The Shell Petroleum Development Company of Nigeria Limited

Internal Investment Proposal

Summary Information

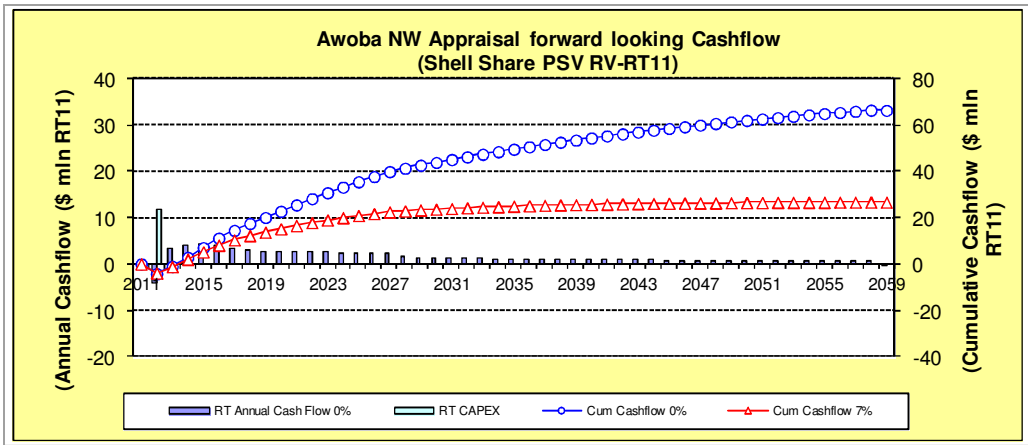
Directorate	Technical Directorate
Group equity interest	100% in SPDC, whereas SPDC is the Joint Venture (JV) operator of an unincorporated JV with a 30% interest.
Other shareholders / partners	Nigeria National Petroleum Company (NNPC: 55%), Total E & P Nigeria Ltd (TEPNG: 10%), Nigeria Agip Oil Company (NAOC: 5%) in SPDC-JV
Amount	USD 12.36 million Shell share, MOD, 50/50 (USD 41.19 million 100% JV)
Project	**Awoba North West Appraisal**

Main commitments

	Shell Share US$ mln (MOD)	**100% JV US$ mln (MOD)**
Drilling, Completion &Testing	10.35	34.52
Flowlines, Location Preparation	1.67	5.57
ESHIA & Land Acquisition for flow line RoW (15m x 3km)	0.02	0.08
SCD (2.5% of total project cost)	0.31	1.02
Total	**12.36**	**41.19**

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. Formal JV partners' approval will therefore be obtained.

Summary cash flow



Summary economics

Summary economics	NPV (USD mln)	RTEP (%)	VIR
Base case	26.7	>50	2.42
High Capex	26.2	>50	2.06
Value of Information (VOI)	51.9	NA	NA

Section 1: The proposal (management summary)

This Investment Proposal is required to obtain approval for the investment of US$12.36 mln (Shell Share) to drill a well in the eastern flank of Awoba NW field to appraise the main reservoirs in the field and also develop B6.000 and C1.000 reservoirs starting Q3, 2012.

Approval is sought for the funding of Awoba NW HQNI-1 appraisal/development well proposed to prove about 401.8 MMstb expectation oil volume (2010 Awoba North West Reserves Note For File) identified in Awoba North West field as a result of the exploration success of Awoba NW-01 and to develop about 28 MMstb from B6.000 and C1.000 reservoirs.

This 2008 Awoba North West Field study, which was hibernated pending appraisal drilling, identified structure and reservoir continuity as the main uncertainties affecting further development in the field, and proposed testing of the structure in the eastern flank. The 2008 Notional Development Plan (NDP) envisages future development of a total of 124 MMstb of oil via 9 wells (including this well), depending on the result of this appraisal. Maturation work on this Awoba NW FOD project will be resumed once this appraisal well has been drilled.

