The Shell Petroleum Company Limited

Group Investment Proposal

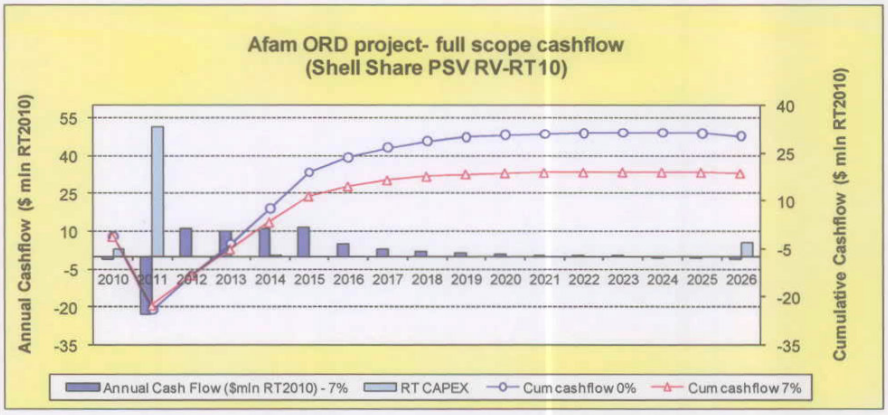
Summary Information

Business unit and company	Shell Petroleum Development Company of Nigeria
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%), Total: 10%, Nigeria Agip Oil Company (NAOC: 5%) in SPDC-JV
Business or Function	Exploration & Production
Amount	US$5.90mln Shell Share, 50/50, MOD ($19.7mln 100% JV) is to be approved in this Pre- FID proposal.
Project	AFAM-F5 Reservoir Development Pre-FID IP
Main commitments	Execution of FEED and Detailed Design Works. Procurement of long lead items and ordering of line pipes. Land acquisition and wells location preparation works

in USD mln, MOD, (50/50)	100 % JV	Shell Share
FEED/Detailed Design	1.65	0.50
Long Lead Items (flowlines, XXHP separator)	10.00	3.00
Location Preparation	7.00	2.10
SCD (opex)	0.50	0.15
Project Management	0.50	0.15
Total expenditure	19.65	5.90

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. The provisional sum of US$19.65 for 2010 has been secured from the JV partners during the DEVCOM funding exercise.

Summary cash flow (Full Project Scope)



Summary economics

RV-RT10	NPV 7%(US$ mln)	RTEP (%)	VIR
Pre-FID Scope	-2.4	NA	-0.88
Full Project (Base case)	18.5	31.5	0.36

Section 1: The proposal

Management Summary

This Investment proposal seeks a Pre-FID approval for US$5.9 mln Shell Share 50/50 MOD (US$19.7 mln 100 JV) for FEED/ Detailed design, Long Lead Items (LLI), Location Preparation, SCD and Project management cost for Afam F5 reservoir development.

The purpose of this pre-FID Investment Proposal is to enable the timely provision of additional gas supply from the AFAM-F5 field to Okoloma Gas Plant in Q4 2011 in order to bridge a projected shortfall in gas supply to the Okoloma facilities and to meet with growing gas demand from the Eastern Domestic Gas Network. Afam F5 - an oil rim gas reservoir ranked low and was not included in the Okoloma GIP. The reservoirs from Afam field that were included in the GIP (Afam F1.0/1.4 and F3.0 reservoirs) have been executed. The gas plant utilization forecast chart is included as attachment 2.

The Afam F5.0A is the largest reservoir in the Afam field and is located in OML 11, about 40 km east of Port Harcourt. The expectation resource volume in place for F5.0A reservoir is 88.1 MMstb of Oil (STOIIP), 371.2 Bscf of gas (FGIIP =181.4Bscf & SGIIP = 189.7Bscf) and 19.6MMstb of condensate (CIIP). The cumulative oil production (Np) to date is 15.8MMstb with associated gas production of 53.8Bscf (Gp).

