

teneré



The Shell Petroleum Development Company of Nigeria Limited
Eastern Division
PO Box 263 Port Harcourt
Nigeria

Tel +234 (0)8070222905 Internet:www.ShellNigeria.com

01 June 2020 31 May 2020

Attention: The Managing Director.

Dear Sirs

INVITATION TO TENDER FOR EPC FOR GBARAN PHASE 3B - UZU WITH CPF UPGRADE- PKG 3 (CPF UPGRADE) FOR SPDC

INVITATION TO TENDER REFERENCE NO CW361444

The Shell Petroleum Development Company of Nigeria Limited hereinafter referred to as the COMPANY, has a requirement for the provision of the above work or service for a period of three (3) years provisionally commencing on **Q3 2020** and you are hereby invited to submit a Technical and Commercial Tender for such Work for our consideration.

The enclosed Invitation to Tender comprises PART (1) – INVITATION TO TENDER, PART (2) – CONDITIONS OF TENDER, PART (3) - PROFORMAE FOR THE TENDER” with Appendices, for completion by Tenderer and Part (4) - PROPOSED CONTRACT DOCUMENTS.

Please acknowledge, within 5 working days, receipt of this Invitation to Technical Tender, also confirming your intention to respond or otherwise, via email to Ojay.osayi@shell.com attaching a scanned completed copy of the TENDER ACKNOWLEDGEMENT FORM and the SECRECY DECLARATION. All other documents must be submitted via Nipex as stated below.

As part of your Technical and Commercial bid submission, you should also submit any/all proposed legal qualifications to our “Proposed Contract Documents” (Part 4 of the IIT), note that any such legal qualifications received after the bid submission will not be considered and may invalidate your bid.

It is stressed that the SOLE contact point with the COMPANY during both the pre- and post-Tendering periods is the undersigned, to and/or from whom any Tender submission or query with respect to this Tender must be submitted and/or received through the Nipex Portal. Unsolicited re-Tendering which undermines the principles of competitive Tendering is forbidden. Failure to comply with this basic requirement will invalidate your Tender, whilst failure to comply with any Instruction to Tenderers may similarly invalidate your Tender.

Pre-bid meeting has been scheduled to hold on 15th June 2020 at 09.00 am via Tele-Conferencing. Tenderers will be sent emails inviting them to the meeting.

Tender must be submitted only via the NipeX portal (www.nipex-ng.com) no later than 26 June 2020 **at 1500 hrs local time (GMT+1)**, which shall be the Tender Closing Date and any Tender submitted after this time and date by whatever means shall be rejected. All Tenders shall be submitted to the COMPANY strictly in accordance with the Instructions to Tenderers attached hereto, including the use of the NipeX portal for the Tender submission. Follow-up hard or electronic copies of the NipeX submission may also be required. **Please note that ONLY tenderers who are successful at the technical phase of the evaluation will have their commercial bids opened.**

Tenderers who intend to participate in the Tender and are interested in getting copies of the DEPs referred to in this scope of work should communicate to the undersigned via the e-mail address provided requesting it and a Non-disclosure agreement will be sent to tenderer to sign and thereafter access will be granted.

Please note that this letter or any prequalification questionnaire is not an offer of work; nor is it acceptance of any offer you may or have made; nor does it bring into existence any contract; or guarantee of work between our companies.

Yours faithfully

Ojonimi Osayi

Senior Contract Manager

For The Shell Petroleum Development Company of Nigeria Limited

TENDER ACKNOWLEDGEMENT FORM

The Shell Petroleum Development Company of Nigeria Limited
For the Attention of Ojonimi Osayi.

**RE: ACKNOWLEDGEMENT FOR EPC FOR GBARAN PHASE 3B - UZU WITH CPF UPGRADE- PKG 3
 (CPF UPGRADE) TENDER No. CW361444**

(a) We acknowledge receipt of the ITT and we agree to maintain confidentiality in regard to this ITT process and the contents of the ITT DOCUMENTS [**in accordance with the signed Confidentiality Agreement dated (INSERT DATE)].

(b) We confirm that: (Please ✓ in only one of the □)

We have received all the documents listed in the Section II without damage and in useable condition.

The following listed ITT DOCUMENTS were not received and/or are damaged and unusable:

(c) We confirm that: (Please ✓ in only one of the □)

We intend to submit a bona fide TENDER in accordance with the specified requirements of the ITT by the TENDER DEADLINE. We confirm our adherence to appropriate standards of business ethics, Shell General Business Principles and ANTI-CORRUPTION LAWS and we confirm we will comply with Shell's "Life Saving Rules and site-specific safety rules, where applicable."

We do not wish to TENDER and therefore return all the ITT DOCUMENTS with this ACKNOWLEDGEMENT FORM.

(d) We confirm that: (Please ✓ in only one of the □)

As of this date, we have no requirements to seek clarification of these ITT DOCUMENTS.

We require clarification of the following:

(e) We request that you send all future communications in respect of this ITT to the undersigned.

Yours truly,

[**INSERT NAME OF TENDERER]

Signed: _____

Name: _____

Title: _____

Date: _____

Email: _____

2 FORM OF TENDER

TENDERER NAME: EPC FOR GBARAN PHASE 3B - UZU WITH CPF UPGRADE- PKG 3 PIPELINES_CW361444

Date: [**Insert date]

RE: FORM OF TENDER FOR A CONTRACT FOR TENDER NO. CW361444

To COMPANY LEAD:

In accordance with the above referenced TENDER, the undersigned, on behalf of the TENDERER confirms:

- (a) We have examined your entire ITT package including its forms, and are providing all completed required forms, and where applicable, optional forms, all of which are included, as required by the ITT.
- (b) We agree that this TENDER constitutes a firm offer to COMPANY to enter into CONTRACT which CONTRACTOR will not withdraw after the TENDER DEADLINE, unless the CONTRACT is not signed by COMPANY within 90 days of the TENDER DEADLINE which may be extended by written mutual agreement.
- (c) We agree that COMPANY is not obliged to review or accept any new deviations to the provisions of the ITT, including COMPANY's CONTRACT, raised by us after the submittal of this TENDER.
- (d) We certify that we have: (i) examined and are fully familiar with all of the provisions of the ITT; (ii) carefully checked and confirmed as accurate all of the words and figures shown in the pricing in this TENDER; (iii) carefully reviewed the accuracy of all statements in our TENDER; and (iv) by careful examination of the ITT, satisfied ourselves as to the requirements of the ITT and all other matters which can in any way affect the supply of the SCOPE or the cost thereof.
- (e) We hereby agree that COMPANY will not be responsible for any errors or omissions on our part in preparing this TENDER.
- (f) We understand that COMPANY is not bound to accept the lowest-cost compliant or any TENDER, and COMPANY may not assign a reason for rejection of any TENDER.
- (g) We agree that any costs incurred by us relating to this TENDER are entirely of our own account.
- (h) We accept that future unsolicited re-TENDERS of any kind may result in our disqualification.
- (i) We certify that this is a bona-fide TENDER, intended to be competitive, and that we have not fixed or adjusted the amount of the TENDER by or under or in accordance with any agreement or arrangement with any person not directly involved with its preparation. We further certify that we have not performed, and will not: (i) communicate to any PERSON the amount of the proposed TENDER except in confidence for obtaining insurance premium quotations in connection with the TENDER; (ii) enter into any agreement or arrangement with any other person that either we will refrain from tendering or discuss the amount of any TENDER to be submitted; or (iii) offer, pay or give or agree to pay or give any sum of money or valuable consideration to any PERSON for any act of the type described above.
- (j) We agree that the COMPANY has the right, in its sole discretion, and at any time, to change the ITT, cancel, delay or otherwise not proceed to award the CONTRACT based on this ITT.
- (k) In connection with all activities associated with the ITT, we agree to adhere to the principles contained in the Shell General Business Principles and Shell Supplier Principles (or where we have adopted equivalent principles, to those equivalent principles). We will notify COMPANY LEAD or the Shell Global Helpline, immediately if we become aware of any behaviour by TENDERER GROUP which is, or may be, inconsistent with the Shell General Business Principles or the Shell Supplier Principles, or where applicable, our equivalent principles.

Yours truly,

[**INSERT NAME OF TENDERER]

Signed: _____

Name: _____

Title: _____
 Date: _____

FORM T1

SECRECY DECLARATION FORM

TENDER NO.: **CW361444**

TENDER TITLE: EPC FOR GBARAN PHASE 3B - UZU WITH CPF UPGRADE- PKG 3 (CPF UPGRADE)-CW361444

The undersigned having its principal office at _____ (hereinafter called the Tenderer) hereby declares to The Shell Petroleum Development Company of Nigeria Limited (hereinafter called the COMPANY) to accept the following terms and conditions on which the COMPANY is prepared to communicate to the Contractor certain Confidential Information as hereinafter defined:

1. Definitions

- 1.1 The Invitation to Tender shall mean all Tender Documents and information given by the COMPANY in connection with the submission of this Tender.
- 1.2 Confidential Information shall mean any knowledge and information identified as Confidential by the COMPANY or associated with that identified by the COMPANY disclosed in connection with this Invitation to Tender to the Tenderer by or on behalf of the COMPANY in writing or in any other form or acquired by the Tenderer from the COMPANY in any other way, as well as all data derived from such confidential knowledge and information, to the extent, however, that such knowledge and information at the time of such disclosure or acquisition is not:
 - (a) in the free possession of the Tenderer or,
 - (b) part of public knowledge or literature.
- 1.3 Confidential Record shall mean any manuals, specifications, drawings, letters, telexes and any other material containing Confidential Information. For the purpose of Articles 2 and 5 of the Declaration, Confidential Information shall include Confidential Record.

2. Confidentiality

2.1 The Tenderer undertakes:

- (a) to preserve and cause its employees to preserve the secrecy of any Confidential Information.
- (b) Not for any purpose other than the submission of this Tender:
 - (i) to disclose to any third party, or enable any third party to become aware of, the fact that the Tenderer has been invited to submit a Tender for the Work and, if applicable, the fact that the Work has been entrusted to the Tenderer;
 - (ii) reproduce, copy or use, or disclose to, place at the disposal of or use on behalf of any third party or enable any third party to peruse, copy or use, any Confidential Information; except with the prior written consent of the COMPANY.

2.2 The undertakings under 2.1 above shall continue in so far as the Confidential Information in question has not:

- (i) become part of public knowledge or literature, or;
- (ii) been disclosed to the Tenderer by a third party (other than on disclosing on behalf of the COMPANY) whose possession of such information is lawful and who is under no secrecy obligation with respect to the same.

2.3 The obligations of this undertaking by Tenderer, as amended or supplemented by corresponding provisions in the Contract, shall continue to be binding after submission of the Tender, notification that was unsuccessful or completion of the Work, as the case may be.

3. Copyright

The copyright in any Confidential Record shall, in the absence of any express provision to the contrary thereon, be vested in the COMPANY.

4. Return of Confidential Record

4.1 Upon completion of the Work, or, if the COMPANY should so request, the Tenderer shall return to the COMPANY all Confidential Records.

4.2 The disclosure to Tenderer of Confidential Information shall neither be construed as granting Tenderer any rights in respect thereof other than the use of Confidential Information to be able to submit a Tender as required in the Invitation to Tender, nor be construed as granting Tenderer license to any intellectual property and/or know-how rights the COMPANY or the COMPANY's Affiliate now or hereafter owns or under which the COMPANY or any Affiliate now or hereafter holds licensing rights.

5. Third Parties

Tenderer shall ensure that if through his own act or omission any of the COMPANY Confidential Information comes to the knowledge and/or possession of any third party, the Tenderer shall require from such third party that it shall abide by stipulations equivalent to those contained in this Secrecy Declaration.

c

6. Information for Tendering

Tenderer acknowledges that the documents listed below were withheld from this Invitation to Tender Document pending receipt by the COMPANY of this completed and signed Secrecy Declaration. Documents withheld pending receipt of this Secrecy Declaration includes:

7. Governing Law

This Secrecy Declaration shall be governed by the, and construed in accordance with the Laws of the Federal Republic of Nigeria.

Agreed and accepted this.....of..... 20.....

Signed : _____

Name : _____

Title : _____

Date : _____

(Please affix your Company's stamp)

CONFIDENTIAL

INVITATION TO TENDER

FOR

EPC FOR GBARAN PHASE 3B - UZU WITH CPF UPGRADE- PKG 3 (CPF UPGRADE)

TENDER NO. CW361444

VOLUME 1 OF 3

INVITATION TO TENDER (ITT)

FOR

**CONTRACT FOR: EPC FOR GBARAN PHASE 3B - UZU WITH CPF UPGRADE- PKG 3 (CPF
UPGRADE)**

TENDER NUMBER: CW361444

CONTENTS

VOLUME 1

PART 1 - INVITATION TO TENDER

PART 2 - CONDITIONS OF TENDER

PART 3 - PROFORMAS FOR THE TENDER

VOLUME 2

PART 4 - CONTRACT DOCUMENTS, consisting of:

- Section I FORM OF AGREEMENT
- Section IIA GENERAL CONDITIONS OF AGREEMENT
- Section IIB SPECIAL CONDITIONS OF AGREEMENT
- Section III SCHEDULE OF PRICES
- Section IV SCOPE OF WORK
- Section V HEALTH, SAFETY AND THE ENVIRONMENT
- Section VI ADMINISTRATION INSTRUCTIONS

PART I - INVITATION TO TENDER

1. GENERAL REQUIREMENTS

1.1 Shell Nigeria Exploration and Production Company (hereinafter referred to as the COMPANY) in its capacity as Operator of the Joint Venture of itself, the Nigerian National Petroleum Corporation and other Co-Venturers plans to place a contract for **EPC FOR GBARAN PHASE 3B - UZU WITH CPF UPGRADE- PKG 3 CPF UPGRADE_CW361444** for a period of 3 years provisionally commencing on Q3/2020

1.2 This is an invitation for your TECHNICAL TENDER for accomplishing the work

The ITT, which specifies the basis for tendering, consists of the following documents:

Part 1 - Invitation to Tender

Part 2 - Conditions of Tender

Part 3 - Pro Formas for the Tender

Part 4 - Contract Documents

1.3 The Information contained in the ITT shall be the basis for the Tender and nothing shall be deemed to change or supplement this basis except for revisions to the above documents issued as ‘Addenda to Tender’ to the Tenderer by the person nominated as The COMPANY’s sole point of contact in the covering letter to this ITT.

1.4 **Communications during the Tender Period**

Any questions on technical, contractual or commercial matters relating to the contents of the ITT or the submission of your Tender, shall be submitted in writing through the NipeX Portal Collaboration Room no later than seven days before the Tender Due Date to the person nominated in the covering letter to this ITT.

Any response by the COMPANY to a question shall be in the form of a question and answer and shall, unless the answer to a question gives the enquirer a significant commercial advantage, be distributed to all Tenderers through the NipeX Collaboration Room. In no event shall the identity of the original enquirer be revealed.

2. PARTICULAR FEATURES OF THE WORK

2.1 The successful Tenderer will be totally responsible for the management and execution of all the work. The COMPANY will monitor and appraise the successful Tenderer's performance against the requirements of the contract and the successful Tenderer will be required to provide access to and supply all information necessary to allow the COMPANY to monitor and appraise the progress of the work.

2.2 The Tenderer's attention is drawn to:

- (a) the requirements of the Article in Section II of the Articles of Agreement (see Proposed Contract Documents) headed Insurance by the Contractor and the limits of indemnity set out therein; and
- (b) the requirements of the Articles in Section II of the Articles of Agreement headed Insurance by Contractor and Insurance by the COMPANY respectively as applicable and the deductibles for which the Contractor is liable
- (c) The Health, Safety and Environment requirements in Section VI of the PROPOSED CONTRACT DOCUMENTS.
- (d) The fact that when employing Nigerian labour for the performance of the Work and/or Services which may arise from this Invitation to Tender, the Contractor shall, subject to government policies and directives on labour and matters related therewith, endeavour to employ persons resident in or belonging to the same area or nearest village where the Work and/or Services shall be carried out. This is applicable provided that such persons are competent or fit to perform the Work and/or Services.

3. TENDER EVALUATION

3.1 A two-tier bid evaluation strategy will be adopted viz: Technical Evaluation and Commercial Evaluation. Only commercial bids submitted by Tenderers who pass the Nigerian Content requirements evaluation and passed the remaining technical section will be considered for evaluation, those that do not satisfy the Technical requirements shall not have their commercial bids opened.

Note that any Tender that fails to meet the minimum criteria in the Nigerian content will not be qualified to participate in the next stage of the bidding process, as non-compliance with Nigerian Content is a “Fatal Flaw”.

3.2 Interviews/Reviews by the COMPANY

In addition to reviewing the Tenderer’s actual Tender submission, the COMPANY may require to interview key personnel nominated in the Tender as part of the Tender (technical) evaluation process and may require a detailed demonstration of equipment and systems, or such other similar activities to provide a full understanding of Tenderer’s proposal. In this regard, the Tenderer should assume that a Tender review team will visit its offices and key personnel, key equipment/systems and key personnel of sub-contractors nominated to participate in the project should be available for interview/demonstration at the time of such visit.

The COMPANY anticipates that the key personnel proposed will be involved in the preparation of the Tender and will be fully familiar with the equipment, systems and delivery of proposed Work.

3.3 Tender Evaluation Criteria

The following will be taken into account while evaluating your Tender:

- GENERAL AND MANDATORY REQUIREMENTS
- FINANCIAL CAPABILITIES
- NIGERIAN CONTENT REQUIREMENTS
- TECHNICAL CAPABILITIES AND EXPERIENCE
- CAPABILITY TO MANAGE CONTRACT SPECIFIC HSSE RISK

4. COMPILATION OF FORM OF TENDER AND APPENDICES

Tenderers are required to complete and return proformas Form of Tender and Appendices ONLY. The proformas must be completed in the format shown and returned in this manner. Any deviation from this format which is for inclusion in the Contract must be in a format which can be inserted in the Contract Documents, should your Tender be accepted, with the minimum of administration. All proforma documents are to be initialled on each page.

The Tender shall be submitted in the NipeX Portal. Tenderer may be required to submit the Tender subsequently both in paper form and/or on CD-ROMs. In the event of any contradiction or discrepancy between the Tender submitted via the NipeX Portal and the paper copy and/or the CD-ROM, the former shall prevail. By submitting a tender, the Tenderer warrants that the bid in the NipeX Portal, paper copy and/or the CD-ROMs is identical.

4.1 Completion of Form of Tender and Appendices

The Tenderer is required to complete and return the proformas FOR TENDER ONLY which comprise:

- (i) Appendix A: Information Provided by The Tenderer for Evaluation and/or Incorporation into the Contract.

- (ii) Appendix B - Information Offered by the Tenderer (**Note: It is not mandatory that Tenderers should complete this Appendix**)

Tenderers are directed to Part 2 Conditions of Tender where (i) the address for delivery of the Tender, and (ii) the documents which together comprise the Tender are detailed.

The Tender is to be made strictly in accordance with this ITT using the proformas provided as Part 3 of the ITT. Full details of the information to be provided by the Tenderer in the Appendices to the Form of Tender are given below.

4.2 Completion of Appendix A - Information Provided by the Tenderer for Evaluation and/or Incorporation into the Contract

The COMPANY requires the following information for evaluation purposes and/or incorporation into the proposed contract, to be submitted as Appendix A to the Form of Tender all as set out in the Attachments in PART 3 of the ITT.

<Note - the following list gives examples of the subjects which might be addressed in Appendix A>

- The Tenderer's submission to the technical questionnaire.
- Copies/duplicates of:
 - certificates of insurance attesting that any required insurance policies are currently available, and/or a letter from the Tenderer's professional insurance advisor attesting that such insurance policies would be made available in the event of an award of contract,
 - certificates of suitable Sickness, Accident and Life Insurance for the Tenderer's employees intended to be utilised on the proposed contract,
 - (if appropriate) a copy of Tenderer's current Taxation Exemption Certificate.
- Curricula Vitae of "Key Personnel", "Contractor Representative" and his Nominated Deputy, as defined in the proposed Contract, intended to be utilised by the Tenderer on the proposed contact;
- Tenderers shall advise the COMPANY of current/possible future Workloads currently being Tendered for other than for the COMPANY.
- The COMPANY may at its sole discretion require Tenderers to provide further information, e.g., supplemental information on any aspect of the Tender.
- **Parent Company Guarantee:** A Tenderer that stands in a subsidiary relationship to any other organisation or organisations, may be required to provide a Parent Company Guarantee by any such organisation(s), guaranteeing the performance and financial obligations to be assumed by the Tenderer under the contract. Tenderers falling into this category shall complete the referenced section of the Form of Tender, stating that a Parent Company Guarantee shall be provided to the COMPANY, in the format included as Attachment No. 1 to Appendix A, when required.

4.3 Compilation of Appendix B Information Offered by the Tenderer (Note: It is not mandatory that Tenderers should complete this Appendix**)**

Any supplementary information considered by the Tenderer to be relevant to its Tender may be submitted as Appendix D to the Form of Tender.

5. REGISTRATION OF CONTRACTORS

- 5.1 Before any Work can be undertaken for the COMPANY, it is compulsory that the Contractor be
- i) registered with the Department of Petroleum Resources (DPR) and the name of the Contractor entered into the DPR's register of approved Contractors.
 - ii) registered and attained audited status or granted a waiver in NipeX-JQS as being eligible to do business in oil and gas industry.

Additionally, the successful Tenderer if not previously registered with the COMPANY, will be required to register as a COMPANY Contractor and be entered into the COMPANY's Register of approved contractors or into any other document serving such a purpose in the COMPANY. Registration with DPR requires to be renewed annually to remain valid. A copy of the licence must be lodged with the COMPANY each year, and submitted with each Tender.

- 5.2 For the entire duration of any Contract to be entered into with the successful Tenderer and until all obligations under such Contract are properly carried out by the Contractor and so certified by the accredited officers of the COMPANY, the Contractor shall continue to obey and comply with all conditions of registration as provided for by the COMPANY and DPR.

6 FOREIGN COMPANIES

- 6.1 In addition to item 5 above, foreign companies are notified of the provision under the Companies and Allied Matters Act of Nigeria, which requires foreign companies wishing to carry out business in Nigeria to register with the Corporate Affairs Commission of Nigeria unless exempted from registration by the Federal Government of Nigeria.

- 6.2 Thus if the Work and/or Services are to be carried out in Nigeria wholly or partly and if the Contractor is a foreign company, the Contractor must either be registered in Nigeria or possess evidence of exemption from registration by the Federal Government of Nigeria, otherwise the Contractor shall stipulate the name and address and other relevant particulars of any company registered in Nigeria to be engaged in the execution of contract in Nigeria on behalf of or in affiliation or partnership with the Contractor.

7 ALTERATION TO TENDERER'S ORGANISATION

Only the Tenderer as stated in the Invitation to Tender is eligible to submit a tender for the Work and/or Services. Where the Tenderer's commercial status, shareholding, ownership, name, structure, or organisation alters in any way during the Tender Period, the Tenderer shall immediately notify the COMPANY of such changes giving full details. Failure to do so may render the Tender invalid.

8 PARTNERSHIPS AND JOINT VENTURES

All Tenders submitted by a Partnership or Joint Venture shall specify the names of the partners in the Partnership and the parties in the Joint Venture Agreement. An authorised representative of the Partnership or Joint Venture shall sign all such Tenders.

All parties of a Joint Venture shall be, jointly and severally, liable for all obligations that may arise under the contract.

9. IMPLEMENTATION OF BUSINESS PRINCIPLES BY THE COMPANY CONTRACTORS AND SUPPLIERS

Shell Nigeria Exploration and Production Company (the Company) recognizes a responsibility:

"To seek mutually beneficial relationships with contractors (and) suppliers and **to promote the application of these principles** in so doing. **The ability to promote these principles effectively will be an important factor** in the decision to enter into or remain in such relationships.

The COMPANY's expectation from contractors and suppliers

As it is not realistic to provide detailed guidelines covering all eventualities, minimum expectations are provided below for contractors and suppliers of the COMPANY.

Unless otherwise noted, these minimum expectations also apply to all contractors', suppliers' business associates and customers.

These minimum expectations apply equally to major and smaller contractors, suppliers' business associates and customers, subject to the discretion of the COMPANY

These minimum expectations are designed to maintain a broad level of consistency across the COMPANY.

Further, the management of the COMPANY are responsible for determining and seeking whatever further level of compliance with the Business Principles by contractors, suppliers' business associates and customers they judge to be practically feasible and beneficial.

Note: - The term 'Contractor' shall here be used to designate but not limited to the following entities: 'contractor', 'supplier', 'business associate', 'customer'.

The COMPANY expects Contractors to conduct contractual activities in line with the following Business Principles.

1.0 Responsibility to employees

- 1.1 In the course of performing the work, the Contractor shall:
 - 1.1.1 Respect the human rights of its employees; and
 - 1.1.2 Provide its employees with good, safe and competitive terms and conditions of service.
- 1.2 If the Contractor awards any sub-contracts for the performance of any part of the WORK, it shall include a provision in such sub-contracts requiring its sub-contractors to comply with the requirements of Article 1.1 in respect of their respective employees.

2.0 Business Integrity

- 2.1 In the course of performing the work, the Contractor shall, and shall ensure that its sub-contractors and its and their respective officers, employees and agents shall:
 - 2.1.1 Act in a transparent, honest, fair, accountable and ethical manner.
 - 2.1.2 Neither offer directly or indirectly, nor make a payment, nor solicit nor accept any bribes, gratifications or facilitation payments, in any form.
Not offer directly or indirectly to, nor receive, nor solicit nor accept any gifts from the COMPANY employees.
- Abide by the COMPANY Gift Policy at all times and in all circumstances.

3.0 Legal compliance.

- 3.1 In the course of performing the work, the Contractor shall, and shall ensure that its sub-contractors and its and their respective officers, employees and agents:
 - 3.1.1 Observe the laws of Nigeria
 - 3.1.2 Express support for fundamental human rights
 - 3.1.2 Do not use or cause to be used the services of persons under the age of sixteen to perform his obligations to the COMPANY. The contractor shall abide by the Laws of Nigeria regarding the engagement of Child Labour to perform his obligations to the COMPANY either directly or through a subcontractor.

4.0 Health, Safety and Environment.

- 4.1 In the course of performing the WORK, the CONTRACTOR shall, and shall ensure that its sub-contractors and its and their respective officers, employees and agents:
 - Observe and comply with the provisions of the COMPANY HSE policy and accompanying guidelines.

5.0 Information Policy

- 5.1 In the course of performing the work, the Contractor shall, and shall ensure that its sub-contractors and its and their respective officers, employees and agents

- 5.2 Observe and comply with the provisions of the COMPANY Information policy and accompanying guidelines.

GENERAL BUSINESS DEALINGS:

6.0 Dealing with Respectable counter parties.

- 6.1 The COMPANY will not contract with any persons or companies who are or are suspected of having connections with organised crime, international terrorism or of having interests in drugs or other internationally sanctioned activities (e.g., child pornography, slavery or forced labour).

7.0 Application to sub-contractors and sub-suppliers

- 7.1 Prime contractor/supplier to apply to sub-contractors and major suppliers the requirements on Business Principles stipulated in the prime contract.

8.0 Retaining the right to audit compliance.

- 8.1 The COMPANY will retain the right to audit contractor's compliance with the provisions of the COMPANY Business Principles incorporated in the contract.

- 8.1.1 Self-assessment and appraisal by contractors and suppliers may not be considered sufficient, although any reports provided could be used to assist the COMPANY in its compliance audit.

9.0 Application to sub-contractors and sub-suppliers

- 9.1 Prime contractors/suppliers shall apply to sub-contractors/suppliers the requirements on Business Principles stipulated in the prime contract.

10. Contractor undertakes to meet all contractual obligations as per terms of contract.

Contractor undertakes to report to the COMPANY management, any potential, actual or suspected breach of the COMPANY Business Principles.

Contractor/Supplier undertakes to comply with The COMPANY Statement of Business Principles, a copy of which Contractor/Supplier confirms is in his/her possession.

All Contractors of the COMPANY shall undertake to report to the COMPANY Management, any potential, actual or suspected breach of the COMPANY's Business Principles by calling +234 80 702 21245 or going to <https://www.compliance-helpline.com/shell.jsp>

- . The COMPANY Business Principles are attached to this Part 1 of the ITT or can be found at www.Shell.com/sgbp

Shell Nigeria Exploration and Production Company

STATEMENT OF GENERAL BUSINESS PRINCIPLES

Living by our Principles

The objectives of the Shell Group are to engage efficiently, responsibly and profitably in oil, gas, chemicals and other selected businesses and to participate in the search for and development of other sources of energy to meet evolving customer needs and the world's growing demand for energy.

Our shared core values of honesty, integrity and respect for people underpin all the work we do and are the foundation of our Business Principles.

The Business Principles apply to all transactions, large or small, and drive the behaviour expected of every employee in every Shell company in the conduct of its business at all times.

We are judged by how we act. Our reputation will be upheld if we act in accordance with the law and the Business Principles. We encourage our business partners to live by them or by equivalent principles.

It is the responsibility of management to lead by example, to ensure that all employees are aware of these principles, and behave in accordance with the spirit as well as with the letter of this statement.

The application of these principles is underpinned by a comprehensive set of assurance procedures, which are designed to make sure that our employees understand the principles and confirm that they act in accordance with them.

As part of the assurance system, it is also the responsibility of management to provide employees with safe and confidential channels to raise concerns and report instances of non-compliance. In turn, it is the responsibility of Shell employees to report suspected breaches of the Business Principles to Shell.

The Business Principles have for many years been fundamental to how we conduct our business and living by them is crucial to our continued success.

Ben van Beurden
Chief Executive Officer

The COMPANY as a member of The Royal Dutch Shell plc group of companies works under strict Business Principles that govern how each of the Shell companies conducts its affairs. These business principles are contained in a 'Statement of General Business Principles' and are elaborated in the 'Shell Code of Conduct'. Shell companies insist on honesty, integrity and fairness in all aspects of their business and expect the same in their relationships with all those with whom they do business. The direct or indirect offer, payment, soliciting and acceptance of bribes in any form are unacceptable practices. Intermediary acknowledges that it has received a copy of the Shell General Business Principles and Shell Code of Conduct (or alternatively has taken notice of the Shell General Business Principles and Shell Code of Conduct on the public web site www.shell.com/sgbp and www.shell.com/codeofconduct/). Tenderer shall adhere to the principles contained in the Shell General Business Principles and Shell Code of Conduct in all its dealings with, for or on behalf of the COMPANY and shall notify the COMPANY immediately if it becomes aware of any behaviour by the COMPANY or its employees which is, or may be, inconsistent with these principles, or by Tenderer or its employees which is, or may be, inconsistent with Shell General Business Principles.

RESPONSIBILITIES

The Shell companies recognise five areas of responsibility. It is the duty of management continuously to assess the priorities and discharge these inseparable responsibilities on the basis of that assessment.

a. To shareholders

To protect shareholders' investment, and provide a long-term return competitive with those of other leading companies in the industry.

b. To customers

To win and maintain customers by developing and providing products and services which offer value in terms of price, quality, safety and environmental impact, which are supported by the requisite technological, environmental and commercial expertise.

c. To employees

To respect the human rights of our employees and to provide them with good and safe working conditions, and competitive terms and conditions of employment. To promote the development and best use of the talents of our employees; to create an inclusive work environment where every employee has an equal opportunity to develop his or her skills and talents.

To encourage the involvement of employees in the planning and direction of their work; to provide them with channels to report concerns.

We recognise that commercial success depends on the full commitment of all employees.

d. To those with whom we do business

To seek mutually beneficial relationships with contractors, suppliers and in joint ventures and to promote the application of these The COMPANY General Business Principles or equivalent principles in such relationships. The ability to promote these principles effectively will be an important factor in the decision to enter into or remain in such relationships.

e. To society

To conduct business as responsible corporate members of society, to comply with applicable laws and regulations, to support fundamental human rights in line with the legitimate role of business, and to give proper regard to health, safety, security and the environment.

COMPLIANCE WITH ANTI-BRIBERY LAWS

Tenderer warrants that: (a) it is knowledgeable about Anti-Bribery Laws applicable to the performance of the contract and will comply with all such laws; (b) no payments received by Tenderer from the COMPANY hereunder will be made in violation of any Anti-Bribery Law nor will any such payments be made corruptly to any Government Official for the purpose of:

(i) influencing an act or decision of such Government Official in an official capacity; (ii) inducing the Government Official to use his or her influence with any agency or instrumentality of government; or (iii) assisting the COMPANY in securing or retaining any business from any agency or instrumentality of government.

The COMPANY confirms that its relationship with the Tenderer is expressly on the basis that Anti-Bribery Laws and the Shell General Business Principles would not be violated.

Tenderer acknowledges that the contents of this Agreement may be disclosed by the COMPANY to third parties for the purposes of demonstrating compliance with this Article.

Tenderer represents and warrants that none of its directors, employees or associates is a Government Official or other person who could assert illegal influence on behalf of the COMPANY or the names, and respective roles and responsibilities, of any person who is an owner, director, employee or associate of the BIDDER, and who is also a Government Official are disclosed as requested in Appendix 1 below.

Upon execution of an Agreement, at each annual anniversary of this Agreement, and at any other time upon the COMPANY request, Tenderer will promptly provide the COMPANY with a written statement of Tenderer's compliance with Anti-Bribery Laws.

Pursuant to the forgoing, Tenderer shall endorse and issue to the Company the certificate contained in Appendix 1 below. Breach by Intermediary of the obligations contained in this Article shall be deemed a material breach of this Agreement.

PART 2: CONDITIONS OF TENDER

1. GENERAL

1.1 Contents of the ITT

The Tender is to be made strictly in accordance with the requirements of this ITT which together with any Addenda which may be issued are together referred to as the ITT.

1.2 Return if not Tendering

The Tenderer shall return any/all hard copy documents, files, drawings etc. issued as part of this ITT if they do not intend to submit a tender.

Unless otherwise provided, where the Tenderer wishes to submit a Tender, the said documents, files, drawings etc. shall be returned to the person named in the covering letter within 2 weeks of submission of the tender in Nipex.

1.3 Confidentiality and Communications with others

This Tender and any correspondence raised in connection therewith is confidential and shall not be used or disclosed to third parties other than in connection with the preparation of the Tenderer's submission.

All communications in respect of this ITT must be referred to the person named in the covering letter through the NipeX Collaboration Room and on no account before the Tender Date is the Tenderer to contact or communicate with any other person who has been engaged in work leading up to the ITT (such as the design and specification of the work) or in the preparation of the ITT.

The Tenderer shall ensure that any proposed sub-contractor is equally bound by the requirements of this clause.

Tenderers are required to complete and return the Secrecy Declaration to the COMPANY along with the Tender Acknowledgement Form.

1.4 Communications with Government Agencies

The Tenderer must obtain the written agreement of the COMPANY prior to entering into any negotiations related specifically to the subject matter of this ITT with any governmental authority or agency to obtain concessions or to develop acceptance of alterations or revisions to any law (national, municipal, local or other) or any requirement, ordinance, rule or regulation of any such authority or agency.

1.5 Modification by the COMPANY

Any advice of a modification to the ITT shall be issued at least seven days before the Tender Date and shall be issued as an Addendum to, and shall be deemed to constitute part of the ITT. If necessary, the COMPANY may at its sole discretion revise the Tender Date in order to comply with this requirement.

Except under exceptional circumstances no extension of time and date by which the Tender must be submitted will be granted. However, the COMPANY reserves the right to extend the period allowed for submission of the Tender at its sole discretion.

1.6 Ownership

1.7 Independent Tender

By submission of a Tender, the Tenderer warrants that:

- (a) The prices in the Tender have been arrived at independently, without consultation, communication, agreement or understanding for the purpose of restricting competition, as to any matter relating to such prices, with any other Tenderer or with any competitor.
- (b) Unless otherwise required by law, the prices which have been quoted in the Tender have not knowingly been disclosed by the Tenderer, directly or indirectly, to any other Tenderer or competitor, nor will they be so disclosed.
- (c) No attempt has been made or will be made by the Tenderer to induce any other person or firm to submit or not to submit a tender for the purpose of restricting competition.

2. PREPARATION OF TENDER

2.1 Cost of Tender

All cost, charges and expenses incurred by the Tenderer in the preparation and submission of the Tender, including pre-bid meeting and site visits, where necessary, shall be borne by the Tenderer. Regardless of any eventual award or cancellation of the Tender, the COMPANY shall accept no liability in respect of any such costs, charges and expenses.

2.2 Language of Tender

The Tender and all accompanying documents are to be in the English language.

2.3 Contents of the Tender

- (a) The Tender must follow the form of the Form of Tender and Appendices. Full details are given in the Invitation to Tender (Part 1). All Tenders shall be produced on A4 paper and presented in bound or loose-leaf or lever arch folders in order to expedite Tender evaluation. Tenders presented or submitted in a manner or package different from the requested format shall be disqualified
- (b) The Tender shall include and consist of the following documents:-

FORM OF TENDER (offer letter)

Appendix A: Information Provided by The Tenderer for Evaluation and/or Incorporation into the Contract

Appendix B: Schedule of Prices

Appendix C- Pricing Qualifications

Appendix D: Alternative Tender

Appendix E: Other Information offered by the Tenderer

- (c) The Contract Documents comprising Part 4 of this ITT must not be returned with the Form of Tender.

