.95	5.44	6.39	21.30
NAG Dev. Facilities	0.06	4.36	25.10	29.52	98.41
Contingencies (NFA AGS + NAG Dev.)			6.65	6.65	22.15
Total CAPEX	**9.06**	**5.31**	**40.19**	**54.56**	**181.87**
SCD OPEX (NFA AGS + NAG Dev.)		0.37	0.85	1.22	4.08
Total CAPEX + SCD OPEX	**9.06**	**5.68**	**41.04**	**55.78**	**185.95**

Source and form of financing	JV partners will be cash called directly by NPDC. Shell share of the proposed CAPEX will be financed from own cash flow and/or existing loan facility as required.

Summary cash flow



Summary economics

	NPV7% (US$ mln)	RTEP (%)	VIR7%
NAG Pre-FID Scope	-1.3	NA	-0.27
NAG Forward looking	24.6	27.1	0.72
NFA AGS	10.2	20.7	0.84
NFA AG + NAG Consolidated	34.8	24.9	0.76

Section 1: The proposal

Management summary

This investment proposal seeks approval for the following:

i. Balance of NFA AG CAPEX of US$ 4.43mln MOD S/S;
ii. Pre-FID CAPEX for NAG project of US$5.31 mln MOD S/S;
iii. Balance of NAG CAPEX (US$35.76 mln MOD S/S);
iv. SCD OPEX of $1.22mln MOD S/S

The requested sum of US$46.72 mln MOD S/S complements previously approved pre-FID IP of US$9.06 mln MOD S/S. This brings the full cost of the NFA AGS and NAG Development projects to US$55.78 mln MOD S/S (US$ 185.95 mln MOD 100% SPDC JV).

The NAG project includes a development well and a 50MMscf/d 15ºC dewpointing gas plant capable of supplying processed gas at steady rates to Egbema Integrated Power Plant (EIPP). Gas Aggregation Company of Nigeria (GACN) has issued a Gas Purchase Order (GPO) for 60MMscf/d to NPDC. SPDC expects that NPDC and partners will negotiate GSA for the technically feasible 50MMscf/d DCQ for ten years term. The PCN is being worked out to secure mandate to commence GSA negotiation. The GSA is condition precedent to the NAG FID commitments.

NFA AG solution was started as part of SPDC JV's overall flares down project. A pre-FID IP was approved in 2007 and an update in December 2008. The project scope was included in a multi field contract signed with Makon in September 2008 and under this authorization operator's (NPDC) annual budgets for AG solution are being approved. AG Solution will gather ca. 4MMscf/d to supplement supply volumes to EIPP and secure NFA oil production against flares down.

The two projects are directly related to 3 key NPDC objectives, namely: to achieve flares down in Egbema West; supply 50MMscfd to Egbema Independent Power Plant (in support of Federal Government power generation aspiration); and enhance NPDC capacity as an upstream operator.

There is also the Natural Dumpflood project planned to take DG3 in November 2010. This project is primarily aimed at additional oil development in Egbema West and associated gas will be processed for supply to EIPP. SPDC considers that oil development should not be an immediate NPDC priority and that the project could be delayed to allow for maturity of domestic power market and improvement in NPDC project execution capacity. Natural Dumpflood is therefore expected to take FID much later, LV Q3 2013.

Following DE steer, and with the full support of UIG-LT, this Phase-I FID IP covers both NFA AG Solution (pre-DG4) and NAG Development (post-DG3). Post-DG3 NAG activities will be accelerated upon execution of this IP including FEED and Detailed Design. This will be facilitated by the Makon-Propak contract approved for Egbema West 50MMscf/d NAG plant and NOVATED to NPDC.

The Conditions Precedent to this IP therefore are:

i. NFA AGS FID at execution of IP;
ii. NAG pre-FID at execution of IP; and
iii. NAG FID - contingent upon the execution of the GSA with Niger Delta Power Holding Company (NDPHC) – LV Q2 2011

Section 2: Value proposition, Strategic and Financial context

Value Proposition:

The Egbema West development projects are in two phases; An early Phase-I comprising NFA AG Solution and NAG Development projects; and a latter Phase-2 comprising Natural Dumpflood project.