The approved Reservoir Development Plan (RDP) proposes development of 5 MMstb of oil, 172.2 Bscf of gas and 8 MMstb of condensate, resulting in ultimate recoverable volume of 20.8 MMstb for oil and 8 MMstb for condensate, 226.0 Bscf of gas. The total recovery factor for the oil, gas and condensate are 24%, 61% and 40% respectively. This development plan is a concurrent oil & gas development and consists of the following:

1. Drilling and completion of three development wells (one gas, one oil and one swing oil/gas) in year 2011; contributing peak oil and gas rates of 6,300 bopd and 80 MMscf/d respectively.
2. Laying of 3 no. oil and gas flowlines to Okoloma gas plant
3. Installation of XXHP separator at okoloma gas plant
4. Mechanical tie-in of XXHP separator to existing facilities at OGP
5. Instrumentation and control for new facilities at OGP

The total project cost is US$**185.85** million, of which this IP amount is US$19.7(100%JV). This comprises of US$94.29million for flowlines/ bulklines, manifold and separator, US$2.37million for sustainable community development and $89.19million for wells. This phase of development fits into SPDC JV strategy and the Nigerian National aspiration of improving power generation and gas supply for domestic and industrial use in Nigeria while harnessing natural resources and increasing hydrocarbon resource base.

The proposed oil and gas wells will be hooked-up and processed at the Okoloma Gas plant. The oil /condensate will be processed using the condensate stabilization unit in Okoloma before pumping to Kom Kom.

The Reservoir Development Plan (RDP) was approved in December 2009. Support and approval has been secured from SPDC Decision Review Board to commence the 'definition' phase, mature the concurrent oil & gas development concept and request Pre-FID IP approval. The Pre-FID expenditure will cover FEED/detailed design works, procurement of long lead items including line pipes and XXHP separator, land acquisition, location preparation, SCD and Project management for which budget provision has been secured for 2010 from the JV Partners.

Project Scope
The full project involves the drilling of 3 wells: a NAG well, an Oil Well and a Swing Well (oil/gas), the procurement and installation of flowlines, bulklines and associated equipment to evacuate the wells fluids to the Okoloma Gas Plant for further processing and gas export sales to the Eastern Domestic Gas Network. Oil production will be evacuated via Okoloma condensate processing infrastructure to Bonny Terminal via the Kom Kom manifold export axis.

Details are as follows:
Sub-surface scope
Drilling and completion of 1 dedicated oil, 1 dedicated NAG well and 1 swing oil/gas well initially to be completed as an oil well in 2011.
Re- completion of the swing well as a gas production well by year 2014

Surface scope
- Location preparation for two well sites (existing Afam-9 & -17 well locations).
- Construction of a 6 inch x 0.6 km gas flowline to Afam gas manifold connecting to Okoloma gas plant for processing.
- Construction of 8 inch x 15.6 km and 8 inch x 15.9 km of oil flowlines to Okoloma gas plant.
- Installation of an oil inlet manifold at Okoloma gas plant.
- Installation of an XXHP separator at Okoloma gas plant.
- Extension of the bulk header at Afam gas manifold.
- Installation of a corrosion inhibitor injection system at Afam gas manifold.
- Installation of 5.9 km of corrosion inhibitor injection lines to the three wellheads.
- Piping and instrumentation tie-ins to Okoloma gas plant inlet facilities.
- Piping and instrumentation tie-ins to Afam gas manifold

Table 2: Expenditure Phasing (US$mln MOD 50/50) for full project scope.

Cost Phasing in US$mln MOD(50/50) 100% JV	2010 (OPEX PRE-FID)	2011 (PRE-FID)	2011 (POST -FID)	2012	2013	2014	**TOTAL**
FEED /Detail Design	1.7		7.5	-	-	-	**9.2**
Long Lead Items ordering (Flowlines, XXHP separator)		10.0	20.0	-	-	-	**30.0**
Location Preparation	7.0		8.6				**15.6**
Construction (Flowlines/ Manifold/ Corrosion inhibitor injector facilities)			23.5	-	-	-	**23.5**
SCD	0.5		1.9				**2.4**
Project Management i.e.							
- Salaries & Wages (SN & Expat)	0.30		2.00	-	-	0.36	**2.66**
- Specialist labour/services e.g. 3rd party inspection services (Expat)	0.00		2.00	-	-		**2.00**
- Travels, Accom, Studies & Wkshops	0.04		0.56	-	-	0.04	**0.64**
- Route survey & Geotechnical survey	0.06		2.00	-	-		**2.06**
- Security	0.10		8.40	-	-	0.10	**8.60**
Wells Drilling	-		52.0	-	-	-	**52.0**
Wells Completion	-		35.6	-	-	1.6	**37.2**
PRE-FID Total	9.7	10.0	-	-	-		**19.7**
POST-FID Total			164.1	-	-	**2.1**	**166.2**
Total	9.7	10.0	**164.1**	-	-	**2.1**	**185.9**

Note: total contingency of 22% has been included in the above estimates.

