Group Investment Proposal (GIP)
Gas Sale and Aggregation Agreement (GSAA) for supply of 35mmscf/d to Ikorodu Genco Ltd

Summary Information

Business Unit and Company	The Shell Petroleum Development Company of Nigeria Limited (SPDC)
Group equity interest	100% in SPDC Ltd; 30% in SPDC JV
Other shareholders/partners	In the SPDC JV: Nigerian National Petroleum Corporation (NNPC) 55%, Total E & P Nigeria Ltd (TEPNG) 10% and Nigerian Agip Oil Company Ltd (NAOC) 5%.
Business or Function	Upstream Operated, Nigeria
Amount	Revenue: Total \$232.3mln SS (100%: \$774.3mln), MOD for 20-year GSAA. Domestic gas prices are based on Shell's assessment of the NGMP framework (*aggregated price*) (\$2.40/MMBtu (MOD) in 2016, escalating to \$3.63/MMBtu (MOD) in 2039); GHV of 1,000 Btu/scf for domestic gas Please note that the PSVs are based on the aggregate revenue expected to be received by SPDC (not the price in this contract). This is as a result of the involvement of the Gas Aggregation Company of Nigeria which is mandated for all companies in Nigeria yet to meet their Domestic Supply Obligation (further details are provided in this note).
Project	Execution of GSAA for 35MMscf/d to Ikorodu Genco power plant under Nigerian Gas Master Plan (NGMP) to meet SPDC JV Domestic Supply Obligation (DSO).
Main commitments	Multi-party GSAA between NNPC, SPDC, TEPNG and NAOC (as Sellers), Ikorodu Genco Ltd (as Buyer) and Gas Aggregation Company of Nigeria Limited (GACN – the Strategic Aggregator) for supply of 35 MMscf/d gas to Ikorodu Genco Ltd for 20 years.
Reserves/Resources	Gas will be supplied from NFA volumes, Forcados Yokri Integrated Project (FYIP) and Southern Swamp Associated Gas Project (SSAGS) within Western SPDC JV network (OMLs 43, 45, 35 and 46). Total reserves to be sold is ~0.255 tcf over 20 years and currently within plan and not previously committed by SPDC JV.
Production	Contract is for sale of 35mmscf/d for 20 years Gas sale
Source and form of financing	Not applicable
Summary Cash Flow **SS RV RT**	see table below

Cash flow forward from: 01/01/2016	**NPV0**	**NPV7**
RV-RT (\$2.40/mscf RT16)	100.2	43.0

Detailed information including management summary

Section 1: The Proposal (Management Summary)

This investment proposal seeks the mandate for SPDC (in conjunction with NNPC, TEPNG and NAOC as Sellers) to execute a multi-party Gas Sale Aggregation Agreement (GSAA) with Ikorodu Genco Ltd and GACN for the supply of 35MMscf/d of gas for 20 years.

Gas will be supplied from the Forcados Yokri Integrated Project (FYIP) and Southern Swamp Associated Gas Project (SSAGS) which have been designed to meet the national gas specification requirements. On stream dates for these 2 projects are Q2 2016 (FYIP – OMLs 43 and 45) and 2018 (SSAGS – OMLs 35 and 46) with total expected volumes of 0.22Tcf and 0.34Tcf respectively (See Appendix 2). Hence, no further investment or capital spend is required for this GSAA. The gas will be delivered downstream of the Sellers' facilities at the Escravos Layegos Pipeline System (ELPS).

Failure to execute the GSAA will have negative reputational impact with the government, erode gains achieved in establishing the new market model, as well as expose SPDC to the risk of penalties under the NGMP Regulations for failure to meet DSO. In addition, since a Gas Purchase Order (GPO) has been issued for this volume, failure to supply in line with the GPO could potentially expose SPDC to a claim for compensation by the buyer in accordance with the NGMP Regulations.