Awoba NW HQNI-1 is currently on the 2011 Short Term Drilling Sequence (to spud in Q4, 2012) and is estimated to cost US$12.36 million 50/50 MOD Shell Share (US$ 41.19 100% JV); this cost includes a contingency sidetrack in case the development objectives are not met.

Awoba NW HQNI-1 is planned to primarily appraise the eastern flank of the Awoba NW field (about 2.5km east of existing Awoba NW-01) for reservoir continuity and structural definition in the B1.000, B6.000, C1.000 and D7.000 reservoirs. The secondary objective is to provide additional drainage points in the B6.000 and C1.000 reservoirs, which were also completed and are presently producing in existing Awoba NW-01. In the event that an undevelopable oil column is encountered in any of the B6.000 or C1.000 reservoirs, the well will be sidetracked to a new target, towards a more easterly location to ensure that the development objectives are still met. There are no surface facilities in the Awoba NW field; the well is planned to be hooked up to the Ekulama I flowstation via a new 4" x 12km flowline that will pass through Awoba NW-01 location.

Appraisal Work Scope:
The scope of this expenditure will cover for the following:

a. Location Preparation
b. Land Acquisition for flow line RoW (15m x 3km)
c. Drilling, Completion & Testing
d. Flowlines
e. Sustainable Community Development (SCD) & EISHA

Table 1: Phased expenditure table (MOD 100% JV)

Description	2011	2012	Total
Drilling, Completion & Testing	-	34.52	34.52
Flowlines	-	3.38	3.38
Land Acquisition for flow line RoW (15m x 3km)	-	0.08	0.08
Location Preparation	-	2.19	2.19
SCD Expenditure	-	1.02	1.02
Total	**-**	**41.19**	**41.19**

Section 2: Value proposition and strategic and financial context

The Awoba NW FOD project (from which the appraisal well is an off-shoot) is summarised as follows:

- Project headline size cost phasing (BP11): $16.32 mln (2016), $192.04 mln (2017), $121.99 mln (2018).
- Wells & facilities: 9 oil development wells to be produced to existing Ekulama 1 flowstation.
- Potential to firm up ~124 MMstb contingent resource volume for the Awoba NW field.
- Peak oil production: About 23Mbopd
- Project to be reactivated from hibernation (post drilling of this appraisal well) in 2013 with a 2018 on stream date (OSD).

The maturation of the Awoba NW FOD project is contingent on the success of this Awoba NW HQNI-1Appraisal well (i.e., the appraisal well will address the identified key subsurface uncertainties and data acquired will be used to optimize the notional development plan).

The appraisal will also be completed and will contribute 28 MMstb of oil from B6.000 and C1.000 reservoirs to the Awoba NW FOD project.

Finally, this proposed appraisal and follow-up development in Awoba NW field aligns with SPDC's oil production growth drive and also contribute to keeping the Nembe Creek Trunk Line (NCTL) and Soku Gas Plant full.

Summary Economics

The Awoba NW appraisal was evaluated on forward looking basis by evaluating a Value of Information (VOI) for the drilling appraisal on a forward-looking basis using the 50/50 cost estimates, production forecast and the Probability of success (POS) provided by the project team.

Precision tree5.0 was used to build and evaluate a decision tree that captured the range of outcomes for the key decision.

- Decision on whether to or not to appraise Awoba North West HQNI-1 based on
  a. Value with appraisal information.
  b. Value without appraisal information.
- Value with information EMV= US$63.5 mln (Shell Share).
- Value without information EMV= US$11.6 mln (Shell Share)..
- The value of the Information = (US$63.5 mln- US$11.6 mln) = US$51.9 mln.

The VOI of $51.9 mln Shell Share RT11 is greater than the Cost of the Information (COI) of US$12.1 mln Shell Share RT11 (US$ 12.39 mln Shell Share MOD).

The details of the VOI analysis are presented in Appendix 1 Table 2.