2.4 Signature

- (a) The tender shall give the full legal name and registered office of the Tenderer and, if a corporation, the place of incorporation, and the Tender shall be signed with the usual signature of the person or persons authorised to legally bind the Tenderer, and shall be dated.
 - (b) Unless the Tender is submitted by a partnership or some other form of association, if the Tenderer proposes to associate with an affiliated or non-affiliated company for engineering, installation, fabrication or other major work, such other company shall be relegated to a subcontractor role and shall not be a party to the proposed contract. (Note that the contract requires the Contractor to accept full and exclusive responsibility for accomplishing all of the work required under the contract, including any work by other companies).
 - (c) A Tender by a partnership or joint venture must state the full names of all partners or participants and shall be signed with the partnership name by one or more of the members of the partnership or joint venture, or by an authorised representative. If requested by the COMPANY, satisfactory evidence of the authority of the person signing on behalf of the Tenderer must be furnished.
- Any joint venture arrangement must include an assurance, signed by all members of the joint venture, that all members will accept joint and several liability for the performance of the contract and of all the contractor's liabilities thereunder.
- (d) The name and position of each person signing must also be typed or printed below the signature.

2.5 Validity Period

All details of the Tender, including prices and rates, are to remain valid for acceptance for a period of <270> days after the Tender Date, or any revision to the Tender Date.

2.6 Sufficiency of Tender Submission

- (a) The submission of a Tender is deemed to indicate that the Tenderer has satisfied itself, either independently or by proper consultation with the COMPANY in accordance this ITT, as to the extent and nature of the Work which is the subject of the Tender and all requirements contained in this Invitation to Tender, and

that there is sufficient information to permit proper assessment of risks and contingencies and all other circumstances which could otherwise affect a Tender.

- (b) The Tenderer, upon written approval from the COMPANY (which shall not be unreasonably withheld), shall have the right to inspect the site, where the Work is to be executed, in order to acquaint himself with the conditions thereof which may include but shall not be limited to typical properties, the full extent and character of the operations, the supply of and conditions affecting labour, the communities, the environment, the availability and the supply of water and all other utilities and facilities and the execution of the Contract generally. That the Tenderer carries out or does not carry out a site visit, will not absolve him from responsibility for costs and time delays from issues that he could have identified during a site visit.
- (c) Where the COMPANY provides the Tenderer with any information or opinion on any matter, issue or material without any consideration from the Tenderer, The COMPANY shall not be liable for or be responsible to the Tenderer or to any person in respect of the suitability, reliability, correctness, accuracy, exactness or otherwise of such information or opinion. Where reasonably possible, it is the Tenderer's sole responsibility to independently and fully ascertain the correctness, accuracy, exactness, suitability and reliability of the information or opinion. If any doubt exists, the Tenderer shall clearly define the basis of his interpretation in his Tender. Where any information is to be supplied by the COMPANY at a consideration it shall be subject to a written agreement between the COMPANY and the Tenderer.

3. DELIVERY OF TENDER

3.1 Delivery

Full details of the documents to be returned are given above. These documents shall together comprise the "Technical Tender" and shall be submitted in Nipex (www.Nipexng.com) as directed above.

Tenders shall be submitted in Nipex no later than **26 June 2020 at 1500 hrs local time (GMT+1)** being the tender closing date. The COMPANY reserves the right to reject Tenders not correctly received by the due date and time.

3.2 Modifications to the Tender

The Tender may be withdrawn by the submission of a written notification by Tenderer in the Nipex Collaboration room, before the Tender Closure date and time.

The Tender may be modified by the Tenderer on submission of a revised tender document in Nipex. The revised tender shall be marked Revision 1, 2 or 3 as applicable. Modifications must be submitted before Tender Closure date and time. The version of the tender with the latest date and time of submission in Nipex shall be considered as the valid tender submitted by the Tenderer, and all earlier submitted tenders shall be disregarded.

3.3 Enquiries and Explanations

- (a) In the event of the Tenderer finding mistakes in, or omissions from, or requiring clarification of, any aspect of the Tender document, such matters should be immediately submitted through the NipeX Collaboration Room (at least 7 days before the bid due date as provided for in 3.1 above) to the signatory to the Covering Letter to this Invitation to Tender, who shall provide written answers to all Tenderers without revealing the identity of the Tenderer responsible for the original enquiry.
- (b) The Tenderer is advised that the SOLE contact during the Tendering period is as stated in the preceding paragraph and that irrespective of the nature of the enquiry, contact with any other The COMPANY person is forbidden unless expressly agreed to in advance. No subsequent claim resulting from failure to follow this procedure will be entertained.

- (c) Any circular letters containing addenda, explanations, or supplementary information and the like, issued by the COMPANY during the Tendering period prior to submission of Tenders, shall be incorporated into any resulting contract without adjustment to the submitted Tender.

3.4 Requests for Further Information

Any requests for information in accordance with clause 3.3 above must be received not later than twelve (12) Working days prior to the date set for return of Tenders to The COMPANY.

4. TREATMENT OF TENDER

4.1 The COMPANY's Discretion

The COMPANY does not undertake to accept the lowest Tender, or part, or all of any Tender, and the acknowledgement of receipt of any submitted Tender shall not constitute any actual or implied agreement between the COMPANY and the Tenderer. The COMPANY reserves the right to accept any part, or all of any Tender or Tenders at its sole discretion.

4.2 Tender not Returned

No part of the Tender submitted will be returned to the Tenderer.

4.3 Results of Tendering

When the decision on the results of the ITT has been taken the Tenderer will be informed in writing whether the Tender has been successful. No other information shall be given on the progress of the tender evaluation.

5. FURTHER INFORMATION ABOUT THE TENDERER

5.1 Further Information

The COMPANY reserves the right to request any further information it may deem necessary to evaluate the Tender.

5.2 Visits

Where necessary the COMPANY may visit the Tenderer for the purpose of obtaining further information or require the Tenderer to visit the COMPANY's offices or worksites.

5.3 NIGERIAN CONTENT

"Nigerian Content" is defined in the Nigerian Oil & Gas Industry Content Development Act as "the quantum of composite value added to or created in the Nigerian economy by a systematic development of capacity and capabilities through the deliberate utilization of Nigerian human, material resources and services in the Nigerian oil and gas industry

GUIDELINES ON THE IMPLEMENTATION OF NIGERIAN CONTENT

5.3.1 Introduction

THE COMPANY is committed to the development of the Nigerian Oil and gas business in alignment with the Nigerian Oil and Gas Industry Development Content Act 2010 on Nigerian Content.

It is important that Tenderers familiarise themselves and comply with the provisions of the Nigerian Oil & Gas Industry Content Development Act otherwise referred to as “The Nigerian Content Act” in their Tender and in execution of contract(s) that may result from this tender.

As from the commencement of this Act, the minimum Nigerian Content in any project, service or product specification to be executed in the Nigerian oil and gas industry shall be consistent with the level set in Schedule of The Nigerian Content Act (see Schedule attached to the IIT) and any other targets as may be directed by Nigerian content Monitoring Board.

5.3.2 Contractor's Obligations

The Contractors shall comply with all the provisions of The Nigerian Content Act that relate to this contract but in particular the Contractor must comply with the minimum Nigerian Content % Targets for the following scope which are covered in Schedule of The Nigerian Content Act and any other requirement that may arise from time to time not explicitly stated in this contract but which apply to the contract in fulfilment of The Nigerian Content Act, in the submission of their Tender.

The Tenderer in response to instructions to Tenderers shall confirm and describe in full the work to be completed in Nigeria in fulfilment of The Nigerian Content Act Requirements. The capability of the Contractor to execute the identified work scope items for Nigerian Content will be subject to verification during the technical evaluation stage.

The Contractor shall execute all Work detailed in their Technical Tender in line with The Nigerian Content Act. Deviations from the agreed Nigerian Content requirements within the tender are not acceptable except with prior written consent from the COMPANY.

The Work items and their associated costs will be clearly identified and described in the Commercial Tender both within the pricing schedule and as a narrative outlining Nigerian Content commitments. Contractors that demonstrate their commitment to meet or exceed The Nigerian Content Act requirements shall be a ground for preferential consideration in the technical and commercial bid evaluation.

The Nigerian Content provisions in the Scope of Work has been included to aid contractors in identifying Nigerian Content opportunities to support the minimum requirements defined above in Schedule of the Act as well as examine further potential opportunities to meet the Nigerian Content Act requirements.

Pursuant to Articles 14 and 37 of Section II-General Conditions of Agreement of the Specimen Contract (included in this IIT package under VOLUME 2: Part 4), a 1% deduction imposed under the Nigerian Oil and Gas Industry Content Development Act shall apply to all rates and prices in the contract.

PART 3 - PROFORMAS FOR THE TENDER

Consisting of the FORM OF TENDER and APPENDICES thereto.

3.1 FORM OF TENDER

.....

For the Attention of:

Dear Sirs,

INVITATION TO TENDER FOR EPC FOR GBARAN PHASE 3B - UZU WITH CPF UPGRADE-PKG 3 (CPF UPGRADE)

INVITATION TO TENDER REFERENCE No: CW361444

Having carefully examined the above **Invitation to Tender** dated

1. In accordance with the requirements of the above described **Invitation to Tender** we hereby offer to enter into a contract with the Shell Nigeria Exploration and Production Company Limited on the terms and conditions set out in The PROPOSED CONTRACT DOCUMENTS, subject only to the following alterations to those documents:
 - (a) In **Section III - Schedule of Prices**, shall be inserted the completed Schedule of Prices which is attached as "**Appendix B**" to this Form of Tender.
 - (b) Any qualifications set out in "**Appendix C – Pricing for Qualifications**" shall apply although we understand that in the case of any such qualifications you reserve the right to disregard this Tender. *(Please delete this paragraph if Appendix C has not been used)*
 - (c) Our Parent Company Guarantee. *(Please delete this paragraph if Appendix F has not been used)*
 - (d) Our Nigerian Content Information/Plan as detailed in "**Appendix G- Nigerian Content**" to this Form of Tender.
1. You may consider also our alternative proposals set out in "**Appendix D - Alternative Tender(s)**". Each alternative may be considered together with the stated effect on the other terms of our offer in paragraph 1 above. *(Please delete this paragraph if Appendix D has not been used)*
2. We also include in "**Appendix H - Other Information requested by Shell**", the other information you requested for in this Tender.

3. We confirm that we have fully satisfied ourselves as to the extent and nature of the Work to be carried out.
 4. We understand that you are not bound to accept the lowest or any Tender you may receive nor are you obliged to assign a reason for rejection of any Tender. We also understand that any costs incurred by us in the course of preparation of this Tender are entirely for our own account.
 5. We accept that future unsolicited re-Tenders of any kind will result in our disqualification.
 6. We confirm that we have taken account of your Tender Circulars Nos. issued during the Tendering period, in the preparation of our Tender.
 7. We confirm that **we are/are not*** a subsidiary of a Parent Company and as such shall/shall not provide a Parent Company Guarantee in accordance with the Proforma Parent Company Guarantee attached in Appendix F - to this Form of Tender.
- We confirm also that, if requested by Shell, we will provide guarantees from commercial banks, requisite insurances in the form attached to this Form of Tender at Appendix H - Other Information Requested by Shell.
8. We certify that this is a bona-fide Tender, intended to be competitive, and that we have not fixed or adjusted the amount of the Tender by or under or in accordance with any agreement or arrangement with any person not directly involved with its preparation. We further certify that we have not performed, and shall not at any time before the time set for lodgement of Tenders:

- (a) communicate to any person the amount of the proposed Tender except in confidence for obtaining insurance premium quotations in connection with the Tender;
- (b) enter into any agreement or arrangement with any other person that either we shall refrain from Tendering or discuss the amount of any Tender to be submitted,
- (c) offer, pay or give or agree to pay or give any sum of money or valuable consideration directly or indirectly to any person for carrying out, or having carried out or causing or having caused to be carried out in relation to this or any other Tender or proposed Tender for the Work, any act of the type described above.

In the above context the word "person" includes any person or any body or association, corporate or otherwise. "Any agreement or arrangement" includes any transaction, formal or informal whether legally binding or not.

Dated this day of 20...

Signed

Name (in block capitals) and title

For and on behalf of

* Delete whichever is not applicable

3.2 APPENDIX A TO THE FORM OF TENDER

INFORMATION PROVIDED BY THE TENDERER FOR EVALUATION AND/OR INCORPORATION INTO THE CONTRACT. THIS SHALL BE IN THE FORM OF TECHNICAL PREQUALIFICATION QUESTIONNAIRE.

INVITATION TO TENDER REFERENCE NO: CW361444

TECHNICAL EVALUATION QUESTIONNAIRE

Note to tenderer

1. *Tenderer is requested to first review in details the scope of work (section IV of the attached (ITT) and confirm if they have the capability to execute such jobs, before committing their time and resources into completing the technical bid.*
2. *Tenderer to provide detailed information required in this Section as part of their Technical Tender.*
3. *The information should be concise and packaged with all supporting documents for easy review.*
4. *Tenderer is to index response to the contents of this Appendix in the order outlined below.*

CONTRACTOR'S REPRESENTATIVES

Please find attached the Name, Title and Work Location of its Representative and the Name, Title, Work Location and Function of its Deputy Representative and Site Representative, required as part of our Technical Proposal, as follows;

CONTRACTOR REPRESENTATIVE

Name	:	_____
Title	:	_____
Work Location	:	_____
Telephone number	:	_____
Fax number	:	_____
Email address	:	_____

DEPUTYCONTRACTOR REPRESENTATIVE

Name	:	_____
Position	:	_____

Work Location : _____

Telephone number : _____

Fax number : _____

Email address : _____

Function : _____

TECHNICAL QUESTIONNAIRE		
A. GENERAL & MANDATORY CRITERIA		
1.	STATUTORY REQUIREMENT & COMPANY INFORMATION (IES)	<p>Incorporation In Nigeria - Evidence of Incorporation in Nigeria of TENDERER and Partner (if applicable) : Certificate of Incorporation from Corporate Affairs Commission/Memorandum & Articles of Association /Form CO2/Form CO7</p> <p>DPR Permit - Current Department of Petroleum Resources (DPR) Permit</p> <p>Tax Clearance - Three-Years Tax Certificate (2016, 2017and 2018)</p> <p>Provide certifications and documents to confirm status as a Government or Non-Government intermediary as detailed below: For Non-Government Intermediaries:</p> <p>Provide signed copy of attached "Certificate of Anti-Bribery and Corruption Compliance" contained in Appendix 2 of the ITT confirming bidder's understanding of the Shell General Business Principles and compliance with Anti-Bribery and Corruption Provisions.</p> <p>Any records of Breach of SPDC's Business Principle in previous contracts with SPDC within the past 5 years up to and including the period between this submission and eventual contract award.</p>
2	CONFIRMATION OF INTEREST	<p>A. Confirm willingness to comply with SPDC business principle.</p> <p>B. Sustainable Community Development – Provide Confirmation of commitment and provide existing policies as evidence.</p>

3	LEGAL	<p>A. Certificate of Incorporation</p> <p>B. If a JV/Consortium: Provide a parent company guarantee or bank guarantee for each member of the consortium. In addition, for a consortium, the Lead partner must offer guarantee for the other partners and they must have joint and several liability</p>
4	CONSORTIA / JV AGREEMENT(WHERE APPLICABLE)	<p>A. Memorandum of Understanding binding all the parties, conflict resolution procedure, responsibilities of members in terms of scope and liability defined</p> <p>B. Provide detailed responsibilities matrix and documentation confirming joint and several liability</p> <p>C. Provide detailed evidence of previous successful collaborative efforts</p> <p>D. Provide confirmation that no Memorandum exists between Tenderer and any other company participating in this tender.</p>
5	CAPABILITY AND EXPERIENCE OF WORKING IN A SIMILAR ENVIRONMENT	<p>A. (Package 3) Provide evidence of delivery and/or working on multi-discipline Engineering, Procurement and Construction contracts on CPF UPGRADE in the oil and/or gas industry in similar environment..</p> <ul style="list-style-type: none"> • Details of projects, project value, clients and reference contacts • Letters of Award, milestone completion certificates etc. within the past Five (5) years.
6.	ABILITY TO SOURCE SHORT-TERM FINANCING	<p>Provide evidence or confirmation of prior provision of Bank Guarantee from financial institutions for short-term financing for current/previous works and</p> <ul style="list-style-type: none"> • Project Finance plan for execution of Work for contract duration
B	FINANCIAL INFORMATION	
1.	MANDATORY FINANCIAL INFO	<p>A. Tax Clearance Certificate (Last 3 Years, 2016, 2017 and 2018)</p> <p>B. Accounts for the last 3 years (2016, 2017 and 2018) audited by a licensed audit firm. {In Nigeria this shall be a member of the institute of Chartered Accountants of Nigeria with a public practice license evidenced by the presence of the ICAN/ ANAN PPS stamp on the certificate.</p> <p>C. Status of the latest audit certificate.</p>
2.	FINANCIAL RATIOS	To be derived for information provided.

C. PLANNING & EXECUTION		
1	CONTRACTOR'S EXPERIENCE	Demonstrate and show evidence of satisfactory delivery of multi-discipline Engineering, Procurement and Construction contracts on live production facilities in the oil and/or gas industry in similar environment, with contract headline size of not less than USD50 Million (For Package 1) within the past Five (5) years
2	PROJECT EXECUTION PLAN	A. Identify critical success factors (CSF) for the project to show appreciation of project specific challenges & value drivers, & demonstrate depth of experience with prior projects. Responsible parties are identified for each CSF.
		B. Demonstrate understanding of project specific challenge and provide evidence of how the project specific challenges in carrying out the work have been identified & reflected in the plan & activities proposed.
		C. Outline project execution strategy, consider social (access control, shared facilities with local communities), geographical & meteorological conditions, data gathering & data confirmation etc.
		D. Provide evidence of how learnings have been incorporated for this project based on recent successful delivery of projects of comparable scope.
		E. Describe in detail and Provide evidence of Methods for controlling schedule, progress and cost
		F. Plans & procedures for technical integrity reviews, audits and audit tracking are effective and described in detail.
		G. Confirmation of knowledge and application of Lean Construction on previous projects or own organisation
3	METHOD STATEMENT	A. Outline Method Statement narrative. Method statement should be specific and related to the scope of work.
		B. Provide proposal containing detailed & logical approach for the execution of all phases of the work demonstrating in-depth technical understanding.

		C. Provide coherent & fully detailed method for managing multiple work sites concurrently has been provided.
		D. All aspects of resourcing to deliver the project have been identified, (including any construction or upgrade of fabrication facilities).
		E. Provide proposals for transportation within Nigeria and site access are credible & give due consideration to the challenging nature of the environment.
		F. Provide Preservation & maintenance plan of equipment & materials.
		G. Provide Mobilisation Plan.
4	SITE CONSTRUCTION PLAN	A. Provide Site construction and hook-up plan covering all facilities B. Provide Construction Plan for installation of all interconnecting piping C. Provide Installation plan of NAG facilities D. Provide plan for the Management of concurrent operations E. Provide Organisation structure
5	FABRICATION PLAN	A. Provide Fabrication Plan B. Provide detailed plan on Minimising on-site fabrication, testing and commissioning C. Provide Fabrication Organisation structure D. Provide plan for Fabrication Engineering of facilities
6	FACILITES INSPECTION	A. Make Office and Fabrication Yard Facilities available for inspection B. Community Relations and interface
7	SCHEDULE	A. Provide Level 1 (summary) & Level 2 (fully integrated & networked) schedules in Gantt Chart format using Primavera P6e & covering all work including critical activities (milestones, shutdown, long lead, etc). Underlying assumptions in the development of schedule provided, clearly explained, logical & realistic. B. Provide Manpower histograms and 'S' curves provided that supports schedule. C. Provide Schedule risk & mitigation measures comprehensively documented. Allowances for contingency included & all meteorological issues addressed.
8	ORGANISATION KEY PERSONNEL &	A. Detailed & logical overall organisation for all project phases down to & including site supervisor level and discipline engineers, all positions have a location identifier. B. Provide CV's for key personnel to be provided as part of the tender with clear indication that project manager and deputy will be the same as

		<p>contractor representative and deputy representative. CVs of key personnel should indicate level of proficiency in English language</p> <p>C. Procedures for key staff selection</p> <p>D. Provide details of names and locations of, and formal relationships with, any consortia, joint venturers or other companies which will exist for the purposes of the Work, including the scope of past projects jointly executed by the same grouping of companies.</p>
9	EQUIPMENT & FACILITIES	<p>A. Provide a List of all proposed equipment & facilities for each location for entire project.</p> <p>B. Equipment or facilities to be leased or hired.</p> <p>C. For facilities, the capacity available & throughput assumed demonstrably links to the activity durations & phasing included in the proposed schedule. No conflict is foreseen with other projects competing for office or fabrication yard space and the projected workload at the engineering location and fabrication facilities have been provided.</p> <p>D. Construction site temporary facilities (on-site engineering/drafting, accommodation, catering, medical, transportation, power, water, communications and data management, sewage & waste disposal)</p> <p>E. Provide confirmation that Preventative maintenance & maintenance support have been established for all construction equipment</p>
10	LOGISTICS PLAN	<p>A. Provide detailed Logistics Plan</p> <p>B. Provide detailed Journey Management Plan</p>
D. DETAILED ENGINEERING CAPACITY		
		<p>A. Evidence of in-house and/or proposed Subcontractor's design experience, in the last five years for similar scope of work in the oil and gas industry (i.e. green / brown field modifications in flowstations, gas treatment plants & gas compression plants), with individual design component cost greater than \$500k.</p>
		<p>B. Provide evidence of Tenderer's in-house and/or proposed Subcontractor's experience with design tools.</p>
		<p>C. Provide detail of Design and engineering resources (broken down by discipline) which will be available at the proposed design office to execute the FEED verification and detailed engineering scope.</p>

		D. Provide Detailed Engineering Plan. Identification of the engineering workscope and resources required to execute the Detailed engineering works and duration.
E. OPERATIONS READINESS & ASSURANCE		
		A. Provide Asset Management Deliverables Plan
		B. Provide Training Plan: (Operations and Maintenance personnel)
F. NIGERIAN CONTENT EVALUATION		
		A. Evidence that the company is duly registered to do business in Nigeria B. Training Plan for Nigerians C. Employment of Nigerians/Manpower development D. Current in-Country Capability (warehouse, office, yard, laboratory and camp) E. Technology Transfer Plan F. Registration of tenderers on NCDMB NOGIC JQS G. Evidence of at least 50% Nigerian ownership of equipment to be deployed for this service. H. Provide a list of Nigerian subcontractors with materials, goods and services that are to be locally sourced on this service. I. Provide copy of current Nigerian Content Equipment Certificate (NCEC) or evidence of application to NCDMB for the issuance of the certificate.
G. PROCUREMENT & SUB-CONTRACTING PLAN		
		A. Provide Procurement and Sub-contracting Plan including process/procedures for selection & management of suppliers & sub-contractors . B. Organisation for sub-contracting & procurement . C. Desk and Field expediting plan D. Track and Trace E. Procurement Experience: F. Resource utilization Plan:
H. PROJECT STAKEHOLDERS MANAGEMENT		
		A. Provide Interface management & co-ordination plan. B. Provide Industrial Relations Management Plan C. Show evidence of Commitment to Sustainable Community Development Policy

		D. Provide evidence of management of Community Affairs
		E. Provide Sustainable Community Development Plan
I. HSSE MANAGEMENT PLAN		
1.	CONTRACTOR HSE CAPABILITY ASSESSMENT POINT SYSTEM	
		<p>A.</p> <p>a. How are senior managers personally involved in HSE management for example objective-setting and monitoring?</p> <p>b. Provide evidence of commitment at all levels of the organisation?</p> <p>c. How do you promote a positive culture towards HSE matters?</p>
		<p>B.</p> <p>a) Does your company have an HSE policy document? If the answer is YES please attach a copy.</p> <p>b) Who has overall and final responsibility for HSE in your organisation?</p> <p>c) Who is the most senior person in the organisation responsible for this policy being carried out at the premises and on site where his employees are working? Provide name and title.</p> <p>d) Itemise the methods by which you have drawn your policy statements to the attention of all your employees?</p> <p>e) What are your arrangements for advising employees of changes in the policy?</p> <p>f) Provide Tenderer's HSE Policy documents</p>
		<p>C.</p> <p>a) Does your company have strategic HSE objectives? If the answer is YES please attach a copy.</p> <p>b) Itemise the methods by which you have communicated your strategic HSE objectives to the attention of all your employees?</p>
		<p>D.</p> <p>a) How is your organisation structured to manage and communicate HSE effectively?</p> <p>b) Do HSE meetings promote HSE awareness?</p>

		<p>c) Do client and contractor meet regularly to discuss and action any interface situations?</p> <p>d) What provision does your company make for HSE communication meetings?</p> <p>Please provide an organisation chart</p>
		<p>E.</p> <p>a) Have the managers and supervisors at all levels who will plan, monitor, oversee and carry out the work received formal HSE training in their responsibilities with respect to conducting work to HSE requirements?</p> <p>b) If YES please give details. Where the training is given in-house please describe the content and duration of courses. Please provide an example of training matrix.</p> <p>c) How have you identified areas of your company's operations where specialised training is required, for instance training related to health hazard such as radiation, asbestos and chemicals?</p> <p>d) What specialist HSE resources does your organisation have available?</p> <p>e) How does your company provide HSE specialised training for HSE staff?</p>
		<p>F.</p> <p>a) What arrangements does your company have to ensure new employees have knowledge of basic industrial HSE, and to keep this knowledge up to date?</p> <p>b) What arrangements does your company have to ensure new employees also have knowledge of your HSE policies, practices and company requirements?</p> <p>c) What arrangements does your company have to ensure new employees have been instructed and have received information on any specific hazards arising out of the nature of the activities? NB for (a), (b) & (c): if training is provided in-house, please give details of content</p>
		G. Provide evidence of competence Assurance system
		H. Confirm availability of contractor management process or system with details
		I. Provide evidence of HSE Standards and detail the industry guidelines Tenderer is aligned with
		J.

		a) How does your company identify hazards, assess risk, control and mitigation consequences, to a level as low as reasonably practicable?
		<p>K.</p> <p>a) Do you have specific policies and programmes on specific health hazards e.g. substance abuse, blood borne pathogens, malaria pandemic diseases etc.</p> <p>b) What type of health hazards (chemical, vibration, noise, radiation, etc) are associated with the scope of your services? Explain how occupational health hazards are identified, assessed and controlled.</p> <p>c) What systems are in place to control these hazards and monitor the effectiveness of these controls? Is worker's regular exposure monitoring part of these systems?</p>
		<p>L.</p> <p>a) What type of safety hazards (mechanical guarding, work at height, lifting and hoisting, confined space entry, explosive atmospheres etc.) are associated with the scope of your services?</p> <p>b) What systems are in place to control these hazards and monitor the effectiveness of these controls?</p>
		<p>M.</p> <p>a) What type of logistics hazards (land transport, air transport, marine transport, materials handling etc.) are associated with the scope of your services?</p> <p>b) What systems are in place to control these hazards and monitor the effectiveness of these controls?</p>
		<p>N.</p> <p>a) What type of environmental hazards (chemical spill, atmospheric emissions, waste disposal etc.) are associated with the scope of your services?</p> <p>b) What systems are in place to control these hazards and monitor the effectiveness of these controls?</p>
		<p>O.</p> <p>a) What type of security hazards (terrorism, hostage taking, robbery, hostile local population etc.) are associated with the scope of your services?</p> <p>b) What systems are in place to control these hazards and monitor the effectiveness of these controls?</p>

		<p>P.</p> <p>a) What type of social hazards are associated with the scope of your services?</p> <p>b) What systems are in place to control these hazards and impacts and monitor the effectiveness of these controls?</p>
		<p>Q.</p> <p>a) Do you have a company HSE-MS manual (or operations manual with integrated HSE requirements) which describes in detail your company approved HSE working practices relating to your work activities?</p> <p>If the answer is YES please attach a copy of an index and relevant supporting documentation.</p>
		<p>R.</p> <p>a) How do you ensure that infrastructure, plant and equipment used within your operations (own premises, client site, or at other locations) are correctly certified, registered, controlled and maintained in a safe working condition?</p>
		<p>S.</p> <p>a) What arrangements does your company have for emergency planning and response?</p> <p>b) Which emergency situations are included?</p>
		<p>T.</p> <p>a) What arrangements does your organisation have for monitoring the implementation of your HSE-MS?.</p> <p>b) How does your company assure the implementation of work procedures within your work-site operations e.g. compliance with procedures, toolbox talks, safety meetings, supervision, job observations?.</p> <p>c) How do you monitor employee HSE performance e.g. hazard identification systems, HSE participation?</p> <p>d) What active HSE monitoring is performed (i.e. where no incident has occurred)?</p> <p>e) How do you report and correct deficiencies identified?</p> <p>f) How do you communicate the results of active performance monitoring to relevant personnel?</p>
		<p>U.</p> <p>a) Please provide the following statistics for each year for the last five years:</p> <ul style="list-style-type: none"> • Number of fatalities

		<ul style="list-style-type: none"> • Number of Lost Time Injuries • Number of Lost Workday Cases • Number of Restricted Work Day Cases • Number of Medical Treatment Cases • Number of first aid cases • Number of near miss incidents • Fatal Accident Rate (per 100 million hours worked) • Lost Time Injury Frequency (per million hours worked) • Total Recordable Incident Rate (per million hours worked) <p>NOTE: If not using the OGP definitions (refer to the OGP safety performance indicators report), please include your company definitions.</p>
		<p>V.</p> <ol style="list-style-type: none"> a) What types of HSE incident are investigated? b) What process is used to investigate HSE incidents? c) Who conducts HSE incident investigations? d) How are the findings of an incident investigation followed up to ensure effective prevention of recurrence?
		<p>W.</p> <ol style="list-style-type: none"> a) What types of HSE incident are investigated? b) What process is used to investigate HSE incidents? c) Who conducts HSE incident investigations? d) How are the findings of an incident investigation followed up to ensure effective prevention of recurrence?
		<p>X.</p> <ol style="list-style-type: none"> a) Has your company suffered any statutory notifiable incidents in the last five years (safety, occupational health and environmental)? <p>Answers with details including dates, country and location, summary of incident and follow-up preventative measures taken.</p>
		<p>Y.</p> <ol style="list-style-type: none"> a) Do you have a written procedure for HSE auditing? <p>If yes, please attach a copy.</p> <ol style="list-style-type: none"> b) Who is involved in conducting HSE audits? <p>How are audit team members selected to have</p>

		<p>specific expertise and be independent from the activities being audited?</p> <p>What are the qualifications required for auditors?</p> <p>c) How does your company schedule HSE audit and what scope of auditing is covered? e.g. internal, regulatory compliance, supplier/contractor, HSE management system implementation.</p> <p>d) How does management follow up on audit findings and ensure effective close out of action items?</p>
		<p>Z.</p> <p>a) Do you have a written procedure for management review of the HSE-MS? If yes, please attach a copy</p> <p>b) How often are HSE-MS reviews conducted and who is involved in the process?</p> <p>c) How are identified actions and improvement efforts recorded and tracked to effective completion?</p>
		<p>AA. Do you have an HSSE MS or HSSE Performance review program? If yes, how often are these performance review done. Provide Plan, Minutes of such reviews, attendance list and status of action closeout?</p>
		<p>BB. Describe the nature and extent of your company's participation in relevant industry, trade, and governmental organisations</p>
		<p>CC. Does your organisation (globally, regionally or locally) have any HSE features or arrangements not described elsewhere in your response to the questionnaire?</p>

J. FLAWLESS PROJECT DELIVERABLES & QUALITY MANAGEMENT PLAN

	QUALITY MGT.	A. Provide DETAILED evidence of Tenderer's Quality Management System
	QUALITY AUDITS	B. Provide description of Tenderers' Quality audit programme
	QUALITY MGT PLAN	C. Provide detailed plan for Quality Management
	INSPECTION, TESTING & THIRD-PARTY VERIFICATION	D. Provide programme for ITP
	FLAWLESS PROJECT DELIVERY	E. Evidence or documentation of Tenderer's organisational structure to deliver Flawless,

K. INFORMATION MANAGEMENT PLAN		
		A. Provide Information Management Plan
		B. Provide Asset Management Deliverables Plan
L. LICENCES AND PERMITS APPROVAL		
		A. Provide Licenses and Permits Plan
M. PRE-COMMISSIONING & COMMISSIONING		
		A. Provide Pre-Commissioning and Commissioning Support Plan

APPENDIX A6

NIGERIAN CONTENT REQUIREMENTS

ITT PACKAGE 3	
SCOPE OF WORK	NC REQUIREMENTS
<ul style="list-style-type: none"> Detailed Engineering Design, Procurement, Fabrication, Testing, Construction/Installation, Pre-commissioning, Commissioning and Start-up, Performance and Reliability Testing, and Handover of the CPF upgrade scope. 	<ul style="list-style-type: none"> Provide evidence of company Ownership Structure form CO2 and CO7, registration on NOGIC JQS and DPR certificate. In line with the NCD Human Capacity Development Initiative, Bidder shall commit to providing Project-Specific training, man-hour, budget, skill development and underway plan for Nigerian personnel utilizing OGTAN registered trainer(s) or other approved NCDMB training institution(s). Tenderer shall domicile 80% of project management man-hours in-country not limited to Interface management, Project control, planning, HSSE etc. All Engineering activities – Conceptual studies, FEED, Detailed engineering etc. shall be executed in a COREN registered company having valid practicing license and ensure 80% NC man hours in country. All OEM and vendor related equipment shall be procured through Nigerian vendors with valid

Category A NCEC issued by NCDMB and a valid DPR permit for the product / service category.

- Utilization of only Nigerian companies for 3rd party services not limited to, testing, QA/QC inspection & testing, E&I, NDT/NDE, mechanical laboratory test, freight forwarding, pre-commissioning, commissioning, weighing & CoG, loadout & transportation, line pie coating, static & dynamic commissioning, welding of pipeline, intelligent pipeline pigging, Medivac, catering & housekeeping, helicopter/aviation services, system completion first fills & consumables, etc.
- Nigerian local service companies with in-country capacity and applicable NCEC shall be responsible for all vendor/OEM supply of, metering facilities, chemical injection systems, telecoms systems (including fabrication of telecom mast/tower In country), electrical sub-station comprising transformers, switchgears, panels, etc., field auxillary rooms
- Civil works, trenching and excavation – All activities related shall be done 100% in country.
- Welding & jointing services, including hook up services - All activities related shall be done 100% in country.
- Fabrication of pressure vessels, heat exchangers, structural, pipeline, piping system and other items
-
- All fabrication shall be done 100% in country.
- Fabrication, assembly and supply of all pig traps (launchers and receivers) shall be carried out in-country by Nigerian local vendors.
- Fabrication in Nigeria of all pressure vessels, tanks, drums, scrubbers and separators associated with the new TEG dehydration systems and CPF upgrades scope.
- All procurement's relevant to valves and/or any other project identified bulk procurement items not limited to power cable, , protective coating, anodes, LV & HV cables, civil and structural materials, bolts & nuts, flanges & pipe fittings, gaskets, welding electrodes & consumable gases, galvanized & cast iron products, grating, ropes,

	<p>structural steel sections & tubular and piping, cable ladders and trays, blasting abrasive grit, etc., shall be executed through vendors that have invested in setting up Manufacturing or Assembling units and finishing productions in Nigeria.</p> <ul style="list-style-type: none"> • Composite power and fibre optic cable shall be procured through Nigerian cable manufacturers • First consideration shall be given to such vendors. However, in the event that the Technical Specs of the project procurement items are outside the direct competence of these local production companies, Tenderers are required to place orders for the importation of the valves and such other bulk procurement items from the approved manufacturer through any of these local production companies. Tenderers are also required to submit to NCDMB the MOA's entered into with these recommended companies. • In the event that a product item to be procured are not available in-country or the procurement of long lead equipment and OEM/prime vendor related products, Operator shall obtain from the Board, NCDMB authorization to import that specific product item in line with the provisions of the NOGICD Act, 2010.
<ul style="list-style-type: none"> • Install 200MMscfd TEG dehydration train complete with inlet cooler, Inlet separator, TEG contactor, Glycol scrubber, and a regeneration package. • Install 600MMscfd Orifice plate fiscal meters and tie-in to spare metering package and the export manifold • Tie-in of new train to the spare flange on the existing dehydration • Tie-in of liquid line of the new train to the existing 	<ul style="list-style-type: none"> • All appurtenances including but not limited to valves, pipe fittings, flanges, including bolts and nuts, shall be procured through vendors with in-country functional manufacturing and assembly facilities having valid Category A NCEC for the product category. • Fabrication in Nigeria of all pressure vessels, tanks, drums, scrubbers (Glycol scrubber etc.) and separators (inlet separators etc.), • procure through Nigerian Companies (with capacity for equipment assembly and testing) fiscal meters associated with the new TEG dehydration systems and CPF upgrades scope. • procure through Nigerian Companies the TEG contactor and regeneration package

<ul style="list-style-type: none"> • XHP manifold at the CPF and the drain systems • Tie-in of the new train to the existing utility system; HP, LP and atmospheric flare systems, Open & closed drain system, instrument & Utility air systems, HP & LP fuel system, Nitrogen package and chemical system. • Instrumentation tie-ins and integration. 	<ul style="list-style-type: none"> • Carry out in-country the assembly, integration and testings including FAT in Nigeria for the TEG Dehydration train
<ul style="list-style-type: none"> • Electrical tie-in work • Extension and upgrade of the Glycol FAR LV switchboard to accommodate the new TEG train's auxiliary equipment and installation of new Starter Control Units and control systems for the Dehydration inlet cooler fan motors in the CPF 400V Remote Switchboard cubicles. • External lighting system, lightning protection, earthing and bonding • Civil works, foundations, pavings, drainage works, pipe rack modifications, piping and support structures for new TEG system, metering package, ancillary units and associated in-plot piping. 	<ul style="list-style-type: none"> • Civil works, construction of access road, trenching and excavation – All activities related shall be executed by Nigerian service companies. • Welding & jointing services, including hook up services - All activities related shall be done 100% in country. • Ancillary works i.e roads, location preparation, and community assistance projects- All activities related shall be executed by Nigerian service companies.