The Buyer is Ikorodu Genco Ltd, a subsidiary of MBH Power Ltd, a member of the Tolaram Group headquartered in Singapore. MBH's Nigerian operations cut across power and non-power sectors and are involved in the distribution and supply of power in Nigeria and now intend to develop a 160 MW power plant in Nigeria. The project site is located 14km from the ELPS at Ikorodu in Lagos State; the connection to the ELPS will be funded and built by the Buyer who will then transfer it to Nigerian Gas Company (NGC) for operation. As the power project is being primarily funded by debt from international commercial banks and Export Credit Agencies, financial close is a CP to effectiveness of the GSAA. Financial close is estimated at 18 months post GSAA execution, which will be followed by a construction period of approximately 2.5 years. As such, the earliest OSD for the plant is 2020. If the Buyer is unable to secure financing, SPDC JV has no obligations and the GSAA is simply not effective. Similarly if the Buyer financially closes but does not complete construction, SPDC JV is not exposed to any liabilities and all Sellers' obligations end. There are however alternatives for gas offtake being explored such as flexibility to divert gas to NLNG and negotiating with SNG to offtake volumes when out projects come on-stream.

This deal is supported by all JV partners (NNPC, SPDC, TEPNG and NAOC) who will execute the agreement individually as Sellers. The GSAA provides for each SPDC JV Partner to sell their respective equity gas volume separately, while the attendant GSAA liabilities (e.g. metering or specification liability as the case may be) will also be apportioned and borne by the JV Partners severally, in accordance with the respective participating interests.

The involvement of the GACN in the deal as Aggregator (*SS 14%*) is required by law for all companies who are yet to meet their Domestic Supply Obligation (DSO). Further, a key element of the Nigerian Gas Master Plan Policy is the establishment of a "Monthly Aggregate Price", a weighted average price of gas for the domestic market based on the total supply to the three market segments (power, industrial and GBI) at different regulated prices across all suppliers with a DSO. The intention is that all Sellers and JV participants will receive the same gas price irrespective of (i) the market sector gas is supplied to and (ii) the price at which the gas is sold in that market.

The Monthly Aggregation Price is an outcome of the Aggregation Process that occurs monthly in line with the Aggregation Rules Agreement executed among the Sellers (including SPDC) with GACN. SPDC Controllers have visibility to the aggregation activities of GACN. When there is a dispute regarding the implementation of the aggregation rules, the dispute resolution clauses of the GSAA are activated.

The Aggregation Rules Agreement stipulates that monthly payment of invoices by Buyers shall be deposited into an Escrow Account (which is on the invoice issued to the buyer) from where GACN will disburse monthly gas revenues to Sellers following completion of the aggregation process each month.

Price Aggregation is expected to become effective Q2 2016 as several executed contracts for the power sector become effective. Aggregation is formally made effective through a resolution of the GACN Board. However, in the event that the Aggregation Rules do not become effective, this GSAA mandates the Buyer to remit funds directly to the Sellers (in this case SPDC JV account details will be on the invoice).

The oversight and governance of GACN processes remains the responsibility of GACN Board of Directors, on which SPDC has director. Furthermore, in order to ensure transparent governance of the aggregation process, the existing GACN Shareholders Agreement requires that all management staff of GACN to be secondees from the shareholders which includes SPDC.

The key terms of the GSAA are as outlined in Appendix 1.

Section 2: Value Proposition and Strategic Context

In addition to ensuring monetisation of gas resources, the deal provides SPDC with the opportunity to:

- Take advantage of the current price of USD 2.50/mmbtu from 2016 (with a yearly escalation for inflation). However, as the Minister formally adjusts the power price, the contract price will change to the new regulated price set by the Minister from time to time. All revenue received by Sellers however is subject to aggregation as explained in this note.
- Secure destination and monetise gas molecules from FYIP and SSAGS which currently has no contractual cover for their gas volumes.
- Gas supply to Ikorodu Genco Ltd will help achieve DSO obligations and lend support to FGN's gas to power aspirations and agenda for economic growth.

