THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED

MAJOR TENDER BOARD SUBMISSION

Confidential **Part B – Contract Award** **Date: 27/07/2017**

Category	Rotating Equipment	Contract ID:	NG01020423
Contract Title:	LONG TERM SERVICES AGREEMENT (LTSA) FOR AFAM VI COMBINED CYCLE POWER GENERATION PLANT		
HSE Mode & Risk	Mode 2, High Risk		
Agenda Item	(TB secretary to complete)		
Proposed Authorized Contract Value (ACV)	USD138,627,809 + NGN6,549,041,137 (F$160,231,111.45)	Segmentation (Click here to access tool)	**Strategic**
Proposed expenditure while pending NAPIMS approval	USD/Naira (only applicable for MTB Submissions - urgent contracts)		
Start & End dates	Q1 2017 – Q4 2024	Duration	8 Years
		Extension options	2 Years

PURPOSE

To seek approval from MTB for the following:

- Inform MTB of the outcome of negotiations with GE International Operations (Nigeria) Limited (GEION).
- Award of contract for the Long-Term Services Agreement for AFAM VI Combined Cycle Power Generation Plant to GE International Operations (Nigeria) Ltd at a total ACV of **USD138,627,809 + NGN6,549,041,137 (F$160,231,111.45**) being 74% of the CE/Should cost.
- Execute a twelve-month Interim Agreement with the recommended contractor, at a total ACV of **$25,126,200.00 + NGN1,178,760,000.00** (**F$29,014,572.09),** pending NAPIMS approval and subject to LDL approval.

Exchange rate used – NGN303.15/$

Stakeholders Endorsement:

	Senior Procurement Manager (SPM)	Contract Owner
	Reviewed and approved for SCC/MTB and confirms: 1. Alignment with approved Category Strategy (& Global Category Strategy where applicable) 2. Compliance with the NOGICD Act & Community Content commitments.	Reviewed whole submission and confirms support from: 1. Finance [Azubuike, John] - for the financial aspects of the submission, including adequate budget cover/JV Partner approval to ensure full cost recovery/approved GIP in place (if applicable) 2. HSSE [Otti, Lawrence] - HSSE consideration and requirements are met
Signature	DocuSigned by: Edun, Olusegun 20A70F8185DB426...	DocuSigned by: Kene, Nwangwu 24A4217D69974EF...
Name	SEGUN EDUN (PTC/UAP)	NWANGWU, KENE (UPO/G/PLA)
Date	13 August 2017 | 22:02 BST	11 August 2017 | 09:41 B

Approval	
	MTB Chairman
Signature	DocuSigned by: Ireti Omotoso 279779B6B32A49E...
Name	Ireti Omotoso for Yakov Kravchenko
Date	24 August 2017 | 13:21 BST

Declaration:

Signatories to this submission acknowledge that they have read and understood the Conflict of Interest Policy in SEPCiN and that they do not have any direct or indirect arrangement or relationship with any other person or company that breaches the requirements of that Conflict of Interest Policy, or that they have fully disclosed any potential Conflict of Interest to the Contract Owner, CP Manager and the Supply Chain Council/Tenders Board.

SECTION A: CONFORMANCE TO CONTRACT PLAN (PART A)

APPROVAL REFERENCES

Tender Activity	Approval Date
MTB Approval of Part A1	30/06/2015
MTB Approval of Part A1 Addendum	15/01/2016
NAPIMS approval of strategy	**10/09/2015**
NCDMB approval of strategy	23/08/2016

BACKGROUND

Following the Tender Board approval of Part A1 addendum (**Attachment 1**), Commercial ITT was sent to the contractor via email on 19/01/2016 with an initial bid closing date of 10/02/2016, which was extended to 26/02/2016 because of clarifications from the contractor and the formal acquisition of ALSTOM by GE.

The Commercial Bid was eventually opened on 25/10/2016 and commercial evaluation commenced on the same day. Commercial Evaluation was completed with full involvement of NAPIMS representatives. Commercial Negotiations with GEION commenced on 07/11/2016.