The Phase-I (NFA AG Solution and NAG development) projects are on the frontline of the Egbema West developments and are expected to: (i) enhance the capacity of NPDC as a national upstream oil company; (ii) support the development of adequate power supply in the country; and (iii) secure Egbema West production against flares down.

The value proposition of the Phase-I projects, which are in BP10 Baseplan, include:

i. NFA AG Solution: (i) monetize previously flared gas by feeding it to Egbema Integrated Power Plant (EIPP) (ii) secure continued production of oil from Egbema West flow station in compliance with statutory requirements for non-routine flaring of associated gas. The project is expected to come on-stream Q4 2013.

ii. NAG Development: (i) develop 180 Bscf gas reserves to provide stable gas supply (50MMscf/d DCQ) to EIPP (for 10 years) in support of FGN development priorities and (iii) support JV operator (NPDC) to avoid DSO penalties. The project first gas is Q1 2014.

The Egbema West Dumplood project will be progressed as a Phase II scope once the GSA terms have been mutually agreed with NDPHC. The project will develop 51MMstb from the G1.00X reservoir and associated gas will be supplied to EIPP. The project planned to take DG3 in November 2010 will take FID after the power plant and associated infrastructure is built and functioning reliably, LV 2013. The project is also in BP10 Baseplan and will come on-stream in Q1 2016.

This FID IP covers Egbema West Phase-1 (NFA AG Solution and NAG Development) projects.

Strategic and Financial Context:

The Egbema, Egbema-West and Ugada fields are located in SPDC JV's OML 20. The operatorship of the fields has been transferred to NNPC, which operates through its subsidiary Nigeria Petroleum Development Company (NPDC). A side-letter to the SPDC JV Joint Operating Agreement (JOA) to formally transfer operatorship was executed in May 2006 and a Technical Support Agreement (TSA) between SPDC and NPDC in February 2007. Transfer of operatorship is expected to be formally recognized as "completed" in 4Q 2010 following an Operational Readiness and Assurance Review that took place in August 2010. In OML-20 but not transferred are (i) Oguta – to be unitised with Akri field & operated by NAOC and (ii) Onite an UnAppraised Discovery.

Two flowstations, Egbema and Egbema West are included in the transferred fields. There is no AG Solution for Egbema flowstation as previous studies could not recommend an economically viable solution. NFA AG Solution will protect Egbema West and Ugada production (both producing through Egbema West flowstation). The flowstation is currently producting 4.4 Mbopd and 12.4 MMscf/d associated gas. AG solution has capacity of 8MMscf, and the oil wells will be beaned back within facilities constraints.

Gas Aggregation Company of Nigeria (GACN) has issued a Gas Purchase Order (GPO) for 60MMscf/d to NPDC. Gas will be supplied to Egbema Independent Power Plant (EIPP), which is an NDPHC 3*112.5 Mw capacity thermal power plant with a requirement for 100 MMscf/d gas. Addax Petroleum will supply the balance of 40MMscf/d from its Ozombe fields.

The NAG development is one well and 50MMscf/d capacity plant to provide NPDC security of supply against its DCQ. AG Solution will gather ca. 4MMscf/d to supplement supply volumes to EIPP and secure NFA oil production against flares down. SPDC expects that NPDC and partners will negotiate GSA for 50MMscf/d DCQ and a sustainable ten year contract period.

The NFA AG Solution and NAG Development projects scope and phasing are shown in table below:

Table 1: Egbema-West NFA AGS and NAG Development Projects - cost phasing.