Section 3: Summary Economics

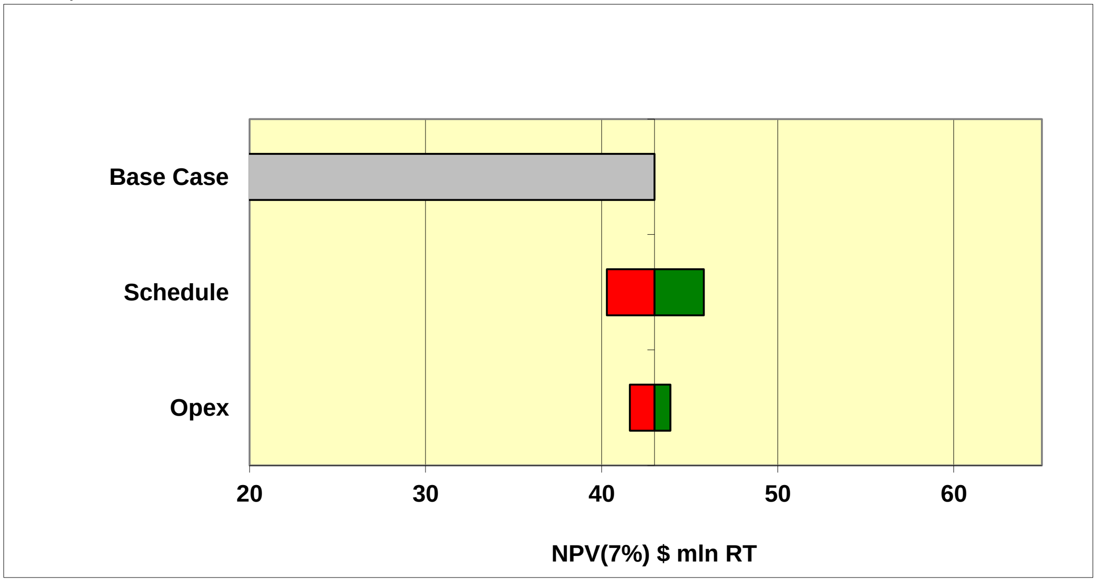
The economics for MBH/Ikorodu Genco GSAA GIP was carried out on forward looking basis. The project is deemed to be revenue-only as there is no associated CAPEX to supply the gas. The results show that the project is robust given the positive NPV7. The project generates revenue of US$232.3mln (Shell Share MOD).

The table below shows the results of the economic evaluation.

Table 1: Economics Grid (SS RV RT16)

PV Reference Date: 1/07/2016	**NPV (S/S $ mln)**		**VIR**	**RTEP**	**UTC (RT $/boe)**		**Payout-Time (RT)**	**Maximum Exposure (AT)**
Cash flow forward from: 01/01/2016	**0%**	**7%**	**7%**	**%**	**0%**	**7%**	**yyyy**	**$ mln (YYYY)**
Base Case								
SV-RT ($1.99/mscf RT16)	**87.2**	**37.3**						
RV-RT ($2.40/mscf RT16)	**100.2**	**43.0**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
HV-RT ($2.88/mscf RT16)	**127.5**	**54.7**						
Sensitivities (on base case)								
Opex P90		**41.6**						
Opex P10		**43.9**						
1 year early start-up		**45.8**						**NA**
1 year project delay		**40.3**						**NA**

Tornado Plot
MBH/Ikorodu Genco SS PSV RV-RT16



Economics Assumptions

- Domestic aggregate gas (NGMP)Price Profile RT16 was used
- Gas taxed under CITA with Associated Gas Framework Agreement (AGFA) incentive.
- GHV of 1000 Btu/scf used for gas supply to Domestic market.
- NDDC levy 3% of total expenditure.
- Education tax of 2% assessable profit.
- SPDC Generic variable opex US$2.80/boe was used

Section 4: Risks, Opportunities and Alternatives

Risks:

- **Contract term**: Supply Leases expire in 2019, before the end of contract term; there is a risk that leases are not renewed or revoked before the end of contract term. Tax depreciation will not be available to SPDC JV on capital costs incurred after the leases expiration date or before the expiration but planned for amortization after the leases expiration date? , given the uncertainty in the ownership of the asset.
  Further. the 20 year contract duration is considered a risk in a changing Nigerian gas market especially as the NGMP GSAA template under which gas will be supplied has very limited price review provision. SPDC may therefore end up subsidising power supply for years to come (and will create an inherent pricing advantage for those customers who benefit from this cheap gas pricing).
  Mitigation: Non-renewal of leases will constitute a force majeure event under the GSAA. This will relieve SPDC JV of liability to the buyer for failure to supply gas owing to non-renewal of the leases. Also GSAA contains provisions which will trigger price review if policy-based pricing mechanism is repealed during the Contract Term. The price review will be aimed at agreeing a new gas price that adequately reflects the prevailing commercial gas market price for the power sector in Nigeria.

- **Forex Exposure**: As payments against the USD denominated Contract are in Naira, the revenue stream is exposed to Naira-USD exchange rate fluctuation. The forex exposure/exchange rate differential that may arise from gas sales could lead to additional taxes where it is deemed as an unrealized exchange loss.
- *Mitigation:* Forex exposure is minimised by using an exchange rate determined by the average over the applicable supply month. Based on historical data, the exposure is not expected to exceed 5% annually

and has no significant value impact on the transaction. In the event of currency devaluation, there is an exposure to SPDC if there is a weighted volume bias of supply after that devaluation (as exchange rate is determined equally across all days within a month).

- **Supply position**: While supply exists for this Buyer, there is some expected (uncontracted) demand on gas supply from this node. Political pressure may be applied to supply such a customer ahead of the Ikorodu Genco power plant.
    - *Mitigation*: Supply to Ikorodu Genco Ltd, is prioritised over other customers being supplied from this node. SPDC will not contract with any customer where insufficient reserves or production means that the customer cannot be assured of supply. Also, an act of a Governmental Authority is a force majeure event under the GSAA.

- **Payment/Receivable Risk:** In the event of a default on the payment for power by power customers to Ikorodu Genco Ltd, there is a risk that these power plants will default in payment to the sellers.
    - *Mitigation:* Deal involves a 4 month letter of credit (LC), thereby giving sellers' adequate time to terminate the contract while still receiving payment. Termination can occur from month three at sellers' decision. If the aggregation rules are activated, drawdown from the LC occurs to the Escrow account from which payment would then be remitted to the sellers. While the GSAA allows SPDC to terminate for non-payment, our ability to exercise the termination right in this instance may be curtailed by government's intervention and political pressure as this is gas to power, a critical sector for government.
    - In the event of a drawdown of the LC, payment is made into the Escrow account (i.e. still subject to aggregation)

- **Transaction Tax Exposures**: Transaction Tax exposures such as VAT and WHT compliance risks have been identified with respect to aggregation agreements with Gas Aggregation Company of Nigeria (GACN) given the intended non-profit nature of GACN and the risk of non-acceptance by the FIRS.
    - *Mitigation:* This is currently being discussed with GACN, FIRS and the Upstream Gas Suppliers to reduce/eliminate its impact on all Gas Sales and Aggregation Agreements with gas aggregation pricing clause. A joint industry tax working group is set up and meeting to discuss potential VAT and income tax exposures to the companies

- **Lower revenue received than billed due to the Aggregation Process:** As described previously, a "Monthly Aggregate Price", a weighted average price of gas for the domestic market based on the total supply to the three market segments (power, GBI and commercial) at different regulated prices will be the actual revenue received from GACN. There is a risk that the amount received is lower than invoiced for this contract
    - *Mitigation:* This is a key element of the NGMP rules. Economics (for this GIP and Business Plan) is completed based on an SPDC assessment of actual revenue that will be received. Operationalising the finance operations elements is currently being refreshed within SPDC

- **Domgas Performance:** SPDC is committing to the Buyer to supply the quantities for the length of the Contract. Poor production in Domgas performance may lead to penalties and claim for compensation by Buyer under the NGMP Regulations.
    - *Mitigation:* The commitments in this contract are in line with the company's supply plans and the supply is adequately provided for from the identified projects.