The negotiation ended with the achievement of 74% of the company estimate against MTB mandate of 80%. Additional features were also negotiated to be included in the scope (at no extra cost to SPDC) as follows:

- Upgrade of all 3 GTs to MXL2 model which has the under-listed advantages over the current MXL
- Extension of the C-inspection interval by 12,000 Equivalent Operating Hours (EOH - from 36,000EOH to 48,000EOH) which offers a 33.33% increase in equipment availability between major inspections.
- An improved EOH accumulation Formula will lead to lower frequency of inspections.
- Capability of 10+MW additional output power per GT.
- Improved Fuel Efficiency, etc.

CHANGES FROM STRATEGY

The initial tender plan envisaged a contract commencement in Q4 2015. However, this could not be achieved due to delays in the approval of strategy by NCDMB and subsequently the protracted negotiations with GEION.

SUMMARY OF VALUE CONTRIBUTION

	Benefit	Losses
Safety	The LTSA will provide the platform to carry out the required periodic maintenance of the GTs, ST, and generators to ensure sustenance of technical integrity (TI) and operating integrity (OI) of equipment and processes. High TI and OI are necessary to attain the desired level of process safety of the plant.	Loss of TI and OI will result in process safety concerns. The plant will then need to be shut down leading to loss of power supply to Okoloma Gas Plant with attendant safety implications.
Reputation	Afam VI CCPP contributes about 14% of the electricity on the Nigerian grid. This contribution has earned SPDC a high reputation.	SPDC's reputation will dwindle and negatively impacted should the power plant default to supply electricity to the grid. Afam VI Power plant, and the largest CCGT, and the second largest power plant on the Nigerian Grid.
Production – Oil ('000 b/d)	N/A	N/A
Production – Electricity	Sustained production of 14,976MWhr/day.	Contribution to the national grid at risk if GTs or ST fail without adequate maintenance

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Production – Gas (mscf/d)	Supports Okoloma Gas Plant production of 240Mscf/d	Loss of production (gas plus condensate) from Okoloma Gas Plant.
Reserves (mboe/d)	N/A	N/A
Flares reductions (mscf/d)	N/A	N/A
Cost Saving		

SECTION B: RESULTS AGAINST AGREED CRITERIA

TECHNICAL EVALUATION

N/A

COMMERCIAL EVALUATION

Commercial ITT was sent to the contractor via email on 19/01/2016 with an initial bid closing date of 10/02/2016, which was extended to 26/02/2016 because of clarifications from the contractor and the formal acquisition of ALSTOM by GE.

The Commercial Bid was eventually opened on 25/10/2016 and commercial evaluation commenced on the same day. Commercial Evaluation was completed with full participation of NAPIMS representatives. Commercial Negotiations with GEION commenced on 07/11/2016.

GEION submitted a Commercial bid comprising a base option (in SPDC Commercial Template) and two alternative bids. A summary of GEION Commercial bid is as shown below:

- Base Option: - Based on the SPDC Commercial Template for the existing gas turbine (MXL) model.
- Option 1: - Based on MXL2 upgrade (turbine-only) of each of the three (3) Gas Turbines
- Option 2: - Based on MXL2 upgrade (turbine-only) of each of the three (3) Gas Turbines and including 24/7 continuous site support provided by two site engineers.

Out of the three options presented by the contractor in their Commercial submission, SPDC's preferred option is Option 2, because of the following advantages it has over the other options.

- Extension of the C-inspection interval by 12,000 Equivalent Operating Hours (EOH - from 36,000EOH to 48,000EOH) which offers a 33.33% increase in equipment availability between major inspections.
- An improved EOH accumulation Formula.
- Capability of 10+MW additional output power per GT.
- Improved Fuel Efficiency, etc.