		Cost & Phasing US$'mln (50/50 MOD)							
		Pre-FID Cost (Shell Share)			FID Cost (Shell Share)			Total	
		Y2009	Y2010	Y2011	Y2012	Y2013	Y2014	Shell Share	100% JV
Previous Request	Egbema West Access Road		0.39	1.64				2.03	6.77
	NFA AGS Facilities	0.09	2.85	4.03				6.97	23.24
	NAG Dev. Facilities		0.06					0.06	0.20
This Request	NFA AGS Facilities				3.00			3.00	10.00
	NFA AGS Contingencies				1.43			1.43	4.76
	NAG Dev. Location Preparation				0.84			0.84	2.80
	NAG Dev. Drilling			0.50	3.02			3.52	11.72
	NAG Dev. Completion			0.45	1.58			2.03	6.78
	NAG Dev. Flowlines & Hookup				3.70	1.58		5.28	17.60
	NAG Dev. Facilities		0.09	4.27	13.26	6.57		24.18	80.61
	NAG Dev. Contingencies					5.22		5.22	80.61
	NFA AGS & NAG - SCD OPEX			0.10	0.27	0.58	0.27	1.22	4.08
	NFA AGS - Total	**0.09**	**3.24**	**5.67**	**4.43**			**13.43**	**44.77**
	NAG Development - Total		**0.15**	**5.22**	**22.39**	**13.37**		**41.13**	**137.10**
	NFA AGS & NAG - SCD OPEX			**0.10**	**0.27**	**0.58**	**0.27**	**1.22**	**4.08**
	Projects Total	**0.09**	**3.39**	**10.99**	**27.10**	**13.95**	**0.27**	**55.78**	**185.95**

The Egbema West access road and bridge will be upgraded as part of the NFA AG Solution project. NFA AG gas facility will be utilized in processing NAG off-gas and therefore no dedicated compressor is included in the NAG scope.

NFA AG Solution is being progressed by SPDC Projects with FEED being concluded by Makon (contractor), and SPDC now needs to take FID to continue with long lead investment and execute the project. Approval of the NAG pre-FID IP is now required for SPDC to support FEED and other follow-on activities including Detailed Engineering Design and the order of long lead materials for the NAG well and gas plant. FID commitment for the NAG development will not take place until the time of execution of the related GSA.

The Egbema Integrated Power Plant is currently under construction and is expected to be commisioned Q2 2011. There is a gap in the overall schedule between power plant start-up and supply plant on-stream dates. A PCN is being prepared to secure SPDC mandate to join NPDC in negotiating with EIPP on the supply terms, and thus minimise commercial exposure. This IP will provide the framework for completing the PCN.

Summary of Economics (Shell Share)

The Egbema West Phase 1 projects economics was evaluated on a forward look basis using BP10 production forecasts and costs (50/50 Level III and Level II estimates for AG and NAG, respectively.)

The base case assumes that all gas gathered from the Phase 1 projects will be sold to the Egbema Integrated Power Plant (EIPP) at the new gas to power price. The base case also assumes that a Gas Sales Agreement (GSA) will be signed prior to project completion. The potential penalties for shortfalls in gas supply and quality to the EIPP will be discussed during GSA negotiations but have not been included in the evaluation as they are presently unknown. The expected completion date of the EIPP is Q2 2011 while the NFA AGS and NAG projects come on-stream in 2013 and 2014, respectively.

Sensitivities have been carried out to show the project outlook if no GSA is in place by end 2011. In this case then NAG investment will be discontinued. The implication of this is that the expenditure on the AGS project ($9.0mln MOD CAPEX SS) and the NAG Pre-FID project ($5.4mln MOD CAPEX SS) prior to end 2011 will become sunk with no oil and gas production. The resulting value erosion to SPDC amounts to $-3.9mln RT10 NPV7%.

See economics grid below for details on base case economics and sensitivities evaluated:

Table 2: Egbema-West Phase-1 NFA AGS & NAG Project Economics (Shell share only)