Section 2: Value proposition and strategic and financial context

This pre-FID Investment Proposal is required to immediately kick-off activities on the critical path viz: FEED/detailed design, pre-ordering of long lead items (mostly flowlines and XXHP separator) which require up to 15 months for procurement and land acquision/location preparation, thus enabling timely delivery of the project to achieve 1st oil December 2011.

The entire Afam F5.0A Project is driven by business objectives that are fully aligned with the SPDC Business Priorities and Nigerian aspirations through the following:

Safeguarding Existing Asset (Okoloma Gas Plant)
The proposed wells will be hooked-up to Okoloma gas plant to utilise existing ullage. This project serves as an interim project to make up for the shortfall of gas demand in eastern domestic gas network pending when gas from Buguma Creek is matured.

Contribute to Delivery of Existing Gas Supply Commitment
Project is linked to eastern domestic gas network for gas supply in support of government aspiration to improve power generation and gas supply for domestic and industrial use in Nigeria. The gas volume from Afam F5 will ensure that Afam V & VI power plants are not starved of gas just prior to the maturation of Buguma creek gas.

Increase oil Production
This project will increase oil & condensate production from the Afam field by circa 6300 bopd through drilling of the three wells.

Develop Reserves
Project will develop circa 172.2 Bscf of gas and 13.0 Mstb of oil.

Summary Economics
The pre-FID economics was done as a cost only evaluation on a forward-looking basis using the project 50/50, level 2, IP headline cost estimates (Table 3a).

The full project (Post FID) evaluation for the project was done using the 50/50 cost estimates and expectation production forecast (Table 3b). Sensitivity analysis was carried out to determine the values of the project at different subsurface realizations, high CAPEX and Domestic gas PSV based on Nigeria gas master plan.

Table 3a: Pre-FID Economic Grid (Shell share)

PV Reference Date: 1/7/2010	NPV (S/S $ mln)		VIR	RTEP	UTC (RT $/bbl or $/mln btu)		Payout-Time (RT)	Maximum Exposure (S/S $ mln)
Cash flow forward from: 1/1/2010	0%	7%	7%	%	0%	7%		AT
Base Case								
SV ($50/bbl & Afam2009 PPA)[1]	-2.2	-2.4	-0.88	NA	NA	NA		
RV ($60/bbl & Afam2009 PPA)	-2.2	-2.4	-0.88	NA	NA	NA	NA	4.06(2011)
HV ($80/bbl & Afam2009 PPA)	-2.2	-2.4	-0.88	NA	NA	NA		
BEP (RT $/bbl or $/mln btu)					NA	NA		

Pre-FID Project parameter table (Shell share)

Parameter	Unit	Bus Plan (BP09)	Low	Mid	High	Comments
CAPEX (MOD)	US$ mln	NA	NA	5.3	NA	
Investment OPEX (MOD)	US$ mln	NA	NA	0.6	NA	
Production Volume	mln boe	NA	NA	NA	NA	
Start Up Date	mm/yyyy	NA	NA	NA	NA	
Production in first 12 months	mln boe			NA		

Table 3b: Full Scope Economic Grid (Shell share)

PV Reference Date: 1/7/2010	NPV (S/S $ mln)		VIR	RTEP	UTC (RT $/bbl or $/mln btu)		Payout-Time (RT)	Maximum Exposure (S/S $ mln)
Cash flow forward from: 1/1/2010	0%	7%	7%	%	0%	7%		AT
Base Case								
SV ($50/bbl & Afam2009 PPA)[1]	25.4	15.0	0.29	27.2%	7.3	8.3		
RV ($60/bbl & Afam2009 PPA)	30.2	18.5	0.36	31.5%	7.3	8.3	2014	27.4(2011)
HV ($80/bbl & Afam2009 PPA)	39.6	25.4	0.49	40.1%	7.3	8.3		
BEP (RT $/boe)								
Sensitivities (using RV)								
High Capex		13.3	0.19				2014	37.6(2011)
Low Reserves		4.4	0.09				2015	28.8(2011)
High Reserves		20.1	0.39				2014	26.78(2011)
Base Case using Domgas PSV(NGMP)		25.7	0.50				2014	27.3(2011)
PIB v4.2		3.9	0.07					