Commercial negotiation with GEION for Option 2, which commenced on 09/11/2016, was concluded on 08/12/2016. A summary of the Commercial discussions is as shown in the Table below:

	GEION (FUSD)	SPDC (FUSD)
1st Offer	169,800,000	89,816,136
2nd Offer	159,900,000	108,764,120
Final Offer	155,100,000	146,000,000

See attachment 2 – Minutes of Negotiation Meeting.

Calculation of savings

S/N	VENDOR	COMPANY ESTIMATE FUSD	TOTAL ACV (FUSD)	TPSS OVER 10 YEARS
1	GEION	200.6M	155.10M	45M

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The table above indicates a cumulative savings of $45m within the life of the contract compared to same period on previous contract.

The Company Estimate – F$216.8M - comprises the cost of providing the services (F$200.6M) and a provisional sum of F$16.2M to cover for contingencies. The contingencies will cover such activities as (supply of OEM spare parts that are not part of the scheduled inspection scopes, OEM services for unscheduled maintenance scopes). The Company Estimate/Should cost is based on a mix of historical cost and more of competitive intelligence.

Cost comparison between the base option, option 1, and option 2

SCOPE	BASE OPTION	OPTION 1	OPTION 2
Gas Turbine	FUSD 149,824,357.52	FUSD 152,970,524.49	FUSD 161,983,884.21
Steam Turbine	FUSD 7,677,970.44	FUSD 7,677,970.44	FUSD 7,677,970.44
Black start	USD 490,000.00	USD 490,000.00	USD 490,000.00
TOTAL	**FUSD 157,992,327.96**	**FUSD 161,138,494.93**	**FUSD 170,151,854.65**

Note: Option 2 was negotiated down to FUSD 155,100,000.00 (This option was found the most attractive due to the inherent advantages mentioned earlier viz; increase in GT & ST power output, higher availability of GTs between major inspections, and increase in fuel efficiency, and 24/7 availability of OEM engineers to resolve uncommon operations)

Benchmarking:
Basis of Company estimates: The company estimate was drawn up in 2015 using data obtained from the market (competitive intelligence) and applying other factors such as (scope consolidation to minimize ambiguities; elimination of bonus payments) to determine what should make up the cost elements and appropriate pricing at that time.
However, during the commercial evaluation, it was deduced that with the complexities of building the should -cost model from scratch, a proper benchmark be carried out with other known similar facilities within the Shell Group and in the industry to confirm the commerciality of the pricing offered by GE.
It was noted that benchmarking the Long-Term Services Agreements or Contractual Service Agreement has its own challenges as it is not a straight forward apple for apple comparison of Power Plant to Power Plant. It typically depends on the number of Gas Turbines included, duration of the contract, details of the covered scope and warranties / availability guarantees etc.
In the case of Afam VI, the plant is a Combined Cycle power generation plant of both Gas Turbines and a Steam Turbine and the LTSA covers the entire scope.
To carry out the benchmark therefore, data was obtained from the Shell Enterprise Category Management (Equipment) team at Shell Global Solutions on similar installations within Shell and in the industry.
Table below shows the comparison made.

Afam_benchmark_Details.xlsx

Outcome: The revised pricing and offering by GE indicates the competitiveness in this proposal.
In addition to a reduced pricing for the individual Inspections (A, B & C), there are other benefits such as

1. The upgrade of the existing models to the MXL2 series which, apart from being a newer technology, also increase the intervals for major inspections which is a huge savings on cost and cash.
2. Provision of 24/7 site support by two (2) engineers for prompt intervention
3. Increase of between 10MW – 12MW from each gas turbine set.
4. Increase of between 15MW to 20MW from the Steam Turbine (due to increase in GT exhaust flow, hence more steam generation in the HRSGs).
5. Better fuel efficiency of the gas turbines.

In addition to the above, the Contract Management team together with the Asset leadership have agreed to carry out a benchmark of a combined cycle commercial power plant as Afam VI through the Shell Global benchmarking company

(contractor - Solomon Associates) after due approval and sponsorship commitment from the business.