PV Reference Date: 1/7/2010	NPV ($/S $ mln)		VIR	RTEP	UTC (RT $/boe)		Payout-Time (RT)	Maximum Exposure (RT)
Cash flow forward from: 1/1/2010	0%	7%	7%	%	0%	7%		AT
Base Case Bundle								
SV ($50bbl RT10)	67.9	**27.0**	**0.59**					
RV ($60/bbl RT10)	83.6	**34.8**	**0.76**	24.9	4.8	7.1	2016	$36.80mln (2013)
HV ($80/bbl RT10)	106.5	**45.6**	**0.99**					
BEP ($/bbl)								
Base Case Single Project (using RV RT)								
NFA AGS	31.4	10.2	0.84	20.7	5.2	8.6	2015	$10.31mln (2012)
NAG full scope	52.3	24.6	0.72	27.1	4.6	6.5	2016	$28.97mln (2013)
Sensitivities on Base Case (using RV RT)								
NFA AGS - No GSA	-1.9	-2.6	-0.31				NA	$7.96mln (2011)
NAG full scope/NAG Pre-FID - No GSA	-1.0	-1.3	-0.27				NA	$5.15mln (2011)
High CAPEX (+20%)	81.7	32.5	0.59				2016	$44.00mln (2013)
Low CAPEX (-20%)	85.5	37.2	1.01				2016	$29.60mln (2013)
High Reserves (+20%)	97.1	42.1	0.91				2016	$36.80mln (2013)
Low Reserves (-20%)	67.7	26.5	0.57				2016	$36.80mln (2013)
1 year Schedule Delay	83.3	31.5	0.68				2016	$36.90mln (2013)
2019 License expiry	36.5	17.6	0.38				2016	$36.80mln (2013)
PIB	131.6	8.9	0.19					
Full life cycle	83.5	34.6	0.75				2017	$37.05mln (2013)

Table 3: Key Project Parameter Table

Parameter	Unit	BP10	Low	Mid	High	Comments
Capex (MOD)	US$ mln	54.5	-	54.5	65.4	
Investment Opex	US$ mln	1.2	-	1.2	1.2	SCD OPEX
Sales Volume	mln boe	16.2	13.3	16.2	19.1	
Start Up Date	mm-yy	Oct-13	-	Oct-13	Oct-14	

Economic Assumptions

Base Case Economics and sensitivities

- AGFA fiscal regime applied (sensitivity was carried out under PIB)
- No penalty charges for potential gas supply or quality shortfalls
- New Gas to Power price for gas sale to EIPP
- Condensate taxed as Oil under PPT
- $3.5/mscf flare penalty applied
- Project generated activity based OPEX was used for both fixed and variable OPEX
- 10% Cumulative CAPEX (RT) applied as abandonment cost
- NDDC Levy of 3% total expenditure
- Education tax of 2% assessable profit
- Gas GHV of 1000 Btu/scf for Domgas
- No GSA sensitivities treated as cost only

PIB Assumptions

- Royalty rates based on product (value) prices and production rates per PML (assumed equal to a field).
- NHT depreciation schedule is 4x20%, 19% for qualifying expenditure.
- No capital investment credit/allowance (ITC or ITA) or uplift is granted under the PIB
- National Hydrocarbon Tax (NHT) rate 50% and CIT 30%
- 30% of expenditure is assumed spent overseas.
- 20% of overseas cost is non-deductible for NHT taxable income
- CIT depreciation schedule is 3x25%, 24%, for qualifying expenditure.
- CIT is 30% of taxable income and is not deductible from NHT
- Education tax calculated as 2% of its assessable profit and it is not deductible for CIT, but deductible for NHT.
- Further 5% disallowance of costs due to Benchmark, Verified, Approval conditions
- Withholding tax (WHT) of 7.5%

Section 3: Risks, opportunities and alternatives

Risks

1. **OML Expiry:**

There is the possibility that OML 20 license will expire in 2019 and will not be renewed by DPR.

Mitigation: NPDC through NNPC is expected to leverage its relationship with DPR to support renewal of OML 20 license. The impact of licence expiry at 2019 (non-renewal scenario) has been included in the economics sensitivities. GSA terms need to be negotiated with possibility of this scenario in mind.

2. **HSE & Security:**

A key driver for NFA AG Solution project is the environmental benefit of achieving flares down by securing a productive use for associated gas. NFA AG Solution and NAG projects have associated transport and construction related risks during project execution. NPDC is field operator with attendant risk associated with a non-operated venture.

Mitigation: Environment, Social & Health Impact Assessment (ESHIA) studies have been carried out establishing the impacts. Plans to limit the impacts have been developed and captured in an environmental management plan (EMP). These are in line with the Engineering and Major Projects HSE MS that ensures that the identified HSE risks are managed to a level that is ALARP in the course of project execution.