MECHANICAL AND PIPING WORKS	<ul style="list-style-type: none"> All procurement of items not limited valves, fittings, headers cathodic protection and other necessary item to connect the bulkline etc. shall be procured through vendors with in-country functional manufacturing and assembly facilities having valid NCEC for the product category.
Corrosion management including coating and painting.	<ul style="list-style-type: none"> All coatings (thermal + anti-corrosion) shall be performed in Nigeria from functional line pipe coating yards. All procurement of items not limited paints and protective coating, sacrificial anodes, etc. shall be procured through vendors with in-country functional manufacturing and assembly facilities having valid NCEC for the product category

APPENDIX A7

Tenderers are to provide response to the under listed questions vis-à-vis the workscope (Refer to PART 4 PROPOSED CONTRACT DOCUMENT-Section IV)

i.	HSE Risk Identified
ii.	HSE Risk Assessed
iii.	HSE Risk Controls Measures
iv.	HSE Risk Recovery Measures (RM)

CONTRACT HSE PLAN

i.	Demonstrated Understanding of the Work scope
ii.	Adequacy of the HSE Key Performance Indicator proposed
iii.	Emergency Preparedness Captured
iv.	Evidence of contract specific HSE plan sign off by CEO/MD

3.2 APPENDIX B TO THE FORM OF TENDER: SCHEDULE OF PRICES

(This Appendix will form SCHEDULE III – SCHEDULE OF PRICES, of the Proposed Contract Documents

The CONTRACT PRICE shall comprise of the following elements:

FIRM SCOPE						
ITEM	WORK ELEMENT	LUMP SUM PRICE		NIGERIAN CONTENT		
		Total Cost Firm Scope		NC VALUE		NC
		Naira (NGN)	US Dollar (US\$)	Naira (NGN)	US Dollar (US\$)	Percentage (%)
1	Mobilisation					
2	Project Management					
3	Detailed Engineering					
4	Procurement of materials and equipment					
5	Shop Fabrication Works (inc. inspection & Testing)					
6	Construction & Installation (inc. inspection & Testing)					
7	Pre-commissioning, and Commissioning					
8	Flawless and Asset Management Delivery					
9	Demobilisation					
Total Lump sum Contract Price						

3.2 APPENDIX C TO THE FORM OF TENDER: Appendix C –Qualifications

APPENDIX C - QUALIFICATIONS

This Appendix should state:

"We make no qualifications to this Tender"

or

"This Tender is made subject to the following qualifications"

TENDERER'S PROPOSED QUALIFICATIONS TO THE CONTRACT DOCUMENTS

This table lists all the tenderer's proposed qualifications to the Contract Documents.

Qualification No.	Ref. in Contract Docs	Text of Tenderer's Qualification	Reason Tenderer has requested the Qualification
1	Tenderer to insert Section, Article and Clause number	Tenderer to insert text of Clause it wishes to change and indicate the change desired by using the WORK 'track changes' function.	
2			
3			

(Note: the tenderer may re-type this page, but this format is required – please follow the instructions in blue in the 'Text of Tenderer's Qualifications' column exactly.)

THE TENDERER SHOULD ENTER IN THIS APPENDIX C ONLY THOSE REQUIREMENTS OF SHELL WHICH THE TENDERER FEELS UNABLE TO COMPLY WITH AT ANY PRICE.

IF A REQUIREMENT CAN BE PRICED THIS MUST BE ENTERED IN APPENDIX D - ALTERNATIVES AS AN INCREASE/DECREASE TO THE CONTRACT PRICE/RATES

DRAFT

3.2 APPENDIX D TO THE FORM OF TENDER

ALTERNATIVE TENDER(S)

**INVITATION TO TENDER REFERENCE NO
.....**

This Appendix should state:

"The Tenderer proposes no alternatives to this Tender"

or

"The Tenderer proposes the following alternatives to this Tender"

TENDERER'S PROPOSED ALTERNATIVES TO THE CONTRACT DOCUMENTS

This Table lists all Tenderer's proposed Alternatives

to the Contract Documents

			Effect on Tender if Alternative is accepted	
Reference in Contract	Description of Proposed Alternative Including Suggested Modification to Contract Documents	Reason for proposing Alternative	Contract Price	Programme

(Note: Tenderer may re-type this page, but this format is required)

3.2 APPENDIX E TO THE FORM OF TENDER

OTHER INFORMATION OFFERED BY THE TENDERER

INVITATION TO TENDER REFERENCE NO

(Tenderers to index the contents of this Appendix E)

3.2 APPENDIX F PROFORMA – PARENT COMPANY GUARANTEE

PARENT COMPANY GUARANTEE

THIS GUARANTEE is made as a DEED the _____ day of _____ 201[X].
BETWEEN

[.....]. a company having its registered office at,]
hereinafter referred to as "**Company**"; and

[Name of Guarantor] [(Registered number)] whose [principal /registered] office is at [(“the Guarantor”)

NOW THIS DEED WITNESSES AS FOLLOWS:

1. Interpretation

In this Guarantee the following words shall have the following meanings:

“Company Group” shall have the meaning ascribed thereto in the Purchase Contract;

“Contractor” means....., whose principal registered office is at

“Guarantee” means this guarantee and indemnity;

“Obligations” means any and all of the obligations, duties, undertakings and covenants of any nature whatsoever of Contractor under the Purchase Contract, whether arising before, on or after the date of this Guarantee (including, without limitation, any obligations of Contractor which come into force after or upon, or survive, termination of the Purchase Contract) and “Obligation” shall be construed accordingly,

“Purchase Contract” means the Purchase Contract dated [.....] between Company and Contractor.

2. **Guara**

(a) hereby unconditionally and irrevocably guarantees to Company that Contractor will perform and observe the Obligations, and shall comply with the terms and conditions of the Purchase Contract in all respects as if the Contractor were the original obligor under such Contract.

(b) indemnifies, defends and holds harmless Company from and against all claims, losses, damages, costs (including legal costs), expenses and liabilities incurred by any member of Company Group in respect of any failure

provided that in both Clauses 2(a) and 2(b) the Guarantor shall be entitled to the benefit of any limitation or exclusion of liability which would be available to Contractor under the Contract, if it failed to perform such Obligation and/or comply with such term or condition of the Contract.

3 No release of Liability

As between the Guarantor and Company (but without affecting any obligations of Contractor), the Guarantor shall be and remain liable under this Guarantee as sole primary obligor and not merely as a surety. The liability of the Guarantor shall not be discharged, nor shall it be affected, by (1) any time, indulgence, waiver or consent at any time given to Contractor or any other person, (2) any amendment to or variation in the scope of the Purchase Contract or to any security or other guarantee or indemnity, (3) the making or absence of any demand on Contractor or any other person for payment, (4) the enforcement or absence of enforcement of the Purchase Contract or of any security, right of action or other guarantee or indemnity, (5) the release of any such security, right of action, guarantee or indemnity, (6) the insolvency, liquidation, dissolution, amalgamation, reconstruction or reorganisation of Contractor or any other person or (7) the illegibility, invalidity or unenforceability of or any defect in any provision of the Purchase Contract or any of Contractor's obligations thereunder.

The Guarantor waives any rights to require Company before proceeding against the Guarantor hereunder to pursue first any remedy (whether under the Contract), which it may have against Contractor.

The Guarantor covenants with Company that if Contractor should go into liquidation and the liquidator or liquidators shall disclaim the Purchase Contract then the liability of the Guarantor hereunder shall remain in full force and effect.

Except as provided in Clause 3 herein, this Guarantee shall remain in full force and effect notwithstanding, and the Guarantor's obligations under this Guarantee shall not be impaired, discharged or affected by:

- (a) any failure, defect or unenforceability of any Obligation or any term or condition of the Contract; or
- (b) any disability or incapacity of Contractor; or
- (c) the fraud of Contractor; or
- (d) the non-existence of any matter which the Guarantor (expressly or impliedly) considers or may be deemed to consider a condition precedent (and if any such matter is considered to be a condition precedent, it is expressly waived); or
- (e) the lack of authority of any director of Contractor or of any other person acting or purporting to act on behalf of Contractor with the express or implied authority of Contractor; or
- (f) any other act, event or omission which might operate to discharge, impair or otherwise affect any of the Guarantor's obligations or liabilities hereunder or any rights, remedies or powers conferred on Company under the Contract;

as a result of which any Obligation undertaken or purported to be undertaken by Contractor with the express or implied authority of Contractor is or may be rendered invalid, void or unenforceable by Company against Contractor. All such circumstances shall be disregarded between Company and the Guarantor and this Guarantee shall be construed as if there were no such invalidity, void or unenforceability.

4. Continuing Guarantee

This Guarantee shall be a continuing security and shall not be discharged by the performance of any particular Obligation and shall remain in full force and effect until all Obligations are performed in full.

5. Dealings with Contractor

Before enforcing this Guarantee in respect of any Obligation(s), Company shall demand performance thereof by Contractor, but shall not be obliged to seek to enforce any remedy it may have under the Purchase Contract or at law, initiate any legal proceedings or obtain any judgment nor make or file any claim in the bankruptcy, dissolution or winding up of Contractor (or equivalent proceedings in any other jurisdiction). Company need not advise the Guarantor of its dealings with Contractor nor of any failure by Contractor to perform any Obligation and/or comply with any term or condition of the Contract.

6. Payment

All payments by the Guarantor under this Guarantee shall be made in the currency or currencies in which the payments were expressed to be payable by Contractor, within 10 (ten) days from receipt by the Guarantor of Company's demand in accordance with the instructions of Company, and shall be subject to the same rights of set off, counter claim and deduction for any taxes, duties, charges, fees, deductions, withholdings or restrictions as set out in the Contract. If as a result of the different tax residencies or domiciles of the Guarantor and Contractor, the Guarantor is obliged by law to make any such deduction, the amount due from the Guarantor shall be increased to the extent necessary to ensure that, after the making of such deduction, Company receives a net amount equal to the amount it would have received had no such deduction been required to be made. If any sum is paid pursuant to this Guarantee by the Guarantor in a currency other than that in which the Obligations are payable, Guarantor hereby agrees to indemnify and keep Company fully indemnified against all damages, losses, costs and expenses arising from the conversion by Company of such sum into the currency in which the Obligations are payable.

The Guarantor shall bear any and all costs and expenses incurred by Company in recovering any sums due from the Guarantor hereunder.

7. Guarantor no competition with Company

So long as any of the Obligations remain outstanding or unperformed, the Guarantor shall not by paying any sum due hereunder or by any other means or on any other ground claim or recover by the institution of proceedings or the threat of proceedings or otherwise such sum from Contractor or claim any set-off or counterclaim against Contractor or prove in competition with Company in respect of any payment by the Guarantor to claim or have the benefit of any security which Company holds or may hold for any money or liabilities due from or incurred by Contractor to Company and shall not hold any security from Contractor without the prior written consent of Company. If the Guarantor holds any security in breach of this Clause, or receives any sums from Contractor in respect of any payment of the Guarantor hereunder, the Guarantor shall hold such security or monies in trust for Company so long as any sums are payable (contingently or otherwise) under this Guarantee.

8. Notices

Any demand or notice by Company to the Guarantor may be delivered personally to the Guarantor or sent to the Guarantor by post or facsimile transmission at the following address:

Address: []

For the attention of: []

Facsimile: []

Any such notice or demand shall be deemed to have been received by the Guarantor 24 (twenty four) hours after posting (where sent by post) or immediately on delivery (where delivered personally or sent by facsimile transmission).

9. Conditional Discharge

Any release, discharge or settlement between the Guarantor and Company shall be conditional upon no security, disposition or payment to Company by Contractor or any other person in respect of the Obligations being void, set aside or ordered to be refunded pursuant to any enactment or law in relation to bankruptcy, liquidation or insolvency (or its equivalent in any relevant jurisdiction) or for any reason whatever, and if such condition shall not be fulfilled Company shall be entitled to enforce this Guarantee and recover immediately any value or amount due as if such release, discharge or settlement had not occurred and any such payment had not been made.

10. Governing Law and Jurisdiction

This Guarantee shall be governed by and construed in accordance with the laws of Nigeria.

The Guarantor hereby irrevocably submits to the dispute resolution arrangement in the Contract. Any claim form, judgment, award or other notice of legal process shall be sufficiently served on the Guarantor if sent to the address set out above.

The Guarantor agrees that any award rendered against Company resulting from an arbitration under the Purchase Contract (or, if applicable another dispute resolution procedure followed by Contractor and Company) shall be conclusive and binding on the Guarantor for the purposes of determining its obligations under this Guarantee to the same extent that such award is binding on Contractor.

11. Assignment

The Guarantor shall not assign or sub-contract or otherwise transfer, or purport to transfer, any of its rights or obligations under this Guarantee without the prior written consent of Company.

12. Property

This Guarantee shall remain the property of Company and Company shall be under no obligation to return it to the Guarantor at any time.

13. Third Party Rights

No term of this Guarantee shall be enforceable, by virtue of the Contracts (Rights of Third Parties) Act 1999, by any person who is not a party to this Guarantee.

Signed as a DEED by the duly authorised representatives of the parties the day and year first above written:

Signed as a deed by **[name of Guarantor]**

by [.....]

Name: _____

Title: _____

In the presence of:

[.....]

Name: _____

and [.....

Name: _____

For Acceptance

[name of Company]

By: [.....]

3.3 APPENDIX G- Not applicable

3.4 **APPENDIX H-** please refer to the NCDMB commercial evaluation template inserted below and also in Nipex as a standalone document which requires Tenderer's completion along with the commercial submission.

NCDMB Commercial Template	NCCC

4

4.1 Other information requested by Shell.

PART (4) - PROPOSED CONTRACT DOCUMENTS

DRAFT PURCHASE CONTRACT

EPC FOR GBARAN PHASE 3B - UZU WITH CPF UPGRADE- PKG 3 (CPF UPGRADE)_CW361444

Between



THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA

and

[**insert]

CW361444

TABLE OF CONTENTS

2 FORM OF TENDER.....	57
FOR PURCHASE OF GOODS AND SERVICES	57
1 DEFINITIONS	57
2 CONSIDERATION	57
3 PURCHASE ORDERS.....	57
4 EFFECTIVE DATE.....	57
5 NOTICES	57
6 ADDITIONAL TERMS.....	57
7 SECTIONS FORMING THE CONTRACT	57
SECTION II – DEFINITIONS AND INTERPRETATION	59
1 DEFINITIONS	59
2 INTERPRETATION	64
SECTION IIIA – SPECIAL TERMS AND CONDITIONS	66
1 PURCHASE ORDERS.....	66
2 REQUIREMENTS PERTAINING TO SCOPE	66
3 [INTENTIONALLY DELETED].....	66

4	REQUIREMENTS PERTAINING TO SERVICES.....	66
5	COMPENSATION, PAYMENT, AND INVOICING	67
6	QUALITY ASSURANCE	68
7	COMPANY PROVIDED ITEMS, INFORMATION SYSTEMS, AND FRAMEWORK AGREEMENTS.....	68
8	VARIATIONS	68
9	INSPECTIONS, TESTING, AND ACCEPTANCE OF SCOPE	68
10	REMEDIAL ACTIONS.....	69
	SECTION IIIB – GENERAL TERMS AND CONDITIONS.....	69
1	PERFORMANCE AND FINANCIAL SECURITY.....	69
2	TAXES	70
3	LIENS	70
4	SUSPENSION	70
5	TERMINATION.....	71
6	LIQUIDATED DAMAGES	72
7	LIABILITIES AND INDEMNITIES.....	73
8	INSURANCE	76
9	COMPLIANCE WITH APPLICABLE LAWS, BUSINESS PRINCIPLES, AND HSSE STANDARDS	77
10	CONFIDENTIALITY	80
11	INTELLECTUAL PROPERTY	81
12	FINANCIAL AND PERFORMANCE AUDIT	82
13	RELATIONSHIP OF PARTIES	82
14	CONTRACTOR PERSONNEL AND SUBCONTRACTING.....	83
15	ASSIGNMENT	83
16	FORCE MAJEURE	83
17	NOTICES	84
18	GOVERNING LAW, DISPUTE RESOLUTION AND REMEDIES	84
19	ADDITIONAL LEGAL PROVISIONS	85
	SECTION IV –SCOPE DESCRIPTION.....	<u>8788</u>
	SECTION V –SCOPE DESCRIPTION.....	<u>8889</u>
	SECTION V – SCHEDULE OF PRICES.....	<u>251252</u>
	SECTION VI – INSURANCE REQUIREMENTS	<u>298293</u>

SECTION I – FORM OF AGREEMENT

FOR PURCHASE OF GOODS AND SERVICES

THIS CONTRACT IS MADE ON [insert date] BETWEEN:**

[**SHELL COMPANY],

whose registered office is at [**, (**), **, **] (“COMPANY”),

and

[**CONTRACTOR],

whose registered office is at [**, (**), **, **] (“CONTRACTOR”),

RECITALS

SHELL and CONTRACTOR wish to establish a CONTRACT so that COMPANY may make purchases from CONTRACTOR of SCOPE. SCOPE includes (EPC FOR GBARAN PHASE 3B UZU WITH CPF UPGRADE (PACKAGE 3) CPF UPGRADE and is more completely described in the SCOPE DESCRIPTION.

THE PARTIES AGREE AS FOLLOWS

1 DEFINITIONS

Capitalised words and phrases have the meanings given to them in the DEFINITIONS AND INTERPRETATION Section (Section II).

2 CONSIDERATION

In consideration of the obligations undertaken by CONTRACTOR under the CONTRACT, COMPANY agrees to pay the CONTRACT PRICE.

3 PURCHASE ORDERS

This CONTRACT provides for separate PURCHASE ORDERS for SCOPE.

4 EFFECTIVE DATE

The CONTRACT has an effective date of [**date] and will terminate on [**date].

5 NOTICES

Notices under the CONTRACT must be made in the manner set out in the GENERAL TERMS AND CONDITIONS (Section IIIB) and delivered:

To COMPANY:

[**include details]

To CONTRACTOR:

[**include details]

6 ADDITIONAL TERMS

[Not Applicable.]

7 SECTIONS FORMING THE CONTRACT

7.1 Sections Included

The CONTRACT consists of the following Sections, which are attached:

- (i) Section I – The completed and signed Form of Agreement;
- (ii) Section II – DEFINITIONS AND INTERPRETATION;
- (iii) Section IIIA – SPECIAL TERMS AND CONDITIONS;
- (iv) Section IIIB – GENERAL TERMS AND CONDITIONS;
- (v) Section IV – SCOPE DESCRIPTION;
- (vi) Section V – SCHEDULE OF PRICES;
- (vii) Section VI – INSURANCE REQUIREMENTS;
- (viii) Section VII – HSSE REQUIREMENTS
- (ix) Section VIII – ADMINISTRATIVE INSTRUCTIONS
- (x) Section IX – QUALITY MANAGEMENT
- (xi) Section X – TECHNICAL INFORMATION
- (xii) Section XI – FORMS

7.2 Ambiguities or Contradictions

Any ambiguity or contradiction will be resolved by reading the CONTRACT as a whole so that each provision will have effect. If a reading of the CONTRACT as a whole does not resolve the ambiguity or contradiction, then precedence will be given to each section of the CONTRACT in the order it is listed, beginning with Section I.

Signatories

For and on behalf of [**insert full Shell name]

For and on behalf of [**insert full CONTRACTOR name]

Name:

Position:

Name:

Position:

SECTION II – DEFINITIONS AND INTERPRETATION

1 DEFINITIONS

Capitalised words and expressions have the following meanings when interpreting the CONTRACT:

ACCEPTANCE	COMPANY accepts SCOPE in writing or is deemed to have accepted SCOPE in the manner specified by the CONTRACT.
AFFILIATE	in reference to a PERSON, any other PERSON that: (a) directly or indirectly controls or is controlled by the first PERSON; or (b) is directly or indirectly controlled by a PERSON that also directly or indirectly controls the first PERSON. A PERSON controls another PERSON if that first PERSON has the power to direct or cause the direction of the management of the other PERSON, whether directly or indirectly, through one or more intermediaries or otherwise, and whether by ownership of shares or other equity interests, the holding of voting rights or contractual rights, by being the general partner of a limited partnership, or otherwise. Any AFFILIATE of Royal Dutch Shell, plc is an AFFILIATE of COMPANY.
AGENCY PERSONNEL	those CONTRACTOR PERSONNEL who are not direct employees, but are working under the direct control and supervision of CONTRACTOR GROUP.
ANTI-CORRUPTION LAWS	the United States Foreign Corrupt Practices Act of 1977, the United Kingdom Bribery Act 2010, and all other APPLICABLE LAWS that prohibit tax evasion, money laundering or otherwise dealing in the proceeds of crime or the bribery of, or the providing of unlawful gratuities, facilitation payments, or other benefits to, any GOVERNMENT OFFICIAL or any other PERSON.
APPLICABLE DATA PROTECTION LAW	all laws, rules, regulations, governmental requirements, codes as well as international, federal, state, provincial laws applicable to COMPANY when acting as a controller or processor of PERSONAL DATA, in particular REGULATION (EU) 2016/679 (GDPR).
APPLICABLE LAWS	where applicable to a PERSON, property, or circumstance, and as amended from time to time: (a) statutes (including regulations enacted under those statutes); (b) national, regional, provincial, state, municipal, or local laws; (c) judgments and orders of courts of competent jurisdiction; (d) rules, regulations, and orders issued by AUTHORITIES; and (e) regulatory approvals, permits, licences, approvals, and authorisations.
AUTHORITIES	the government and any county, municipality, local government, or other political subdivision, instrumentality, ministry, or department which has jurisdiction over any part of SCOPE, or any county, municipality, local government or other political subdivision thereof.
BOOKS AND RECORDS	books, accounts, contracts, records, and documentation, in electronic format, or otherwise, in respect of the CONTRACT and performance of SCOPE.
COMPANY	the party identified as such in Section I.
COMPANY GROUP	COMPANY and: (a) its CO-VENTURERS and JOINT VENTURES; (b) any AFFILIATE of COMPANY, its JOINT VENTURES, or its CO-VENTURERS; and (c) any director, officer, employee, or other individual working under the direct control and supervision of COMPANY, its JOINT VENTURES, or CO-VENTURERS, or the AFFILIATES of

	COMPANY, its JOINT VENTURES, or CO-VENTURERS. A reference to COMPANY GROUP includes a reference to each of its members severally.
COMPANY PROVIDED ITEMS	items of materials, equipment, services, or facilities, provided by COMPANY to CONTRACTOR to perform SCOPE.
CONFIDENTIAL INFORMATION	all technical, commercial, photographic or other information, and all documents and other tangible items that record information, whether on paper, in machine readable format, by sound or video, by way of samples or otherwise, relating to a PERSON's business, including WORK PRODUCT, PERSONAL DATA, and SCOPE provided to that PERSON, business plans, property, way of doing business, business results or prospects, the terms, negotiations, and existence of the CONTRACT, proprietary software, IP RIGHTS, and business records. A reference to COMPANY GROUP'S CONFIDENTIAL INFORMATION includes WORK PRODUCT and the terms, negotiations, and existence of the CONTRACT.
CONSEQUENTIAL LOSS	(a) indirect or consequential losses; and (b) loss and/or deferral of production, loss of product, loss of use, and loss of revenue, profit, or anticipated profit, whether direct, indirect, or consequential, and whether or not the losses were foreseeable at the time of entering into the CONTRACT.
CONTRACT	the agreement formed by Section I and the Sections which follow.
CONTRACT PRICE	the total amount payable by COMPANY to CONTRACTOR in accordance with the CONTRACT.
CONTRACTOR	the party identified as such in the CONTRACT.
CONTRACTOR EQUIPMENT	any machinery, plant, tools, equipment, goods, materials, supplies, and other items (including all appropriate associated spare parts, storage containers, packing, and securing) owned or contracted for by CONTRACTOR GROUP, provided title has not passed and will not pass to COMPANY under the CONTRACT.
CONTRACTOR GROUP	CONTRACTOR and: (a) its SUBCONTRACTORS; (b) any AFFILIATE of CONTRACTOR or its SUBCONTRACTORS; and (c) any director, officer, employee, other PERSON or AGENCY PERSONNEL employed by or acting for and on behalf of CONTRACTOR, its SUBCONTRACTORS, or the AFFILIATES of CONTRACTOR and its SUBCONTRACTORS. A reference to CONTRACTOR GROUP includes a reference to each of its members severally.
CONTRACTOR PERSONNEL	any individual provided by CONTRACTOR GROUP, whether directly or indirectly, and assigned to work in connection with the performance of SCOPE, whether or not an employee of CONTRACTOR GROUP.
CO-VENTURER	any PERSON who is a party to a joint operating agreement, unitisation agreement, including a JOINT VENTURE, or similar agreement: (a) with COMPANY or any of its AFFILIATES; and (b) which agreement is related to SCOPE performed under the CONTRACT. A reference to CO-VENTURERS includes a reference to each CO-VENTURER severally and to its respective successors and permitted assigns.
DEFINITIONS AND INTERPRETATION	this Section, setting out defined terms.
FORCE MAJEURE EVENT	the events qualifying as a force majeure event as expressly set out in the CONTRACT.

GENERAL TERMS AND CONDITIONS	Section IIIB, setting out the general terms and conditions.
GOVERNMENT OFFICIAL	(a) any official or employee of any government, or any agency, ministry, or department of a government (at any level); (b) anyone acting in an official capacity for a government regardless of rank or position; (c) any official or employee of a company wholly or partially controlled by a government (e.g. a state-owned oil company), political party, or any official of a political party; (d) any candidate for political office, or any officer or employee of a public international organisation (e.g. the United Nations or the World Bank); and (e) any immediate family member (meaning a spouse, dependent child, or household member) of any of the foregoing.
GROSS NEGLIGENCE	any act or failure to act (whether sole, joint, or concurrent) that is so great as to cause harm to people, property, or the environment and that: (a) seriously and substantially deviates from a diligent course of action; or (b) is in reckless disregard of or wanton indifference to a risk known or so obvious that it should have been known.
HSSE	health, safety, security, and environment.
HSSE STANDARDS	(a) all HSSE policies, manuals, standards, rules, and procedures, as communicated to CONTRACTOR, by or on behalf of COMPANY, designed to manage HSSE risks during performance of SCOPE under the CONTRACT; (b) all APPLICABLE LAWS relating to HSSE; and (c) any other rules and procedures (whether issued by COMPANY GROUP or otherwise) in force at a relevant COMPANY GROUP WORKSITE at the time of performance of SCOPE.
INCOTERM	INCOTERMS 2010 as published by the International Chamber of Commerce.
INDEMNIFY	release, save, indemnify, defend, and hold harmless.
INDIRECT TAXES	any of the following: (a) value added tax; (b) goods and services tax; or (c) sales tax or a similar levy.
INSOLVENCY EVENT	if a PERSON: (a) stops or suspends, or threatens to stop or suspend, payment of all or a material part of its debts, or is unable to pay its debts as they fall due; (b) ceases or threatens to cease to carry on all or a substantial part of its business; (c) begins negotiations for, starts any proceedings concerning, proposes or makes any agreement for the reorganisation, compromise, deferral, or general assignment of, all or substantially all of its debts; (d) makes or proposes an arrangement for the benefit of some or all of its creditors of all or substantially all of its debts; (e) takes any step with a view to the administration, winding up, or bankruptcy of that PERSON; (f) is subject to an event in which all or substantially all of its assets are subject to any steps taken to enforce security over those assets or to levy execution or similar process, including the appointment of a receiver, trustee in bankruptcy, or similar officer; or (g) is subject to any event under the law of any relevant jurisdiction that has an analogous or equivalent effect to any of the INSOLVENCY EVENTS listed above.
INSURANCE REQUIREMENTS	Section VI, setting out the types and amounts of policies of insurance required and related matters.
IP RIGHTS	all patents, copyright, database rights, design rights, rights in CONFIDENTIAL INFORMATION, including know-how and trade secrets, inventions, moral rights,

	trademarks and service marks (all whether registered or not and including all applications for any of them and all equivalent rights in all parts of the world), whenever and however arising for their full term, and including any divisions, re-issues, re-examinations, continuations, continuations-in-part, and renewals.
JOINT VENTURE	any entity: (a) which itself is not an AFFILIATE OF COMPANY; (b) in which an AFFILIATE OF COMPANY has a direct or indirect ownership interest; and (c) the activities of which are related to SCOPE.
LIABILITIES	liabilities for all claims, losses, damages, costs (including legal fees), and expenses.
LIENS	liens, attachments, charges, security interests, claims, or other encumbrances against SCOPE or property of COMPANY GROUP, including leases, COMPANY PROVIDED ITEMS, and products produced by COMPANY GROUP (such as oil, gas, or other products produced by a well, refinery, or chemical plant).
LIQUIDATED DAMAGES	amounts agreed in the CONTRACT, that CONTRACTOR must pay to COMPANY if certain events or obligations as specified in the CONTRACT are not achieved or not timely achieved.
OTHER CONTRACTOR	any other contractor engaged by COMPANY GROUP to perform work at the WORKSITE.
OTHER CONTRACTOR GROUP	OTHER CONTRACTOR and: (a) its subcontractors; (b) any AFFILIATE of OTHER CONTRACTOR or its subcontractors; and (c) any director, officer, employee, other PERSON, or agency personnel employed by or acting for and on behalf of OTHER CONTRACTOR, its subcontractors, or the AFFILIATES of OTHER CONTRACTOR and its subcontractors; with the exception of any members of COMPANY GROUP and CONTRACTOR GROUP. A reference to OTHER CONTRACTOR GROUP includes a reference to each OTHER CONTRACTOR severally.
OTHER PERMITTED BUYER	(a) JOINT VENTURES; and (b) SHELL CONTRACTORS.
PERSON	a natural person or a legal entity, including any partnership, limited partnership, limited liability company, corporation, firm, trust, body corporate, government, governmental body or agency, or unincorporated venture.
PERSONAL DATA	any information relating to an identified or identifiable individual, unless otherwise defined under APPLICABLE LAWS related to the protection of individuals, the processing of such information, and security requirements for and the free movement of such information.
PURCHASE ORDER	a written order issued as permitted by the CONTRACT from COMPANY to CONTRACTOR to purchase SCOPE.
RESTRICTED JURISDICTION	countries or states that are subject to comprehensive trade sanctions or embargoes (as may be amended by the relevant AUTHORITIES from time to time).
RESTRICTED PARTY	(a) any PERSON targeted by national, regional, or multilateral trade or economic sanctions under APPLICABLE LAWS; (b) any PERSON designated on the United Nations Financial Sanctions Lists, European Union (EU) or EU Member State Consolidated Lists, US Department of the Treasury Office of Foreign Assets Control Lists, US State Department Non-proliferation Sanctions Lists, or US Department of Commerce Denied Persons List, in force from time to time; or (c) any AFFILIATES of

	such PERSONS; and (d) any PERSON acting on behalf of a PERSON referred to in the foregoing.
SCOPE	the GOODS to be delivered or the SERVICES to be performed, as the case may be, by or on behalf of CONTRACTOR under this CONTRACT, and all other activities and obligations to be performed by or on behalf of CONTRACTOR under this CONTRACT.
SCOPE DESCRIPTION	Section IV of the CONTRACT, setting out the description of SCOPE.
SERVICES	services to be supplied by CONTRACTOR under the CONTRACT, including the results of those services.
SHELL CONTRACTOR	a PERSON acting as contractor of an AFFILIATE of Royal Dutch Shell plc.
SOFTWARE	any software forming part of SCOPE or necessary for the intended use of SCOPE, including, as applicable, the database and all machine codes, binaries, object codes or source codes, whether in a machine or human readable form, and all improvements, modifications, and updates, flow charts, logic diagrams, passwords, and output tapes, and any future updates, releases, and generally available associated software items, together with the licence to use them or ownership rights in them.
SPECIAL TERMS AND CONDITIONS	Section IIIA, setting out the category or special terms and conditions.
STANDARDS OF PRACTICE	with reference to SCOPE and the performance of SCOPE, the sound standards, methods, skill, care, techniques, principles, and practices that are recognised and generally accepted in the international oil, gas, and petrochemical industry.
SUBCONTRACT	any contract between CONTRACTOR and a SUBCONTRACTOR or between a SUBCONTRACTOR and another SUBCONTRACTOR of any tier for the performance of any part of SCOPE, including any call off under framework agreements of COMPANY or an AFFILIATE of COMPANY and supply agreements for materials.
SUBCONTRACTOR	any party to a SUBCONTRACT, other than COMPANY and CONTRACTOR, including any employers of AGENCY PERSONNEL (except as explicitly provided otherwise).
TAXES	all taxes, duties, levies, import, export, customs, stamp or excise duties (including clearing and brokerage charges), charges, surcharges, withholdings, deductions, or contributions that are imposed or assessed by any competent authority of the country where SCOPE is performed or any other country in accordance with APPLICABLE LAWS.
TRADE CONTROL LAWS	all APPLICABLE LAWS concerning the import, export, or re-export of goods, software, or technology, or their direct product, including: (a) applicable customs regulations, Council Regulation (EC) No. 428/2009; (b) any sanction regulations issued by the Council of the European Union; (c) the International Traffic in Arms Regulations ("ITAR"); (d) the Export Administration Regulations ("EAR"); and (e) the regulations and orders issued or administered by the US Department of the Treasury, Office of Foreign Assets Control in relation to export control, anti-boycott, and trade sanctions matters.
VARIATION	a modification or alteration of, addition to, or deletion of, all or part of SCOPE.
VARIATION ASSESSMENT	a proposal prepared by CONTRACTOR in respect of a VARIATION in which it provides full detail of the following: (a) the impact of the proposed VARIATION on

	SCOPE; (b) a detailed schedule for the performance of adjusted SCOPE; (c) the effect on the CONTRACT PRICE (if any), determined in accordance with the CONTRACT; and (d) any other information COMPANY concludes is necessary for its evaluation.
VARIATION ORDER	a written order for a VARIATION authorised by COMPANY.
WILFUL MISCONDUCT	a deliberate act or omission, the consequences of which were foreseen or foreseeable, that was intended to cause harm to people, property, or the environment.
WORK PRODUCT	any and all information, reports, data, drawings, computer programs, source and object codes, program documentation, spread sheets, presentations, analyses, results, conclusions, findings, solutions, calculations, studies, concepts, codes, manuals, inventions, business models, designs, prototypes, magnetic data, flow charts, recommendations, working notes, specifications or other information, documents, or material, which arises or is made, created, or generated under the CONTRACT, in connection with SCOPE, or is made, created, or generated from or using COMPANY GROUP's CONFIDENTIAL INFORMATION.
WORKSITE	lands, waters, and other places on, under, in, or through which SCOPE or activities in connection with SCOPE are to be performed, including manufacturing, fabrication, or storage facilities, offshore installations, floating construction equipment, vessels, offices, workshops, camps, or messing facilities. WORKSITE does not include any lands, waters, or other places used during transportation to and from WORKSITES.

2 INTERPRETATION

All provisions of the CONTRACT will have the following rules of Interpretation.

- (a) The terms "including" and "includes" mean "including without limitation" and "includes without limitation".
- (b) References to "parties" mean the parties to the CONTRACT. References to a "party" mean one of the parties to the CONTRACT and its respective successors and permitted assigns, unless the context otherwise requires.
- (c) The terms "will", "must", and "shall" have equivalent meanings and create a present and ongoing obligation, unless the context otherwise requires.
- (d) Words indicating the singular also include the plural, and words indicating the plural include the singular, unless the context otherwise requires.
- (e) Where a term is defined, a derivative of that term will have a corresponding meaning, unless the context otherwise requires.
- (f) Unless expressly stated otherwise, the term "day" used in the CONTRACT refers to a calendar day, regardless of whether considered a working day, non-working day, or holiday.
- (g) References to an "Article" refer to its entirety (e.g. Article 1 or "this Article"). References to parts of an Article are made by reference to a "sub-article" (e.g. sub-article 1.1) and include its paragraphs (e.g.

paragraph (a)), sub-paragraphs (e.g. sub-paragraph (i)), and clauses (e.g. clause (A)), unless specific reference is made to the paragraph, sub-paragraph, or clause.

- (h) No heading, index, title, subtitle, subheading, or marginal note of the CONTRACT limits, alters, or affects the meaning or operation of the CONTRACT.
- (i) Wherever in the CONTRACT CONTRACTOR GROUP is stated as having an obligation, this means that CONTRACTOR will cause all members of CONTRACTOR GROUP to comply with such obligation.