Further analysis was carried on the minimum development option in the BP11 base plan (i.e. drilling 1 appraisal well which will be completed and hooked up) on a forward looking basis using the 50/50 level III cost estimates and the One well appraisal/development production forecast.

Other sensitivities carried out include:

- High and Low CAPEX.
- 1 year cost schedule delay.

- Project with ring fencing.
- 1.5% cost mark up due to NNPC cost disputes on bench marked verified approved (BVA) issues.
- PIB (House version 12.0).

The details of the economics evaluation are indicated in table 2 below.

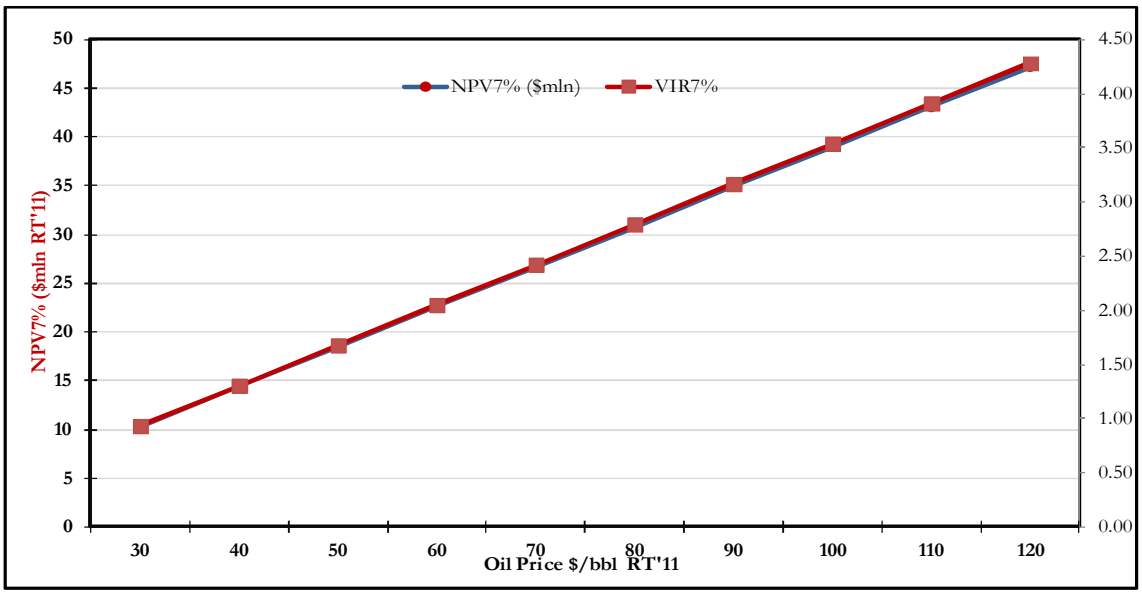
Table 2: Economic Grid (Shell Share)

PV Reference Date: 1/7/2011	NPV ($/S $ mln)		VIR	RTEP	UTC (RT $/boe)		Payout-Time (RT)	Maximum Exposure (RT)
Cash flow forward from: 1/1/2011	0%	7%	7%	%	0%	7%	yyyy	mln
Base Case								
SV-RT ($50/bbl RT11)	44.8	17.5						
RV-RT ($70/bbl RT11)	65.2	26.7	2.42	>50	3.8	5.4	2014	US$ 10.77 mln (2012)
HV-RT ($90/bbl RT11)	88.5	36.2						
Sensitivities (on base case)								
High Capex (+ 15%)		26.2	2.06				2014	US$ 12.38 mln (2012)
Low Capex (- 10%)		26.9	2.70				2014	US$ 9.70 mln (2012)
1 Year schedule delay		25.0	2.43				2015	US$ 10.77 mln (2013)
Project with ring fencing		26.0	2.36				2014	US$ 12.31 mln (2012)
1.5% cost mark up due to BVA		25.8	2.23					
PIB (Version 12.0)		30.7	2.79					