- **Misalignment between Seller's and Buyer's facilities readiness:** Both the Ikorodu Genco power plant and the identified gas supply sources for it are green-field projects. There may be misalignment in the start-up dates which could cause value erosion. This is especially critical since current estimated on-stream date for the power plant is at least three years after FYIP. On the other hand, if the gas supply projects are delayed or not matured, SPDC JV could potentially be exposed to claim for compensation by the Buyer under the NGMP Regulation, notwithstanding that there are no Sellers' delayed start-up penalties under the GSAA.

- *Mitigation:* GSAA includes a windowing mechanism to ensure alignment of Sellers and Buyer's facilities readiness.

Opportunities:

- **Ikorodu Genco Ltd could be a possible future customer for SPDC JV:** Ikorodu Genco Ltd is currently looking to expand its power production. It has a Transmission License of up to 700MW, of which 300MW can be immediately evacuated without upgrade to transmission infrastructure.
  - By executing this GSAA with Ikorodu Genco Ltd and establishing a business relationship, Ikorodu Genco Ltd could make a good future partner or customer for SPDC JV, including the potential to look at different development concepts for future domestic gas growth. In addition, the parent company has other businesses including the Lagos Free Trade Zone currently starting construction which has potential for future gas demand.

Alternatives Considered

A "do nothing"/"wait and see approach" is not considered feasible as:

- current projects such as FYIP and SSAGS would have no firm gas offtake agreement. As these are primarily AG, this would put oil production at risk of shut in or gas flaredwith potential flaring fees. Neither scenario is desirable.
- SPDC JV will be seen as non-performing on its current DSO with the associated risks of penalties as specified in the NGMP Regulations (currently $3.50/Mscf),
- negatively impact government's interest in increasing power generation and may be perceived as a deliberate refusal to support the economic aspirations of the FGN with negative reputational implications for SPDC and the JV.

Section 5: Carbon management

Not applicable.

Section 6: Corporate Structure and Governance

Governance of this opportunity will be in line with the SPDC JV Joint Operating Agreement

Section 7: Functional Support and Consistency with Group and Business Standards

Legal, Economics and Finance (including Tax, Controller and Treasury) have provided functional support

Section 8: Project Management, Monitoring and Review

GM – Gas is the Decision Executive (DE). The NGMP DRB, led by the DE, is already in place to govern the opportunity. Upstream Gas Commercial Team led the negotiation with support from Legal and Finance functions. Upstream Gas Commercial Manager is accountable for delivery.

Section 9: Budget Provision

Other than the Sellers' performance obligations (subject to liability caps) in the GSAA, no incremental capital commitments are undertaken with these transactions as supply obligation can be met under NFA and post-FID projects. Upstream Gas has adequate JV budget cover for execution of GSAA.

Section 10: Group Financial Reporting Impact

There are no unusual accounting issues related to this GIP. Sales Income earned from GSAA will be accounted for in line with Group Finance reporting Policy.

Section 11: Disclosure

No disclosure is considered necessary; disclosure, if required, will be in accordance with Group and SPDC policies and procedures as aligned with the confidentiality provisions of the GSAA.

Section 12: Financing

No incremental capital investments are associated with this proposal. Contracts are priced in USD, with an option of settling in USD or NGN. The NGN settlement amount is calculated using an average exchange rate for the month in which delivered. SPDC JV as seller is therefore exposed to movements in USD/NGN between the average rate for the month and the rate upon invoice settlement 20 days after invoice receipt. This risk will not be hedged. The receipts of the NGN revenues will be fully absorbed by the NGN outgoings of SPDC JV, assuming current level of spending.