DRAFT

SECTION IIIA – SPECIAL TERMS AND CONDITIONS

1 PURCHASE ORDERS

- (a) SCOPE is to be purchased through separate PURCHASE ORDERS. Each PURCHASE ORDER is a stand-alone contract between the parties to the PURCHASE ORDER. Each PURCHASE ORDER incorporates the terms of this CONTRACT.
- (b) No terms in CONTRACTOR's quotation, acknowledgment, confirmation accepting the PURCHASE ORDER, invoice, specification, or similar document will form part of the agreement between the parties. CONTRACTOR waives any right to rely on such terms and conditions.
- (c) COMPANY may issue separate PURCHASE ORDERS for SCOPE. Where COMPANY is an AFFILIATE of Royal Dutch Shell plc, then AFFILIATES of COMPANY and OTHER PERMITTED BUYERS in COMPANY's jurisdiction may also issue PURCHASE ORDERS for SCOPE in their own name. For PURCHASE ORDERS issued by AFFILIATES of COMPANY or OTHER PERMITTED BUYERS, references to "COMPANY" in this CONTRACT will refer to the issuer of the PURCHASE ORDER. Only the issuer of the PURCHASE ORDER will have any liability in connection with that PURCHASE ORDER.

2 REQUIREMENTS PERTAINING TO SCOPE

- (a) This CONTRACT is non-exclusive and carries no requirement for COMPANY to place any orders or purchase any minimum quantities. COMPANY may acquire same or similar SCOPE from other suppliers.
- (b) Time is of the essence for the performance of SCOPE.
- (c) Without excusing CONTRACTOR's obligation to perform on time, CONTRACTOR will give COMPANY prompt notice in writing if CONTRACTOR has reason to expect any delay in the performance of SCOPE.
- (d) CONTRACTOR has agreed to perform SCOPE after it has conducted reasonable due diligence in connection with COMPANY's intended use for SCOPE. CONTRACTOR has investigated general and local conditions, and all other matters that could affect the performance of SCOPE.
- (e) CONTRACTOR has received all information reasonably necessary to perform SCOPE under the CONTRACT. CONTRACTOR will promptly review information supplied by COMPANY and give prompt notice of issues of correctness or sufficiency.
- (f) Any information supplied by COMPANY is the property of COMPANY and will not be used by CONTRACTOR for any purpose other than for performance of the CONTRACT.
- (g) CONTRACTOR will provide COMPANY all documentation and, if applicable, SOFTWARE, reasonably required to make use of SCOPE. CONTRACTOR guarantees that its information provided as SCOPE or in support of SCOPE is complete, accurate, and up-to-date.

3 [INTENTIONALLY DELETED]

4 REQUIREMENTS PERTAINING TO SERVICES

4.1 SERVICES Warranties

- (a) CONTRACTOR warrants that all SERVICES supplied in connection with the performance of SCOPE will be: (i) performed in accordance with the CONTRACT; (ii) fit for use for any purpose specified in the CONTRACT; and (iii) free from any defect or deficiency.
- (b) Unless a different period is specified in the scope description, CONTRACTOR's warranty for SERVICES applies to all defects arising within [**12 months] of COMPANY's ACCEPTANCE of the SERVICES.
- (c) Following ACCEPTANCE by COMPANY of the SERVICES, the warranties set out in this Article are in lieu of all other warranties expressed or implied by statute, common law, custom, usage, or otherwise.

4.2 Additional SERVICES Assurances

CONTRACTOR will supply SERVICES diligently, efficiently, and carefully, in a good and professional manner, and in accordance with the CONTRACT and all STANDARDS OF PRACTICE. CONTRACTOR will furnish all skills, labour, supervision, equipment, goods, materials, supplies, transport, and storage required for SERVICES.

4.3 CONTRACTOR PERSONNEL in Connection with SERVICES

- (a) In performing any SERVICES, CONTRACTOR will only use CONTRACTOR PERSONNEL who are properly permitted, trained, and skilled, and in accordance with all STANDARDS OF PRACTICE and as required by the CONTRACT. CONTRACTOR will verify all relevant qualifications and experience of CONTRACTOR PERSONNEL, including all requirements of APPLICABLE LAWS and the CONTRACT.
- (b) Where required by COMPANY, CONTRACTOR will perform at its own expense security background checks and obtain entry credentials for CONTRACTOR PERSONNEL on COMPANY GROUP WORKSITES.
- (c) CONTRACTOR is responsible for CONTRACTOR PERSONNEL used in connection with SERVICES, including the direction, transport, payment, board, lodging, permits, and entry credentials which may be required. CONTRACTOR will INDEMNIFY COMPANY GROUP for LIABILITIES resulting from the failure by any member of CONTRACTOR GROUP to pay or timely pay any salary or other remunerations to CONTRACTOR PERSONNEL.

5 COMPENSATION, PAYMENT, AND INVOICING

- (a) COMPANY agrees to pay the CONTRACT PRICE to CONTRACTOR in the currency requested by COMPANY, if not otherwise specified in the Schedule of Prices, and at the times and in the manner specified in this Article. The CONTRACT PRICE is all-inclusive except for value added tax or sales tax.
- (b) CONTRACTOR will invoice only after ACCEPTANCE of SCOPE, except as otherwise provided in the CONTRACT.
- (c) COMPANY will pay CONTRACTOR any undisputed amount within [**45 days] after receipt of a correct and adequately supported invoice. An invoice is considered unsupported when COMPANY cannot reasonably verify the legitimacy or accuracy of the invoice using the information provided by CONTRACTOR or if supporting documentation is missing.
- (d) COMPANY may use certain electronic tools and services for notifications of completion of SCOPE, invoicing, payment of invoices, and other related transactions. CONTRACTOR will use the tools and services identified in the CONTRACT or otherwise by COMPANY and will make its information technology systems compatible with those tools and services. For tools and services facilitated by a third party provider, CONTRACTOR will enter into contracts with the relevant provider.

- (e) Payment of an invoice is not: (i) by itself an accord and satisfaction, or otherwise a limitation of the rights of the parties in connection with the matter; or (ii) evidence SCOPE was performed in accordance with the CONTRACT.
- (f) If COMPANY disputes an invoice, COMPANY may withhold payment of any disputed part of an invoice and pay only the undisputed part. COMPANY may, on notice to CONTRACTOR, set off any liabilities between CONTRACTOR and COMPANY arising out of the CONTRACT or any other agreement. Any exercise by COMPANY of its rights under this provision will be without prejudice to any other rights or remedies available to COMPANY.

6 QUALITY ASSURANCE

CONTRACTOR must have quality assurance programs in place adequate to support its performance of SCOPE.

7 COMPANY PROVIDED ITEMS, INFORMATION SYSTEMS, AND FRAMEWORK AGREEMENTS

7.1 COMPANY PROVIDED ITEMS Used in Connection with Completion of SCOPE

CONTRACTOR will use COMPANY PROVIDED ITEMS where specified in the CONTRACT. COMPANY will provide COMPANY PROVIDED ITEMS at its own cost as of the dates set out in the CONTRACT or as otherwise agreed in writing between the parties. CONTRACTOR will, except to the extent of any reasonable wear and tear, have risk of loss and damage to COMPANY PROVIDED ITEMS when in CONTRACTOR's care, custody, or control. CONTRACTOR will inspect and will be deemed to have received the COMPANY PROVIDED ITEMS in complete and undamaged condition after they are accepted.

7.2 Access to COMPANY Systems, Information, or Infrastructure

In the event that performance of SCOPE requires CONTRACTOR or CONTRACTOR PERSONNEL to access COMPANY GROUP's technical information, information technology, or resources (including COMPANY's infrastructure), CONTRACTOR will sign and comply with COMPANY's standard terms and conditions for access and security, unless other terms applicable to the CONTRACT were agreed on by the parties in writing.

8 VARIATIONS

- (a) COMPANY may initiate VARIATIONS by: (i) requesting CONTRACTOR provide a VARIATION ASSESSMENT; or (ii) by issuing a VARIATION ORDER for reasons of emergency, safety, or other reasonable necessity. A VARIATION ORDER will reflect a fair and reasonable judgment by COMPANY of the impact of the VARIATION on price and schedule. Where a VARIATION ORDER is issued by COMPANY other than by accepting CONTRACTOR's VARIATION ASSESSMENT, CONTRACTOR must give written notice to COMPANY within 14 days of receipt of a VARIATION ORDER if it disagrees with any portion of the VARIATION ORDER. Each party will each bear its own expenses in resolving any disagreements.
- (b) CONTRACTOR may propose VARIATIONS by providing a VARIATION ASSESSMENT to COMPANY. CONTRACTOR is not entitled to a VARIATION for matters that were included in SCOPE, or matters that CONTRACTOR agreed to perform or take into account in connection with the CONTRACT.

9 INSPECTIONS, TESTING, AND ACCEPTANCE OF SCOPE

- (a) To confirm SCOPE complies with the CONTRACT, CONTRACTOR will perform all tests and inspections required by the CONTRACT, APPLICABLE LAWS and, unless otherwise specified in the CONTRACT, STANDARDS OF PRACTICE.
- (b) CONTRACTOR will request ACCEPTANCE from COMPANY: i) of GOODS by completion of delivery; or ii) of SERVICES by writing on completion of SCOPE. COMPANY will not unreasonably delay any response to a request for ACCEPTANCE. Where any SCOPE has not otherwise been accepted or rejected by COMPANY in writing, ACCEPTANCE will be deemed to have occurred 30 days after GOODS or the results of SERVICES have been placed in commercial use by COMPANY GROUP. Other than to start the period for any warranty of limited duration, ACCEPTANCE does not limit or waive any remedies.

10 REMEDIAL ACTIONS

If defects in SCOPE are discovered, CONTRACTOR will provide a plan to remedy the defects and will remedy the defects in an expeditious manner. Without prejudice to other remedies it may have, COMPANY may perform or have others perform some or all of the remedial actions, and CONTRACTOR will pay or promptly reimburse COMPANY for all costs CONTRACTOR would have been liable for under the CONTRACT where: (i) emergency situations or other HSSE risks require the immediate performance of remedial actions; (ii) CONTRACTOR presents a plan which does not provide for expeditious completion of warranty work; or (iii) CONTRACTOR does not timely complete the actions according to the agreed schedule. CONTRACTOR's warranties against defects are assignable, and CONTRACTOR will assign to COMPANY all manufacturers' warranties or will pursue for COMPANY or its assignee all warranties that cannot be assigned.

SECTION IIIB – GENERAL TERMS AND CONDITIONS

1 PERFORMANCE AND FINANCIAL SECURITY

- (a) CONTRACTOR will participate in business performance reviews to discuss HSSE performance, CONTRACTOR's financial condition and other key performance indicators (KPIs).
- (b) The frequency of business performance reviews will be established by the SCOPE DESCRIPTION or, alternatively, by COMPANY's representative.
- (c) COMPANY may require CONTRACTOR to provide security or additional security satisfactory to COMPANY when: (i) stated in the CONTRACT; (ii) COMPANY reasonably concludes at any time that the ability of CONTRACTOR to perform its obligations is or may become impaired, including if CONTRACTOR GROUP is unable to pay its SUBCONTRACTORS; or (iii) COMPANY makes pre-payments or milestone payments prior to performance of SCOPE not previously arranged in the CONTRACT.

- (d) Any guarantees or bonds to secure performance provided under the CONTRACT will be on COMPANY's forms in accordance with COMPANY's usual requirements, unless otherwise required by APPLICABLE LAWS.

2 TAXES

2.1 CONTRACTOR TAXES

CONTRACTOR will be responsible for payment of all TAXES, and any interest, fines, or penalties for which CONTRACTOR GROUP is liable for: (a) income, capital gains, and wages; and (b) import or export of CONTRACTOR EQUIPMENT, or the movement of CONTRACTOR PERSONNEL.

2.2 INDIRECT TAXES

If INDIRECT TAXES apply, CONTRACTOR will add them to the invoice as a separate item, and COMPANY will pay them in addition to the CONTRACT PRICE.

2.3 Withholding

- (a) Where required under APPLICABLE LAWS, COMPANY will withhold, or deduct and pay over to relevant AUTHORITIES, TAXES from amounts payable to CONTRACTOR. CONTRACTOR acknowledges that any sum withheld or deducted will, for the purpose of the CONTRACT, be deemed to have been paid to CONTRACTOR and that the sum is a corresponding discharge of COMPANY's liability to CONTRACTOR under the CONTRACT.
- (b) Where COMPANY makes a withholding or deduction as required by APPLICABLE LAWS, COMPANY will provide CONTRACTOR with credit notes upon receipt from the Federal Inland Revenue Service ("FIRS") or appropriate tax authority.
- (c) If CONTRACTOR holds a valid exemption certificate, it will provide copies or further information to substantiate an entitlement to avoid the withholding, which COMPANY may then rely on to apply the exemption.

2.4 Concessions, Incentives, and Exemptions

COMPANY and CONTRACTOR will each provide the other with all reasonable assistance and provide all necessary information for the purpose of seeking any exemption, reduction, or refund of INDIRECT TAXES, or other levies or duties, including the use of optimisation regimes available, such as temporary importation.

3 LIENS

- (a) CONTRACTOR warrants good and clear title to SCOPE supplied.
- (b) CONTRACTOR will not permit CONTRACTOR GROUP to place any LIENS or claim any LIENS.
- (c) CONTRACTOR will immediately notify COMPANY and promptly remove any LIENS by CONTRACTOR GROUP.
- (d) CONTRACTOR will INDEMNIFY COMPANY GROUP for any LIABILITIES in connection with LIENS by CONTRACTOR GROUP.

4 SUSPENSION

- (a) COMPANY may suspend the CONTRACT or part of SCOPE for cause by written notice with immediate effect pending COMPANY's decision on termination where COMPANY concludes it has grounds to terminate the CONTRACT for cause. Where suspending for cause, CONTRACTOR will not be entitled to any VARIATION, nor will it be entitled to other compensation or relief for the suspension. COMPANY may recover from CONTRACTOR any costs incurred in connection with securing items related to SCOPE or obtaining alternate sources of supply upon suspension.
- (b) COMPANY may suspend the CONTRACT or part of SCOPE for convenience at its own discretion with seven days' prior written notice. CONTRACTOR may seek a VARIATION if actions required by suspension impact the schedule or timing of SCOPE.
- (c) COMPANY may at any time withdraw by written notice all or part of a suspension, and upon receipt of that notice, CONTRACTOR will promptly resume and diligently continue performance of SCOPE for which the suspension was withdrawn.

5 TERMINATION

5.1 Termination by COMPANY for cause

- (a) COMPANY may terminate the CONTRACT or part of SCOPE for cause by written notice with immediate effect if:
 - (i) in connection with performance of the CONTRACT, CONTRACTOR GROUP (in the opinion of COMPANY) breaches its own Business Principles, or if it has no equivalent principles, then Shell's Business Principles;
 - (ii) CONTRACTOR GROUP violates (in the opinion of COMPANY) any ANTI-CORRUPTION LAWS, applicable competition laws, TRADE CONTROL LAWS, other APPLICABLE LAWS, or HSSE STANDARDS in connection with the performance of the CONTRACT, or causes COMPANY to be in violation of those laws or HSSE STANDARDS;
 - (iii) CONTRACTOR GROUP becomes a RESTRICTED PARTY; or
 - (iv) CONTRACTOR is subject to an INSOLVENCY EVENT.
- (b) COMPANY may terminate the CONTRACT or part of SCOPE for cause where COMPANY determines CONTRACTOR breached a term or condition of the CONTRACT other than those set out in the preceding paragraph and the effect of the breach, or culmination of a series of breaches, is material. COMPANY will first provide written notice which may require CONTRACTOR to remedy the breach, or COMPANY may terminate the CONTRACT if COMPANY determines the breach is not capable of timely remedy, or it is not subsequently remedied.

5.2 Termination by COMPANY for convenience

- (b) COMPANY may terminate the CONTRACT or part of SCOPE for convenience at its own discretion with 30 days' prior written notice.

5.3 Termination by CONTRACTOR for cause

- (a) CONTRACTOR may terminate the CONTRACT if COMPANY fails to pay an undisputed amount to CONTRACTOR that is properly presented, due, and payable for more than 60 days and exceeds 5% of the CONTRACT PRICE, assuming complete performance of the CONTRACT, subject to: (i) CONTRACTOR giving COMPANY with prior written notice specifying the unpaid amount which is due and payable for more than 60 days and requiring it to be paid within a further period of 45 days of such notice; and (ii) COMPANY failure to cure or provide proper grounds for non-payment during the notice period.

- (b) CONTRACTOR's termination rights do not apply to non-payment in the case of COMPANY's valid exercise of set off rights.

5.4 CONTRACTOR Obligations on Termination

On any termination, CONTRACTOR will:

- (i) cease performance and provide access to the SCOPE specified in the notice;
- (ii) Secure the WORKSITE, where applicable, and turn over materials and equipment, including CONTRACTOR EQUIPMENT, COMPANY may require in connection with SCOPE, and remove the remainder promptly from any COMPANY GROUP WORKSITE, at its own expense, and without unreasonably interfering with the activities of others;
- (iii) use reasonable endeavours to minimise any termination costs;
- (iv) return any amounts COMPANY has paid, including any pre-payments, that are greater than the amount CONTRACTOR is entitled to on termination;
- (v) assign to COMPANY or its nominee any SUBCONTRACTS requested by COMPANY to be assigned; and
- (vi) deliver to COMPANY:
 - (A) all of COMPANY's documents and information supplied to CONTRACTOR for performance of the CONTRACT;
 - (B) all documents and information needed to assist in completing SCOPE in progress; and
 - (C) all documentation for SCOPE and SOFTWARE which was to be supplied in connection with the CONTRACT.

5.5 Compensation in the Event of Termination

- (a) If COMPANY terminates the CONTRACT or part of SCOPE for cause, COMPANY will determine the only amounts owed to CONTRACTOR as follows: (i) for any portion of SCOPE that was performed in accordance with the CONTRACT prior to termination and for which the CONTRACT provides a means of valuation, CONTRACTOR is entitled to the amounts due and payable for such SCOPE as determined in accordance with the CONTRACT, (ii) for any portion of SCOPE that was performed in accordance with the CONTRACT prior to termination and for which the CONTRACT does not provide a means of valuation, CONTRACTOR is entitled to the market value of such SCOPE in the region for SCOPE and contractors performing work of a similar nature and carried out under similar conditions as SCOPE; and (iii) for any portion of SCOPE that was not performed in accordance with the CONTRACT, CONTRACTOR is not entitled to any amount.
- (b) If COMPANY terminates the whole of the CONTRACT for convenience or CONTRACTOR validly terminates for non-payment, COMPANY will determine the amounts owed to CONTRACTOR for SCOPE properly performed in accordance with the CONTRACT prior to termination. Those amounts will be limited to: (i) the amounts due and payable for such SCOPE under the CONTRACT; (ii) any reasonable, unavoidable, and auditible demobilisation and work in progress costs of CONTRACTOR.

5.6 Exclusive Reasons for Termination

The parties waive any right to terminate, rescind, or otherwise end the CONTRACT on grounds other than those set out in the CONTRACT.

6 LIQUIDATED DAMAGES

Where any LIQUIDATED DAMAGES are set out in the CONTRACT, the following applies:

- (i) (unless expressly provided otherwise in the CONTRACT, payment of LIQUIDATED DAMAGES will not relieve CONTRACTOR from its obligations to complete SCOPE in accordance with the CONTRACT.
- (ii) the parties agree that any LIQUIDATED DAMAGES are:
 - (A) genuine pre-estimate of the losses that may be sustained by failure of performance; and
 - (B) Not a penalty.
- (iii) If LIQUIDATED DAMAGES are invalid and unenforceable, COMPANY may claim demonstrated damages, subject to any limitations that may be set out in the CONTRACT.

7 LIABILITIES AND INDEMNITIES

7.1 CONTRACTOR GROUP People and Property

CONTRACTOR will INDEMNIFY COMPANY GROUP for LIABILITIES in respect of:

- (i) death, injury, or disease of any person in CONTRACTOR GROUP; and
- (ii) damage to or loss of:
 - (A) property owned by CONTRACTOR GROUP;
 - (B) COMPANY PROVIDED ITEMS while in CONTRACTOR GROUP's care, custody, or control; and
 - (C) property for which the CONTRACT provides that CONTRACTOR GROUP has the risk of loss.

7.2 COMPANY GROUP People and Property

COMPANY will INDEMNIFY CONTRACTOR GROUP for LIABILITIES in respect of:

- (i) death, injury, or disease of any person in COMPANY GROUP; and
- (ii) damage to or loss of property owned by COMPANY GROUP (except for COMPANY PROVIDED ITEMS while in CONTRACTOR GROUP's care, custody, or control, or property for which the CONTRACT provides that CONTRACTOR GROUP has the risk of loss).

7.3 LIABILITIES for Pollution

- (a) CONTRACTOR will INDEMNIFY COMPANY GROUP for LIABILITIES related to pollution or contamination emanating from:
 - (i) premises of and property owned by CONTRACTOR GROUP, including CONTRACTOR EQUIPMENT;
 - (ii) COMPANY PROVIDED ITEMS while in CONTRACTOR GROUP's care, custody, or control; and
 - (iii) property for which the CONTRACT provides that CONTRACTOR GROUP has the risk of loss.
- (b) COMPANY will INDEMNIFY CONTRACTOR GROUP for LIABILITIES related to pollution or contamination emanating from:
 - (i) property owned by COMPANY GROUP (except for COMPANY PROVIDED ITEMS while in CONTRACTOR GROUP's care, custody, or control, or property for which the CONTRACT provides that CONTRACTOR GROUP has the risk of loss); or
 - (ii) COMPANY GROUP's well or reservoir.
- (c) The two preceding sub-articles, regarding the obligation of a party to INDEMNIFY for LIABILITIES for people or property prevail over this sub-article regarding the obligation of a party to INDEMNIFY for pollution.

7.4 Indemnity for Own CONSEQUENTIAL LOSS

- (a) COMPANY will INDEMNIFY CONTRACTOR GROUP for LIABILITIES for COMPANY GROUP's own CONSEQUENTIAL LOSS that COMPANY GROUP would otherwise be entitled to from CONTRACTOR GROUP.
- (b) CONTRACTOR will INDEMNIFY COMPANY GROUP for LIABILITIES for CONTRACTOR GROUP's own CONSEQUENTIAL LOSS that CONTRACTOR GROUP would otherwise be entitled to from COMPANY GROUP.
- (c) A party's own CONSEQUENTIAL LOSS does not include:
 - (i) LIABILITIES to third parties; or
 - (ii) LIQUIDATED DAMAGES or other compensation that the CONTRACT explicitly provides for one party to recover from the other, where applicable.

7.5 Applicability of Obligations to INDEMNIFY in Case of Negligence, GROSS NEGLIGENCE, WILFUL MISCONDUCT, or other Circumstances

- (a) The requirements in the preceding four sub-articles of this Article, for a party to INDEMNIFY for LIABILITIES for people, property, pollution, or CONSEQUENTIAL LOSS apply:
 - (i) to the maximum extent permitted by APPLICABLE LAWS;
 - (ii) regardless of the cause of the LIABILITIES; and
 - (iii) regardless of the negligence, breach of statutory or other duty, or other fault of the indemnified party.
- (b) The requirements in the preceding four sub-articles of this Article, for a party to INDEMNIFY for LIABILITIES for people, property, pollution, or CONSEQUENTIAL LOSS do not apply to:
 - (i) LIABILITIES that did not arise in connection with the CONTRACT or that are unrelated to the SCOPE of the CONTRACT;
 - (ii) LIABILITIES caused by GROSS NEGLIGENCE of managerial or senior supervisory personnel or WILFUL MISCONDUCT of (A) any PERSON in CONTRACTOR GROUP where a PERSON in CONTRACTOR GROUP claims INDEMNIFICATION or (B) any PERSON in COMPANY GROUP where a PERSON in COMPANY GROUP claims INDEMNIFICATION; or
 - (iii) fines, punitive or exemplary damages, or penalties payable to any governmental or non-governmental third party by (A) any PERSON in CONTRACTOR GROUP where a PERSON in CONTRACTOR GROUP claims INDEMNIFICATION or (B) any PERSON in COMPANY GROUP where a PERSON in COMPANY GROUP claims INDEMNIFICATION.
- (c) The requirements in the preceding four sub-articles of this Article to INDEMNIFY for LIABILITIES for people, property, pollution, or CONSEQUENTIAL LOSS, do not apply to LIABILITIES arising from disclosure of CONFIDENTIAL INFORMATION and LIABILITIES related to IP RIGHTS.
- (d) Neither party excludes or limits its LIABILITIES to the other party to the extent they may not be excluded or limited under APPLICABLE LAWS.

7.6 Conflicts or Precedents

In the event of any conflict between COMPANY's obligation to INDEMNIFY for LIABILITIES for people, property, pollution, or CONSEQUENTIAL LOSS, as provided above in this Article, and provisions elsewhere in the CONTRACT requiring CONTRACTOR to INDEMNIFY for such LIABILITIES, the allocation

of such LIABILITIES (and corresponding limitations) in this Article will prevail, unless such other provision specifically states otherwise.

7.7 LIABILITIES to Third Parties

- (a) Except to the extent other indemnity provisions in this CONTRACT apply:
 - (i) CONTRACTOR will INDEMNIFY COMPANY GROUP for LIABILITIES to third parties arising in connection with the CONTRACT to the extent of and in proportion to the negligence, breach of statutory or other duty, or other fault of CONTRACTOR GROUP; and
 - (ii) COMPANY will INDEMNIFY CONTRACTOR GROUP for LIABILITIES to third parties arising in connection with the CONTRACT to the extent of and in proportion to the negligence, breach of statutory or other duty, or other fault of COMPANY GROUP.
- (b) For the purpose of this Article, “third party” means any party that is not a PERSON in COMPANY GROUP or CONTRACTOR GROUP.

7.8 Notification

If either party becomes aware of any incident likely to give rise to a claim under the above INDEMNITIES, that party will notify the other party, and both parties will cooperate fully in the investigation of the incident.

7.9 Mutual Waiver and Indemnity

- (a) This mutual waiver and indemnity provision applies:
 - (i) in the event COMPANY GROUP has any agreement at the relevant time with any OTHER CONTRACTOR that may be relevant to SCOPE or is performed at a WORKSITE where CONTRACTOR GROUP is present performing SCOPE; and
 - (ii) to the extent the agreement includes a similar obligation as that provided in this sub-article requiring an OTHER CONTRACTOR to directly or indirectly INDEMNIFY CONTRACTOR GROUP.
- (b) If this mutual waiver and indemnity provision applies, CONTRACTOR will INDEMNIFY OTHER CONTRACTOR GROUPS for LIABILITIES related to the CONTRACT in respect of:
 - (i) death, injury, or disease of any person in CONTRACTOR GROUP;
 - (ii) damage to or loss of property owned by CONTRACTOR GROUP; and
 - (iii) CONSEQUENTIAL LOSS of CONTRACTOR GROUP.
- (c) These indemnities apply in all those cases (including instances of negligence) that govern the applicability of CONTRACTOR’s obligation to INDEMNIFY for CONTRACTOR GROUP’s people and property, or CONSEQUENTIAL LOSS as set out in this Article.
- (d) CONTRACTOR will ensure that its insurers will waive any rights of recourse and subrogation rights against OTHER CONTRACTOR GROUPS in respect of the indemnities given by CONTRACTOR to OTHER CONTRACTOR GROUPS in this mutual waiver and indemnity provision.
- (e) The indemnities given by CONTRACTOR to OTHER CONTRACTOR GROUPS in this mutual waiver and indemnity provision are intended to be enforceable by those OTHER CONTRACTOR GROUPS that have included a similar obligation as that provided in this sub-article requiring an OTHER CONTRACTOR to directly or indirectly INDEMNIFY CONTRACTOR GROUP. If APPLICABLE LAWS do not allow OTHER CONTRACTOR GROUPS to enforce any of these indemnities, COMPANY is entitled to enforce the indemnities against CONTRACTOR on OTHER CONTRACTOR’s behalf.

8 INSURANCE

8.1 Requirements

- (a) Prior to commencement of performance, CONTRACTOR will arrange at its own expense at least the types and limits of insurance specified in the INSURANCE REQUIREMENTS, which are required to be in effect throughout the duration of the CONTRACT.
- (b) All insurance will be arranged with substantial insurers.
- (c) Satisfaction of the obligation to procure insurance and perform other actions in connection with this Article will not relieve CONTRACTOR GROUP of any obligations or LIABILITIES.
- (d) COMPANY may require CONTRACTOR to provide certificates of insurance, evidence of policy exclusions and endorsements acceptable to COMPANY, or other proof of insurance. COMPANY GROUP reviewing or accepting any certificate, insurer, or terms or limits of insurance proposed by CONTRACTOR GROUP, will not relieve CONTRACTOR GROUP of any obligations or LIABILITIES.

8.2 Excess Insurance

All insurance limits included in the INSURANCE REQUIREMENTS may be fulfilled through any combination of primary and excess (umbrella) insurance obtained in accordance with this Article.

8.3 Additional Insured

Except for Employer's Liability or Worker's Compensation Insurance, CONTRACTOR, will to the maximum extent permitted by APPLICABLE LAWS, include COMPANY GROUP as an additional insured on all insurance policies applicable to performance of the CONTRACT, but only to the extent of CONTRACTOR's obligations to INDEMNIFY COMPANY GROUP under the CONTRACT.

8.4 Subrogation Waiver

All insurance policies applicable to performance of the CONTRACT will, to the maximum extent permitted by APPLICABLE LAWS, be endorsed to provide that underwriters waive any rights of recourse, including subrogation rights, against COMPANY GROUP, but only to the extent CONTRACTOR is obligated to INDEMNIFY COMPANY GROUP under the CONTRACT.

8.5 SUBCONTRACTORS

Where any SUBCONTRACTOR is performing any part of the CONTRACT, CONTRACTOR will ensure that insurance specified in the SUBCONTRACTS is consistent with the requirements of this Article. SUBCONTRACTORS are not required to arrange insurances duplicating insurance CONTRACTOR or COMPANY has agreed to provide.

8.6 Notice and Replacement

CONTRACTOR will notify COMPANY of any cancellation or material change to the terms of any insurance within seven days of receipt of the insurer's notification to that effect. If CONTRACTOR fails to maintain any insurance required by the CONTRACT, COMPANY will have the right to procure the insurance, set off the costs against amounts owed to CONTRACTOR, and require prompt repayment by CONTRACTOR.

8.7 Deductibles and Precedence

CONTRACTOR is responsible for paying all deductibles on the insurances stipulated in the INSURANCE REQUIREMENTS. All insurance policies which CONTRACTOR GROUP is required to arrange in accordance with the INSURANCE REQUIREMENTS are primary in relation to insurance COMPANY GROUP may have in place, without right of contribution from any COMPANY GROUP insurance.

9 COMPLIANCE WITH APPLICABLE LAWS, BUSINESS PRINCIPLES, AND HSSE STANDARDS

9.1 APPLICABLE LAWS

- (b) CONTRACTOR represents that it is familiar with and will comply, and ensure that CONTRACTOR GROUP complies, with APPLICABLE LAWS in the performance of the CONTRACT.
- (c) CONTRACTOR will notify COMPANY in writing of any material breaches of APPLICABLE LAWS related to the performance of the CONTRACT and remedy non-compliance immediately.
- (d) CONTRACTOR will INDEMNIFY COMPANY GROUP for any LIABILITIES arising out of CONTRACTOR GROUP's non-compliance with APPLICABLE LAWS.

9.2 Business Principles

- (a) CONTRACTOR acknowledges that it has actual knowledge of:
 - (i) the Shell General Business Principles, available at www.shell.com/sgbp, and the Shell Supplier Principles, available at www.shell.com/suppliers;
 - (ii) the Shell Code of Conduct, available at <http://www.shell.com/codeofconduct>; and
 - (iii) the Shell Global Helpline, available at <http://www.shell.com/globalhelpline>.
- (b) CONTRACTOR agrees that CONTRACTOR GROUP will adhere to and notify of violations of the principles contained in the Shell General Business Principles and Shell Supplier Principles (or where CONTRACTOR has adopted equivalent principles, to those equivalent principles) in all its dealings with or on behalf of COMPANY in connection with this CONTRACT and related matters.
- (c) If CONTRACTOR GROUP supplies staff that work on behalf of COMPANY or represent COMPANY, CONTRACTOR commits that the staff will behave in a manner that is consistent with the Shell Code of Conduct.

9.3 Anti-Bribery and Corruption

- (a) CONTRACTOR represents that, in connection with this CONTRACT and related matters:
 - (i) it is knowledgeable about ANTI-CORRUPTION LAWS applicable to the performance of the CONTRACT, including the Corrupt Practices and Other Related Offences Act, Laws of the Federation of Nigeria 2004; Criminal Code Act Cap. 38, Laws of the Federation of Nigeria 2004; the Penal Code (Northern States) Federal Provisions Act Cap.P3, Laws of the Federation of Nigeria, 2004; the Economic and Financial Crimes Commission (Establishment) Act Cap. E.1, Laws of the Federation of Nigeria, 2004, (all as amended from time to time), and will comply with all such laws; and
 - (ii) CONTRACTOR GROUP has not made, offered, authorised, or accepted, and will not make, offer, authorise, or accept, any payment, gift, promise, or other advantage, whether directly or through any other PERSON, to or for the use or benefit of any GOVERNMENT OFFICIAL or any other PERSON where that payment, gift, promise, or other advantage would: (A) comprise a facilitation payment; or (B) violate the relevant ANTI-CORRUPTION LAWS.
- (b) CONTRACTOR will immediately notify COMPANY if CONTRACTOR receives or becomes aware of any matter that is prohibited by the preceding paragraph.
- (c) CONTRACTOR affirms that no PERSON in CONTRACTOR GROUP is a GOVERNMENT OFFICIAL or other PERSON who could assert illegal influence on behalf of COMPANY or its AFFILIATES. If a PERSON in CONTRACTOR GROUP becomes a GOVERNMENT OFFICIAL, CONTRACTOR will promptly notify

COMPANY and remove that individual from performance in connection with SCOPE at COMPANY's request.

- (d) CONTRACTOR will maintain adequate internal controls and procedures to ensure compliance with ANTI-CORRUPTION LAWS, including the ability to demonstrate compliance through adequate and accurate recording of transactions in its BOOKS AND RECORDS.
- (e) COMPANY will have the right to confirm compliance with ANTI-CORRUPTION LAWS and record keeping by audit. CONTRACTOR will keep BOOKS AND RECORDS available for audit while the CONTRACT is in effect and thereafter for ten years following termination of the CONTRACT.
- (f) CONTRACTOR will conduct due diligence on CONTRACTOR GROUP's ability to comply with ANTI-CORRUPTION LAWS proportionate to the identified risk which CONTRACTOR will establish by reference to the then current Corruption Perception Index, as published by Transparency International.
- (g) CONTRACTOR will INDEMNIFY COMPANY GROUP for any LIABILITIES arising out of CONTRACTOR GROUP's breach of ANTI-CORRUPTION LAWS or any related undertakings under this Article.

9.4 Export and Trade Controls

- (a) CONTRACTOR will comply with, all applicable TRADE CONTROL LAWS and provide COMPANY with necessary data to comply TRADE CONTROL LAWS.
- (b) CONTRACTOR will ensure that, except with the prior written consent of COMPANY: (i) COMPANY PROVIDED ITEMS are not exported, provided, or made available to any RESTRICTED JURISDICTION or RESTRICTED PARTIES; (ii) CONTRACTOR PERSONNEL with access to COMPANY GROUP's technical information, information technology resources (including COMPANY GROUP's infrastructure), or COMPANY GROUP WORKSITES, are not RESTRICTED PARTIES or nationals of a RESTRICTED JURISDICTION; and (iii) CONTRACTOR will not utilise SUBCONTRACTORS that are RESTRICTED PARTIES.

9.5 PERSONAL DATA Protection

- (a) The parties may provide each other with PERSONAL DATA in the course of the performance of this CONTRACT, the processing and transfer of which will be done in accordance with APPLICABLE DATA PROTECTION LAW. Each party is a data controller in respect of the PERSONAL DATA. The parties may provide each other with PERSONAL DATA in the course of the performance of this CONTRACT, the processing and transfer of which will be done in accordance with APPLICABLE DATA PROTECTION LAW. Each party is a data controller in respect of the PERSONAL DATA.
- (b) Where COMPANY is located in the European Economic Area and CONTRACTOR is located in a country that has not been deemed to provide an adequate level of protection for PERSONAL DATA and has not implemented a program or certification that is recognised as providing an adequate level of protection in accordance with Regulation (EU) 2016/679, the standard contractual clauses as set out in the Annex to Decision to 2004/915/EC are incorporated into this agreement in full including the data processing principles set forth in Annex A to those clauses and the following details:
 - (i) Data Exporter – COMPANY
 - (ii) Data Importer – CONTRACTOR
 - (iii) Data Subjects - Employees, contractors, and officers of COMPANY GROUP
 - (iv) Purposes of the transfer(s) - As necessary for the performance of the SCOPE under the CONTRACT
 - (v) Categories of data - Name, job title, business contact details, [**INSERT].