Key project parameters data ranges (Shell Share)

	Unit	Bus Plan (BP11)	Low	Mid	High	Reason for Variance
Capex (MOD)	US$ mln	9.2	10.2	12	15	Current cost based on finalised well proposal
Opex (MOD)	US$ mln	0.2	NA	0.3	NA	Current cost based on more realistic cost estimate.
Production Volume	MMboe	13.5	NA	9.2	NA	Well reward has now been calibrated against in-field analogue
Onstream Date	mm/yyyy	Dec-12	NA	Dec-12	NA	

Profitability Plot: NPV7% Share RT'11



Economics Assumptions

- Oil PSV of $70/bbl RT11.
- SPDC NLNG gas price of $1.73/mmbtu RT11.
- Oil taxed under PPT.
- Gas taxed under CITA with Associated Gas Framework Agreement (AGFA) incentive.
- 1/12/2010 ARPR (Annual Review of Petroleum Resources) variable OPEX for Awoba was used.
- SPDC generic fixed OPEX was used for new facilities. Thus,
    - Oil fixed OPEX - 3% of cum. oil CAPEX
    - Gas fixed OPEX – 3.5% of cum. gas CAPEX
- Flare Penalty of US $3.5/mscf non-tax deductible.
- GHV of 1150Btu/scf.
- SCD Opex provided by the project team.
- NDDC levy 3% of total expenditure.
- Education tax of 2% assessable profit.

PIB (House Version 12.0) Assumptions

- Oil price of US$70/bbl and SPDC NLNG Gas price of US$1.73/mmbtu RT11.
- CIT is 30% of taxable income.
- NHT depreciation schedule is 4x20%, 19% for qualifying expenditure.
- CIT depreciation schedule is 4x20%, 19% for qualifying expenditure.
- SCD Opex provided by the project team.
- Education tax calculated of 2% of assessable profit.
- NDDC Levy of 3% of total expenditure.
- Flare Penalty of US $3.5/mscf non-tax deductible.
- 20% of overseas cost is non-deductible for determination of NHT taxable income.
- Overseas Capex fraction assumed at 14%.

Section 3: Risks, opportunities and alternatives

The key risks to this investment are grouped in to two below (i.e. risks associated with the appraisal well and those associated with the FOD project). They are:

Awoba NW HQNI-1 appraisal well risk:

S/N	Risk	Mitigation
1.	Planned well trajectory passes through a major fault and within close proximity of some other major faults.	• Detailed assessment of fault uncertainties and optimisation of well trajectory in respect of fault positions. • Effective well monitoring when drilling through those areas.
2.	Host community disturbance could delay drilling of the well	• Robust SCD engagement plan and effective implementation
3.	Drilling performance, potentially leading to cost overrun	• Performance monitoring during drilling operations. • Implementation of well Value Challenge recommendations
4.	Not achieving appraisal and development objectives	• Contingency sidetrack included in base plan to be optimised based on results of main hole

Awoba NW FOD full project scope risks:

S/N	Risk	Mitigation
1.	Structural definition and reservoir continuity in target area (eastern flank of the field	• This proposed appraisal well is expected to provide data required to reduce these risks.
2.	Uncertainty in the hydrocarbon type at the crestal part of in B1000, D7000 and C1.000 reservoirs	
3.	Delayed drilling of appraisal well	• Pro-active monitoring of STWDS and DRB engagement.

Opportunities

1. The opportunity to develop 28 MMstb out of the 124 MMstb scope for recovery carried in the field by completing the appraisal well.
2. Provide data that will kick start the Awoba NW FOD project.
3. Proved Reserves Addition (PRA) of about 4.10MMstb

Section 4: Corporate structure, and governance

The DRB overseeing this project was engaged on the 16th November 2011 and DE mandate secured to progress this investment proposal.