3. **Mismatch between timing of gas supply and market demand:**

The Egbema Independent Power Plant (EIPP) is substantially built (on-stream date Q2 2011) and a GPO (Gas Purchase Order) has already been issued to NPDC by NIPP. On the other hand the earliest significant volume of gas can be supplied is at on-stream of NAG project (Q1 2014). NPDC therefore fears being late with gas supply to EIPP and the possibility of significant penalties for failure to meet DSO.

Mitigation: AG gas will be available as part of the base-load generation supply from Q4 2013 or as early as plant could be on-stream. This is expected to demonstrate some measure of progress towards meeting NPDC supply commitment and therefore appease NIPP. And ADDAX 40MMscfd gas volume is more or less ready to augment Egbema West AG supply. Nevertheless, the GSA supply terms will be negotiated with NAG on-stream date of Q1 2014.

4. **Delay (or failure) in market demand:**

EIPP is the only non-flare outlet for produced gas with no facility to swing to export in the Egbema area. Therefore, the Egbema West developments depend on timely completion and uninterrupted operation of the power plant. However, the turbines cannot be guaranteed for timely start-up given that they may not have been properly maintained since shipped to Nigeria. And power transmission may be erratic, from experience in the Nigerian power sector.

Mitigation: The "take or pay" terms are expected to mitigate the offtake risk for NAG development. The GSA is, therefore, condition precedent to the NAG FID commitments.

5. **Gas specification mismatch:**

As with several domestic power projects there was little consultation with gas suppliers before the gas turbines were purchased and delivered to Egbema. GE had proposed the WAGP specifications and EIPP is reluctant to negotiate any change. SPDC would prefer to dew point gas at 15°C as per existing domestic gas contracts. There is the likelihood that gas composition (particularly AG) will deviate from the plant specification.

Mitigation: NAG composition is expected to be lean and should meet GE specification and a technical solution has been finalised for NFA AG to meet GE Specification.

6. **Lack of (or delay in) funding:**

Partners fund NPDC by direct cashcall rather than from SPDC operated JV budget and NNPC treats projects destined to supply EIPP investments as a first line charge. However, NPDC contractor payment delays must be anticipated. A funding shortage would lead to more serious consequences. Unlike IOC operators with the financial strength to manage payment delays (e.g. loans to avoid work stoppages) NPDC has no such financial flexibility. Also the threshold for approvals by NPDC is low with many items above F$35k requiring Abuja based authorization. Suppliers have, therefore, sought from NPDC bank LC protection or cash deposits in escrow. The limited authority raises NPDC's administrative burden, causes delay and restricts its flexibility to respond.

Mitigation: There is little scope for SPDC to mitigate NNPC funding delays/shortfalls with NPDC as operator short of seeking to step in to take-over the project and finance completion. In view of the importance FGN attaches to gas supply for the power sector this project might receive special dispensation from NNPC and a fast track approval process. NNPC/NAPIMS in the past have given similar enablers to SPDC for DOMGAS funding and approval processes. However, GSA penalty terms for delay or lack of completion need to be negotiated with this in mind.

7. **Project Cost Escalation:**

The Makon-Propak contract approved for the DomGas project has an optional scope quote for Egbema West 50MMscf/d NAG plant. This has been NOVATED to NPDC. There is the risk that the NAG project cost could increase post FEED/Detailed design owing to time delay and possible changes in scope. Furthermore, due to operator capability issues, the risk also exists that substantial delays occur during execution owing to inadequate project planning and controls, manpower and expertise overstretch and/or organizational constraints. Pressure to "fast track" the project could also lead to increased cost.

Mitigation: NPDC realizes this and has approached SPDC for additional assistance under the TSA specifically to: (i) support NPDC during NAG Define and Execute phases and (ii) to remediate project execution shortcomings. Level-2 cost estimates for NAG development carries a 24% Contingency for cost escalation and 2 % for inflation.