- (vi) Recipients - Data importer and entities authorised by the Data Importer only as strictly required for legitimate business purposes and as permitted by APPLICABLE DATA PROTECTION LAW.
- (vii) Sensitive Data - [**INSERT]
- (viii) Data protection registration information of Data Exporter - Data Exporter complies with its registration obligations. The lead supervisory authority for COMPANY GROUP is the Netherlands Data Protection Authority <https://autoriteitpersoonsgegevens.nl/en>
- (ix) Contact point for Data Exporter- Privacy-Office-SI@shell.com
- (x) Contact point for Data Importer - [**INSERT]

9.6 Health, Safety, Security, and Environment (“HSSE”)

- (a) In performing SCOPE at COMPANY GROUP WORKSITES, or other location if specified in the HSSE STANDARDS, CONTRACTOR will, and will ensure that CONTRACTOR GROUP will, at all times:
 - (i) pursue Shell’s HSSE principle of Goal Zero;
 - (ii) comply with Shell’s “Life Saving Rules”, available at <http://www.shell.com/lifesavingrules>; and
 - (iii) comply with other applicable HSSE STANDARDS.
- (b) CONTRACTOR will cause CONTRACTOR PERSONNEL to take precautions necessary to comply with HSSE STANDARDS. COMPANY may require CONTRACTOR to remove, at no additional cost to COMPANY, any CONTRACTOR PERSONNEL from any COMPANY GROUP WORKSITE or from the performance of SCOPE, for violation, in the opinion of COMPANY, of HSSE STANDARDS. In such event, CONTRACTOR will provide a suitable replacement for any such CONTRACTOR PERSONNEL within a reasonable time and at no additional cost to COMPANY.
- (c) CONTRACTOR is responsible for the adequacy, stability, and safety of all its operations and methods necessary for the performance of SCOPE at all WORKSITES, or other location if specified in the HSSE STANDARDS. CONTRACTOR is solely responsible for determining the nature and scope of HSSE risks associated with the performance of SCOPE and for managing those risks.
- (d) Where performance of SCOPE requires HSSE accreditations, CONTRACTOR will satisfy all requirements for the accreditation prior to commencement of performance and will keep its accreditations in good standing.

9.7 Local Content and Opportunity

- (a) CONTRACTOR will abide by and comply, and cause its SUBCONTRACTORS to comply, with all APPLICABLE LAWS on Nigerian content, which is defined in the Nigerian Oil & Gas Industry Content Development Act to mean “the quantum of composite value added to or created in the Nigerian economy by a systematic development of capacity and capabilities through the deliberate utilisation of Nigerian human, material resources, and services in the Nigerian oil and gas industry”. CONTRACTOR will also maximise Nigerian Content in performance of SCOPE.
- (b) CONTRACTOR will promote the sustainable development of Nigerian businesses as suppliers and service providers, establish training programs when specified by COMPANY, as well as utilise, as much as possible, goods and services procured from Nigerian markets.
- (c) Any contravention of the Nigerian Oil and Gas Industry Content Development Act or failure by CONTRACTOR to comply with its Nigerian content obligations as outlined in the CONTRACT, will entitle COMPANY to terminate the CONTRACT. CONTRACTOR will include the provisions of this Article in all its SUBCONTRACTS.

9.8 WORKER WELFARE PLAN

- (a) For the purpose of this sub-article, “WORKER WELFARE PLAN” means a plan prepared by CONTRACTOR which fully incorporates the COMPANY’s Worker Welfare elements and which will identify worker welfare risks and detailed activities to mitigate such risks, including identifying actions, responsible parties and target dates. CONTRACTOR confirms that it has received a copy, or otherwise taken note, of COMPANY’S Worker Welfare elements.
- (b) CONTRACTOR will provide a WORKER WELFARE PLAN to the COMPANY for review prior to deployment of CONTRACTOR PERSONNEL for the performance of SCOPE. CONTRACTOR will revise the WORKER WELFARE PLAN as and when required, including for any SCOPE not covered by the original WORKER WELFARE PLAN. If at any time, COMPANY reasonably determines that the WORKER WELFARE PLAN is inadequate, CONTRACTOR will revise the WORKER WELFARE PLAN accordingly. The CONTRACTOR will provide all revisions to the WORKER WELFARE PLAN to COMPANY for review.
- (c) CONTRACTOR is solely responsible for implementing the WORKER WELFARE PLAN and CONTRACTOR will, and will cause CONTRACTOR GROUP to, comply with the WORKER WELFARE PLAN, including subsequent revisions.
- (d) CONTRACTOR will assign a Worker Welfare focal point to support the implementation of the WORKER WELFARE PLAN.

10 CONFIDENTIALITY

10.1 Obligations in Connection with CONFIDENTIAL INFORMATION

- (a) CONTRACTOR will, and will ensure that CONTRACTOR GROUP will, not disclose or permit a disclosure to a third party of COMPANY GROUP’s CONFIDENTIAL INFORMATION without the prior written consent of COMPANY and will use COMPANY GROUP's CONFIDENTIAL INFORMATION only in connection with performance of the CONTRACT.
- (b) Information that CONTRACTOR can prove at disclosure is public knowledge, in the possession of CONTRACTOR without binder of secrecy, or developed independently of COMPANY’s CONFIDENTIAL INFORMATION is not CONFIDENTIAL INFORMATION. Restrictions on disclosure of COMPANY’s CONFIDENTIAL INFORMATION will cease if CONTRACTOR can prove that the information has become part of the public knowledge through no fault of CONTRACTOR GROUP or is subsequently disclosed to CONTRACTOR without an obligation of confidentiality by a third party who has the legal right to do so.
- (c) On COMPANY’s request, CONTRACTOR will return promptly any CONFIDENTIAL INFORMATION and delete it from electronic storage, and delete or destroy all extracts or analyses that reflect any CONFIDENTIAL INFORMATION.

10.2 CONTRACTOR Information

Except where the obligation is expressly stated elsewhere in the CONTRACT or through a separate agreement, COMPANY GROUP will not have an obligation of non-disclosure or non-use regarding information provided by CONTRACTOR GROUP.

10.3 External Communications

CONTRACTOR must obtain written approval from COMPANY before proceeding with any external communications in connection with the CONTRACT, disclosure of business relationships, or use of COMPANY’s trademarks.

11 INTELLECTUAL PROPERTY

11.1 COMPANY's IP RIGHTS

- (a) Except for IP RIGHTS vested with CONTRACTOR as provided below, all ownership rights, title, and interest in and to SCOPE and WORK PRODUCT, including IP RIGHTS, will vest with and be assigned to COMPANY or its nominee promptly upon creation or generation. This CONTRACT does not grant CONTRACTOR GROUP any rights, title, or interest in or to COMPANY GROUP's IP RIGHTS, other than those set out in the CONTRACT.
- (b) CONTRACTOR, warranting that it is entitled to do so, grants to COMPANY GROUP the irrevocable, non-exclusive, perpetual, worldwide, royalty-free right and licence, with the right to grant sub-licences, to possess, use and modify any of CONTRACTOR's IP RIGHTS embodied in SCOPE and WORK PRODUCT to the extent necessary to allow COMPANY GROUP to possess, use, exploit, and modify SCOPE and WORK PRODUCT, including the right to import, export, operate, sell, maintain, and repair SCOPE. CONTRACTOR warrants that any possession or use of SCOPE or of CONTRACTOR's IP RIGHTS will not infringe the IP RIGHTS of any third party.

11.2 IP RIGHTS derived from COMPANY's IP RIGHTS

- (a) IP RIGHTS created by modifications, amendments, enhancements, or improvements (including tailor-made to the specifications of COMPANY) to COMPANY GROUP's IP RIGHTS, or made using COMPANY GROUP's CONFIDENTIAL INFORMATION:
 - (i) will vest with COMPANY or its nominee when created; and
 - (ii) are assigned, along with all rights, title, and interest in those IP RIGHTS by CONTRACTOR to COMPANY or assignee.
- (b) CONTRACTOR irrevocably waives, and will cause CONTRACTOR GROUP to irrevocably waive, any related moral or similar, non-transferable rights that any PERSONS in CONTRACTOR GROUP may have.
- (c) CONTRACTOR will execute, and will cause CONTRACTOR GROUP to execute documents, and take all other steps as may reasonably be necessary to document the ownership of COMPANY or its nominee in the IP RIGHTS to allow COMPANY to secure, protect, and enforce those rights for the benefit and full use of COMPANY GROUP.

11.3 CONTRACTOR's IP RIGHTS

- (a) COMPANY's ownership rights in SCOPE under this article will not extend to CONTRACTOR GROUP's IP RIGHTS that:
 - (i) pre-existed the performance under the CONTRACT;
 - (ii) are developed independently from performance of the CONTRACT; or
 - (iii) are used by CONTRACTOR in connection with or to perform the CONTRACT, but are not based on or arising out of COMPANY GROUP's IP RIGHTS or CONFIDENTIAL INFORMATION.
- (b) CONTRACTOR warrants that the possession, use, or distribution by COMPANY GROUP and their customers or nominees of WORK PRODUCT or of any other materials made available to COMPANY by CONTRACTOR GROUP in connection with SCOPE, will not infringe or misappropriate the IP RIGHTS of any third party.

11.4 Safekeeping

CONTRACTOR will hold all original documents comprising WORK PRODUCT in safekeeping and will maintain BOOKS AND RECORDS evidencing the process of independent creation. At COMPANY's

request, CONTRACTOR will deliver to COMPANY any WORK PRODUCT related to SCOPE designed for COMPANY.

11.5 Indemnity

- (a) CONTRACTOR will INDEMNIFY COMPANY GROUP, assignees, transferees, and sub-licensees permitted by this CONTRACT for any LIABILITIES resulting from any claim that the ownership possession or use of any SCOPE or WORK PRODUCT infringes or misappropriates the IP RIGHTS of any third party.
- (b) CONTRACTOR will not, without the prior written consent of COMPANY, settle or compromise any infringement claim if the settlement or compromise obligates COMPANY GROUP to part with any property, assume any obligation (including the payment of money), grant any licence or other rights, or be subject to any injunction by reason of the settlement or compromise.

11.6 Substitution on Infringement

Where items, designs, processes, methods, information, SCOPE, WORK PRODUCT specified or delivered by CONTRACTOR and used or proposed to be used by COMPANY GROUP or its nominees, are held to constitute infringement or misappropriation of a third party's IP RIGHTS and their use is wholly or partially prevented, CONTRACTOR will promptly at its own expense either procure the right to use the same or replace them with non-infringing items, designs, processes, methods, information, materials, goods, or services of at least equivalent functionality.

12 FINANCIAL AND PERFORMANCE AUDIT

- (a) COMPANY will have the right to audit: (i) invoiced charges and proper invoicing; (ii) other BOOKS AND RECORDS; and (iii) the performance of any other of CONTRACTOR's obligations under the CONTRACT, where capable of being verified by audit.
- (b) Based on the findings of the audit, the parties will settle any amounts charged incorrectly within 45 days of any audit finding; and CONTRACTOR will provide any SCOPE, or refund, repair, replace, or re-perform any SCOPE where the requirement to do so is identified by any audit within 45 days of any audit finding.
- (c) CONTRACTOR will keep BOOKS AND RECORDS available for audit for the longer of the following periods: (i) five years following termination of the CONTRACT or any longer period as required by APPLICABLE LAWS; or (ii) two years after the period expires on any obligation of CONTRACTOR to refund, repair, replace, or re-perform any SCOPE (including correction of defects).
- (d) If a longer period is specified in the CONTRACT for retention of relevant BOOKS AND RECORDS for compliance with ANTI-CORRUPTION LAWS, CONTRACTOR will comply with that requirement.

13 RELATIONSHIP OF PARTIES

13.1 Independent CONTRACTOR

CONTRACTOR is an independent contractor in all aspects of performance under the CONTRACT. CONTRACTOR is responsible for the method and manner of performance to achieve the results required by the CONTRACT.

13.2 No Business Relationship

- (a) Neither the CONTRACT nor its performance creates a partnership, joint venture or fiduciary relationship. No party is appointed as an agent of the other. The CONTRACT does not permit CONTRACTOR to make any commitment on behalf of COMPANY GROUP.

- (b) CONTRACTOR and CONTRACTOR PERSONNEL are not to be considered employees of COMPANY GROUP and are not eligible to participate in any of COMPANY GROUP's employee benefit plans. CONTRACTOR will INDEMNIFY COMPANY GROUP for any LIABILITIES related to claims for private or governmental benefits by CONTRACTOR GROUP.
- (c) COMPANY enters into the CONTRACT on its own behalf and on behalf of its CO-VENTURERS, where applicable, but CONTRACTOR agrees to look solely to COMPANY for performance and payment. No obligations are assumed by any CO-VENTURER.

14 CONTRACTOR PERSONNEL AND SUBCONTRACTING

14.1 Responsibility

- (a) CONTRACTOR is responsible for any SCOPE performed by and all activities, omissions, and defaults of any SUBCONTRACTOR and all CONTRACTOR PERSONNEL as if they were the activities, omissions, or defaults of CONTRACTOR.

14.2 Condition to SUBCONTRACT

- (a) CONTRACTOR may not subcontract any part of its obligations under the CONTRACT except as agreed in writing by COMPANY.

14.3 Formation and Content of SUBCONTRACTS; Further Requirements

- (a) CONTRACTOR will ensure that SUBCONTRACTS are in all material respects consistent with the terms and conditions of the CONTRACT.

14.4 Payments to SUBCONTRACTORS

- (a) If COMPANY becomes aware that CONTRACTOR has failed to pay SUBCONTRACTORS or COMPANY receives a claim from a SUBCONTRACTOR related to non-payment for SCOPE, COMPANY will notify CONTRACTOR.
- (b) If CONTRACTOR does not promptly pay the SUBCONTRACTORS after receiving notice and to ensure proper performance of SCOPE (including to discharge a threatened or asserted LIEN), then COMPANY may issue payment:
 - (i) directly to those SUBCONTRACTORS; or
 - (ii) jointly to CONTRACTOR and any SUBCONTRACTORS
- (c) Any payment to a SUBCONTRACTOR under this sub-article will be regarded as a payment to CONTRACTOR for the CONTRACT PRICE. COMPANY may set off these payments against amounts owed to CONTRACTOR or charge CONTRACTOR for such amounts.

15 ASSIGNMENT

An assignment or novation by a party of all or part of the CONTRACT requires the written consent of the other party, except that COMPANY may assign and novate all or part of the CONTRACT to an AFFILIATE without the consent of CONTRACTOR by giving written notice to CONTRACTOR.

16 FORCE MAJEURE

- (a) COMPANY and CONTRACTOR are each excused from performance of the affected part of an obligation of the CONTRACT while performance is prevented by a FORCE MAJEURE EVENT unless the event: (i)

was contributed to by the fault of the party or was due to circumstances that could have been avoided or mitigated by the exercise of reasonable diligence by (A) any PERSON in CONTRACTOR GROUP where CONTRACTOR claims force majeure or (B) any PERSON in COMPANY GROUP where COMPANY claims force majeure; or (ii) relates to an inability to make payments of money or secure funds.

- (b) Only the following are FORCE MAJEURE EVENTS:
- (i) riots, wars, blockades, or threats or acts of sabotage or terrorism;
 - (ii) earthquakes, floods, fires, named hurricanes or cyclones, tidal waves, tornadoes;
 - (iii) radioactive contamination, epidemics, maritime or aviation disasters;
 - (iv) strikes or labour disputes at a national or regional level or involving labour not forming part of CONTRACTOR GROUP or COMPANY GROUP, which materially impair the ability of the party claiming force majeure to perform the CONTRACT;
 - (v) government sanctions, embargoes, mandates, or laws that prevent performance;
 - (vi) except as expressly provided otherwise in the CONTRACT, inability of a party to timely obtain licences, permits, or AUTHORITIES' consent, required for performance; or
 - (vii) non-performance of a party's SUBCONTRACTOR where the SUBCONTRACTOR has been or is affected by one of the above FORCE MAJEURE EVENTS. However, performance will only be excused under this sub-paragraph if the parties to the CONTRACT agree that substitute performance by another SUBCONTRACTOR is impracticable under the circumstances.
- (c) A party whose performance is delayed or prevented will: (i) notify the other party without delay; (ii) use all reasonable endeavours (including acceleration of schedules on resumption of performance) to mitigate the effects; and (iii) provide on a continuing basis plans for resumed performance and revised schedules.
- (d) COMPANY may terminate the CONTRACT or part of SCOPE if any FORCE MAJEURE EVENT results in a delay that exceeds 90 consecutive or 180 cumulative days, except where COMPANY provides a VARIATION ORDER.

17 NOTICES

All notices or other communications under the CONTRACT must be in English and in writing, and:

(i) delivered by hand; (ii) sent by prepaid courier; (iii) sent by registered post; or (iv) sent by email with confirmation receipt requested. Notices and communications are effective when actually delivered at the address specified in the CONTRACT.

18 GOVERNING LAW, DISPUTE RESOLUTION AND REMEDIES

18.1 Governing Law

This CONTRACT, and any dispute or claim arising out of or in connection with this CONTRACT or its subject matter or formation, including any non-contractual disputes or claims, will be exclusively governed by and construed in accordance with the laws of the Federal Republic of Nigeria, excluding conflict of law rules and choice of law principles that provide otherwise. The United Nations Convention on the International Sale of Goods will not apply to this CONTRACT.

18.2 Dispute Resolution

- (a) Any dispute or claim arising out of or in connection with the CONTRACT or its subject matter or formation, whether in tort, contract, under statute, or otherwise, including any question regarding its

existence, validity, interpretation, breach, or termination, and including any non-contractual claim, will be finally and exclusively resolved by arbitration under the Arbitration and Conciliation Act, Cap. A18, Laws of the Federation of Nigeria, 2004 (“the ACT”), and any amendments to the ACT.

- (b) The arbitral tribunal, to be appointed in accordance with the ACT, will consist of one arbitrator. However, if either party asserts the amount in controversy exceeds USD \$5 million, then the tribunal will consist of three arbitrators.
- (c) The seat of the arbitration will be Lagos, Nigeria.
- (d) The language of the arbitration will be English.
- (e) The International Bar Association (IBA) Rules on the Taking of Evidence in International Arbitration will apply to the arbitration.
- (f) Each party waives, to the fullest extent permitted by law, any right under the laws of any jurisdiction:
 - (i) to apply to any court or other judicial authority to determine any preliminary point of law; and
 - (ii) to appeal or otherwise challenge the award, other than on the same grounds on which recognition and enforcement of an award may be refused under Article V of the United Nations Convention on the Recognition and Enforcement of Foreign Arbitral Awards of 1958 (“The New York Convention”).
- (g) Nothing in this Article will be construed as preventing any party from seeking conservatory or similar interim relief from any court with competent jurisdiction. Any award rendered by the arbitral tribunal will be made in writing and will be final and binding on the parties. The parties will carry out the award without delay. Judgment upon any award or order may be entered in any court having jurisdiction. All aspects of the arbitration will be considered confidential.

18.3 Specific Performance

COMPANY is entitled to specific performance of the CONTRACT.

19 ADDITIONAL LEGAL PROVISIONS

- (a) The parties retain their rights and remedies under APPLICABLE LAWS, subject to any provisions in the CONTRACT that provide otherwise.
- (b) The CONTRACT, and all ancillary notices, correspondence, and other documents, will be in English. Where translations have been provided, the English version will prevail in case of any conflicts or inconsistencies between translations.
- (c) A provision of the CONTRACT is not waived unless made in writing by an authorised representative of the waiving party. The waiver of a right or the partial exercise of a remedy does not limit a party’s entitlement to exercise such right or remedy in the future.
- (d) If any provision of the CONTRACT is determined invalid or unenforceable in any respect, the provision will remain enforceable in all other respects and all other provisions of the CONTRACT will be given full effect.
- (e) Provisions that state that they survive or by their nature are intended to survive completion of performance or termination of the CONTRACT do so, along with all remedies attached to them.

- (f) Amendments to the CONTRACT must be made in writing and signed by the parties' authorised representatives in order to be binding.
- (g) CONTRACTOR GROUP or COMPANY GROUP not a party to the CONTRACT, but conferred rights in it, are entitled to enforce those rights, but their consent will not be required to amend or terminate the CONTRACT, even if it affects those rights. Otherwise, the parties do not intend that any term of this CONTRACT should be enforceable by any PERSON who is not a party to the CONTRACT.
- (h) Each party will take all reasonable steps to mitigate any LIABILITIES resulting from breach of CONTRACT by the other party.
- (i) The CONTRACT sets forth the entire agreement between the parties concerning its subject matter and supersedes any other agreements or statements pertaining to the same subject matter, except those agreements or statements expressly referenced in the CONTRACT as included. Any confidentiality agreement pertaining to the subject matter will remain in effect according to its terms, unless the CONTRACT provides that it is terminated or replaced.
- (j) The CONTRACT may be signed in any number of counterparts, all of which constitute a single instrument.
- (k) If requested by COMPANY, CONTRACTOR agrees to use COMPANY's designated on-line tool to sign with a digital signature, except where prohibited by APPLICABLE LAW. If signed digitally, COMPANY and CONTRACTOR agree to waive any right to dispute the genuineness of the signature, or the admissibility of the CONTRACT where such challenge is based on the absence of a physical signature.

SECTION IV –SCOPE DESCRIPTION

ARTICLE 1 - GENERAL

- 1.1 The CONTRACTOR shall perform the WORKS in accordance with the CONTRACT. The work to be performed generally consists of all WORKS necessary and the provision of TBOSIET,BOSIET, HUET and MIST training and related training
- 1.2 The WORKS shall be performed strictly in accordance with the terms of this CONTRACT, and such further SHELL instructions in that regard.
- 1.3 The CONTRACTOR shall provide and mobilise all resources including labour, plant/equipment necessary to perform the WORKS in accordance with the CONTRACT.
- 1.4 The CONTRACTOR warrants that the WORKS shall be performed in a safe manner to the required standard, using good working practices by properly skilled, experienced and suitable personnel and that materials supplied will be new, free from defects and suitable for their intended purpose.
- 1.5 The CONTRACTOR shall ensure that all supervisory personnel employed on the WORK are capable of speaking, understanding, reading and writing the English Language.
- 1.4 The CONTRACTOR shall endeavour to maximise the employment of persons indigenous to his host communities.
- 1.5 The CONTRACTOR shall be responsible for solving any problems and/or delays in the replacement of defective materials. He shall keep the COMPANY informed at all times on the progress of work.

SECTION V –SCOPE DESCRIPTION

DRAFT

CONTENTS

Content	
1.0 ABBREVIATIONS	97
2.0 GENERAL DESCRIPTION OF THE PROJECT AND EXISTING FACILITIES	101
2.1 Introduction	101
2.2 Project Overview	101
2.3 Summary Project Scope of Work (Packages 1 and 2)	<u>Error! Bookmark not defined.</u> 19
2.4 Summary of Main Activities	104
2.5 Work Planning	105
2.6 LOCAL REQUIREMENTS	106
2.6.1 PROJECT LANGUAGE(S)	106
2.6.2 LOCAL CONTENT REQUIREMENTS	106
2.6.3 Codes and Standards	106
3.0 DETAILED DESCRIPTION OF THE FACILITIES	107
3.1 MECHANICAL AND PIPING WORKS	108
3.1.1 GBARAN CENTRAL PROCESSING FACILITY (CPF) LOCATION	
<u>Error! Bookmark not defined.</u> 31	<u>108</u> 32
3.1.3	<u>Error! Bookmark not defined.</u> 33
3.1.4 GENERAL	<u>Error! Bookmark not defined.</u> 35
3.2 PIPELINE WORKS	
3.2.1 GBARAN CENTRAL PROCESSING FACILITY (CPF) LOCATION	
3.2.2 N	<u>Error! Bookmark not defined.</u> 35
3.2.3 GBARAN HPHT WELL HOOK UP SKID AREA	
3.2.4 GENERAL	<u>Error! Bookmark not defined.</u> 36
3.3 CORROSION MANAGEMENT & MATERIAL SELECTION	
3.3.1 GBARAN CENTRAL PROCESSING FACILITY (CPF) LOCATION	<u>109</u> 38
3.3.2 GBARAN WELLHEAD CLUSTER AND OIL/ NAG MANIFOLD LOCATION, FLOWLINE & BULKLINE TIE-IN	<u>Error! Bookmark not defined.</u> 39
3.3.3 GBARAN HPHT WELL HOOK UP SKID AREA	<u>Error! Bookmark not defined.</u> 39
3.3.4 GENERAL	<u>Error! Bookmark not defined.</u> 39
3.3.4.1 Coatings & Painting	<u>110</u> 40
3.4 CONTROL AND INSTRUMENTATION	
3.4.1 GBARAN CENTRAL PROCESSING FACILITY (CPF) LOCATION	<u>Error! Bookmark not defined.</u> 40
3.4.2	<u>Error! Bookmark not defined.</u> 40
3.4.3	<u>Error! Bookmark not defined.</u> 41
3.4.4 GENERAL	<u>Error! Bookmark not defined.</u> 42
3.4.4.1 FACILITIES SYSTEM INTEGRATION.	<u>110</u> 42
3.4.4.2 ROCI REQUIREMENT	<u>111</u> 44
3.4.4.3 EARTHING AND SURGE PROTECTION	<u>111</u> 44
3.4.4.4 UPS Systems	<u>Error! Bookmark not defined.</u> 44
3.4.4.5 INSTRUMENT DATA	<u>112</u> 44
3.5 TELECOMS SYSTEMS	
3.5.1 GBARAN CENTRAL PROCESSING FACILITY (CPF) LOCATION	<u>Error! Bookmark not defined.</u> 45
3.5.2	<u>Error! Bookmark not defined.</u> 45
3.5.3	<u>Error! Bookmark not defined.</u> 45
3.5.4 GENERAL	<u>Error! Bookmark not defined.</u> 46
3.5.4.1 STRUCTURED CABLING SYSTEM	<u>Error! Bookmark not defined.</u> 49
3.5.4.2 TELEPHONY SYSTEM	<u>Error! Bookmark not defined.</u> 49
3.5.4.3 CLOSED CIRCUIT TELEVISION (CCTV)	<u>Error! Bookmark not defined.</u> 49
3.5.4.4 IP DATA NETWORK	<u>Error! Bookmark not defined.</u> 50

3.5.4.5	PAS LAN	Error! Bookmark not defined.	50
3.5.4.6	TELECOMMUNICATIONS EQUIPMENT CABINET	Error! Bookmark not defined.	50
3.5.4.7	INTEGRATION WITH EXISTING FACILITIES	Error! Bookmark not defined.	51
3.5.4.8	SUPPLY OF SPARES	Error! Bookmark not defined.	51
3.5.4.9	POST INSTALLATION SUPPORT (PIS) (OPTIONAL SCOPE)	Error! Bookmark not defined.	51
3.6	ELECTRICAL		11352
3.6.1	GBARAN CENTRAL PROCESSING FACILITY (CPF) LOCATION		11352
:			Error! Bookmark not defined.
	Error! Bookmark not defined.	52	
3.6.3		Error! Bookmark not defined.	
3.6.4	GENERAL	Error! Bookmark not defined.	53
3.6.4.1	NEW ELECTRICAL FACILITIES	Error! Bookmark not defined.	53
3.6.4.2	TEMPORARY DIESEL GENERATOR –(Optional)	Error! Bookmark not defined.	53
3.6.4.3	UPS SYSTEMS	Error! Bookmark not defined.	54
3.6.4.4	ELECTRICAL POWER DISTRIBUTION SYSTEMS	Error! Bookmark not defined.	54
3.6.4.5	EARTHING AND LIGHTNING PROTECTION	Error! Bookmark not defined.	54
3.6.4.6	EXTERNAL LIGHTING AND SMALL POWER DISTRIBUTION	Error! Bookmark not defined.	54
3.6.4.7	CABLE DUCTS	Error! Bookmark not defined.	55
3.6.4.8	LOW VOLTAGE POWER AND CONTROL CABLES	Error! Bookmark not defined.	55
3.7	CIVIL AND STRUCTURAL WORK		11555
3.7.1	GBARAN CENTRAL PROCESSING FACILITY (CPF) LOCATION	Error! Bookmark not defined.	55
	Error! Bookmark not defined.	55	
3.7.3		Error! Bookmark not defined.	
3.7.4	GENERAL	Error! Bookmark not defined.	58
3.7.4.1	SITE SURVEYS AND PROBING	Error! Bookmark not defined.	11658
3.7.4.2	SITE PREPARATION FOR REMOTE SITES	Error! Bookmark not defined.	11658
3.7.4.3	STRUCTURAL STEELWORK	Error! Bookmark not defined.	11659
3.7.4.4	FOUNDATIONS	Error! Bookmark not defined.	11659
3.7.4.5	PAVING AND PATHWAYS AND ACCESS ROADS & GRADING	Error! Bookmark not defined.	11759
3.8	FACILITIES REMEDIATION DURING AND AFTER CONSTRUCTION ACTIVITIES		11759
3.9	DATUM		11760
3.10	TEMPORARY FACILITIES		11760
3.11	BROWNFIELD AND DECOMMISSIONING WORKS		11760
3.12	LAYOUT CONSIDERATIONS, MECHANICAL HANDLING AND PDMS MODEL DEVELOPMENT		11860
3.13	NOISE MANAGEMENT		11861
3.14	HUMAN FACTORS ENGINEERING		11861
3.15	EQUIPMENT		11861
3.15.1	Piping and Piping Supports		11861
3.16	BATTERY LIMITS AND INTERFACES WITH OTHER FACILITIES/ACTIVITIES		11962
3.16.1	Organization		11962
3.16.2	Interfaces Between Package 1 & Package 2		12063
3.16.2.1	PROCESS OVERVIEW		12063
3.16.2.2	BULKLINES SYSTEM		Error! Bookmark not defined.
3.16.2.3	PIPING		12065
3.16.2.4	COMMISSIONING		12065
3.16.2.5	ELECTRICAL & TELECOMS		12166
3.16.3	Interfaces with Existing COMPANY Plant/Facilities core		12268
3.16.3.1	CIVIL INTERFACES		12268
3.16.3.2	ELECTRICAL		12268
3.16.3.3	INSTRUMENTATION		12369

3.16.3.4	SPDC CORPORATE TELECOMMUNICATIONS INFRASTRUCTURE	12369
3.16.3.5	PROCESS INFORMATION® (PI) SERVER LOCATED IN PORT HARCOURT	12369
3.16.3.6	INTERFACE/TIE-IN TO TELECOM EQUIPMENT AT NAG MANIFOLDS	Error! Bookmark not defined.70
3.16.3.7	AUXILIARY SYSTEMS	Error! Bookmark not defined.70
3.16.3.8	TELECOMMUNICATION	Error! Bookmark not defined.70
3.16.3.9	COMMISSIONING	Error! Bookmark not defined.70
3.16.4	Interfaces with Other Projects and Activities	12370
4.0	PROJECT MANAGEMENT	12471
4.1	Introduction	12471
4.2	Work Locations	12471
4.3	Control, Monitoring and Procedures	12572
4.4	Project Calendar	12572
4.5	Permits and Licences	12572
4.6	Project Reporting Requirements	12572
4.7	Video Coverage and Progress Photographs	12572
4.8	Project Execution Statement/Project Execution Plan	12673
4.8.1	General	12673
4.8.2	Project Execution Statement	12673
4.8.3	Project Execution Plan	12673
4.8.4	Computer System, Software and Data Management	12775
4.9	Lean Implementation	12875
4.10	CONTRACTOR's Organisation and Key Personnel	12876
4.10.1	Manpower Resourcing Plan	12977
4.10.2	Senior Management	13077
4.10.3	Key Personnel	13077
4.10.4	Qualifications	13178
4.10.5	Wages and Work Cycles	13179
4.10.6	Minimum Qualifications for Design and Engineering Personnel	13179
4.11	Project Interface Management	13279
4.11.1	Interface with Others Carrying Out Work in the Field Area	13280
4.12	Company Involvement in CONTRACT Activities	13280
4.13	Services to be Provided to COMPANY by CONTRACTOR	13280
4.13.1	General	13280
4.13.2	COMPANY Acquisition of Construction Camp	13381
4.13.3	Facilities at Work Locations	13381
4.13.3.1	Site Construction Base	13381
4.13.3.2	Storage Base Location Facilities	13481
4.13.4	Office Facilities	13481
4.13.5	Meals and Accommodation	13582
4.13.6	Medical Facilities at Construction Site	13582
4.13.7	Vehicles	13583
4.13.8	Communication Facilities –	13583
4.13.8.1	Construction Camp	13683
4.13.8.2	Worksites	13784
4.13.8.3	Vehicles Communication	13785
4.13.9	CONTRACTOR Own Accommodation	13886
4.13.10	Miscellaneous Support Services in CONTRACTOR's Office	13886
4.13.10.1	Visas etc.	13886
4.13.10.2	Medical and Motor Vehicle Insurance	13886
4.13.10.3	Travel and Hotel/Accommodation Arrangements	13886

4.13.10.4	Non-specified Services and Support	13886
4.14	Data to be Provided to CONTRACTOR by COMPANY	13987
4.14.1	Codes and Standards	13987
4.14.2	COMPANY Proprietary Software	13987
4.14.3	Technical Data Specific To Existing Facilities	13987
4.14.4	Technical Data Specific to Associated New Facilities	13987
5.0	ENGINEERING	14088
5.1	General	14088
5.2	Detailed Engineering Design Scope	14189
5.2.1	Mobilization of the engineering team and infrastructure	14189
5.2.1.1	DESIGN OFFICE	14189
5.2.1.2	ENGINEERING PERSONNEL	14189
5.2.1.3	DETAILED DESIGN	14189
5.3	CONTRACTOR Prepared Plans, Specifications and Drawings	14391
5.4	Process	14492
5.5	Mechanical	14593
5.6	Piping/Layouts	14694
5.7	Electrical	14897
5.8	Process Automation, Control and Optimisation	15099
5.9	Telecommunications	Error! Bookmark not defined. 100
5.10	Civil/Structural	151101
5.11		152102
5.12		152102
5.13	Technical Safety	152102
5.14	Human Factor Engineering	153104
5.15	Engineering Reviews	154104
5.16	Materials and Corrosion –	154105
6.0	OPERATIONS AND ASSET MANAGEMENT	158109
6.1	General	158109
6.1.1	Asset Management Deliverables	158109
6.1.2	Asset Manuals	159110
6.1.3	Other Deliverables	159110
6.1.4	Operating Mode Assurance Study/Reliability and Availability Modelling	159110
6.2	Maintenance Management System –	159110
6.2.1	Asset Register	160111
6.2.2	S-RBI Strategy development	160111
6.2.3	Maintenance Job Routines Development	161112
6.2.4	Spares and Consumables Data	161112
6.2.5	Corrosion Inspection Strategy Methodology (Corrosion Data)	161112
6.2.5.1	EQUIPMENT IDENTIFICATION	162113
6.2.5.2	CAD PFDS	162113
6.2.5.3	PRODUCTION OF ISOMETRICS CORROSION MANAGEMENT DRAWINGS (CMDS)	162113
6.2.6	Baseline Measurement	162113
6.2.7	Provision of ICAD Drawings	162113
6.2.8	Maintenance System Routines and Data Population	162113
6.3	Asset Manuals	163114
6.3.1	Asset Management Manuals Operating Information	163114
6.3.2	Plant Operating Manual	163114
6.3.3	Maintenance Manuals	163114
6.3.4	Concurrent Operations Plan and Manual of Permitted Operations	164115

6.3.5	Reference Directory (Total Content)	164115
6.4	Original Equipment Manufacturer Electronic Catalogue (e-Cat) Access	164115
6.5	Technical Integrity	164115
6.6	Flawless Project delivery	165116
7.0	CONTRACTING & PROCUREMENT	167117
7.1	Introduction	167117
7.2	Scope of Procurement Activities	167117
7.3	Free Issued Materials	168118
7.4	Responsibilities of CONTRACTOR	168118
7.5	Shipping, Imports and Customs Formalities	169119
7.5.1	Import Duty Exemption" Certificate (IDEC)	169119
7.5.2	Customs Bond	170120
7.5.3	Procedures For Management Of Freight Handling & Shipment	170120
7.6	Specialist Supervision	170120
7.7	Materials Tracking and Tagging	170120
7.7.1	Supply Chain Events Tracking	171121
7.7.2	Construction site Onsite Materials Tracking	171121
7.8	Spare Parts	172122
7.8.1	Development of spare parts lists	173123
7.8.2	Identification of additional spare parts required	173123
7.8.3	Vendor Catalogue and MESC coding requirements	174123
7.8.4	Packing, labelling, preservation, delivery and storage	174124
7.8.5	Spares Tracking	175125
7.8.6	Spares Inventory	176126
7.8.7	Operational readiness	176126
7.8.8	License for Materials Tagging and Tracking systems	176126
7.9	Receipt and Inspection	176126
7.10	Material Storage, Control and Inventory	177127
7.11	Surplus Materials	178128
7.12	Material and Equipment Warranties	178128
7.13	Procurement Procedures and Materials Management Plan	178128
7.13.1	Procurement Procedures	178128
7.13.2	Materials Management Plan	179129
7.14	Documentation	180129
7.15	Requisitions	180130
7.16	Request for Quotation	180130
7.17	Expediting	181130
8.0	FABRICATION AND CONSTRUCTION	182132
8.1	General	182132
8.2	Mobilisation and Demobilisation of Work Locations	182132
8.3	CONTRACTOR Organisation	184134
8.4	As-built Documentation	185135
8.5	Security and Safety	185135
8.5.1	Warning Signs and Symbols	187137
8.6	Fabrication and Construction Work	187137
8.6.1	Workface Planning	187137
8.6.2	Civil/Structural Work	187137
8.6.3	Piping and Mechanical Fabrication, Site Erection and Hook-up	188138
8.6.4	Electrical Installation and Hook-up	189139
8.6.5	Instrument Installation, Hook-up and Calibration	190140