The Awoba NW FOD project, which is dependent on the favourable appraisal outcome, is currently hibernated at Feasibility stage. Once the appraisal drilling results become available, a quick assessment of the impact will be carried out by the Front End Studies team and the DRB further engaged on the forward plan for the main Awoba NW development. Future studies will be managed per the ORP, in line existing SPDC corporate structure and governance.

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

This proposal complies with Group Business Principles, policies and standards. Functional support for this proposal has been provided by Finance, Social Performance, Supply Chain Management, HSE, Production Operations & Maintenance, Legal, Treasury and Tax functions.

Section 6: Project management, monitoring and review

Assurance Events/Gates (Awoba NW HQNI-1 Appraisal/Development)	Date
DG1	Jul 2005
VAR2	Jul 2006
DG2	Aug 2006
Spud Date	Q4 2012
Well on-stream date	End Q1 2013
Awoba NW FOD maturation (repeat DG2)	Oct 2013

The execution of the project is managed through the DSSE Field Development & Execution Team, Wells and Engineering Hub Teams in line with the SPDC organizational model. Following successful completion, the wells will be handed back to the Swamp East Production Operations Team. There will be regular progress report of the well delivery activities to Asset Development Manager, the Development General Manager and to the JV Partners. All significant reviews and follow up actions had been done in the Development and Engineering Teams

Section 7: Budget provision

Awoba Northwest Appraisal is covered in BP11 base plan to $30mln (100% JV) and the approved JV 2012 programme. This IP is therefore submitted on the basis that a budget offset will be obtained for the 2012 activities at the May 2012 BCC.

Section 8: Group financial reporting impact

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

Year	2011	2012	2013	2014	2015
Total Commitment		12.36			
Cash Flow					
SCD Expenditure		0.33			
Pre-FID Expenditure					
Capital Expenditure		12.03			
Operating Expenditure		0.39	2.03	1.38	1.06
Cash flow From Operations		5.91	3.37	4.34	4.67
Cash Surplus/(Deficit)		-6.61	3.37	4.34	4.67
Profit and Loss					
NIBIAT +/-		-4.63	-2.34	3.63	-0.91
Balance Sheet					
Avg Capital Employed		-4.01	-5.88	-9.09	-12.24

Section 9: ESHIA

SCD Plan
A new surface location for Awoba NW HQNI was acquired by SPDC in 1988. The Awoba NW is co-owned by Boro, Idama, Abissa and Kula communities. While the Ekulama-I flowstation (the evacuation facility) is hosted by Kula community, though Soku has a judgment over the ownership of the area which is being contested by the Kula community in Court.

The field falls under the Kula GMoU cluster which is currently stalled due to intra communal crises. Efforts are being made by SPDC and Government to resuscitate the Kula GMoU. However, Freedom To Operate (FTO) for all our operations and related activities will be secured directly from the respective communities involved if the GMoU is not reactivated at the commencement of drilling activities. Also Soku-Ekulama Pipeline Project that passes through this area was brokered by Government representatives hence there is also an opportunity to leverage on this strategy.

EIA
EIA plan for Awoba NW appraisal well is covered under the Awoba NAG EIA scope which also addresses the requirements for Awoba FOD and Awoba NAG appraisal well. The EIA report has been finalised and sent to regulators (Federal Min. of Environment & DPR) for consideration.

Estimated additional cost up to final approval level is not expected to exceed N3-5m ($20,000-30,000) and will be absorbed by the Awoba NAG project.

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 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 main aspect of this proposal:

> ***Approval for $12.36mln MOD Shell Share ($41.19mln 100% JV MOD) to cover the cost of drilling, completion and hook-up Awoba North West HQNI-1 Appraisal/Development well.***

Section 14: Signatures

This Proposal is hereby submitted to UIG VP Technical for approval.

Supported by:	Approved by:
.....	.....
Bernard, Bos (FUI/F)	*Bart, Lismont (UIG/T)*
Date ..../..../....	Date ..../..../....