8. **Contracting & Nigerian Content Development**

Implementation of the Nigerian Content Development (NCD) directives is now a challenge for all projects. Any delays of execution contracts approvals process due to delays in NCDMB/JV/Mgt approvals will impact the project delivery date.

Mitigation: Compliance with the recently introduced legislation will be supported. It is anticipated that a NAPIMS/NPDC representative will be nominated as a part-time member of the NFA AG Solution project team. It is expected that NPDC being a subsidiary of NNPC will exert its power of influence.

9. **Community interfaces and security issues:**

In the Niger Delta area the risk of unrest persists despite the government's amnesty programme that has reduced incidence of armed attacks and sabotage of the oil export pipeline systems.

Mitigation: The project schedule has incorporated this risk and the project security plan will be in accordance with industry-wide security plans. Community/local government engagements have commenced. Provision has been made for community assistance/development programs within the project costs and in accordance with the NPDC security management policy.

Opportunities

1. The Egbema West NAG project primarily delivers 50MMscf/d DCQ out of the nominated 60MMscf/d DSO to the Egbema Independent Power Plant (EIPP) at earliest possible technical timing.
2. It demonstrates SPDC's value to the stakeholders and principally to NNPC and government in the delivery of a project that is associated with adequate power supply to ensure Nigeria's ability to develop as a modern economy by 2015.
3. NAG project will develop additional 180 Bscf expectation reserves (100%) and NFA AG Solution will secure oil production against flares down by taking advantage of the EIPP.
4. This project provides a platform for NPDC to learn and build project execution capacity, in line with its growth and operational aspirations. This enhances SPDC reputation as a partner of choice with tangible LTO benefits.

Investment Alternatives considered

NPDC operatorship and sole reliance for gas evacuation on a government owned power investment creates special risks for Egbema West projects (NFA AG Solution and NAG Development) as enumerated above. The consolidated Egbema West projects (adding Natural Dumpflood scope to Phase-1) will have a cost of US$123 million 50/50 MOD S/S (Ref. BP10). The associated concurrent project engineering and construction challenge are likely to stretch NPDC capacity to the limits. SPDC therefore sees value in limiting its exposure.

Two alternatives to Egbema West investments were considered: (i) SPDC seeking to exit from Egbema West investment and (ii) phasing the projects to minimise identified risks.

(1) SPDC seeking to exit from Egbema West investment:

(a) Immediate funding withdrawal from NFA AG: AG solution activities are currently being executed under a contract executed by SPDC with Makon-Propak. A project crisis caused by Shell withdrawing funding part way through the project would damage its reputation as a reliable partner and could require significant future management attention to contain the consequences. It would also undermine SPDC's position on other projects where it suffers from the impacts of NNPC funding shortfalls on projects in execution.

(b) Forfeiture of production entitlement: A decision by SPDC not to fund the remaining amounts to complete the AG solution may ultimately lead to the other partners proceeding to complete the project and secure the future of the field. Since NFA crude cannot be lifted without AG solution, SPDC may be required to buy itself back into the project later (at a premium) to participate or a call for it to forfeit its claim on future production, cashflows and potentially future developments. SPDC sunk costs, including those to date on the AG solution, would be at risk.

(c) Shell's commitment to greenhouse gas emissions reduction: Explanation of SPDC's refusal to support (with its 30% share of funds) the JV in completing the NFA AG project on a field produced for over 36 years by SPDC could raise questions over Shell's commitment to GHG reduction.

(d) JOA disagreement and dispute: Since the project will proceed, partners may view a choice by SPDC not to continue funding its share of the project as the equivalent of default on a "committed" JV project and a different view of the way forward under the JOA could ensue. Delay and extra costs with contractors introduced as a result of SPDC withdrawing might become subject to disagreement and perhaps legal dispute.

(e) DSO penalties: Also after the issuance of a gas purchase order and a period of GSA negotiations there is a risk of DSO penalties to SPDC JV, with NPDC as Operator, which could cause a disagreement between partners over their application since it would be perceived as having been caused by SPDC.