8.6.5.1	FIELD INSTRUMENTS	190141
8.6.5.2	INSTRUMENT CABLING	191141
8.6.5.3	FIRE AND GAS DEVICES	191142
8.6.5.4	GBARAN CPF CENTRAL CONTROL ROOM	Error! Bookmark not defined.
8.6.5.5	EARTHING AND SURGE PROTECTION	192142
8.6.6	Telecoms Installation, Hook-up and Calibration	Error! Bookmark not defined. 192142
8.6.7	Detailed Installation and Hook-up Procedures	192143
8.7	Mechanical Handling	193144
8.7.1	General	193144
8.7.2	Lifting Facilities for Installation, Commissioning and Maintenance	193144
8.7.3	Mechanical Handling Assessment Procedure	194144
8.7.4	Maintenance and Lay-down Areas	194144
8.7.5	Maximum Package Sizes	194145
8.7.6	Handling during Installation	194145
8.7.7	Access to Site by OTHER COMPANY CONTRACTORS	195145
8.7.8	Permit to Work	195145
8.7.9	Tie-in and Terminations	195146
8.7.10	Concurrent Operations	195146
9.0	INSPECTION AND TESTING	196147
9.1	General	196147
9.2	Inspection and Testing Plan (ITP's)	196147
9.3	Inspection and Testing Requirements	197148
9.4	Factory Acceptance Testing (FAT) and Site Acceptance Test (SAT)	197149
9.5	Weld Inspection	198149
9.5.1	Submission of Radiograph	199150
9.5.2	Positive Material Identification (PMI)	199150
9.6	Additional Testing	199150
10.0	PRE-COMMISSIONING, COMMISSIONING AND START-UP	201152
10.1	Introduction	201152
10.2	Key Reference Documents for Executing Pre-Commissioning and Commissioning	202153
10.3	Integrated Commissioning Organisation	202153
10.4	Completions Management System (CMS)	203154
10.5	Commissioning Execution Strategy	204155
10.6	Planning and Scheduling	Error! Bookmark not defined. 156
10.6.1	Integrated Construction and Commissioning Plan	205156
10.7	Commissioning Procedures	206157
10.8	Tools and Test Equipment	207158
10.9	Commissioning HSES Manual	207159
10.10	Pre-Start-Up Audit	208159
10.11	Completion Processes	209160
10.11.1	Mechanical Completion	209160
10.11.2	Pre-commissioning	210161
10.11.2.1	MECHANICAL & PIPING	Error! Bookmark not defined.
10.11.2.2	INSTRUMENTATION & TELECOMMUNICATIONS	Error! Bookmark not defined.
10.11.2.3	ELECTRICAL	Error! Bookmark not defined.
10.11.3	Offsite Testing/Factory Acceptance Testing	211162
10.11.4	Commissioning	212163
10.12	Start-Up	212164
10.13	Commissioning Spares	213164
10.14	Commissioning Consumables and First Fill	213165

10.15	Quality Assurance Processes during Commissioning	214165
10.16	72 Hour Performance Test	214165
10.17	90 Day Reliability Run	214166
10.18	Documentation of the 90 Day Reliability Run	216167
10.19	Technical Documentation	216168
10.19.1	As-Built Drawings	216168
10.19.2	Punch Lists	217168
10.20	Baseline Surveys	217168
10.21	Completion Audit	217168
11.0	TRAINING FOR OPERATIONS AND MAINTENANCE PERSONNEL	218470
12.0	NIGERIAN CONTENT	219471
12.1	Introduction	219471
12.2	CONTRACTOR's Responsibilities	219471
12.3	Nigerian Content Plan	220472
12.4	Detailed Engineering	221473
12.5	Procurement	222474
12.6	Fabrication	222474
12.7	Construction	223475
12.8	Project Services, Project Management and QA/QC	223475
13.0	INFORMATION MANAGEMENT	Error! Bookmark not defined. 176
13.1	General	Error! Bookmark not defined. 176
13.2	Reference Specifications and Documents	Error! Bookmark not defined. 176
13.3	Information Quality Management Framework	Error! Bookmark not defined. 177
13.4	Summary of Information Deliverables	Error! Bookmark not defined. 178
13.5	Vendor Data and Documentation Requirements	Error! Bookmark not defined. 178
13.6	Compliance Assessment and Monthly Reporting	Error! Bookmark not defined. 178
13.7	Handover Package	Error! Bookmark not defined. 178
13.7.1	Documents	Error! Bookmark not defined. 180
13.7.2	Approved for Construction Drawings	Error! Bookmark not defined. 180
13.7.3	As-Built Drawings	Error! Bookmark not defined. 180
13.7.4	Instrumentation Data	Error! Bookmark not defined. 181
13.7.5	Final Handover of Data Other than Instrumentation	Error! Bookmark not defined. 181
13.7.6	Spares Data	Error! Bookmark not defined. 181
13.7.7	Asset Information	Error! Bookmark not defined. 181
13.8	Final Quality Assurance and Control	Error! Bookmark not defined. 181
14.0	RISK MANAGEMENT	233235
14.1	Contractor Responsibility for Risk Management	233235
14.2	Risk Management System	233235
14.3	Risk Management Organisation	233235
14.4	Risk Register	233235
14.5	Risk Management Plan	233235
14.6	Risk Reporting:	234236
14.7	SUBCONTRACTOR's Risk Management	235237
15.0	INTERFACE MANAGEMENT	236238
15.1	Introduction	236238
15.2	Typical Interfaces	236238
15.3	Contractor Responsibility for Interface Management	236238
15.4	Interface Management System	237239
15.5	Interface Management Organisation	237239
15.6	Interface Register	238240

15.7	Interface Management Plan	238240
15.8	Interface Reporting:	238240
15.9	Subcontractors Interface Management	239241
16.0	HEALTH, SECURITY, SAFETY, THE ENVIRONMENT AND SOCIAL PERFORMANCE (HSSE & SP) MANAGEMENT SYSTEM	
16.1	CONTRACTOR Responsibilities	240242
16.2	HSSE and Social Performance Documentation	241243
16.3	HSSE & SP MANAGEMENT SYSTEM	241243
16.4	HSSE & SP Plan	242244
16.5	HSSE Case	243245
16.6	Pre-Mobilisation Inspection / Pre-Execution Audit of CONTRACTOR Resources	243245
16.7	Environmental Management	244245
16.8	Sustainable Community Relations	244246
16.8.1	General	244246
16.8.2	Communities Affected by WORK	245247
16.8.3	Pre-mobilisation Community Visits	245247
16.8.4	Employment of Local SUBCONTRACTOR and Local Labour	245247
16.8.5	Settlements of Problems	245247
16.8.6	Operation of Marine Equipment	246247
16.8.7	Awareness of Staff	246248
16.8.8	Medical Facilities/ Occupational Health	247248
17.0	APPENDICES	249198

DRAFT

1.0 ABBREVIATIONS

ABCM	Activity Based Cost Model
AG	Associated Gas
AGIIP	Associated Gas Initially In Place
ALARP	As Low As Reasonably Practicable
BCOT	Bonny Crude Oil Terminal
BERT	Bit Error Rate Test
BSEB	Bayelsa State Energy (Electricity) Board
CCTV	Closed Circuit Television
CIIP	Condensate Initially In Place
CIMT	CONTRACTOR Interface Management Team
CITHP	Closed In Tubing Head Pressure
CMD	Corrosion Management Drawing
CMMS	Computerised Maintenance Management System
CMS	Completions Management System
COP	Concurrent Operations Plan
C _P	Condensate Produced
CP	Cathodic Protection
CPF	Central Processing Facility
CRA	Corrosion Resistant Alloy
CRO	Community Relations Officer
CS	Carbon Steel
CSU	Commissioning and Start Up
CSV	Comma Separated Value
DCAF	Discipline Control and Assurance Framework
DEM	Design and Engineering Manual
DEP	Design Engineering Practice
DG	Decision Gate
DLU	Data Loading Utility
DSS	Duplex Stainless Steel
ECG	Electro Cardiogram
EE	Energy Efficiency
EIS	Engineering Information Specification
EIA	Environmental Impact Assessment
EGGS	Eastern Gas Gathering System
EPC	Engineering Procurement and Construction
ESD	Emergency Shut Down
ESOP	Electrical Safety Operational Procedure
ESR	Electrical Safety Rules
FAR	Field Auxiliary Room
FAT	Factory Acceptance Test

F&G	Fire and Gas
FBE	Fusion Bonded Epoxy
FCV	Flow Control valve
FDP	Field Development Plan
FEED	Front End Engineering Design
FEMS	Field Engineering Management System
FF	Foundation Field bus
F & G	Fire & Gas
FGIIP	Free Gas Initially In Place
FLB	Field Logistics Base
FOC	Fiber Optic Cable
FSI	Flawless Start-up Initiative
FTHP	Flowing Tubing Head Pressure
FTHT	Flowing Tubing Head Temperature
FTO	Freedom to Operate
GA	General Arrangement
G _P	Produced Gas
GDT	Gas Down To
GHG	Green House Gas
HART	Highway Addressable Remote Transducer
HAZID	Hazard Identification
HMI	Human Machine Interface
HAZOP	Hazard and Operability
HP	High Pressure
HPU	Hydraulic Power Unit
HRA	Health Risk Assessment
HSE	Health Safety and Environment
HVAC	Heating Ventilation and Air Conditioning
I/O	Input/Output
IPSC	Integrated Production Safety Capacity
IQMF	Information Quality Management Framework
JIMT	Joint Interface Management Team
JV	Joint Venture
JVP	Joint Venture Partners
LIRA	Logistic and Infrastructure Resource Assessment
LSOH	Low Smoke Zero Halogen
LV	Low Voltage
MAIP	Maximum Allowable Incidental Pressure
MAOP	Maximum Allowable Operating Pressure
MEG	Mono Ethylene Glycol
MCC	Motor Control Center

MCI	Material, Corrosion and Inspection
MF	Manifold
M&I	Maintenance and Integrity
MJR	Maintenance Job Routine
MOP	Maximum Operating Pressure
MoU	Memorandum of Understanding
MOV	Motor Operated Valve
MTO	Material Take Off
MW	Molecular Weight
NACE	Nation Association of Corrosion Engineers (International)
NAG	Non-Associated Gas
NLNG	Nigerian Liquefied Natural Gas
N _P	Produced Oil
OD	Outer Diameter
ODBC	Open Database Connectivity
OEM	Original Equipment Manufacturer
OLE	Object Linking and Embedding
OML	Oil Mining Lease
OPC	OLE for Process Control
OPEX	Operating Expenditure
OR&A	Operation Readiness & Assurance
PAGA	Public Address and General Alarm
PAS	Process Automation System
PAV	Physical Asset Verification
PCAD	Process Control Access Domain
PDMS	Plant Design Management System
PEFS	Process and Engineering Flow Scheme
PEL2	Land 2 East Asset
PFS	Process Flow Scheme
PIMS	Pipeline Integrity Management System
PVT	Pressure Volume Temperature
PWHT	Post Weld Heat Treatment
QCP	Quality Control Plan
QEP	Quality Execution Plan
QMS	Quality Management System
QRA	Quantitative Risk Assessment
RBI	Risk Based Inspection
RFSU	Ready for Start Up
RMU	Ring Main Unit
RMS	Remote Monitoring System
ROCI	Remote monitoring capability

ROW	Right of Way
RTU	Remote Terminal Unit
SAFOP	Safety and Operability Studies
SAT	Site Acceptance Test
SCD	Sustainable Community Development
SCSSV	Surface Controlled Surface Safety Valve
SDSS	Supper Duplex Stainless Steel
SER	Sequence of Events Recorder
SIL	Safety Integrity Level
SGIIP	Solution Gas Initially in Place
SHOC	Safe Handling of Chemicals
SIS	Safety Instrumented System
SPDC	The Shell Petroleum Development Company of Nigeria
SS	Substation
STOIIIP	Stock Tank Oil Initially in Place
TRSCSSV	Tubing Retrievable Surface Controlled Sub-Surface Safety Valves
TUV	Technischer Überwachungsverein (German body translate to Technical Inspection Body)
UCP	Unit Control Panel
UPS	Uninterrupted Power Supply
UR	Ultimate Recovery
VAR	Value Assurance Review
VCR	Verification Certificate of Readiness
VSAT	Very Small Aperture Terminal
WHCP	Well Head Control Panel
WT	Wall Thickness
XHP	Extra High Pressure

2.0 General Description of the Project and existing facilities

2.1 Introduction

The Gbaran Integrated Oil and Gas node, situated in the seasonal fresh-water swamp covers an area approximately 3,000 sq km, spread across Bayelsa, Rivers and Imo states in the eastern part of the Niger Delta. It is a major oil and gas production hub in SPDC, covering the following fields – Gbaran, Etelebou, Kolo Creek, Adibawa, Adibawa NE, Ahia, Abasere, Enwhe, Mini-Nta, Obele and Rumuekpe – in Oil Mining Leases (OMLs) 16, 17, 21, 22, 27 and 28. The geographic centre of the Gbaran node is located at Gbaran, 100 km NW of Port Harcourt and 40 km NE of Yenagoa.

The Gbaran Central Processing Facility (CPF) came on stream in year 2010 with a gas production capacity of 1.0Bscfd and liquid production capacity of 120 Mbpd. There are remote field manifold locations at Zarama, Kolocreek, Gbaran, Koroama and Epu for NAG well manifolds. The Gbaran CPF gas production capacity was debottlenecked to 1.2 Bscfd in 2013 and then 1.25 Bscfd in 2017. Current project scope includes a CPF capacity upgrade to ca 1.4 Bscfd.

Uzu is a green field, but in close proximity to Zarama, a producing field and 15km NE of Gbaran CPF. Uzu field was discovered in 1971 and located in OML 28. Uzu appraisal well was drilled from Zarama location (tagged ZARA015 well) thereby providing opportunity to utilize existing facilities and RoWs in the Zarama area

2.2 Project Overview

SPDC JV with Shell as operator of OMLs 16, 17, 21, 22, 27 and 28 on behalf of the joint venture partners, embarked on the Gbaran Phase 3B - Uzu with CPF Upgrade project which aims to develop 815Bscf (UR) of gas and 11.5MMbbls (UR) of oil & condensate to meet SPDC's commitment to sustain NLNG gas supply obligation and grow oil production.

The project scope includes infill drilling involving 5 NAG wells and 1 oil well, flowlines, test line and a NAG bulk line from the Uzu field to the Gbaran CPF. The facility upgrade scope at the Gbaran Central Processing Facility include installation of a 200MMscfd TEG dehydration train, ancillary units and brownfield tie-ins.

All six wells to be drilled as part of this development will be from two existing Zarama 15 and Zarama 08-11 NAG well locations. Three NAG wells will be drilled, and one existing well will be completed at Zarama 15 location. At the Zar 8-11 location, 1 NAG well and 1 Oil well will be drilled.

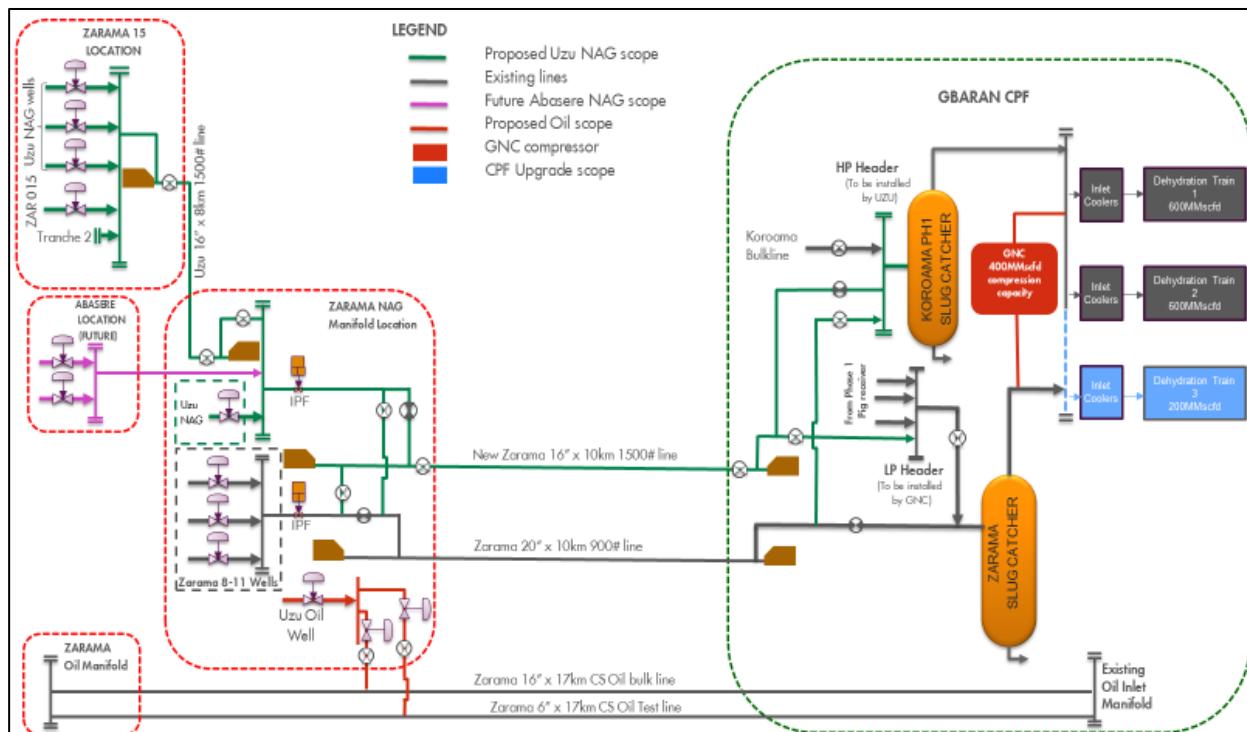
Extension of Zarama 15 location will be required to accommodate expansion of the existing cellar for three more wells (with provision for relief well) and a new manifold location, while free slots at Zarama 08-11 location will be used for the 1 NAG and 1 Oil well drilling. Four NAG wells will be hooked up to the new Uzu-1 manifold (adjacent to Zarama 15 well location) via 8" 1500# NAG DSS flow lines and bulk flowed via new 16" x10km 1500# CS bulkline to a new Uzu-2 manifold at the Zarama NAG manifold location. The new NAG well at Zarama 08-11 location will be hooked up to the new Uzu-2 manifold via new 8" 1500# DSS flowline.

The Uzu NAG fluids will be evacuated via the existing 20-inch Zarama bulkline to the Koroama Slug catcher at Gbaran CPF. A connection will be provided from the new Uzu-2 manifold (at Zarama NAG manifold location) to the existing Zarama bulkline. The existing Zarama NAG wells will be evacuated to the CPF via a new 16" x 10km 1500# CS bulkline connected to the Zarama slug catcher via the LP (compression) manifold.

One oil well will also be drilled, completed and tied in to existing 16" x 17.5km Zarama Oil bulkline and 6" x 17.5km Zarama test line via new 6" 1500# CS Oil and test flowlines. The connection of the new oil and test line to the existing oil and test lines shall be via barred tees.

The scope also includes laying of circa 2.2km intersite composite cable from Zarama Oil Manifold to Zarama 15 location and integration works at the Zarama Oil Manifold FAR and substation.

The CPF upgrade scope involves installation of a 200MMscfd TEG dehydration gas processing train to existing Gbaran CPF to increase overall plant capacity to ca. 1.4 Bscfd.



Schematic of the Uzu With CPF Upgrade Project locations and facilities

2.3 Summary Project Scope

The Gbaran Ph 3B – Uzu With CPF Upgrade Project scope involves the following:

2.3.1. Main WORK Locations

1. Zarama Well 15 and Uzu 1 NAG manifold location
2. Zarama Wells 08-11, Zarama NAG Manifold and Uzu 2 NAG Manifold location
3. The right of way between Zarama 15 Well Location and Zarama NAG Manifold
4. The right of way between the Zarama NAG Manifold and Gbaran CPF
5. The right of Way between Zarama Oil Manifold and Zarama 15 location
6. Gbaran CPF

2.3.2. Wells (by Others)

1. Drilling & Completion of 3 NAG Wells at Zarama-15 Well location.
2. Recompletion of Zarama-15 Well.
3. Drilling and Completion of 1 NAG Well and 1 oil well at Zarama 08-11 Well location.

2.3.3. Package 1 (Bulk Line – By Others)

The Package 1 Contractor shall:

1. Install NAG bulk lines between the Uzu-1 / Zarama Well 15, Uzu-2 / Zarama NAG manifold and Gbaran CPF locations.
2. Install oil flow and test lines between the Uzu-2 / Zarama NAG manifold location and the existing Zarama oil bulk and test lines.
3. Install a composite power and fiber optic cable between the Zarama Oil Manifold and Zarama 15 location, and connect to the respective equipment at both locations.
4. Install a sacrificial anode cathodic protection systems during construction and hook-up to the permanent cathodic protection systems thereafter.

2.3.4. Package 2 (Facilities – by others)

The Package 2 Contractor shall engineer, procure, fabricate, test, construct / install, pre-commission, commission, start-up, prove in operation and hand-over the following:

1. Wellhead platforms and well control panels around the 6 wells
2. Flow lines from the wells to the respective manifolds
3. The Uzu-1 and Uzu-2 manifolds, and tie-ins to the respective bulk lines
4. Field auxiliary rooms, packaged substations, telecommunication systems, corrosion inhibition systems and other packages at the remote locations
5. Tie-ins from the new manifolds to existing utilities at each remote location
6. Pig traps, pig retaining walls, above-ground piping sections and boundary shutdown valves at the ends of the bulk lines installed by Package 1 contractor
7. Preparation, sand-fill and civil works on the new manifold locations, as well as access roads, fencing, drainage, pavements, foundations, pipe supports, access platforms, walkways and cross-over bridges.
8. Pipe rack modification and pig retaining walls at Gbaran CPF.
9. New manifold upstream of the Koroama I slug catcher, pipe rack modifications, tie-in of the new bulk line and modification of existing bulk-line tie-ins at Gbaran CPF.
10. Permanent cathodic protection systems.
11. Upgrade on the export fiscal meter to accommodate the new throughput.
12. Process control, safeguarding & instrumentation for the above equipment and integration into the existing systems.

2.3.5. Work Package 3 (This Contract)

In general, the scope of this EPC CONTRACT (Package 3) includes the FEED Verification, update and taking ownership thereafter; Detailed Engineering Design, Procurement, Fabrication, Testing, Construction/Installation, Pre-commissioning, Commissioning and Start-up, Performance and Reliability Testing, and Handover of the new facilities and spares at the Gbaran CPF:

1. 200MMscfd TEG dehydration system with associated ancillary systems and utilities. (The TEG package includes TEG Contactor, Regenerator still, Lean TEG cooler, heat exchangers, charcoal filter, solid particle filter, Flash drum, TEG surge drum, Reboiler vessel, PH adjuster and Antifoam package injection, Lean TEG recirculation pump, TEG storage tank, etc)
2. A new 600MMscfd Inlet separator
3. A new 200MMscfd capacity inlet Air cooler.
4. General piping modification, installation and tie-in of 3rd train to the spare flange on the dehydration header.
5. Tie-in of 3rd dehydration train to the gas export manifold.
6. Tie-in of HP liquids from the TEG system (Inlet separator, glycol contactor and glycol scrubber) to the XHP Oil inlet header.

7. Tie-in of LP liquids from glycol regeneration system to the HP/LP inlet headers (as appropriate).
8. Provision of sampling point on new dehydration unit outlet to enable gas quality monitoring.
9. Glycol Reboiler Electric Heater and associated Heater Control Panel
10. Glycol Reboiler 11/0.72kV Transformer, associated 11kV feeder and control/protection.
11. Extension and upgrade of the Glycol FAR LV switchboard to accommodate the new TEG train's auxiliary equipment and installation of new Starter Control Units and control systems for the Dehydration inlet cooler fan motors in the CPF 400V Remote Switchboard cubicles.
12. External lighting system, lightning protection, earthing and bonding
13. Civil works, foundations, pavings, drainage works, pipe rack modifications, piping and support structures for new TEG system, metering package, ancillary units and associated in-plot piping.
14. Instrumentation systems and tie-ins of new facilities to existing CPF automation (PAS) and safety (SIS & F&G) systems.
15. Vibration monitoring system for the air coolers.
16. A new 600MMscfd gas Fiscal metering train.
17. Tie-in to utility systems.
18. Tie-ins to Flare systems (Inlet separator, glycol contactor, glycol scrubber and lean glycol cooler to HP flare header; Flash drum and reboiler overheads to LP flare header; and glycol overhead condenser to Atmospheric flare header)
19. Tie-in of TEG reboiler overheads to flare system as per specifications.
20. Tie-in to electrical power distribution, UPS and control system
21. Tie-in to instrument and utility air distribution systems
22. Tie-in of Fuel Gas to glycol regeneration system (for stripping and blanketing)
23. Tie-in to existing open and closed drain systems

2.4 Summary of Main Activities

In general, the scope of this EPC CONTRACT (Work Package 3) includes the FEED Verification, update and taking ownership thereafter; Detailed Engineering Design, Procurement, Fabrication, Testing, Construction/Installation, Pre-commissioning, Commissioning and Start-up, Performance and Reliability Testing, and Handover of the CPF upgrade scope.

This excludes the work defined under Work Package 1 and 2 above, which shall be executed by OTHERS.

The main activities to be undertaken by the CONTRACTOR to complete the WORK under this work package shall include:

- Project Management and control of the entire WORK to ensure proper and timely completion in line with the CONTRACT COMPLETION DATE
- HSE and Quality Management throughout the duration of the WORK
- Implementation of the Management of Repeated Failure (Flawless) throughout the WORK
- Review, verification and acceptance of the Front-End Engineering Design (FEED) package
- Carry out site specific topographical survey and interpret existing geotechnical report.
- Analysis, calculation, evaluation, equipment sizing, certification (as necessary and required), drawings, reports, studies, material take-offs, specifications, procedures, methods, planning and any other engineering deliverables necessary for the WORK.
- Process automation, control, vibration monitoring and safeguarding systems including tie-in/integration of the new systems to existing systems at Gbaran CPF.

- Provision of all documentation needed for COMPANY to obtain from Nigerian Authorities all required consents pertaining to the project work required to complete the general scope.
- Provision and mobilisation of all resources necessary for the execution of the WORK including CONTRACTOR personnel, equipment, offices, construction camp, workshops, storage yards and temporary facilities for managing the WORK including accommodation for workers and COMPANY personnel
- Provision of Insurance for all the WORK
- Route surveys for equipment and materials transportation
- Site pre-engineering surveys, lease boundary definition, site clearance, spatial quality assurance and dimension control, and civil works, etc, together with any measures deemed necessary for site preparation and appropriate foundation design.
- Procurement, supply, inspection, testing (including Factory Acceptance Tests), packaging preservation, transportation, customs clearance, handling, storage of materials, equipment and consumable necessary for the completion of the WORK
- Preparation, fabrication, installation, construction, non-destructive testing, inspection, quality control, surface treatment, coating, control of all activities in order to complete the WORK
- Decommissioning, demolition and removal of any coincidental facilities that interfere with any part of the Permanent WORK including any required Brownfield work, and reinstatement after construction.
- Integration and testing of process automation, control and safeguarding systems at manufacturers yards prior to delivery to site
- On-site testing, checking completion of detail check lists, pre-commissioning, commissioning and handover of systems including spares, test equipment, tools, consumables and any work activities necessary for the completion of the WORK in compliance with Management of Repeated Failures (Flawless delivery).
- Conduct Performance tests and Reliability tests in line with the Facilities Acceptance Criteria
- Development of Asset management deliverables required to operate and maintain the facilities and the entire suite of Handover Documentation, in line with the CONTRACT
- Supply of all documentation, certificates, qualifications, calculations, reports, as built drawings, and as-built documentation required by Government Agencies, certifying authorities, inspection agencies, surveyor and COMPANY to approve the engineering, procurement, construction, installation, operations of the WORK
- Conduct studies for installation of equipment as specified in the specifications and drawings.
- Demobilization of all contractor owned temporary facilities, camps, offices, workshops, equipment, site restoration at the end of construction in line with the requirements of the environmental impact assessment study.
- The CONTRACTOR's scope of WORK shall also include the delivery of the initial fill of all plant consumables together with the necessary commissioning spares. In addition, the CONTRACTOR shall supply spares necessary for two years of plant operation as agreed with COMPANY.

2.5 Work Planning

CONTRACTOR shall mobilise adequate resources to ensure that the WORK is completed within the timelines stipulated in the **SCHEDULE OF KEY DATES** as specified in Section I – Form of Agreement. CONTRACTOR shall be required to submit a detailed proposal of how CONTRACTOR intends to complete the WORK within the stipulated timeline including construction equipment to be deployed, construction method, a fully resource loaded work schedule, number of crews and spreads.

2.6 Local Requirements

2.6.3 Project Language(s)

English language is the approved project language. All vendor information and project documentation are to be provided in English.

2.6.2 Local Content Requirements

The project is to ensure compliance with the Nigerian Content Development (NCD) regulations and associated requirements by NAPIMS.

2.6.3 Codes and Standards

The project shall be executed such that all WORK is carried out in accordance with the following, in the stated order of precedence:

- Nigerian law;
- Project specifications and Standards;
- COMPANY specifications and standards where applicable;
- COMPANY GROUP specifications and standards (DEPs, safety manuals, etc);
- Relevant industry standards;
- CONTRACTOR's codes and working standards.

In the event of any conflict or contradiction between the above referenced list of codes and standards, the most stringent requirement shall apply. However, where there is a conflict that cannot be resolved according to the stated order, CONTRACTOR shall request COMPANY to review the situation and provide the final decision on which specification to adopt.

The applicable standards are given in Section X – Technical Information.

Deviations from applicable rules, codes and standards shall be requested in writing by CONTRACTOR and subject to COMPANY's written agreement. Failure to identify deviations and formally request COMPANY's agreement, shall signify that the CONTRACTOR will meet all specified requirements.

If new laws, regulations, standards, codes or specifications come into force during the execution of the WORK, COMPANY shall review the impact and instruct the CONTRACTOR how to proceed.

3.0 DETAILED DESCRIPTION OF THE FACILITIES

CONTRACTOR will perform the SCOPE as provided for in this Section V – Scope of Work. CONTRACTOR will adhere to the strict HSSE, ProjectVantage and Quality standards, requirements and objectives, set forth in this CONTRACT and the following sections:

Section VIII – HSSE & SOCIAL PERFORMANCE;

Section IX - QUALITY MANAGEMENT;

Section V – SCOPE OF WORK – Appendix 12.4 – Project Vantage Functional Specifications.

In realisation of the SCOPE, the required HSSE, Project Vantage and Quality Management performance and functional requirements of the CONTRACT by CONTRACTOR and SUBCONTRACTORS are essential to the success of the SCOPE, and will remain at all times, a focus area of COMPANY.

This Scope of work article 3 provides a detailed description of the facilities and WORK forming a part of this CONTRACT, and the interfaces with Others. Except where otherwise stated, all facilities and WORKS described herein shall be performed by the CONTRACTOR.

CONTRACTOR shall design, supply, install, hook-up and commission the WORK in accordance with the documents and drawings in Section X - Technical Information.

CONTRACTOR shall be responsible for provision of all tools, equipment, materials, consumables, labour and supervision required to design, construct, erect, hook-up, pre-commission and commission the WORK including all logistics (transport, accommodation, etc.) required by the CONTRACTOR's workforce and requisite COMPANY personnel. The CONTRACTOR shall perform the WORK diligently and competently and in accordance with this CONTRACT. In any instance where this CONTRACT does not mandate a specific standard, the WORK shall be in accordance with international industry standards.

The CONTRACTOR shall be responsible for preparation and execution of an appropriate and balanced Human Factors Construction plan, compliant with DEP 30.00.60.10-GEN or applicable DEP at the time of award.

All Construction activities and sequencing shall be such as to minimise the production deferment, and brown-field works. As such, shutdown and tie-in durations shall be for the minimum practical durations and shall be performed in line with the COMPANY approved Concurrent Operations Plan.

The works to be performed shall be in accordance with the relevant COMPANY DEP's and AFC Drawings/documents provided including SITE SPECIFIC construction works as shall be agreed with COMPANY. The following Work Scopes below are defined as FIRM or OPTIONAL (where applicable) Scope of Work to be executed under this CONTRACT. CONTRACTOR shall include all COSTS to deliver the PERMANENT WORK covered herein.

This shall cover FEED review/verification, acceptance and update, Detailed Engineering Design (DED), procurement of materials and equipment, certification, site preparation, fabrication, Factory & Site Acceptance testing, construction, installation, hook-ups, integration, brownfield tie-ins, modifications, upgrades, pre-commissioning, commissioning and start-up, performance and reliability testing, and handover of all the facilities comprising the PERMANENT WORK.

The equipment and facilities listing within this Article 3 is not exhaustive. CONTRACTOR shall review the PEFS/UEFS and other documents and drawings in Section X - Technical Information for a full understanding of the required equipment and facilities.

All references to specific sizes shall be confirmed during DED.

3.1. GENERAL

CONTRACTOR shall carry out FEED review, verification, update and taking ownership thereafter; Detailed Engineering Design (DED), procurement of materials and equipment, certification, site preparation, fabrication, construction, installation, hook-ups, brownfield tie-ins, modifications, upgrades, non-destructive testing, hydrotest, leak test, inspection, quality control, mechanical completion, pre-commissioning, commissioning, performance and reliability testing, and handover of all packages, skids, equipment, piping and piping supports, field devices, cabling, systems and fixtures required to complete the WORK and all the other works as specified in project FEED documentation.

CONTRACTOR shall carry out the WORK in such a manner as to ensure that integrity of the existing facilities is not compromised, and the design intent of the new facilities (upgrade works) is achieved. CONTRACTOR shall also prepare as-built drawings and documents that are required for the operation and maintenance of the completed WORK.

3.2. MECHANICAL AND PIPING WORKS

Piping materials for the new facilities shall be in accordance with the piping class designations indicated on the PEFS/UEFS.

All piping shall be protected from internal corrosion during installation. CONTRACTOR shall ensure that line piping spools are protected with end caps to prevent ingress of moisture and foreign matter from the time it leaves the mills to the time it is installed at site. During installation, each open end of piping shall be securely capped off at the end of each day to avoid ingress of moisture, debris and animals. To meet this requirement, CONTRACTOR shall provide sufficient spare end caps.

Piping supports shall comply with DEP 31.38.01.29 - Gen. Pipe Supports.

All equipment and facilities including pipe-racks within the facilities shall be painted in line with DEP 30.48.00.31-Gen Protective coatings for onshore and offshore facilities and Material and Corrosion specifications.

CONTRACTOR scope shall also include all the mechanical equipment, vessels and interconnecting piping including all process piping and utility piping related to the tie-in of closed drains, vent, open drain, blowdown and relief, utilities and the following specific items:

- Cathodic protection systems for buried equipment
- All piping support structures.
- Perform layout review using structured and auditable assessment methodology, which ensures that the requirements of other disciplines have been incorporated in the design.
- Identify/confirm all piping tie-in locations and prepare detailed tie-in schedule.
- Preparation of piping general arrangement drawings and piping isometrics drawings for the systems, showing plans, elevations and cross sections to fully define routing and location piping.
- Preparation of a piping stress analysis specification in line with DEP and performance of stress analysis for the piping systems including
- Preparation of purchase specifications for piping materials, valves and special items in line with COMPANY standards.
- Prepare 3D PDMS model to incorporate the new systems.
- Provide appropriate equipment for lifting, fabrication and construction works
- Carry out installation of piping, valves, fittings, pipe supports and accessories; modification and tie in works in accordance with the relevant tie-in schedules, General Arrangements, isometric drawings, plot plan and other installation drawings.
- Equipment alignment checks, mechanical completion works and site acceptance test of equipment
- Carry out demolition of piping as per the piping demolition drawings and piping tie-in documentation.
- Pipe fabrication, prefabrication, welding and testing shall be performed in accordance with DEP-31.38.01.31-Gen. and DEP-61.10.08.11-Gen.
- Submit to COMPANY Welding procedure specification (WPS) for the Duplex Stainless-Steel welding and other materials in accordance to ASME Section IX – QUALITY MANAGEMENT
- All weld repairs shall be carried out in accordance with approved procedures.
- There shall be visual and NDT (Radiography) inspections of all welded joints.

- Post weld heat treatment (PWHT) shall be carried where required.
- Internal cleaning /blowing of lines shall be carried out immediately after pressure testing. CONTRACTOR shall ensure that all pipe spools, valves, etc. are capped off using temporary plastic caps or wooden plates to avoid the ingress of water and foreign material after line blowing.
- Final piping and mechanical completion inspection shall be conducted using SPDC check sheets, findings shall be rectified and closed out before mechanical completion of the work.
- Calibration and certification of all test equipment, lifting equipment, hooks, slings and shackles, hoses, power cables, etc.
- Proper Protection, preservation of piping and all installed equipment from the time of installation up to commissioning.
- Piping hydro-test, de-watering, drying, cleaning, leak test and preservation/purging using Nitrogen.
- Complete painting of the piping, equipment and structures according to specifications.
- Contractor shall remove all equipment, tools, pipe cut-offs and carry out general housekeeping after completion of the work and re-instate the site to its original condition.
- Complete QA/QC approved inspection and testing of all mechanical and piping systems.
- Conduct conformance checks and surveys on final installation.
- Site acceptance and performance testing shall be in line with COMPANY agreed ITP.

3.2.1 CORROSION MANAGEMENT (Fix numbering)

The CONTRACTOR shall ensure the following:

- Piping materials for the new facilities shall be in accordance with the piping class designation for the project and in alignment with the Materials Selection Report and the PEFS/UEFS
- All dissimilar materials interfaces shall be duly insulated using insulation kits.
- That corrosion under insulation is prevented. Contractor shall ensure that any personnel protection/lagging material complies with specifications.
- All buried on-plot piping/vessel or equipment shall be protected adequately from external corrosion by sacrificial anode system in line with the specifications and drawings.
- Preparation and implementation of Risk-Based Inspection (RBI) including Threat & Barrier Matrix (TBM).
- Preparation and implementation of Corrosion Management Framework (CMF).
- Preparation and implementation of Corrosion Management Drawings.
- All new installed above ground piping structures, etc., shall be painted according to SPDC painting specification DEP.30.48.00.31-Gen. (Protective coatings for onshore and offshore facilities).