Economic Assumptions

Pre-FID Investment

- Pre-FID evaluation is treated as cost only
- AGFA incentive applied to base case
- NDDC levy of 3% total expenditure.

Full project Scope

- Oil PSV of $60/bbl RT10 and 2009 Afam PPA were used
- Oil & Condensate taxed at under PPT.
- Gas taxed under CITA with Associated Gas Framework Agreement (AGFA) incentive
- SPDC generic OPEX assumptions were used.
  - Oil variable and fixed OPEX - $0.5/bbl and 4% of cum. oil CAPEX respectively
  - Gas variable and fixed OPEX - $0.3/boe and 2% of cum. gas CAPEX respectively
- NDDC levy of 3% total expenditure.
- Education tax of 2% assessable profit.
- 10% of total project RT CAPEX assumed as abandonment cost
- GHV of 1000btu/scf
- Based on project on-stream date

Section 3: Risks, opportunities and alternatives

Risks

Discontinuation of Project after Partial IP:

This Pre-FID proposal is principally for the cost of location preparation, FEED/detailed design and to place order for the procurement of long lead items: XXHP Separator and line pipes. Although the project has not yet reached a full investment decision, project economics at RDP shows that the project is attractive with a UTC of US$4.67 per bbl of oil equivalent for the preferred option.

Mitigation:. The project long lead materials are mainly very high pressure (XXHP) separator and high pressure line pipes. In view of the specifications for the long lead materials, the opportunity exists to easily divert and utilise these materials on other medium/long term domestic gas growth projects - which have identical material requirement. The pressure regime of the vessels and line pipes make them easily adaptable for use on low pressure and high pressure oil & gas projects

HSE Risk

The project HSE risks include but not limited to working in/around live facilities (the Okoloma gas plant and Afam remote field manifold), overpressure/loss of containment, poor weather condition, equipment failure/transportation hazards and contractor's HSE/technical incompetence during construction phase which could lead to incidents.

Mitigation

HSE interface document will be developed detailing responsibilities for work permitting system, emergency response command and concurrent operations in brownfield areas. Hazard register exist for the project and a detailed assessment of the major accident hazards (MAH) will be done as part of the front end design. Control and recovery measures from such assessment shall be demonstrated to be ALARP and documented in design HSE case.

The project HSE plan is in-place, and covers all construction / logistics activities hazard analysis and mitigation methods. SPDC HSE policies will be strictly adhered to during construction, installation and commissioning. In addition, contractors to be nominated shall be competent to manage construction risks

Security Risks:

The unstable security situation in the Niger Delta area is a key risk that can result in schedule and cost overrun. The Afam field is located in the Land area of the Niger Delta. Though not at the highest-level security risk, the potential for escalation exists both for assets and personnel that could severely impact project execution, start-up and Freedom To Operate. Specific security cases border mostly on Youths' Restiveness, Incessant attacks on wellheads/facilities, crude oil theft (illegal bunkering) and pipeline vandalism as well as Kidnapping.

Mitigation:

Security threats are being managed and controlled; the Federal Government's declaration of Amnesty to Militants and subsequent deployment of enlarged armed security personnel of the Joint Task Force (JTF) to the area are expected to partly diffuse the volatile security situation. These new developments notwithstanding, appropriate security protection measures in line with SPDC Security Management System will be incorporated both in the design of the facilities and the remote operations framework. Project security plan will be developed in conjunction with projects and land area security advisers.

Community Interface:

Community interference and forced shutdown of work: Due to restive nature of communities in the Niger delta significant delays and serious security and safety incidents could result from community disturbances.