Initiator: _____

Ozoemene, Uche (UIG/T/DFSS)

Date …/…./….

Appendix 1:

Awoba NW Appraisal- Value of Information (VOI) Analysis

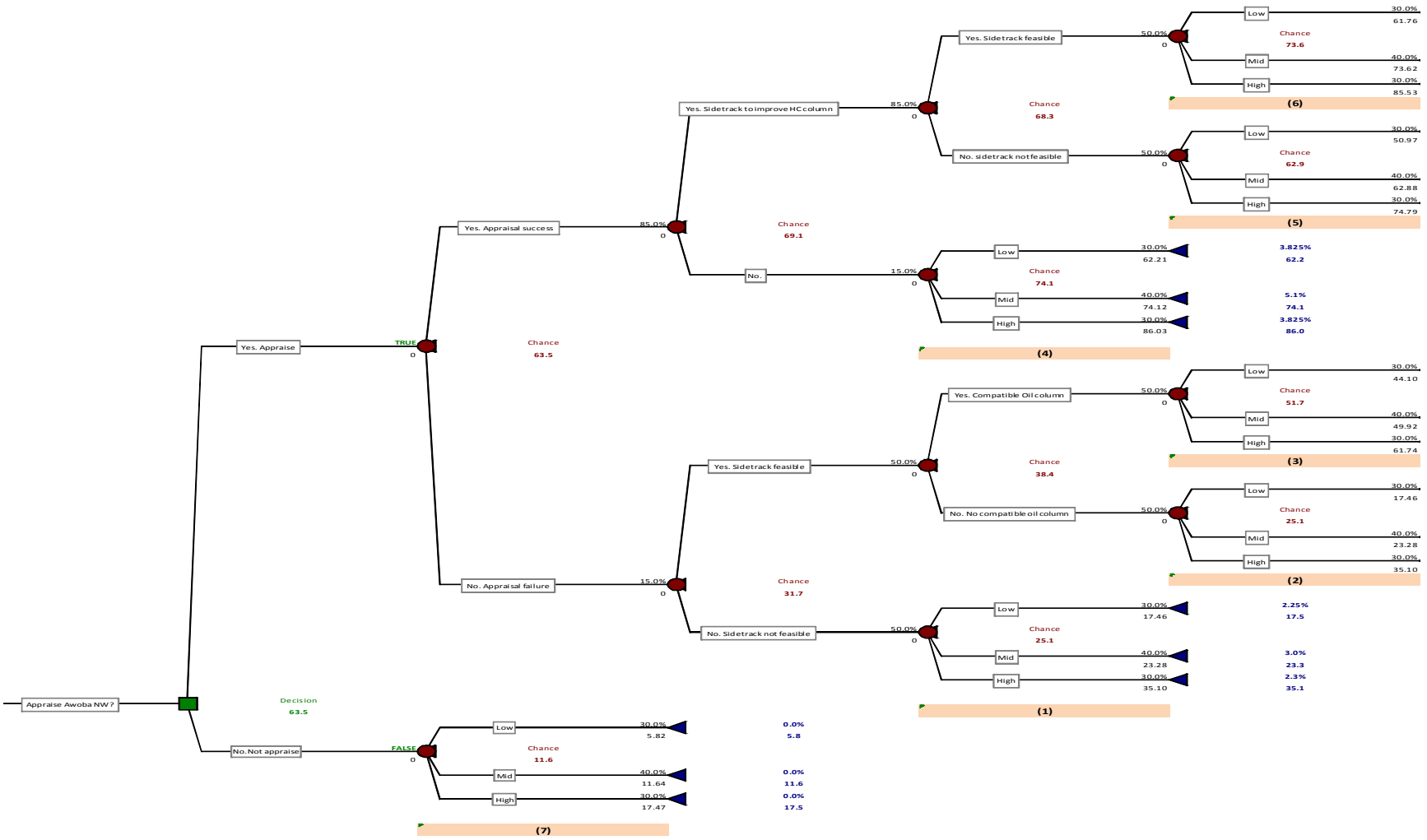


Table 2: Awoba NW Appraisal- VOI Economics Results Summary (Shell Share RT11)