Section 13: Taxation

In Appendix 1 to the GIP there is a penalty for Shortfall Gas and prolonged failure on the part of the seller. The penalty paid as a result of either the shortfall in supply or prolonged failure for breach of stipulated conditions will not be deductible for tax purposes. There are no further unusual taxation features in this proposal.

Section 14: Key Parameters

This proposal seeks organizational approval for SPDC to execute the following:

- Gas Sales and Aggregation Agreement with Ikorodu Genco Ltd and GACN for sale of 35 MMscf/d of gas to Ikorodu Genco Ltd power plant for 20 years for USD2.50/mmbtu (subject to aggregation)

Section 15: Signatures

Supported by**:**	Consented to:
....	....
Chris Streng, SIEP-FUP	Andrew Brown, RDS-ECAB
Date ..../..../....	Date ..../..../.....

Initiated by Bart van de Leemput, SIEP-UPO

Appendix

1) Key Terms
2) Western Network Supply-Demand Balance

Appendix 1 : Key Terms

1. Contract Term and Lease Renewal:

End Position:

- Contract term of 20 years as mandated by the GPO.
- Failure to obtain lease renewal will be an event of Force Majeure, for which Sellers will have FM cover.
- If lease is renewed/extended on terms that materially adversely impact the Seller, the Seller will trigger the Price Review provisions to mitigate the adverse impact on the Seller;.

2. Portfolio Action:

End Position:

- Each Seller has the right to assign, transfer, novate its rights/ obligations/ liabilities subject to the consent of the other party (such consent is not required for transfer to a wholly-owned Affiliate). If the transferee has the requisite technical and financial capability to fulfil the obligations and any potential liability, and the government authorities (relevant to such transfer) have given their consent for such transfer, the other Party is not entitled to withhold its consent unreasonably.
- Further, if any Seller(s) transfers/assigns its/their interest in the Supply Area, such Seller(s) shall be entitled to novate all of its/their rights, obligations and liabilities in or arising out of the GSAA in favour of any third party(ies) to which such Seller(s) transfers/assigns its/their interest in the Supply Area.

3. Contract Price and Price Review:

End Position:

- Price is as per FGN policy and is escalated yearly for inflation.
- Price review provisions that will trigger review of price in the event of material adverse effects due to a change in law.
- Any price increase by Government under NGMP will automatically apply to this contract.
- Repeal of policy-based pricing mechanism during the Contract Term will trigger willing Buyer - willing Seller pricing negotiations aimed at agreeing a new gas price that adequately reflects the prevailing commercial gas market price for the power sector in Nigeria. Where the Buyer and the Sellers fail to agree a new pricing mechanism as aforesaid, within thirty days from the repeal or cessation of the NGMP pricing regime, either Party shall be entitled to refer the matter for determination by arbitration under Nigerian law. If the Buyer and Sellers are unable to agree on a new applicable pricing mechanism or the arbitrator shall not have rendered the required determination within one hundred and eighty days from the date of the appointment of the arbitrators, either the Buyer or the Sellers shall be entitled to terminate the GSAA.

4. Payment Terms and Forex Risk:

End Position:

- Buyer has the option to pay either in USD or NGN.
- If payment is made by the Buyer in NGN, the USD amount due will be converted to NGN at the average USD to NGN exchange rate (based on CBN published exchange rate) for the month to which the invoice relates.

5. Gas Specification and Deliverability:

End Position:

- Gas is delivered immediately downstream of Seller's facilities at NGMP (WAGP) gas specifications.
- The SPDC JV proposed supply sources (FYIP/SSAGS) are new developments designed to supply to meet the WAGP specification.
- If gas supply is off-spec (based on specifications agreed in the GSAA), such off-spec gas, unless knowingly taken by Buyer will be treated as Shortfall Gas. Where off-spec gas is unknowingly taken by the Buyer, then Sellers' liability for damages (including clean-up costs) to Buyer's facilities directly resulting from supply of off-spec gas will be subject to the total contractual liability cap. Sellers are relieved of any liability where off-spec is knowingly taken by the Buyer.