Mitigation: a 5-year steady – state GMoU is being negotiated and will be signed by Q1, 2010 for Oyigbo cluster, to which Afam Field belong and will be applied. This steady-state GMoU will cover all SPDC activities in this for a period of 5 years. Payment schedule shall be for three tranches for each year (February, July and November) The Budget for the cluster which has been approved by NAPIMS shall also be ring-fenced to ensure payment schedules are maintained throughout the 5-year period. ESHIA approval was obtained in 2008 and will remain valid until 2012. The validation will be done in early in 2011 to ensure the continuity when the present approval expires.

Funding:

JV Partners have approved the JV funding of the Pre-FID scope of this project as part of the 2010 budget provisions. Also NAPIMS Gas division have been severally engaged and have consented SPDC proceed with this project.

Scope Creep/ Escalation in Project Cost

The proposal to commence FEED/detailed design immediately is to avoid Scope Creep after the award of ePC contract and also guide against elongation of project Schedule.

Delays in Approvals

The scope of the Afam F5.0A project is contained in the Afam FDP that has an EIA approved by Federal Ministry of Environment Housing & Urban Development in 2007 and DPR in 2008. Thus, it shall not be necessary to conduct fresh EIA studies for this project. However it is expected that the regulators shall conduct compliance monitoring of the Environmental Management Plan (EMP) for this project

Mitigation: Continuous stakeholder engagement to assure LTO and compliance with Regulatory authorities shall be pursued.

Subsurface Uncertainties:

The key risk in this project includes fluid contact uncertainty, PVT data, schedule and cost overrun.

Subsurface work is concluded. The Afam F5.0A Reservoir Development Plan (RDP) was approved in Dec 2009 addressing plans to manage the risk due to the subsurface uncertainties i.e. fluid contact uncertainty and PVT data.

Mitigation: Thus, to manage these uncertainties, it is proposed to drill pilot holes in the proposed wells to establish present contacts/oil rim thickness to ensure optimal placement of drain holes. In-spite of these uncertainties, the project RDP reveals there is adequate reservoir fluids inter-connectivity and the economics has demonstrated the robustness and viability of this project.

Technical/NCD:

Implementation of the Nigerian Content directives (NCD) is not a key challenge here as most activities will be executed in-country and with Nigerian registered contractors. FEED/detailed design will be executed by SCiN FEED Office & NETCO, while site installation is likely to be single sourced to Alcon. The workforce is expected to be largely locals. The only exception is procurement of the long lead materials which will be imported due to unavailability locally. Project team is already engaging NAPIMS in the contracting strategy.

Procurement Delays & Alignment with Well Engineering:

Delays in placement of orders for long lead items will have considerable impact on project completion.

Mitigation: The approval of this Pre-FID is one mitigation measure aimed at ensuring that placement of orders for long lead can be promptly done in alignment with drilling sequence. Also fast track procurement options shall be investigated amidst Shell approved suppliers.

Opportunities

1) Reduction of footprint and environmental impact through clustering of wells at existing locations and existing ROW.
2) Reduction of footprint and environmental impact through the use of Selective completion wells.
3) Maximizing the use of existing infrastructure at Okoloma Gas plant.
4) Maintaining synergies with other ongoing projects eg Bonny AG, Alakiri NAG, etc. For example, the execution team for Afam F5.0 is same as that for Bonny AG & Alakiri NAG plant refurbishment.
5) Local fabrication capability building in line with Nigerian Content Directives.

Alternatives Considered

Several surface facilities options were considered including:

- Location of the chock infield or at Isimiri or Okoloma gas plant was considered. The chock will be located at the Okoloma gas plant condensate train inlet manifold, to ensure ease of operations
- The costs indicate that it is more expensive to process the oil stream at Isimiri flowstation, than Okoloma gas plant which is farther by 2.17Km. Also an additional vessel (XHP Separator) would need to be installed in Isimiri unlike in Okoloma which already had one.
- Decision on Flowline and Bulkline Pressure Protection options i.e Fully rated or Pressure + High Integrity Pressure Protection System (HIPPS) was considered. The Fully Rated option was selected for operational purposes, it will be easier to maintain the fully rated flowlines, than installing a HIPPS system which will require additional instrumentation; power supply and air supply vessels. Also an important safety consideration in this choice is the prevention of loss of containment due to flowline or bulkline overpressure situations which can result in impact to human life and the environment.
- Various types of Bulk/Flowline Materials were considered for use: Duplex Stainless Steel, Carbon Steel + Corrosion Inhibition, Carbon Steel + pH Control or GRP Lined carbon steel. Carbon steel with corrosion allowance, in addition corrosion inhibition (using a Permanent Chemical Injection System as opposed to a mobile one) was selected on account of the predicted internal corrosion rate and estimation of the service life corrosion for the oil lines. Corrosion inhibition will not be applicable for the gas line.