Another way to exit from investment is for SPDC to monetise its remaining share of Egbema West assets and pulling out of OML-20. Given the restrictions under the JOA and the issues facing the Egbema West field, monetisation of SPDC interest is not a realistic alternative in the available time frame. This will also affect our interest in the Oguta, the other producing field in OML 20.

(2) <u>Phasing the projects to minimise identified risks:</u>

The three Egbema West projects (NFA AGS, NAG and Dumflood) provide three investment options as enumerated below:

- Option 1 – Two investment decisions (i) NFA AG solution and (ii) a single NAG/Dumpflood;
- Option 2 – Three investment decisions (i) NFA AG; (ii) NAG and (iii) Dumpflood
- Option 3 – A single investment decision covering all three projects – AG solution/NAG/Dumpflood

The pros and cons of each of the options against a set of ranking criteria are presented in the table below:

Ranking Criteria	Option 1 Two Investment Decisions **NFA AG + Int. NAG/Dumpflood**		Option 2 Three Investment Decisions **NFA AG + NAG + Dumpflood**		Option 3 A single Investment Decision **Integrated NFA/NAG/Dumpflood**	
Flared gas deadline	NFA AG already late		NFA AG already late		NFA AGS further delayed to integrate/mature entire projects	
DSO commitment	Initial gas volumes far short of DSO until NAG/Dumflood comes onstream		Initial gas volumes far short of DSO until NAG comes onstream		Gas supply delayed for maturation schedule	
Project complexity and execution capacity	Integrated NAG/Dumpflood challenging to NPDC with steep learning curve		Phasing builds execution capacity		Int. NFA/NAG/Dumpflood extremely challenging to NPDC with steep learning curve	
Project Optimisation	Uses separate gas dew-pointing modules for each scope - 2MR, 2 compressors and 1 JT LTX plant		Eliminates 1 AG dewpointing plants - uses 1 MR, 2 compressors & 1 JT LTX plant		Eliminates both AG dewpointing plants and 1 compressor - uses 1 compressor with 1 JT LTX plant	
CAPEX exposure	Very high CAPEX. Decision on NAG/Dumpflood will be required before Shell commits.		Separate investment decisions; Dumpflood can be deferred. Preferred due to cash constraints.		High CAPEX exposure since investment is rquired on all 3 projects at same time	
Economics	If AG is not economic, decision on NAG/Dumpflood will be required before Shell commits		If AG is not economic, decision required only on NAG to commit Shell		Most economic due to advantages of scale	
Reputation	Positive with NPDC and JV partners since it is agreed baseline		Manage NPDC expectation - a drilling rig is being contracted for 5+ well sequence		NPDC to be proactively managed as field shuts in for flares down	

NPDC prefers Option 1 and has requested JV partners to commit to long lead items for the Integrated NAG/Dumflood development and is proceeding to contract a drilling rig for the NAG and Dumpflood wells. This option is not supported by SPDC.

In Option 2, SPDC sees opportunity to meet key objectives of flares-out and DSO with NFA AG and NAG while lagging Dumpflood. The advantages of lagging a separate Dumpflood development as against an Integrated NAG & Dumpflood in Options 1 and 3, include:

- Allowing time to prove reliable operation of power plant. While Take or Pay terms can mitigate the offtake risk for NAG volumes significantly, failure to take Dumpflood AG would shut in the oil revenue completely;
- Avoiding potential for delay to NAG project by de-linking pre-DG3 Dumpflood project;
- Reducing NPDC challenge of executing Dumpflood and NAG together; and
- Lessening Capex requirement, commitment and exposure

Approval for this pre-FID proposal ensures that SPDC takes the opportunity to re-orient NPDC (and JV partners) to re-phase the Dumpflood oil development to lag the preferred (NFA AG and NAG) projects.

Section 4: Carbon Management

Upon execution, the projects should reduce green house gas emissions to the environment, provide alternative more efficient power supply sources in Nigeria and secure revenue for gas that hitherto was not developed.