Materials Selection has been done in accordance with DEP 39.01.10.11 –Gen “Selection of materials for life cycle performance – Materials Selection Process” and DEP 39.01.10.12 –Gen “Selection of materials for life cycle performance – Upstream Equipment”. Documentation can be found in Section X - Technical Information.

CONTRACTOR shall generate Materials Selection Reports and Diagrams for material specifications. To ascertain the integrity of Duplex Stainless-Steel fittings and to assure that inter-metallic phases are not present; CONTRACTOR shall carry out ferrite meter reading on all fittings as per specification. Any duplex component (base metal) with ferrite meter readings of less than 40% without any metallographic test indicating the absence of inter-metallic phases shall be rejected. The minimum acceptable range for ferrite readings shall be 40-60% for base material and Heat Affected Zone (HAZ) and 35-65% for weld area.

CONTRACTOR shall nominate an independent inspection company who shall be qualified and approved by COMPANY to carry out the ferrite testing.

Contractor shall ensure that any construction process/activities do not render the material unfit for intended service.

Coatings & Painting

For the buried equipment including buried vessels and piping, the primary barrier against external corrosion is appropriate coating while cathodic protection provides additional protection according to the specifications. Both coating and cathodic protection shall be provided for such equipment. Where the equipment is situated within the on plot, the cathodic protection type shall be by sacrificial anode and shall be designed for the life of the facility.

For above ground piping, painting shall be applied according to the specification. The purpose of the coating/painting is to prevent corrosive elements from reaching the steel pipe surface and it is regarded as the primary corrosion protection system of the lines. CONTRACTOR shall paint and coat the pipings in line with the relevant specifications.

2. CONTROL AND INSTRUMENTATION

The CONTRACTOR shall design, procure, test (FAT/SAT), install, pre-commission, commission, start-up all Instrumentation, Control and Automation (IC&A) equipment and infrastructure necessary to meet the key operational requirements of all facilities installed under the project. These shall include:

- All field instruments, sand detectors, F&G devices, valves, instrument cables, cable trays, junction boxes, vendors' equipment, and all installation accessories related to the new dehydration train 3 system
- New Controls, safeguarding, fire and gas, vibration monitoring and telecommunications cabinets. These will be installed in the existing Glycol FAR in Gbaran CPF
- New metering train with all associated instruments, devices and accessories including tie-in to existing metering system
- Tie-in to existing instrument air systems, power supply and all associated utilities
- Tie-in of all new devices to the new controls, safeguarding and vibration monitoring cabinets.
- Manual sampling system in line with specifications
- All communication cables between control/safeguarding systems in the Glycol FAR
- All integration works as contained under the section titled 'Facilities System Integration'
- Tie-in of third-party provided equipment such as vibration monitoring system, new metering train 3 to existing systems.
- The specification, procurement, layout design & installation of F&G devices based on the results of a detailed Fire and Gas Detection Mapping study. The mapping study shall be carried out during detailed design by COMPANY
- All instrument cable trays, junction box stands, instrument supports, cable glands, cable slabs, cable shrouds, cable core markers, cable route markers, earthing cables, surge protectors and all other bulk materials and accessories.
- Excavation of cable route, laying and termination all instrument and inter-panel cables. Placement of cable slabs and backfilling.
- Engaging the services of the Main Automation Contractor (Emerson) for integration works. Integration works are detailed in section titled "facilities system integration" of this document and IC&A philosophy document (UZU-SEDO-GEN-IN5505-00001)
- Testing of cabinets termination, I/O modules, instrument calibrations, internal test, FAT/SAT test and related documentation and certificates (commissioning)
- All communication cables between third party systems and control/safeguarding system
- All the other works as specified in project FEED documentation.

3.6.5.1 FACILITIES SYSTEM INTEGRATION.

The aim of the integration is to enable full monitoring, control and shutdown of all facilities installed as part of the WORK, as well as those installed by Others but having an interface with the WORK, from

Gbaran CPF Central Control Room. Gbaran CPF should be able to monitor and control the new dehydration system and new metering train, as well as being able to initiate ESD of these systems in emergency cases. The Gbaran CPF central control room PAS shall duplicate the full functionality of the new PAS cabinets located at existing Glycol FAR.

CONTRACTOR shall carryout the following as part of the integration works;

- Integrate the controls and safeguarding cabinets in the Glycol FAR to the systems in that FAR. This is to enable overall integration of the systems to Gbaran Central control Room. This will involve inter-panel cabling, software configuration, etc. Contractor shall supply all software licenses and hardware required to achieve full integration of the new systems to existing ones. CONTRACTOR shall ensure integration with whatever versions of software/hardware that are on ground at the time of installation
- Vibration transmitters shall be deployed for this project and integrated to the new vibration monitoring cabinet in the glycol FAR. This new vibration monitoring cabinets shall be integrated to the controls, safeguarding and existing machine monitoring systems in Gbaran CCR.
- Integration of the new metering train to the existing metering system in the Gbaran metering house.
- Installation of new fire and gas MIMIC panel at the Gbaran Central Control Room for remote monitoring of the new locations
- Installation of new shutdown buttons on the existing HIS panel in Gbaran CCR to enable remote shutdown of the new facilities
- Tie-in of new data in the controls system to the Gbaran PI server for access in the office domain
- CONTRACTOR shall ensure that all vendor representatives needed for the successful integration and completion of the WORKs are available on site as at when needed.
- All integration and tie-ins shall comply with company PCD/IT requirements. This will involve provision of company approved firewalls, anti-virus software etc.
- For the Control Systems Integration work, CONTRACTOR shall engage the services of the Main Automation Contractor (Emerson).
- Contractor shall carry out all works necessary to achieve the above integration requirements

3.6.5.2 ROCI REQUIREMENT

The CONTRACTOR shall design and implement the WORK to achieve the required level of availability and minimal manning consistent with ROCI level 2 as defined in the IC&A philosophy.

3.6.5.3 EARTHING AND SURGE PROTECTION

CONTRACTOR shall supply, install and connect adequate earthing and surge protection system for all field instrument devices and equipment, marshalling cabinets, system cabinet, HMI workstations, instrument stands, Junction Boxes, and panels. All installations shall be tested and commissioned by CONTRACTOR to the satisfaction of COMPANY.

3.6.5.5 INSTRUMENT DATA

Instrumentation data shall be handed over separately as an SPI database and conform to the requirements of the Project Specification definition of SPI and EDW.

DRAFT

3. TELECOMS SYSTEMS (Fix numbering) -

3.3.4.9 Construction Sites Communication Facilities

CONTRACTOR shall install the telecommunications infrastructure to support construction and commissioning activities at CONTRACTOR Engineering Office, Fabrication Yard, Site Construction Bases, Storage Locations, Construction Sites and CONTRACTOR's base office covered under Project Scope of Work.

4. ELECTRICAL - (Fix numbering)

All new electrical, installation and commissioning activities shall be in compliance with the relevant project specifications, codes and standards.

Test certificates for materials as applicable shall be presented for inspection prior to the equipment being used. CONTRACTOR shall be responsible for the preservation of all electrically operated equipment and these may require the use of temporary power. CONTRACTOR scope shall include;

- Low smoke zero halogen LV power and control cables in underground trenches and cable trays and termination at the junction boxes and field electrical equipment
- All electrical equipment, cables, lighting fixtures and fittings, poles, brackets, earthing, bonding and lightning protection systems, etc.
- All junction boxes, hot dipped galvanised cable trays and ladders, supports, cable ducts, earthing and bonding, earth chambers, earth grids and tie-in to overall plant earth grid.
- Extension of earth rings/grids and earth chambers. Bonding and tie-in of new equipment/packages, metallic structures, fences and permanent electrical equipment/packages to the earth grids.
- Provision of all termination materials - cables (power, earth & control), junction boxes, glands, lugs, earth bosses etc. required for all the installation & commissioning works.

CONTRACTOR shall also carry out the following as part of the execution of the WORK;

- In liaison with Equipment manufacturers OEM, develop all vendor drawings, inter wiring connections and installation details for the equipment and their associated electrical systems.
- Update the existing electrical main and control cable interconnection schedule and the cable schedules to include new cables.
- Install (lay, gland, shroud, lug, test and terminate) all required Power, control, communication and earth cables. All cables shall be low smoke zero halogen.
- Tie to existing UPS systems in the CPF
- Lightning protection, earthing and bonding systems.
- Tie-in, integrate and Commission all installed electrical systems.

3.4.1.1 ELECTRICAL POWER DISTRIBUTION SYSTEMS

The CONTRACTOR shall extend the Glycol FAR LV Switchboard by procuring, installing and Commissioning new equipped panels/cubicles (including intelligent motor starter control units) for the new TEG system electrical loads and equip the empty cubicles on the CPF Remote LV Switchboard by procuring, installing and Commissioning intelligent motor starter control units for the dehydration inlet cooler fans.

CONTRACTOR shall procure and install new 11/0.72kV transformer, glycol heater control panel and glycol reboiler electric heater.

CONTRACTOR is responsible for all required cabling works (Power, Control, Communication & earth), tie-in, integration works and final commissioning of all equipment requiring electrical power. All electrical equipment and devices for use in Hazardous area (Ex certified) shall come with accompanying ATEX certificates.

Power distribution cables and control cables installation shall be either above ground on cable trays/ladders, or underground or a combination of the two as may be specified on the electrical layout drawings. Proper installation procedures in line with the relevant drawings shall be complied with.

3.4.1.2 EARTHING AND LIGHTNING PROTECTION

CONTRACTOR shall supply and install adequate earthing and lightning protection system for all new electrical equipment, shelters, metallic equipment and structures, supports, tanks, vessels, motors, temporary power equipment, lighting poles, fences, and facilities in line with the Electrical Engineering Guidelines, Philosophies and Specifications in Sections X - Technical Information of the Contract documents. All the power systems and installations, including metallic structures, shall be adequately earthed and their earth continuity conductors tied in to the main earth grid. All installations shall be tested and commissioned by CONTRACTOR to the satisfaction of COMPANY.

CONTRACTOR shall update the earthing grid drawings and bond the piles/foundation in the relevant facilities to the plant earth grid.

3.4.1.3 EXTERNAL LIGHTING AND SMALL POWER DISTRIBUTION

In line with layout drawings as well as Appendix D of Electrical Engineering guidelines DEP 33.64.10.10 GEN for illumination requirements, CONTRACTOR shall procure, install, test and commission the external lighting for roads, fence/security areas & perimeter lighting.

CONTRACTOR shall provide junction boxes, Welding socket outlets, and convenience socket outlets (230V 16A SPN + E) around the plant as necessary. Such outlets shall be automatically isolated (ESD) when gas is detected anywhere in the plant. Such Junction boxes and socket outlets shall be Ex rated and weatherproof (IP66 and above). Road, fence and perimeter lighting shall provide illumination as per specification. This shall be photocell controlled with provision for manual switching. The lighting fixtures in non-hazardous areas shall be suitable for zone 1 hazardous area installation.

Lighting poles shall be collapsible ABACUS type.

3.4.1.4 CABLE DUCTS

Cables shall be installed in concrete cable ducts across drainages, road crossings and paved areas

3.4.1.5 LOW VOLTAGE POWER AND CONTROL CABLES

The CONTRACTOR shall procure, install, pre-commission and commission all low voltage power, control, earth and bonding cables including inter-wiring connections between equipment. All the low voltage cables shall be low smoke zero halogen.

The installation works shall include cable jointing, glanding, termination, earthing, bonding etc.

5. CIVIL AND STRUCTURAL WORK

CONTRACTOR scope shall include all site civil and structural work related to the new facilities, and the following specific items:

- Site preparation work including stripping, clearing the site of natural vegetation, organic material and levelling.
- Topographical survey, probing for underground facilities in accordance with Specifications.
- Interpret existing geotechnical survey reports for use in the design.
- All structural steel works (complete with all accessories) including piping supports, access platforms, gantry crane and shelters.
- Integrity checks/modification of existing pipe racks.
- Foundations for all new equipment (TEG Unit, Glycol contactor/scrubber, Vessels and tanks, Inlet separator, inlet cooler, etc.).
- Concrete foundations for all free-standing equipment and fixtures indicated in the project specifications, such as in-plant phones, CCTV, Fire & gas detectors, lighting poles etc.
- Provision of Protective coating for all new sub and super structural members and vessels exposed to environmental impacts.
- Shelters for equipment that requires protection from rain and direct sunlight.
- Drain pits for the new equipment foundations, pig traps, and extension of storm water drains and culverts to cover the new facilities.
- Extension of drainage system for oil contaminated water
- Pavements (rigid or flexible),
- Soft paving of granite chipping in line with existing paving for all areas other than those earmarked for pavements (rigid or flexible), drains and hard stand.
- Reinstatement of location to original state including re-grading and repaving of excavated areas and damaged access roads.

CONTRACTOR shall be responsible for all the architectural, civil and structural WORK described herein. All works shall be carried out in line with approved standards contained in the appropriate project specifications, drawings, documents as contained in Section X - Technical Information, which shall include as a minimum the following:

- Underground facilities probing, topographic survey and setting out
- Site preparation, earthworks, all excavation (for foundation works, cables and pipes), shoring and dewatering (well-point dewatering pumps, etc) to ensure expeditious progress of site works;
- Construction of deep (CFA Piling for all brown fields) and shallow foundation works
- Erection of access platforms and pipe supports
- Extension of open drains and culverts, concrete paving, concrete hard stand and access walkways to the new facilities.
- Protective coating on all new Structural steel members exposed to environmental impacts.

- Reinstatement of location to original state including re-grading and repaving of excavated areas; and reinstatement of damaged access roads.

3.5.1.1 SITE SURVEYS AND PROBING

Prior to the commencement of construction, CONTRACTOR shall carry out detailed pre-engineering surveys on each site to confirm any information provided by COMPANY regarding site elevations, coordinates, and to also gather data required for the execution of the WORK. The pre-engineering surveys shall also include probing, identification and marking of buried facilities, investigation of the buried/underground service facilities at the brownfield site at Gbaran CPF. Formal report of this shall be submitted for COMPANY's approval. All impacted service lines shall be completely avoided in the first instance. Where complete avoidance is not feasible, isolation or relocation shall be considered in that order and only with the approval of the COMPANY.

3.5.1.2 SITE PREPARATION

CONTRACTOR shall carry out the site preparation as part of the WORK.

The site preparation work shall include clearing the site of natural vegetation and organic materials where applicable, top up of the fill levels as necessary to meet the final elevation of the site, and levelling. Areas to be cleared shall be clearly marked out and pictorial evidence provided.

CONTRACTOR shall ensure that sand for filling/construction is sourced from sites approved by the responsible State Government.

3.5.1.3 STRUCTURAL STEELWORK

CONTRACTOR shall fabricate and install equipment packages and Pre-Assembled Units (PAUs) in accordance with approved for construction drawings, using pre-inspected materials of approved grade; on-site or off-site fabrication shall comply with technical safety requirements. For brownfield, fabrication shall be offsite.

Installation of passive fire protection shall be based on the outcome of FERA and/QRA report.

3.5.1.4 FOUNDATIONS

CONTRACTOR shall construct all equipment foundations with all materials inspected and tested prior to being used. Shallow foundations shall be built in line with the specification & standards. Contractor shall be responsible for the protection of existing adjoining facilities and structures during project execution.

Piled foundations shall be Continuous-flight Auger (CFA) with reinforced concrete pile caps in brownfield locations while driven pile shall be used in greenfield locations according to specifications and design documents.

The pile capacities shall be confirmed using load tests on representative samples of the pile type as required in the Specification for piling work.

CONTRACTOR shall submit a pile test program to COMPANY for approval prior to commencement of the work. Pile Integrity Test shall also be mandatory.

Displacement of foundations between the process equipment on piles with those not on piles shall not exceed allowable limits, which are specified by the requirements of equipment/structures and design specifications.

CONTRACTOR shall submit, as part of the WORK, a method statement for review by COMPANY and obtain approval for detailing how the construction/installation of piles will be executed as required in DEP 34.11.00.12-GEN.

3.5.1.5 PAVING AND PATHWAYS AND ACCESS ROADS & GRADING

CONTRACTOR shall construct in-plant roads (where applicable), paving, pathways and grading at the locations in accordance with the project specifications and drawings.

Roads and paving within the plant and manifolds shall be concrete except where specified otherwise.

6. FACILITIES REMEDIATION DURING AND AFTER CONSTRUCTION ACTIVITIES

CONTRACTOR shall be responsible for maintaining all site access roads during the construction activities, and at the completion of construction activities, prior to demobilisation. This shall include watering of the roads as may be required to control the effect of dust on personnel working on site.

CONTRACTOR shall be required to repair all damage to roads and other infrastructure and facilities (including protection of the site embankment slopes) because of the WORK and return the roads to their original state, same as at the beginning of the construction activities.

7. DATUM

All spatial definitions (co-ordinate and elevation) for the WORK at Gbaran CPF and all remote locations shall be based or referenced to COMPANY approved datum. Where the engineering design needs to be based on local or plant co-ordinate system, then a transformation co-relation shall be established between COMPANY's national grid and plant grid co-ordinate system.

8. TEMPORARY FACILITIES

The CONTRACTOR shall provide temporary civil facilities, to support construction activities. All such facilities shall be demolished and removed from site at the completion of construction works.

9. BROWNFIELD AND DECOMMISSIONING WORKS

Brownfield and decommissioning works involve concurrent operations, with CONTRACTOR working in the vicinity / inside of operating life plant.

CONTRACTOR will be responsible for evaluation, planning, and implementation of the Brownfield works. All phases shall be carried out in close liaison with COMPANY.

The COMPANY Permit to Work System and concurrent operations planning shall be in force during all Brownfield works, and CONTRACTOR planning, and scheduling shall ensure minimal shutdown duration.

CONTRACTOR shall return all salvaged and recovered equipment and materials to COMPANY advised location.

10. LAYOUT CONSIDERATIONS, MECHANICAL HANDLING AND PDMS MODEL DEVELOPMENT

Refer to the applicable Philosophies, Functional Specification, Study Reports and drawings in Section X Technical Information.

CONTRACTOR shall develop the overall plot plans and equipment arrangements in line with the following high-level strategy:

- The facilities shall be developed such that HSE risk levels are As Low As Reasonably Practicable (ALARP);
- The facilities shall be of an economic, fit for purpose design;
- The facilities shall be developed such that they can be efficiently operated and maintained, and that they are of a fit for people design;
- The facilities shall be developed such that they can be efficiently built and installed, with maximized off-site Hook Up and Commissioning (HUC) and minimized on-site HUC.

In developing the layouts, the CONTRACTOR is to implement the strategy and shall be required to demonstrate that the objectives are achieved.

11. NOISE MANAGEMENT

The entire facility shall be designed and constructed to meet the requirements of DEP 31 10 00 31.

12. HUMAN FACTORS ENGINEERING

The CONTRACTOR shall ensure that the principles and best practice in Human Factors Engineering (HFE) are applied.

The CONTRACTOR shall adopt a suitably balanced strategy for HFE compliant with DEP 30.00.60.10-GEN Human factors engineering in Projects, covering design, testing, construction, commissioning, operations and maintenance.

The CONTRACTOR shall maintain an auditable record of activities demonstrating compliance with Human Factors Engineering principles.

13. EQUIPMENT

13.1 Piping and Piping Supports

The CONTRACTOR shall be responsible for engineering, procurement, fabrication, certification, transportation to site, storage and preservation, installation, testing, pre-commissioning and commissioning of all piping and piping supports required to complete the PERMANENT WORK.

Piping materials for the new facilities shall be in accordance with the piping class designations indicated on the PEFS/UEFS.

Where existing piping materials (and supports) are to be retained and re-used as part of the PERMANENT WORK, CONTRACTOR shall be responsible for all activities associated with ensuring the integrity of the PERMANENT WORK.

CONTRACTOR shall ensure that line pipes are protected with end caps to prevent ingress of moisture and foreign matter from the time it leaves the mills to the time it is welded. During installation, each open end of piping shall be securely capped off at the end of each day to avoid ingress of moisture, debris and animals. To meet this requirement, CONTRACTOR shall provide sufficient spare end caps. All piping shall be protected from internal corrosion during installation.

Pipework shall be hydro-tested with water of acceptable quality (in accordance with DEP 74.00.10.10 – Gen Shop and field pressure testing of piping and process systems) and the lines dried immediately after hydro-testing. CONTRACTOR proposal for this activity shall be subject to COMPANY review and agreement.

Piping supports shall comply with DEP 31.38.01.29 - Gen. Pipe Supports.

All equipment and facilities including pipe-racks within the facilities shall be painted in line with DEP 30.48.00.31-Gen Protective coatings for onshore and offshore facilities. The finish colours and line / equipment marking/labelling requirements shall be finalised by CONTRACTOR and COMPANY during detailed design.

On-plot buried facilities shall be coated with appropriate coating with cathodic protection.

14. BATTERY LIMITS AND INTERFACES WITH OTHER FACILITIES/ACTIVITIES

14.1 Organization

The battery limits, scope boundaries and general interfaces are identified in the CONTRACT. However, interface management is an ongoing process and new interfaces may be identified during the WORK, or working arrangement changed to suit circumstances. To monitor and control this process, CONTRACTOR shall establish a fully functional CONTRACTOR interface management team (CIMT), comprising interface manager, engineering manager, commissioning manager, construction manager, and interface engineer(s).

A COMPANY-Led Joint Interface Management Team (JIMT) shall also be established, comprising COMPANY personnel, two (2) personnel from CONTRACTOR's Interface Management Team and two (2) personnel each from P1 & P2 CONTRACTOR's Interface Management Team, to manage interfaces in relation of :

- Identification of dependencies and interfaces;
- Scheduling of interdependent activities to avoid standby and downtime issues;
- Procurement (Commonality) issues
- Document and data exchange (web base with joint access), format, protocol and review duration
- Planning and participation in design reviews
- Planning of concurrent construction activities and work permit system;
- Final documentation
- Commissioning and start-up

The JIMT shall meet forth-nightly at the initial stage and may be adjusted later as appropriate. The meeting shall be held at the CONTRACTOR operational base or any other location as agreed by parties. COSTS for transport of CONTRACTOR personnel for the interface meetings shall be deemed to be part of the CONTRACT scope and shall be at no extra COSTS to COMPANY.

CONTRACTOR shall as a minimum establish an interface register to manage interface issues by establishing issues, monitoring and closing out issues with others. The interface register issues shall be regularly updated and promptly closed out. CONTRACTOR shall develop an Interface Management Plan including a Matrix to show how Interface issues will be managed.

CONTRACTOR shall submit such documents for COMPANY's review. CONTRACTOR shall be responsible to ensure that regular interface management meetings are held with other parties to ensure issues are effectively managed. CONTRACTOR shall drive the management of interface issues, generate minutes of meetings, and develop close-out plans, follow-up and close out the issues therein.

All interface related documents issued to other CONTRACTOR shall be clearly marked as interface documents on the transmittal to ensure expedited dispatch.

The CIMT shall be responsible for managing all interfaces with the equipment vendors from design review through commissioning and handover, including transmitting and receiving information to and from the equipment manufacturer necessary for the execution of the WORK. CONTRACTOR shall also allow for updates to all design deliverables resulting from updates and revisions to the data from the equipment vendor and for ensuring that the design is reviewed and accepted for implementation by the equipment vendor.

The CIMT shall participate in technical reviews, workshops and testing to be conducted by the equipment manufacturer during the manufacturing of the equipment and also make provisions for the participation of the equipment manufacturers or their representatives in the follow-on engineering activities to be conducted by the CONTRACTOR.

CONTRACTOR shall allow 30 working days in total for design reviews, meetings, safety reviews, etc, specifically related to the interfaces with the equipment vendor for manufacturing, installation and commissioning activities.

The CIMT shall also be responsible for the management of interfaces with COMPANY operations team and other third parties whose activities can impact the project or vice versa.

Interfaces Between Packages 1, 2 & 3

3.14.1.1 PROCESS OVERVIEW

CONTRACTOR has the responsibility to perform process simulation and flow assurance for the entire piping system and equipment from the dehydration header to the gas export manifold at the Gbaran CPF.

As part of the FEED review and detailed engineering design, CONTRACTOR shall be responsible for updating and/or producing all PFS, PEFS, UFS, UEFS, Electrical key line diagrams and related high-level diagrams for the CONTRACTOR scope. CONTRACTOR shall provide all necessary information to P2 contractor who shall be responsible for preparing relevant as built documentations.

CONTRACTOR shall participate in P2 Contractor organised design reviews, including but not limited to HAZOP and Layout reviews, as may be necessary and vice versa. This is aimed at coordinating and avoiding conflict in equipment location and routing of lines and cables

3.14.1.2 PIPING

CONTRACTOR shall be responsible for the detail design, procurement, installation, testing, and preservation of all piping, including process and utility piping as shown on the marked-up PEFS as per CPF upgrade for CONTRACTOR scope.

P2 Contractor shall be responsible for the detail design, procurement, installation, testing, and preservation of all piping, including process and utility piping as shown on the marked-up Pipeline PEFS and GAs showing the scope split/interface.

3.14.1.3 COMMISSIONING

CONTRACTOR shall be responsible for pre-commissioning/commissioning of the facilities within its scope of work. CONTRACTOR shall supply and administer the CMS (**Completions**

Management System) for the integration of mechanical completion and commissioning activities.

All 3 contractors (CONTRACTOR's, P1 and P2 Contractors') shall provide input to all required commissioning activities, by discipline, by system for organising and tracking the WORK for the benefit of all parties as part of the Project flawless start-up initiative. Respective commissioning managers shall develop a joint commissioning plan for managing the commissioning of systems having interfaces, to ensure flawless commissioning/start-ups.

The tie-in and testing of new control, shutdown and electrical systems to existing facilities at the CPF and Remote Locations can result in plant ESD. CONTRACTOR shall liaise with the Asset Team to ensure availability of Electrical and Instrument persons to minimise such operational disruptions.

CONTRACTOR personnel assigned Electrical & Instrument interface responsibilities shall only be those whose resume have been reviewed and accepted by COMPANY.

3.14.1.4 ELECTRICAL & TELECOMS

SUMMARY OF KEY ELECTRICAL, TELECOMS AND CATHODIC PROTECTION SCOPE INTERFACES

S/N	SCOPE DESCRIPTION IN BRIEF	APPLICABLE LOCATION (S)	RESPONSIBLE CONTRACTOR		
			P1	P2	P3
	Permanent Cathodic protection system including cables, junction boxes and accessories from the ground bed transformer rectifier to the connection point on the protected facility (Bulklines, buried on-plot piping and facilities within own scope)	- All locations		X	
	Permanent Cathodic protection system including cables, junction boxes to the connection point on the protected facility (buried on-plot piping and facilities within own scope)	- Gbaran CPF			X
	Connection of permanent cathodic protection cables to CPF; - circa 10km X 16" Zarama NAG Manifold – CPF. - circa 8 km X 16" Zarama 15 location to Zarama NAG Bulkline	- Gbaran CPF/ Zarama NAG MFD	X		
	Procure, install and terminate discrete 48 core single mode fibre optic cables (FOC), including all underground fibre jointing materials and accessories from the Junction/Splitter Boxes to the FAR, Telecoms cabinets with sufficient spare lengths, coil and keep in a safe condition	- Zarama Oil Manifold FAR - New FAR at Zarama 15 Location	X		

	Procure all FOC termination accessories- patch panels, connectors, pig tails, dust covers, etc – and terminate the discrete FOC from the junction/splitter boxes at the Zarama Oil Manifold FAR and new FAR at Zarama 15 location.	- Zarama Oil Manifold FAR - New FAR at Zarama 15 Location	X		
	Procure, install and terminate discrete HV Power Cable from the Junction/Splitter Boxes to the Substation RMU, with sufficient spare lengths.	- Zarama Oil Manifold FAR - New FAR at Zarama 15 Location	X		
	Telecommunication equipment and cabinets at Zarama Oil Manifold FAR and the new FAR at Zarama 15 location.	- Zarama Oil Manifold FAR - Zarama NAG Manifold - New FAR at Zarama 15 Location		X	

14.2 Interfaces with Existing COMPANY Plant/Facilities/ Work of others

As part of the WORK, CONTRACTOR activities may coincide with COMPANY operational activities or other projects. CONTRACTOR shall be required to comply with existing COMPANY procedures (e.g. PTW) guiding concurrent activities to ensure minimal disruption.

All integration activities must follow existing change management procedure for tie-in of new facilities. For purposes of planning CONTRACTOR shall take into consideration that change approvals could require up to three weeks.

3.14.2.1 CIVIL INTERFACES

CONTRACTOR shall recognise that the WORK may interface with the work of OTHERS

CONTRACTOR shall be required to accept all interfaces as part of the WORK. CONTRACTOR shall be required to develop an interface management procedure detailing how interfaces with other third-party activities will be managed.

3.14.2.2 ELECTRICAL

CONTRACTOR shall note that there are existing underground and above ground facilities within the CPF, most of which are energised. The CPF shall be treated as brown field that requires extreme care. CONTRACTOR shall draw up work programmes for work in the location for COMPANY approval. Such programmes shall indicate the duration of the works and the shutdown requirements. The works shall be carried out safely with minimal disruption to production. CONTRACTOR shall submit all changes whether design or field changes to COMPANY for approval prior to the implementation of the changes.

CONTRACTOR shall interface with COMPANY Operations for shutdown and isolation of existing facilities and for issuance of all necessary permit to work and related permits. COMPANY

operations shall cover routine and non-routine inspection, maintenance and minor modification works and visits to the WORKSITES.

The CONTRACTOR shall be required to normalise the operation of any system disrupted by their works or introduction of new systems or modification to the existing system. Such disruption shall be planned in such a way as to reduce the period of disruption to as low as reasonably practicable

All materials or services including detailed engineering required for or incidental to the modification to the existing facility or system shall be procured and implemented by the CONTRACTOR as part of this CONTRACT. As-built documentations shall be generated to reflect all, and any changes made during the installation and commissioning of the facilities.

CONTRACTOR shall be responsible for provision of their entire temporary power requirement until final handover of the finished work to COMPANY including the decommissioning of all such temporary power equipment and associated installations at project completion.

3.14.2.3 INSTRUMENTATION

CONTRACTOR shall carry out integration of the new systems to the existing automation and control system in Gbaran CPF as detailed out in section titled “facilities systems integration” of this document.

The existing control and safeguarding systems currently installed are Emerson Delta V and HIMA respectively. CONTRACTOR shall integrate the new systems seamlessly with the existing systems in line with company PCD/IT requirements.

All hardware, software and services required to achieve successful integration works shall be procured and implemented by the CONTRACTOR.

3.14.2.4 COMPANY CORPORATE TELECOMMUNICATIONS INFRASTRUCTURE

The existing master PAS at the CPF control room incorporates an Object Linking and Embedding for Process Control (OPC) server to enable its integration into the COMPANY corporate Ethernet TCP/IP network through a suitable firewall, the new systems shall integrate to the existing infrastructure in line with PCD/IT requirements.

3.14.2.5 PROCESS INFORMATION® (PI) SERVER LOCATED IN PORT HARCOURT

The existing PAS broadcasts all field device process values, valve positions, equipment status indications and alarms as OPC for automatic acquisition by the corporate OSIsoft® PI data historian through the SPDC corporate TCP/IP network. The contractor shall ensure that all data from the new systems (instruments, valves etc.) are configured and made available on the PI server in Gbaran CPF.

3.14.2.6 INTERFACES WITH OTHER PROJECTS AND ACTIVITIES

Interfaces to be managed by CONTRACTOR shall include but not be limited to activities with other Contractors and COMPANY's Operations Team at Gbaran CPF.

4.0 PROJECT MANAGEMENT

1. Introduction

The CONTRACTOR shall be responsible to COMPANY for the management and control of the WORK from EFFECTIVE DATE of the CONTRACT through to the COMPLETION DATE and FINAL ACCEPTANCE by COMPANY and shall ensure that COMPANY is always fully informed of the status of the WORK. Supervision by COMPANY will be by resident teams and by scheduled and unscheduled audit. CONTRACTOR shall ensure that the agreed project management, HSE management and quality management systems for the CONTRACT are in place at all Worksites.

Project management (as referenced under Section IV – Schedule of Prices) shall include all efforts by CONTRACTOR's project team to manage all aspect of the WORK, including project, engineering, procurement, fabrication, construction, pre-commissioning, commissioning, HSSE, information, and Quality management.

In this regard, the CONTRACTOR shall implement sound and effective procedures for project planning, resourcing, execution, documentation, control, co-ordination and reporting of its activities, those of its SUBCONTRACTOR and VENDORS, and the management of interfaces with others to ensure project is completed safely, on schedule and in accordance with the Project Specifications.

The CONTRACTOR's project management activities shall include, but not be limited to:

1. Establishment of relevant measures of performance, such as schedules, etc.
2. Ongoing appraisal of performance, compared to the planned measures.
3. Analysis of trends and deviations and early implementation of corrective actions.
4. Realistic forecasting, taking into account performance to date.
5. Keeping COMPANY informed of progress, status and outlook in a timely manner, providing the formal reports as required by the CONTRACT.
6. Obtaining permits, consents and approvals for the WORK.
7. Preparing, implementing and maintaining a Quality Management System.
8. Implementation of Lean philosophy in the management of project including the use of Last Planner system of work planning (reference Section VII - Administration Instructions Article 6.0)

2. Work Locations

CONTRACTOR shall establish and operate for the purposes of this CONTRACT the following Worksites in order to ensure effective co-ordination and management of the WORK:

1. Project management offices, located at any acceptable location in Nigeria, where the residual engineering, procurement and construction would be managed. This may be located within a facility operated by CONTRACTOR and covering multiple projects but shall be segregated from other activities by dedication of suitable office floor areas.
2. A Construction Base within the site area, which must be set up to provide office accommodations for CONTRACTOR and COMPANY project team as specified in Section VII - Administration Instructions so as to allow for the management of project with CONTRACTOR and COMPANY project leadership teams resident at this Base
3. Storage bases located appropriately within the site area to ensure materials and equipment are adequately stored.
4. Worksites offices at the various WORKSITES

3. Control, Monitoring and Procedures

The CONTRACTOR shall be responsible for the overall management, planning, resourcing, execution, documentation, control, cost monitoring, scheduling/schedule monitoring, quality management, HSE management, and reporting of the whole of the WORK from the EFFECTIVE DATE OF COMMENCEMENT OF THE CONTRACT through to the COMPLETION DATE, and shall ensure that COMPANY is fully informed of the status of the WORK, and any associated problems or non-conformances, at all times.

CONTRACTOR shall ensure that current versions of the agreed project management, HSE management and quality management systems and procedures for the CONTRACT are in place at each location during design, procurement, fabrication, construction and commissioning activities including all associated activities such as load-out, shipping, transportation, offloading, and offsite storage. CONTRACTOR shall operate a document control and management system that demonstrates this.

The CONTRACTOR shall prepare interface project procedures with COMPANY's existing procedures in areas where integration between the two systems is required.

4. Project Calendar

The CONTRACTOR shall implement the CONTRACT in accordance with a Project Calendar which shall be same as normal calendar, to which all documents and reports shall refer. See Section VII - Administration Instructions.

5. Permits and Licences

CONTRACTOR shall obtain all permits and licences required for the execution of the WORK. These include but not limited to those required for purchasing, shipping, importing and transporting the materials and equipment for the WORKS, construction equipment, radio frequency, waste and waste water. CONTRACTOR shall also obtain all permits and licences for the mobilisation and employment of staff and labour. CONTRACTOR shall retain the responsibility for maintaining the currency and validity of these permits and licences.

Various external approvals are required to operate the facilities. CONTRACTOR shall provide all supporting documents requested by COMPANY in obtaining these consents, approvals, licences and permits as defined in Permits and Consents Plan. GBU-DMG-GEN-AA5753-00001. COMPANY shall obtain all permits for the operation of the facilities.

CONTRACTOR shall prepare all necessary documentation, in the COMPANY approved formats, and submit for approval by COMPANY in accordance with the permits and consents plan. CONTRACTOR shall prepare a detailed Permits and Consents Procedure and Schedule for approval by COMPANY. Regular weekly review meetings shall be held between CONTRACTOR and COMPANY to streamline the process and to track submissions, preparation and approvals.

6. Project Reporting Requirements

The detailed reporting requirements for the CONTRACT including the project close-out report are described in Section VII - Administration Instructions. CONTRACTOR shall comply with these requirements.

7. Video Coverage and Progress Photographs

CONTRACTOR shall prepare a three (3) hour project summary DVD video covering all the phases of the project, giving particular attention to sensitive activities. The video shall include dates and description of what is on screen.

CONTRACTOR shall provide a digital photographic record of the WORKS showing construction progress. Photographs are to be uniquely numbered and supplied against an index detailing number and description of contents including date of photograph. CONTRACTOR shall compile a three (3) 10inch x 10inch photobook

with narratives to support the content of the images. The photobooks shall be of book-type bind, hardcover with image wrap and printed in high quality paper (minimum of 100# 148GSM) COMPANY also reserves the right, during the WORK, to arrange a full video coverage of certain activities for record or training purposes. CONTRACTOR shall grant full access to COMPANY for this activity.