Section 4: Carbon management

The only source of HC emission into the air on this project is via leak of HC from normal operation, e.g. leaks from relief valves which are routed to the flare and is infrequent, and leaks from flanges.

However the right level of tightening will be applied to flanges to ensure that this does not occur. Also, flaring shall no longer be routine, as surge vessel gas will be collected and pilot gas will be of such little quantity as to be insignificant.

All liquid emissions shall be routed to the closed drain header and from thence pumped back into the export system, to avoid contact with the environment.

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 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 the Finance, Supply Chain Management, Legal, Treasury and Tax functions.

Section 7: Project management, monitoring and review

The Major Projects Team under EPG - TPD is managing the project. The Project assurance plan is compliant with the ORP stipulations. The Reservoir Development Plan was approved December 2009 and FID is planned for Sept 2010.

Section 8: Budget provision

The Afam F5.0A Reservoir Development Project is in SPDC's BP'09 with a 2010 budget provision of US$19.65Million, approved by JV Partners, which includes an amount of $ 10 mln

(JV 100%), which will be used for ordering of Long Lead Items and which will be seen as notional budget for 2010

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	2010	2011	2012	2013	2014	Post 2014
Total Commitment	2.9	3.0	0.0	0.0	0.0	0.0
Cash Flow						
Pre-FID Expenditure	2.9	3.0	0.0	0.0	0.0	0.0
Capital Expenditure	0.0	0.0	0.0	0.0	0.0	0.0
Operating Expenditure	2.9	3.0	0.0	0.0	0.0	0.0
Cash Flow from Operations	-0.83	-0.47	0.42	0.00	0.00	0.0
Cash Surplus/(Deficit)	-0.83	-0.47	0.42	0.00	0.00	0.0
Profit and Loss						
NIBIAT +/-	-0.43	-0.45	0.00	0.00	0.00	0.0
Balance Sheet						
Average Capital Employed	0.2	0.4	0.2	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 will be financed with JV funding and shell share capital expenditure will be met by SPDC's own cash flow and/or the existing shareholder loan facility.

Section 12: Taxation

There are no unusual taxation features except for the risk of the government abolishing AGFA There is the possibility that the project will be affected by PIB, in which case AGFA will not be applicable. The effect of this risk has been evaluated in the economics (see section 2, table 3b).

Section 13: Key Parameters

This investment proposal seeks approval of Pre FID Investment of US$5.9mln Shell share, MOD, 50/50 (US$ 19.65mln 100% JV) in support of the implementation of the AFAM-F5 Reservoir Development Project.

Section 14: Signatures

This Proposal is submitted to SPDC MD for approval.

Supported by:

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Rob Van Velden (SPDC-FUI/FB)

Date 10/5/10

For shareholder approval:

.....

Andrew Birch (SPDC-UIG/T/P)

Date 11../.5./10

Initiator: .....

Tonin Olagunju (SPDC-UIG/T/PD)

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

10/5/10

ATTACHMENT 1

Project Schedule

The key project execution milestone dates are shown in Table-below

Event	Initial Dates	Latest View	Remarks on Variance
VAR1			
DG1	Jun 2007		
PAR2&3	Apr 2009		PAR2/3 was carried out from 31/3/09 – 2/4/09.
DG3	Jun 2009	Oct 2009	Close-out of Action Items from PAR2/3 took longer than anticipated.
PAR4	Q4 2009	Sept. 2010	
DG4	Q4 09	Oct. 2010	
FID	Dec 2009	Dec. 2010	Latest view affected by change in DG3 date
1st Hydrocarbon	Q1 2011	Q4 2011	

Table-: Key Project Milestones

ATTACHMENT 2