6. Take-or-Pay and Make-Up Gas Rights:

End Position:

- Take-or-Pay set at 80% (based on NGMP GSAA template).
- Buyer must exercise Make-Up Rights in respect of outstanding annual deficiencies (gas quantity not taken by the buyer from take-or-pay quantity at the end of a contract year) within two Contract Years after the Year in which such outstanding annual deficiencies arose.
- Upon early termination not due to Buyer's default or expiry of the Contract, Seller shall pay the Make-up Gas Termination Payment against Buyer's Make-Up Rights outstanding at the time of termination. However if Buyer elects for Seller to provide gas instead of the Make-up Gas Termination Payment, then Parties shall negotiate in good faith an extension period of 180 days to enable the Sellers provide gas to the Buyer.

7. Shortfall Gas:

End Position:

- Threshold for Seller's performance set at 90% over a billing period (=a month) i.e. Seller's non-performance without any penalty may not exceed 10% of the quantity over a month excluding shutdowns.
- The Shortfall Gas Price shall be 90% of the Contract Price applicable at the time that such quantity of Shortfall Gas arose.

8. Limitation on Liability:

End Position:

- Total cumulative liability of the Seller in any Contract Year is limited to the lesser of:
  - "55% *times* Take or Pay Quantity *times* Contract Price for such Contract Year" and
  - $13,000,000

9. Contract Quantities:

End Position:

- Daily contract Quantity 35MMscf/d.
- Limited Buyer flexibility with respect to frequent upward and downward revisions to "normal" range flexibility that SPDC JV can manage operationally.
- Maximum Daily Quantity (MDQ) set at 110% of the Daily Contract Quantity (DCQ).

10. Seller's Facilities and Force Majeure

End Position:

- Seller has the right to supply gas from a portfolio of sources.
- Seller to notify initial gas supply source, and notify subsequent changes of supply source(s) to the Buyer.
- FM for Sellers includes standard FM events (including reservoir failure and consequential impact of crude theft); but excludes: commerciality changes or reservoir depletion.
- Buyer gets cover for FM affecting third-party facilities immediately downstream of buyer's facilities including Transporter's facilities and Transmission Lines into which they deliver electricity.

11. Direct Agreement:

End Position:

- Sellers and GACN will enter into a Direct Agreement with the Buyer's Lenders.
- Direct agreements are an essential feature of project financings as they seek to allow Lenders cure any defect of the Buyer and ensure that the obligations of the Buyer under the GSAA are fulfilled and the GSAA is not abruptly terminated.
- Form of Direct Agreement to be agreed prior to execution of GSAA.

12. Gas Reserves Certification:

End Position:

- Sellers to provide reserves certificate acceptable to the Buyer (based on agreed template)

13. Assignment by Way of Security:

End Position:

- Buyer can assign its rights under the GSAA by way of security to Lenders. However, assignment is not automatic as Lenders will have to negotiate a direct agreement with the Sellers giving the Lenders certain rights within the GSAA. This gives Sellers the leverage to negotiate acceptable terms with the Lenders under the direct agreement. An agreed template for the direct agreement will be appended to the GSAA.

Appendix 2 : Western Network Supply-Demand Balance

- Commitments to Ikorodu Genco Ltd power will be supplied from NFA (No Further Activity) volumes (excl. Escravos, Otumara & Saghara fields that will be sold to NGC), FYIP and SSAGS projects with total expectation gas sales volume of 0.68Tcf over the considered 20-year contract period (2016-2035).
- The other existing supply for other GPOs in the West (excluding Ikorodu Genco Ltd above and point to point supply) is SNG Lagos Free Trade Zone to be supplied from FYIP and SSAGS.