Realisation	1 Low	1 Mid	1 High	2 Low	2 Mid	2 High	3 Low	3 Mid	3 High	4 Low	4 Mid	4 High	5 Low	5 Mid	5 High	6 Low	6 Mid	6 High	7Low	7 Mid	7 High
NPV0% (US$mln)	42.0	56.1	84.2	42.0	56.1	84.2	107.8	121.6	149.2	149.8	177.5	205.1	131.3	158.9	186.5	150.3	176.8	204.4	14.0	28.0	42.0
NPV7% (US$mln)	17.5	23.3	35.1	17.5	23.3	35.1	44.1	49.9	61.7	62.2	74.1	86.0	51.0	62.9	74.8	61.8	73.6	85.5	5.8	11.6	17.5
VIR7%	0.81	0.81	0.83	0.81	0.81	0.83	1.35	1.25	1.15	1.21	1.15	1.11	0.99	0.98	0.96	1.15	1.10	1.07	0.81	0.81	0.81
RTEP	65%	65%	71%	65%	65%	71%	82%	81%	82%	95%	96%	97%	59%	62%	64%	81%	83%	84%	65%	65%	65%
Tot Oil Prod (MMstb)	5.6	7.4	11.1	5.6	7.4	11.1	13.5	15.4	19.1	19.1	22.8	26.5	16.9	20.6	24.3	19.1	22.8	26.5	1.9	3.7	5.6
Tot Gas Prod (Bscf)	6.3	8.4	12.7	6.3	8.4	12.7	15.9	18.0	22.3	22.3	26.5	30.7	20.5	24.8	29.0	22.3	26.5	30.7	2.1	4.2	6.3
Tot Gas Sales (Bscf)	5.6	7.5	11.3	5.6	7.5	11.3	13.6	15.5	19.2	19.2	23.0	26.8	17.9	21.6	25.4	19.2	23.0	26.8	1.9	3.8	5.6
Tot OPEX (US$m)	31.6	42.2	62.9	31.6	42.2	62.9	60.2	72.7	96.9	94.9	119.2	143.5	91.8	116.1	140.4	97.3	121.5	145.8	10.5	21.1	31.6
Tot CAPEX excl Aband (US$m)	32.3	43.1	64.3	32.3	43.1	64.3	44.3	55.1	76.3	74.0	95.1	116.2	74.0	95.1	116.2	76.3	97.5	118.6	10.8	21.5	32.3
Oil Well (US$m)	30.6	40.8	61.0	30.6	40.8	61.0	41.7	51.9	72.0	69.7	89.7	109.7	69.7	89.7	109.7	72.0	92.0	112.0	10.2	20.4	30.6
Oil FAC CAP (US$m)	1.7	2.2	3.4	1.7	2.2	3.4	2.6	3.2	4.3	4.3	5.4	6.5	4.3	5.4	6.5	4.3	5.4	6.5	0.6	1.1	1.7
Aband CAP (US$ m)	3.3	4.4	6.6	3.3	4.4	6.6	4.5	5.6	7.8	7.5	9.7	11.8	7.5	9.7	11.8	0.0	9.9	12.1	1.1	2.2	3.3
UDC0% (US$/boe)	5.4	5.4	5.4	5.4	5.4	5.4	3.1	3.4	3.8	3.6	3.9	4.1	4.1	4.3	4.5	3.4	4.0	4.2	5.4	5.4	5.4
UTC0% (US$/boe)	10.3	10.3	10.2	10.3	10.3	10.2	6.9	7.4	8.1	7.9	8.4	8.7	8.7	9.1	9.4	7.8	8.6	8.9	10.3	10.3	10.3