Additionally, since this is a strategic contract, a Supplier Financial Risk Assessment (SFRA) was carried out to ascertain the contractor's financial capability to execute the contract. The SFRA Report on GE came back as a Green Banded and Financially Low Risk Company. See attachment 3 – SFRA Report

Based on the above and in line with the approved award strategy, which states that award shall be made based on meeting the Tender Board mandate of 80% of the Company Estimate, it is proposed that the contract for the Long-Term Services Agreement for Afam VI Combined Cycle Power Generation Plant be awarded to GEION, at the total contract value of **USD138,627,809 + NGN6,549,041,137 (F$160,231,111.45**). This ACV includes an additional F$16,200,000 provisional allowance for contingencies. This value represents 74% of the Company Estimate.

BASIS OF AWARD & RECOMMENDATION

In line with the approved award strategy, which states that award shall be made based on meeting the Tender Board mandate of 80% of the Company Estimate, it is proposed that the contract for the Long-Term Service Agreement for Afam VI Combined Cycle Power Generation Plant be awarded to GEION, at the total contract value of **USD138,627,809 + NGN6,549,041,137 (F$160,231,111.45**). This value represents 74% of the Company Estimate.

TRANSITION PLAN / COST OF IMPROVEMENTS *(IF APPLICABLE)*

This is a Mode 2, High Risk contract. There is no record of HSE capability assessment for GE in the system. It is proposed to process the interim agreement using the contract HSE assessment pending completion of vendor HSE capability assessment.

Vendor performance will be closely monitored during the interim agreement period, and quarterly business reviews will be used to document and track findings. The contract will have performance-based KPIs against which the vendor's performance will be measured.

APPROVED CONTRACT VALUE

Proposed ACV for the contract is **USD138,627,809 + NGN6,549,041,137 (F$160,231,111.45**). Company Estimate is based on data obtained from the market (competitive intelligence) and applying other factors such as (scope consolidation to minimize ambiguities; elimination of bonus payments) to determine what should make up the cost elements and appropriate pricing at that time.

COMPLIANCE TO MODEL TERMS & CONDITIONS

MCL based and localised standard terms and conditions will be used in the Contract Document.

GOVERNMENT INTERMEDIARY (GI) ELEMENT

GI elements present in work scope?	☐ YES	☒ NO
If yes, GI terms & conditions included in contract?	☐ YES	☐ NO

IDD STATUS

The IDD status of GE International Operations (Nigeria) Limited is Green

SECTION C: POST AWARD CONTRACT MANAGEMENT

KEY PERFORMANCE INDEX (KPI) *(FROM PART A)*

Business Objective	KPI	Measure	Annual Target	Frequency Measured
HSSE	HSE Meeting	No	12	Monthly
Technical Integrity	Power output Degradation & Heat Rate Degradation	%	As in appropriate charts in contract	After every major inspection
Power Generation	Plant Availability	%	95%	Yearly

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	(Production)				
	Delivery	Response Time	Hours	As per agreed contractor response time	As per agreed contractor response time
	Nigerian Content	Use of local personnel	Man hrs	80%	Yearly

CONTRACT MANAGEMENT PLAN (CMP)

·	Sign Contract/Input in SAP/Issue PO	Q1 2017	SPDC
·	Contract/Kick off meeting	Q1 2017	SPDC/Contractor
·	Pre-mobilisation	Q1 2017	SPDC/Contractor
·	PO Issue as per request	As required	SPDC
·	HSE Meetings/Audit	Monthly	SPDC/Contractor
·	Contract Progress review	Quarterly	SPDC