There are two identified types of emissions into the air (1) leak of hydrocarbons & (2) from combustion. All liquid emissions shall be routed to the closest drain header and thence pumped back into the export system, to avoid contact with the environment. In normal operation, leaks from relief valves routed to the flare are infrequent. Flaring shall no longer be routine, as surge vessel gas will be collected and pilot gas is insignificant. Fuel fired engines shall be of low NOx, SOx and low burning to reduce the emission of Green-House Gas (GHG). As much as possible, electric heaters shall be specified instead of fuel fired burners to mitigate the local environmental effect.

The NFA AG Solution project is being registered with International Finance Corporation (IFC) for access to carbon funding by the World Bank.

Section 5: Corporate structure, and governance

Governance shall be through provisions contained in SPDC JOA, Side Letter and Technical Support Agreement (TSA). It should be noted that as this field transfers to becoming NOV for future developments, SPDC plans to continue promoting an ORP style approach to project approvals to improve on NNPC's reliance on an annual budget approval cycle. SPDC will under the terms of the JOA, JOA Side Letter and TSA provide technical support to NPDC for HSE, operations, development and technical issues.

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 will be a focus on Nigerian Content Development (NCD) as already indicated above. Functional support for this proposal is provided by Finance (Controllers' and Treasury), Tax, Legal, Supply Chain and Commercial functions.

Section 7: Project management, monitoring and review

The Major Projects Team under UIG/T/PD is managing the NFA AG Solution project on behalf of NPDC. The Project assurance plan is compliant with the ORP. The project team is adequately resourced. Project Quality Management Systems contract will be used to reinforce the Project Management Team as necessary to manage the interfaces during execution.

NPDC will fully manage the NAG project after the joint SPDC/NPDC project team has handed over the FDP to NPDC management. SPDC will, under provisions in the JOA and JOA side-letter, use governance instruments (DEVCOM, TECOM and OPCOM) to monitor, review and reinforce proper project management and also to manage NPDC expectations during execution. SPDC will under the terms of the TSA provide technical support for HSE, operations, development and technical issues if and when requested by NPDC. The current TSA will expire in 2011 but it is expected that NPDC will call for its renewal.

Decision Executive for the projects is Bayo Ojulari and is fully supported by a functioning DRB.

Section 8: Budget provision

This project is included in the SPDC's BP10 Base plan. SPDC JV partners will be individually cash-called by the operator, NPDC.

Section 9: Group financial reporting impact

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

US$ mln	Prior Year	2010	2011	2012	2013	2014	Post 2014
Total Commitment	0.09	3.39	10.99	27.09	13.95	0.27	0.00
Cash Flow							
SCD Expenditure			0.10	0.27	0.58	0.27	
Pre-FID Expenditure	0.09	3.30	5.67				
Capital Expenditure		0.09	5.22	26.82	13.37		
Operating Expenditure		0.85	1.15	1.99	1.40	1.07	19.17
Cash flow From Operations		(0.30)	1.39	6.18	10.79	17.08	128.44
Cash Surplus/(Deficit)		(3.69)	(9.50)	(20.65)	(2.58)	17.08	128.44
Profit and Loss							
NIBIAT +/-		(0.07)	0.06	0.40	0.51	9.38	110.35
Balance Sheet							
Avg Capital Employed		1.81	8.40	23.70	35.76	33.46	12.53

Section 10: Disclosure

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

Section 11: Financing

From NNPC perspective this investment will be financed as part of the Independent Power Plants (IPP) project basket since the processed NAG will be fed into the proposed Egbema Independent Power Plant. SPDC funds its share directly to operator.

Section 12: Taxation

The assumptions for taxation are stated in Section 2. There are no unusual taxation features.

Section 13: Key Parameters

This investment proposal seeks approval for US$ 46.72mln Shell share, 50/50, MOD ($ 155.74mln 100% JV) for the implementation of Egbema West AG Solutions and NAG Development projects. FID commitment for the NAG development will not take place until the time of execution of the related GSA.

Section 14: Signatures

This Proposal is submitted to UIG/T for approval.

Supported by:	For Business approval:
.....	.....
Bernard Bos *FUI*	*Ian Craig* *UIG/T*
Date..../..../....	Date ..../..../....

Initiator: *Gogo Eneyok*
Project Manager (UIG/T/DOX)
Date ..../..../....