HSE PLAN

Main HSE Exposure	Preventive response	Corrective response
Working in High Noise Level Area	Mandatory use of adequate / suitable ear protection (PPE) shall be continuously. Work permits shall clearly state this requirement as a control. Work will be planned and executed in line with SPDC procedures for working in High noise level area.	Audiometric tests shall be to be carried out at regular intervals.
Road Transportation	Journey management related to Transportation of staff shall be implemented.	An improved JM system shall be implemented. Retainership clinic will be available for escalation.
Working at height	Proper PPE (including harness) shall be used when working at heights above 1.3 meters. HSE toolbox meeting shall be held regularly. Dynamic Risk Assessment shall, be carried out after every break. Work permits shall as much as possible, identify all potentially hazardous work areas and adequate controls shall be put in place. Work will be planned and executed in line with SPDC procedures for working at height	First aid kit shall be made available at all times. Emergency First Responders and onsite medical personnel available for emergencies. Retainership clinic will be available for escalation.
Hot work	All hot work shall be captured by Hot Work Permit. All hazards shall be identified through JHA/ Risk Assessment and each hazard shall have adequate controls. All controls shall be stated in the PTW.	Fire extinguishers and emergency first responders shall be available at all times. Retainership clinic shall be available to handle escalation.
Working in Confined space	Application of the procedure for entering and working in confined space, including Gas testing, shall prevail throughout.	Emergency first responders / first aiders shall be available at all times. Retainership clinic shall be available to handle escalation.
Working with High voltage	Isolations shall be carried out by competent persons. Testing of electrical circuits/equipment shall be carried out by competent persons. All electrical work shall be supervised by qualified staff. PTW shall state all potential electrical hazards.	Emergency first responders / first aiders shall be available at all times. Retainership clinic shall be available to handle escalation.

NIGERIAN CONTENT EXECUTION PLAN

If winning vendors are more than one, 'a- c' information below should be completed for each vendor.

a. Indicate Schedule target(s) and vendors Nigerian Content pledge (s) e.g.

Contractor	Work Category	Schedule Target	Vendor's NC Pledge	Measuring Metrics	Agreed actions including authorisation to import
GEION	Maintenance and Modification of pumps & Rotating Equipment	65%	70%	Man-Hours	N/A

b. Nigeria Content Summary Work scope.
????

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Vendor's training plan in alignment with pre-approved Project's Nigerian Content Plan and also in line with the human development capacity guide 2014

	Training Type	No of Trainees	Total Man-hours/ Man-years	Name / Level of Certification
	N/A	N/A	N/A	N/A

c. Global Sustainable Sourcing opportunity (provide details of the global sourcing opportunity utilised and capacity gap addressed).
N/A
d. Nigerian Content Compliance Certificate required prior to award approval recommendations to NAPIMS

*****Where the NC pledge falls short of set minimum targets by law an authorisation to import may be required for these categories.***

COMMUNITY CONTENT NIGER DELTA CONTENT EXECUTION PLAN

Adequate provisions will be made in the contract to create opportunities for qualified and experienced Nigerians from the Niger Delta to be engaged in the execution of the works.

RISK ASSESSMENT

HSE Risk - **High** Contract Risk - **High**

See Attachment 4 – RAM Document

Risk Description	Likelihood (H / M / L)	Impact (H / M / L)	Mitigating Actions	Action Owner
Quality	L	H	Ensure that all deliveries are accompanied with relevant test/quality certificates. OEM trained and qualified personnel to be deployed to carry out services and repairs on the plant	CH
HSE	M	H	PO clauses to ensure that all HSE issues related to deliveries of equipment and all required medical checks on all staff by local clinic in Nigeria are strictly adhered to. First aid admin. Ensure the availability of fire extinguishers. Call medical service on 122 or MEDEVAC	CH
Fire during installation/Maintenance	M	H	Environment to be gas-tested at regular pre-determined intervals to ensure that hot work is performed only under hydrocarbon-free area. Cordon off the affected area. First aid admin. Ensure the availability of fire extinguisher. Call medical service on 122 of MEDEVAC	CP/CH

ATTACHMENT:

1. Part A1 + Minutes of Meeting
2. Minutes of Negotiation Meeting
3. SFRA Report
4. RAM Document

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