8. Project Execution Statement/Project Execution Plan

8.1 General

The CONTRACTOR shall update, and submit to COMPANY for approval, the Project Execution Statement and the Project Execution Plan submitted with its technical tender, revised if necessary as agreed with COMPANY, within forty-five (45) days from the EFFECTIVE DATE OF COMMENCEMENT OF THE CONTRACT, giving full details of the arrangements, practices, resources, sequence of activities and methods which the CONTRACTOR proposes to adopt for the execution of the WORK.

The CONTRACTOR's Project Execution Statement and the Project Execution Plan shall be project-specific documents and shall contain adequate detail to enable stand-alone 'SMART' understanding of the control structure, procedures and specifications.

8.2 Project Execution Statement

The Project Execution Statement shall describe and define the logic and inter-relationships of CONTRACTOR's plans and proposals for project execution, giving an overview covering all aspects of the WORK under major headings corresponding to the Project Execution Plan (Article 4.8.3 below). It shall identify the duties and responsibilities of each member company within a Joint Venture (JV) or Consortium. It shall define all the WORKS proposed to be sub-contracted, and the names of the proposed SUB-CONTRACTOR. It shall identify the work scope to be carried out at each WORKSITE defined in Scope of work article 3 (above). It shall provide enough detail to completely identify and define the necessary content of the Project Execution Plan, which shall be the detailed executive document used for management of the CONTRACT.

8.3 Project Execution Plan

The Project Execution Plan shall implement the Project Execution Strategy and shall include the requirements detailed in this section of the CONTRACT. The CONTRACTOR shall ensure that the procedures defined in the Project Execution Plan are fully compatible and integrated with all other systems implemented for the execution of this CONTRACT.

The Project Execution Plan shall include all related project specific policies and procedures, and detailed flowcharts and schedules to be used by the CONTRACTOR to manage the CONTRACT.

Procedures shall cover all CONTRACTOR's activities, those of its SUBCONTRACTORS and VENDORS, and the management of interfaces with others active in the Gbaran CPF Project area and elsewhere associated with this project.

The Project Execution Plan shall be subject to change control in accordance with Section IX - Quality Management and shall be reviewed and where necessary updated by the CONTRACTOR. CONTRACTOR shall inform COMPANY of its intention to revise the Project Execution Plan and shall obtain COMPANY's agreement on the need for, and details of, the revision prior to implementation. COMPANY may instruct CONTRACTOR to revise specific sections of the Project Execution Plan if, in COMPANY's opinion, they no longer represent the reality of project execution. Such changes may include the format and/or number of separate volumes required.

The Project Execution Plan shall include CONTRACTOR's detailed proposals for all necessary temporary works, offices, workshops, warehouses, storage areas, logistics, utilities, security, and messing/accommodation (including that proposed for COMPANY assigned staff and visitors) for the various project phases at each WORKSITE.

The Project Execution Plan shall comprise Nineteen (19) stand-alone volumes for each phase of the WORK, or control activity, to aid timely issue and approval, as follows:

Volume	Title
---------------	--------------

INVITATION TO TENDER FOR EPC FOR GBARAN PHASE 3B - UZU WITH CPF UPGRADE- PKG 3 CPF UPGRADE
CW361444

Page 126 of 407

I	Project Management (also covering Policy/Execution objectives and targets, progress control, performance reporting, cost control, change management, scope control, resourcing, provision of services), Risk Management, Lean Implementation
II	Engineering
III	Procurement and sub-contracting
IV	Site preparation and temporary works/facilities (construction camp, messing and accommodation, offices, catering, medicals, waste disposal, fabrication and laydown areas, maintenance)
V	Fabrication and assembly: - in Nigeria - outside Nigeria
VI	Offsite pre-commissioning, testing and preservation
VII	Logistics, Transportation of Equipment and Materials to WORKSITES customs clearance
VIII	Handling, storage and preservation
IX	Construction, onsite preservation, installation and hook-up: - CPF Upgrade Scope
X	Onsite pre-commissioning and commissioning: - CPF Upgrade scope
XI	Operations Readiness, Training and Flawless Start-Up
XII	Quality Management
XIII	HSE Management
XIV	Interface Management
XV	Information Management and Data control
XVI	Community Affairs
XVII	Security
XVIII	Local Content
XIX	Lean Implementation

The Project Execution Plan shall be suitably bound in 4-ring binders with adequate descriptions on the spines and covers to identify the project, volume and contents. Each binder shall contain an overall index of the Project Execution Plan and shall include a status page. The status page shall be an index of all the documents existing or to be developed to complete the volume with a separate column depicting their status. Page and section numbering shall be designed to facilitate revision.

There shall be one (1) Project Execution Plan in use by COMPANY and CONTRACTOR. For initial issue and any subsequent issues and/or amendments, CONTRACTOR shall deliver for COMPANY use three (3) hard copies of the Project Execution Plan (one (1) signed original and two (2) copies) and three (3) electronic copies on external hard drive.

8.4 Computer System, Software and Data Management

The CONTRACTOR shall obtain and use the under listed software as applicable to own scope (with same version used by COMPANY), those specified in the project Scope of Work. Other software /programs may be used for studies/activities required as part of the project which are not listed in any of the referenced documents, with COMPANY approval and shall be documented in the CONTRACTOR's Quality Plan prior to commencement of the WORK.

Operating system	Microsoft Windows 10
Word processing	Microsoft Word for Windows 2016
Spreadsheets	Microsoft Excel 2016
Planning/scheduling	Primavera 15.2
Cost management	SAP
Actions tracking system	CONTRACTOR to specify
Anti-virus	Avast Anti-Virus
Drawings	AutoCAD 2016

Process simulation	UNISIM design 451.3
Pipeline simulation	PIPESIM version 2012.2
Pipeline Flexibility analysis	Caesar II version 7.0
Fire consequence and gas dispersion modelling	FRED to correspond with COMPANY version
Bow-Tie analysis	BOWTIE-XP_R7.0
Hazard and issues register	EasyRisk
3D Model development	PDMS version 12.1 SP4 or later
Instruments database	Intools (version 7.0.x) or SPI (Version 2009.2HF6)
Spare Parts management	E-SPiR Version 8.33
Viewgraphs and presentations	MS PowerPoint 2016
Dynamic simulation	OLGA 2016.2.2.0.82
Blowdown modelling	UNISIM design 451.3 (blowdown Utility) or other modelling tool to be agreed by COMPANY
Asset Data Template	MS Access 2016
Commissioning Management System	GoCompletions COMPANY to advise version
Civil Structural Design	StaadPRO (Latest Version)
Power Systems	SKM
Vessel Design	PV Elite

9. Lean Implementation

As part of efforts to ensure an effective project delivery CONTRACTOR shall be required to implement Lean “thinking” initiatives in the execution of the Uzu CPF Upgrade Project. Such initiatives shall involve implementation of methods to identify and reduce waste during the project. CONTRACTOR shall as part of mobilisation conduct a lean awareness workshop for key CONTRACTOR, SUB-CONTRACTORS, VENDORS, and trades supervisors. CONTRACTOR shall be required to implement the Last Planner System of collaborative planning as part of the lean implementation initiative.

CONTRACTOR shall state, in the Project Execution Plan, how it intends to implement Lean initiatives on the project and explain how the project delivery can be enhanced, and achievement of effective management of people, information, equipment, materials, interdependent works, space, external conditions etc.

CONTRACTOR shall appoint a Lean Implementation Manager and Lean Implementation coordinator who shall be responsible for the implementation of the lean initiatives on the project.

10. CONTRACTOR's Organisation and Key Personnel

As required by COMPANY, the CONTRACTOR shall submit for COMPANY's approval, within thirty (30) days of the EFFECTIVE DATE of commencement of the CONTRACT, an organisation chart showing the proposed organisation to be committed by the CONTRACTOR for the performance of the WORK, including:

- Lines of authority, responsibility and communication.
- Division of responsibilities between the CONTRACTOR's Site and off-Site organisations.
- Names, titles and functions of all supervisory and other key personnel.

The CONTRACTOR shall provide skilled and qualified personnel to perform the WORK and ensure that appropriate personnel have and maintain certificates and licenses required by applicable laws. CONTRACTOR shall comply with statutory requirements with respect to professionals occupying key positions and signing off documents. Engineers shall be COREN registered.

In addition, the CONTRACTOR shall submit a detailed resume (and originals or copies of supporting documentation which may be subsequently requested by COMPANY) of the professional qualifications and experience of key personnel and other persons proposed to occupy a position deemed by COMPANY to be significant within the organisational structure. The professional qualifications of CONTRACTOR's Design and

Engineering, and Project Management Personnel shall be approved by COMPANY.

Upon approval of such organisation chart and proposed personnel by COMPANY, no changes shall be made without COMPANY's prior written approval. The CONTRACTOR's key personnel assigned to the performance of the WORK shall not be re-assigned without COMPANY's prior written approval and until a satisfactory replacement, approved by COMPANY, has taken over.

Engagement of key project personnel into the project shall only be after a face to face interview and explicit approval by COMPANY project management team. If the CONTRACTOR wishes to terminate/reassign any key personnel, CONTRACTOR shall issue 90 days' notice to COMPANY in-lieu of such termination/reassignment of key project personnel from the project and such termination/reassignment shall only take effect after an approval has been given by COMPANY.

Before commencing WORK hereunder, the CONTRACTOR shall appoint a competent, Project Manager and Deputy Project Manager fluent in spoken English, acceptable to COMPANY, to represent and act for the CONTRACTOR at all times during the performance of the WORK. The CONTRACTOR shall inform COMPANY in writing of his address and telephone number, the scope of his authority, and the limits and extent of such authority.

Upon COMPANY's approval of such Project Manager, no change shall be made without COMPANY's prior written consent. Such Project Manager shall have overall responsibility for the WORK, whether performed in the CONTRACTOR's home or branch offices, at the Sites or elsewhere, and shall be present at the Sites during such periods as COMPANY may designate.

The CONTRACTOR shall also appoint competent, Construction Managers who are always fluent in written and spoken English and acceptable to COMPANY to be present at construction sites when construction is in progress, and who will represent and act with full authority for the CONTRACTOR at the relevant sites in the absence of the CONTRACTOR's Project Manager. All notices, determinations, instructions and other communications given to such Project Manager or Construction Managers or any other responsible CONTRACTOR's personnel by COMPANY shall be binding upon the CONTRACTOR.

The CONTRACTOR shall comply with all provisions of the Nigerian laws relating to its personnel, including the employment of personnel. If COMPANY believes that any person, including supervisors, are disorderly, incompetent, not cooperative, unsafe, or unqualified, then COMPANY shall request the CONTRACTOR to replace such person, and the CONTRACTOR shall do so immediately at no cost to COMPANY.

10.1 Manpower Resourcing Plan

The CONTRACTOR shall submit manpower resourcing plans as part of the Project Execution Plan, subdivided by Worksites, which shall be broken down into:

- Overall manpower resourcing plan by month for the total WORK.
- Manpower loading by month for each job category employed, specified by WORK element and discipline, consistent with the overall manpower resourcing plan.
- Man-hour histograms for the total direct and indirect man-hours, specified by function, discipline and overall.
- Man-hour histograms for management.

These shall be consistent with the scheduled resources required.

SUB-CONTRACTOR and third-party inspection manpower shall be included and shall be identifiable separately from CONTRACTOR's manpower. The data shall be further subdivided to display the number of man-hours performed by Nigerian nationals on each activity. The manpower resources shall be consistent with the activities defined on project schedules at the detailed level, including vendor surveillance schedules.

The manpower plans, and histograms shall be issued initially for review by COMPANY as part of the Project Execution Plan, in accordance with the agreed Project Schedule. Thereafter they shall be issued monthly as part of the input to monthly meetings, or at such other frequency as may be requested by COMPANY.

10.2 Senior Management

CONTRACTOR shall appoint a Project Sponsor to provide the executive support to the Project Manager and act as executive client contact for the project.

CONTRACTOR shall delegate to the Project Sponsor the responsibility for the performance of the WORK, and the authority to initiate all actions necessary for this performance. Regardless of the structure of a Joint Venture or Consortium, only one person shall be appointed as Project Sponsor. The Project Sponsor shall attend all quarterly project review meetings.

CONTRACTOR shall also appoint the following senior management personnel deployed for the WORK:

- Project Manager;
- Deputy Project Manager

CONTRACTOR shall delegate to these senior management personnel the responsibility for day-to-day running of the project, and the authority to do so. The Project Manager/Deputy Project Manager shall attend all weekly and monthly review meetings.

10.3 Key Personnel

Key personnel are defined as those with sufficient influence on the performance of the WORK that, in the event of their incompetence and/or absence (other than for reasonable leave periods scheduled to avoid critical project activities) there would be a detrimental effect on the performance of the WORK. As a minimum the following personnel shall be included in this category:

- Project Manager;
- Deputy Project Manager;
- Project Controls Manager/Finance Manager;
- Engineering Manager;
- Procurement Manager/Sub-contracts Manager;
- Materials Co-ordinator;
- Fabrication Yard Manager;
- Construction Manager;
- Interface Liaison;
- Logistics Manager;
- Commissioning Manager;
- Lean Implementation Manager
- HSE Manager;
- Quality Manager;
- Local Content Manager;
- Sustainable Development / Community Affairs Manager;
- Security Manager;
- Senior Planner;
- Senior Cost Engineer/Cost Planner;
- Information Management Co-ordinator;
- Lean Implementation Co-ordinator;
- Flawless Start-up and Handover Co-ordinator;
- Lead Systems Engineer - Instrumentation and Control systems (from vendor);
- Human Factors Engineering focal point;
- Site Doctor;

- Training Co-ordinator.

10.4 Qualifications

CONTRACTOR shall provide adequately skilled, qualified and experienced personnel to perform all aspects of the WORK (including temporary works and all activities associated with the WORK) and shall ensure that appropriate personnel have, and maintain, certificates and licenses required by applicable laws.

CONTRACTOR's design and engineering personnel shall meet COMPANY's minimum requirements as detailed in Appendix 4.5 - Personnel Qualifications.

All senior management personnel and key personnel shall be fluent in spoken and written English and shall be capable of reading and understanding contractual and technical requirements in the English language, compiling technical and/or inspection reports and procedures in the English language, and holding technical conversations in the English language. Where COMPANY judges that any CONTRACTOR KEY PERSONNEL do not meet this requirement, COMPANY shall request CONTRACTOR to remove such personnel and replace with one that meets the requirements and CONTRACTOR shall take steps to comply within one month.

The required minimum qualification, experience and training requirements for CONTRACTOR's senior management and key personnel are defined in Appendix 4.5-Personnel Qualifications. COMPANY reserves the right to interview senior management and key personnel prior to employment on the WORK. All CONTRACTOR's expenses involved in such interviews shall be for the account of the CONTRACTOR.

As part of the Project Execution Plan, CONTRACTOR shall submit a detailed resume (and copies of supporting documentation which may be subsequently requested by COMPANY) of the professional qualifications and experience of the proposed senior management and key personnel and other persons proposed for positions within the project organisation considered by CONTRACTOR to be significant, which shall be subject to COMPANY approval. No such personnel shall be mobilised or demobilised without such approval.

Once approved, CONTRACTOR shall enter the names of senior management and key personnel into a register maintained and updated as necessary to reflect subsequently approved changes. This register shall include name, profession, qualifications, date joined company, position within project, and date appointed to that position, and any changes following initial issue shall be subject to Change Control as an integral part of the Project Execution Plan.

Resumes of potential replacement personnel shall be submitted to COMPANY for approval. Wherever possible, a handover period shall be implemented.

10.5 Wages and Work Cycles

CONTRACTOR shall ensure that the wages paid to its staff participating in the project within Nigeria shall be in compliance with the applicable minimum wage law in Nigeria and the localities where the project activities are taking place.

CONTRACTOR is required to comply with the Nigerian Labor Act in relation to work cycles. As a minimum, there must be at least 24 hours consecutive rest period in every 7 days cycle. If for operational reasons rest periods are deferred, then the maximum consecutive workdays shall not exceed 24 workdays followed by 4 rest days. The rest days shall exclude any travel time.

CONTRACTOR shall implement a Project Labor Agreement as detailed in Section IIIA – Special Conditions of Contract, Article 16

10.6 Minimum Qualifications for Design and Engineering Personnel

Personnel to be engaged in the WORK shall meet the minimum requirements as listed in Section VII - Administration Instructions. Regardless of their experience, COMPANY reserves the right to accept or reject any of the CONTRACTOR's personnel from participating in the WORK. All personnel shall be able to communicate properly in English.

11. Project Interface Management

CONTRACTOR shall develop for COMPANY review, an Interface Management Plan for the project. The plan shall take into account all the interfaces anticipated by CONTRACTOR in the project including those identified below.

For the administration of Project Interfaces refer to Section VII – Administrative Instructions and Project Controls. There may be other CONTRACTOR, SUB-CONTRACTOR, and agents or employees of COMPANY and its associates working at or adjacent to the WORKS during the performance of the WORK by the CONTRACTOR considering that the WORK will interface with existing facilities. The CONTRACTOR shall anticipate in its WORK Programme and its expenses that the performance of the WORK may be interfered with or temporarily delayed from time to time on account of the concurrent activities of others. The CONTRACTOR shall fully co-operate with COMPANY and other contractors and SUB-CONTRACTORS to avoid any delay or hindrance of their activities and to ensure the orderly completion of the WORKS.

COMPANY may also require that certain facilities and areas be used concurrently by the CONTRACTOR and OTHERS. No extension of time for completion shall be granted and no additional payment shall be made to the CONTRACTOR by COMPANY as a result of such temporary interfaces or delays arising from the activities of OTHERS at or adjacent to the WORKS.

The WORKS shall include extensions and modifications to existing COMPANY facilities, which can be in operation or can be worked on by OTHERS. The CONTRACTOR shall develop his construction planning for these existing facilities in consultation with COMPANY, to minimise the shutdown periods and to avoid hazardous situations during construction.

At the given date of construction WORKS (according to the work plan of the CONTRACTOR agreed to by COMPANY) COMPANY will make its facilities available to CONTRACTOR. The CONTRACTOR shall execute his WORKS at these facilities according to the Permit to Work system, where COMPANY will be the asset holder.

11.1 Interface with Others Carrying Out Work in the Field Area

Reference Article 3.16

12. Company Involvement in CONTRACT Activities

Full execution responsibility and accountability for the CONTRACT rests with the CONTRACTOR. However, COMPANY representatives will be present in the CONTRACTOR's and nominated SUBCONTRACTOR' offices, fabrication and at construction sites to monitor project progress and CONTRACT compliance. This will include reviewing (and approving those identified for approval as per Section VII - Administration Instructions) drawings/plans and documents and providing any location specific back-up information required for execution of the WORK. COMPANY and CONTRACTOR shall mutually agree on a schedule for drawing and document review that will meet with the overall project schedule.

13. Services to be Provided to COMPANY by CONTRACTOR

13.1 General

CONTRACTOR shall provide and arrange the facilities and services listed in the following Scope of work articles at its various WORKSITES to facilitate;

1. Efficient work flow, interactions and communications.
2. Timely appraisal and control.
3. The COMPANY team having ready access to and dialogue with their counterparts in the CONTRACTOR's organisation.

CONTRACTOR shall retain ownership of all CONTRACTOR owned facilities provided for COMPANY use during the execution of the CONTRACT, e.g. Computers, telephones, printers, photocopiers etc.

For the purposes of Scope of work article 4.13 and 8.2, COMPANY Personnel include staff of COMPANY, Nigerian National Petroleum Company (NNPC) and Department of Petroleum Resources (DPR) permanently resident in CONTRACTOR's Work location, while the term "visitors" shall include those outside the Resident Team authorised by COMPANY to visit the CONTRACTOR's work locations from time to time in the course of the project execution for the purpose of achieving the overall project objectives.

The CONTRACTOR shall provide the following facilities for CONTRACTOR and COMPANY project personnel working on all sites (except the storage base).

1. A full printing, photocopying, scanning, binding and distribution service for documentation deliverables.
2. A tracking / monitoring / expediting system to ensure effective control over the product and timely delivery of documents for project management, design, procurement, manufacturing, installation, commissioning, training and ultimately HANOVER.
3. A safe and secure storage in the Document Control Centre (DCC) for a master set of all document deliverables.
4. A means of identifying and compiling all the document deliverables for handover to COMPANY.
5. The registration of all document deliverables in compliance with the COMPANY codes and numbering system for document identification.
6. The capability to compile progress and status reports.
7. A postal / courier service for COMPANY Site staff.
8. Access to CONTRACTOR's documents, procedures, records, codes, standards regulations, etc.
9. Communications system.
10. COMPANY facilities shall be dedicated and where not possible this shall be discussed and agreed with COMPANY.

13.2 COMPANY Acquisition of Construction Camp Facilities erected or installed on Land Provided by COMPANY

Where CONTRACTOR constructs, erects or installs fixed structures on land provided by COMPANY, where such facilities form part of Temporary Construction Facilities for the performance of the WORK, (which shall include but not limited to construction camp, accommodation, offices, catering, medicals, waste disposal, fabrication facilities, laydown) COMPANY shall have the right to acquire part or whole of such permanent facilities upon completion of the WORK at no extra cost.

Where COMPANY elects not to acquire such facilities CONTRACTOR shall dismantle and remove such from site and restore the site to its pre-construction state or as may otherwise be advised by COMPANY
CONTRACTOR shall retain ownership of all CONTRACTOR owned movable facilities provided for execution of the CONTRACT, such as computers, telephones, printers, photocopiers, furniture and fixtures etc.

13.3 Facilities at Work Locations

4.13.3.1 Site Construction Base

CONTRACTOR shall provide a Site Construction Base located within 5km radius from the Gbaran CPF to be agreed by COMPANY. The facilities shall be made available at the same time as when the CONTRACTOR personnel are mobilized. CONTRACTOR shall provide office and full board residential accommodation including catering services as specified in Appendices 4.7-4.9 for the following number of COMPANY personnel:

- Fifteen (15) persons on a permanent basis

Should COMPANY or JV Partners request additional office accommodation and catering services at the Site Construction Base this will be RE-IMBURSABLE to the CONTRACTOR in line with Section IV - Schedule of Prices. A provisional sum for this shall be allowed for in Section IV - Schedule of Prices. The facilities shall be made available at the same time as when the CONTRACTOR personnel are mobilised.

4.13.3.2 Storage Base Location Facilities

CONTRACTOR shall provide a storage yard within the project area to enable easy logistic flow of materials and equipment.

).

CONTRACTOR shall reference Article 8.0 for further detailed requirements for mobilizing the work locations.

13.4 Office Facilities

The CONTRACTOR shall provide the office accommodation and services for the number of COMPANY personnel specified in Articles 4.13.3 above during the engineering, fabrication, site construction, and commissioning phases as specified in Appendix 4.6 – (Provision of Offices and Associated Services for COMPANY Personnel and Visitors) to this Scope of Work together with all associated consumables and utilities. Offices shall be supplied with UPS with minimum 8 hrs power autonomy in case of power outage. HVAC shall be provided to maintain office ambient temperatures and humidity within the limits quoted in COMPANY's specifications for offices.

The CONTRACTOR shall furnish at its expense, office space, furniture, furnishings, clerical, janitorial and secretarial assistance and communication services required by COMPANY and its representatives at the CONTRACTOR's offices, fabrication yards and at the various Sites. Such facilities and services shall include, but not be limited to, the following specifications and shall be suitable for the designated maximum number of personnel stated above who may use such premises.

Accommodation and furnishings to a size and standard consistent with COMPANY standard and acceptable to COMPANY, comprising as below, in addition to requirements listed in Article

1. Desks, chairs, filing cabinets, wall charts and boards, computers etc.
2. High speed internet connections with minimum of 6Mbps speed for download and upload.
3. Air conditioning.
4. Services including heat, light and power; janitorial, cleaning and security services; toilet facilities and access, and all other non-specialised office supplies.
5. Meeting room with videoconferencing facility, overhead projector and 75" TV available for COMPANY personnel.
6. Additional services and supplies as follows:
 - a. Secretary and Secretarial services,
 - b. Document Control Clerk.
 - c. Stationery.
 - d. Use of the CONTRACTOR's technical library.
 - e. Car parking, as appropriate.

In addition to the above requirements the CONTRACTOR shall provide an independent DCC Clerk to manage the COMPANY document control centre at the CONTRACTOR's Site Construction Base. His / her role will be to interface with the CONTRACTOR DCC and the COMPANY Port Harcourt Base DCC for the purpose of managing the electronic document review / transmittal process. The DCC personnel will also be required to develop and manage the day to day document management system for the Resident Team.

In order to ensure that both COMPANY and CONTRACTOR are working to the same documents and drawings, COMPANY shall use the facilities of the CONTRACTOR Document Control Centre on all Sites. Full photocopying and scanning facilities shall be provided by CONTRACTOR for this purpose.

The CONTRACTOR Document Control Centres shall act as a satellite DCC to the COMPANY Port Harcourt Base, Central DCC. For the administration of this service refer to the CONTRACT Section VII - Administration Instructions and Project Controls.

13.5 Meals and Accommodation

The CONTRACTOR shall provide lunch for all COMPANY personnel as described in Article 4.13.3 above and as specified in Appendix 4.7 during the engineering and fabrication phases and shall provide full board accommodation (including breakfast, lunch and dinner) for all COMPANY Personnel as described in Article 4.13.3. above during the site construction phase of the project. The details of the messing and accommodation standards are described Appendix 4.7 Catering and Accommodation Services for COMPANY Personnel and Visitors, Appendix 4.8 Minimum Standards for Field Accommodation and SPDC Guest Houses and Appendix 4.9 Catering Health and Safety. In case of any conflict in the appendices, Appendix 4.7 Catering and Accommodation Services for COMPANY Personnel and Visitors take precedence. In any case CONTRACTOR shall provide mosquito nets and ensure regular fumigation of the camp sites.

13.6 Medical Facilities at Construction Site

CONTRACTOR shall provide a 24-hour operational site clinic and medical services on site for the duration of the project. Appendix 4.10-Medical Equipment List for Temporary Site Clinic lists the requirements for the Construction Site Medical Facilities. CONTRACTOR shall provide anti-venom medication on site and ensure that first aid measures and medevac is always in place. The site clinic shall be manned with a qualified medical doctor and Occupational Health nurses. The site medical facilities shall be equipped with standard facilities to be approved by COMPANY Medical Team and shall be adequate for the expected number of personnel on site including CONTRACTOR personnel.

13.7 Vehicles

CONTRACTOR shall supply two (2) brand new Toyota Hilux double cabin air-conditioned four-wheel drive vehicles for the sole use of COMPANY personnel for the duration of the CONTRACT. Ownership of the vehicles shall be SPDC's from the date of delivery.

The vehicles shall meet the required COMPANY's specifications, and CONTRACTOR shall be fully responsible for the management (including fuelling and general maintenance of the vehicles) throughout the duration of the CONTRACT.

13.8 Communication Facilities

As part of mobilization activities, CONTRACTOR shall supply, install, configure, support and maintain telecommunications infrastructure which shall be available and operational at all times (24 hours availability) for the duration of the CONTRACT. The CONTRACTOR shall obtain all necessary operational licenses (frequency, user, software and other statutory licenses) for the entire telecommunication infrastructure to be provided.

Minimum performance expectation of the connections at each location shall be as follows:

- Minimum bandwidth – 10Mb/s (over Microwave) /
- Bit error rate – 1×10^{-6} (radio/VSAT); 1×10^{-9} (for leased circuits)
- Availability- 99.5% minimum
- Mean time to repair— 24 hrs

The telecommunication shall be provided for the following;

1. Construction camp (office and accommodation)
2. Worksites.
3. Vehicles and Marine Crafts

4.13.8.1 Construction Camp

LAN/WAN

Details of infrastructure to be provided are as follows;

CONTRACTOR shall provide a dedicated central communications room complete with Telecommunications equipment cabinets to host the various telecoms equipment and UPS power supply with minimum capacity of 48hrs autonomy for all equipment. The telecommunication room shall be restricted to COMPANY use.) The telecommunication room shall be restricted to COMPANY use.

CONTRACTOR shall install adequate number of cores of single mode fibre optic cable complete with all terminating accessories from each of these communication room to the main communication room. CONTRACTOR shall provide Cisco wireless access points including associated cabling to communication rooms to provide Wi-Fi access for COMPANY personnel. The Wi-Fi coverage area shall include all offices, accommodation areas and recreational areas.

CONTRACTOR shall provide all network equipment necessary to facilitate the connection to COMPANY WAN. For seamless integration into COMPANY datacomms network only compatible Cisco products shall be used

CONTRACTOR shall deploy a telecommunication leased service which shall be compatible with existing SPDC telecommunication infrastructure (i.e. requiring no alteration to existing SPDC telecommunication infrastructure either in part or in whole). It shall provide voice and data connection. Internet (data) connection access speed from these locations shall not be less than 6Mb/s broadband capacity to SPDC offices in Port Harcourt)

As an alternative, where the site construction base is in close proximity to an existing SPDC facility, the connection to SPDC network shall be through to the existing nearby SPDC facility (Flow station, FLB, manifold etc). In such situation, the CONTRACTOR shall provide all infrastructures (point to point microwave radio (minimum 10Mb/s bandwidth), fibre optic cabling and other telecommunication equipment) necessary for seamless connection to SPDC voice and Data network as part of the Lump Sum PRICE.

CONTRACTOR shall have responsibility for telecommunication systems interface conversion(s) where it is so required to achieve seamless interface of the WAN into existing COMPANY telecommunications infrastructure).

To support communication at remote worksites and along pipeline RoWs, CONTRACTOR shall provide Motorola Tetra radio bi-directional amplifiers at the construction camp to enable voice communication

Where existing COMPANY Tetra radio signal is not adequate to support the deployment of bi-directional amplifiers CONTRACTOR shall supply, install, pre-commission and commission a TETRA digital mobile Radio repeater system at the construction base. The TETRA mobile repeater system shall be based on Motorola DIMETRA IP MTS2 system. The repeater system shall be interfaced to the master TETRA switch in COMPANY office in IA Port Harcourt over the WAN infrastructure at the construction base

CONTRACTOR shall provide CCTV to monitor the Camp perimeter.

Telephony

CONTRACTOR shall procure and install a PABX systems with a minimum capacity of 50 extensions - at least 30 digital and 20 analogue (based on Alcatel system) complete with all telephone handsets and cabling for COMPANY personnel offices and accommodations facilities.

PAGA System

CONTRACTOR shall provide Public address and general alarm systems (for safety and messaging purposes). This system shall be compatible with the existing Bosch system in Gbaran CPF. The PAGA system shall provide audible coverage for the entire construction base facilities including offices, accommodations, recreation, restaurant areas

Video Conferencing

CONTRACTOR shall provide a video conferencing system based on Cisco solution and dedicated for COMPANY use.

CCTV SYSTEM

CONTRACTOR shall provide full CCTV system for coverage of the entire Camp site.

4.13.8.2 Worksites

CONTRACTOR to support communication at worksite and base camp., CONTRACTOR shall provide Motorola Tetra radio bi-directional amplifiers at the construction camp to enable voice communication

Where existing COMPANY Tetra radio signal is not adequate to support the deployment of bi-directional amplifiers CONTRACTOR shall supply, install, pre-commission and commission a TETRA digital mobile Radio repeater system at the construction base. The TETRA mobile repeater system shall be based on Motorola DIMETRA IP MTS2 system. The repeater system shall be interfaced to the master TETRA switch in COMPANY office in IA Port Harcourt over the WAN infrastructure at the construction base

4.13.8.3 Vehicles Communication

CONTRACTOR shall procure and install Tetra radios- MTM5400 (M83PFS6TZ5AN) in each of the 3 vehicles for COMPANY. CONTRACTOR shall also supply GSM mobile phones with activated numbers to be dedicated to each of the two (2) vehicles

Vehicle radios shall be capable of maintaining communication with the main base station throughout the field area (i.e. covering all WORKSITES including ROW and all interconnecting roads) failing which CONTRACTOR shall install repeater stations or otherwise maintain radio communication throughout these areas. It shall be possible for the communication focal point to be in touch with the project vehicles even while in transit between WORKSITES.

Also, CONTRACTOR shall provide (15 Nos) hand-held portable Tetra radios MTP8550Ex full keypad for COMPANY personnel use. All hand -held radios shall have a minimum capacity of four (4) channels, shall be UL (or equivalent) tested and certified as intrinsically safe for use in hazardous areas, and shall be provided with individual charger and spare battery pack. They shall be capable of maintaining clear and effective radio contact throughout each WORKSITE

Requirements from COMPANY.

COMPANY shall:

1. Provide telecommunication interface points in the COMPANY network where CONTRACTOR may ‘tie-in’ to the communications network;
2. Provide appropriate extension numbers for use at the WORKSITES (which shall be transported over the WAN infrastructure to be provided by CONTRACTOR);

3. Administer appropriate network policies to ensure that security is not compromised on COMPANY's telecommunications network.

13.9 CONTRACTOR Own Accommodation

The CONTRACTOR shall provide and maintain to COMPANY standards such accommodation, and amenities as he may consider necessary for staff and labour including non-Community workers employed for the purposes of or in connection with the CONTRACT. This shall include all water supply for drinking and other purposes, electricity supply, sanitation, cookhouses, fire prevention and firefighting equipment, air-conditioning, cookers, refrigerators, furniture and other requirements in connection with such accommodation or amenities. CONTRACTOR shall provide mosquito nets and ensure regular fumigation of the camp sites. The accommodation camp shall be equipped with Automatic Fire Detection and Alarm System with backup battery powered smoke alarms. All individual power circuit (13A,15A,45A) shall be protected by 30mA Residual current device (RCBO). All fluorescent lighting fittings shall be of the electronic ballast type. CONTRACTOR shall provide adequate lightning and earthing protection system.

The design of this facility will be done by CONTRACTOR for review and approval by COMPANY. On completion of the CONTRACT, unless otherwise agreed with COMPANY, the temporary camps / houseboats provided by the CONTRACTOR shall be removed and the area reinstated to its original condition, all to the approval of COMPANY.

13.10 Miscellaneous Support Services in CONTRACTOR's Office

4.13.10.1 Visas etc.

CONTRACTOR shall apply for, and obtain, all necessary visas, licences, required for COMPANY visitors making infrequent visits to any non-Nigerian WORKSITES.

All disbursed costs on behalf of COMPANY shall be reimbursed by COMPANY at cost plus mark up as specified in Section IV – Schedule of Price

4.13.10.2 Medical Insurance

CONTRACTOR shall assist COMPANY personnel visiting any non-Nigerian (overseas) WORKSITES by obtaining international medical insurance cover at best available rates.

All disbursed costs shall be reimbursed by COMPANY at cost plus mark up as specified in Section IV – Schedule of Price

4.13.10.3 Travel and Hotel/Accommodation Arrangements

CONTRACTOR shall assist COMPANY personnel visiting non-Nigerian WORKSITES by making flight and hotel reservations at best available rates. Where appropriate, or requested by COMPANY, suitable rented accommodation may be substituted for hotels. Accommodation shall be as close as reasonably possible to the WORKSITE and shall (if necessary due to distance) be within easy reach of public transport.

All disbursed costs shall be reimbursed by COMPANY at cost plus mark up as specified in Section IV – Schedule of Price

4.13.10.4 Non-specified Services and Support

CONTRACTOR shall assist COMPANY personnel visiting non-Nigerian WORKSITES by supplying specific needs or support essential to daily subsistence or operations and not described elsewhere, on reasonable demand and on the basis of written request from the COMPANY Representative.

All disbursed costs shall be reimbursed by COMPANY at cost plus mark up as specified in Section IV – Schedule of Price

14. Data to be Provided to CONTRACTOR by COMPANY

14.1 Codes and Standards

COMPANY shall supply to CONTRACTOR, an electronic copy of the COMPANY Specifications, DEPs, Material Equipment Standards and Codes (MESC) applicable to the CONTRACT as referenced in Section X - Technical Information

14.2 COMPANY Proprietary Software

COMPANY shall supply to CONTRACTOR, details of all COMPANY proprietary software required for performance of the WORK. CONTRACTOR shall procure all such software from the respective vendors.

14.3 Technical Data Specific To Existing Facilities

COMPANY shall allow CONTRACTOR access to the background data and documents, which form the basis for the detailed engineering design package.

14.4 Technical Data Specific to Associated New Facilities

COMPANY shall issue to CONTRACTOR the design data, drawings and documents, which define associated new facilities to be designed and executed by others and which interface with the WORK.

5.0 ENGINEERING

1. General

The CONTRACTOR shall be responsible for the detailed engineering design of the project. Engineering and design shall be based primarily upon the Front-End Engineering Design (FEED) deliverables enclosed in Section X - Technical Information, including any changes advised by COMPANY as a result of the clarifications, site visits, site visit reports and amendments.

The CONTRACTOR is required to sub-Contract the Engineering and design.

In executing the detailed engineering design, CONTRACTOR shall comply with the NCD requirements and laws (Article 12).

The Engineering activities include the mobilisation of the engineering team and infrastructure, FEED verification and ownership, detail design and development of work packages and installation procedures, engineering support during procurement, fabrication and construction activities and handover to COMPANY as-built information and final documentation.

The objectives of the engineering phase of the WORK are:

- To produce Approved for Construction (AFC) drawings and documents in line with COMPANY approved MDR.
- To complete all equipment and material requisitions for enquiry and purchase.
- To review and approve VENDOR drawings and documents.
- To prepare all installation, test, inspection, etc, procedures for process, safety, piping & layout (including equipment handling), mechanical, piping, materials and corrosion, control & instrumentation, electrical, telecoms and civil and structural systems.
- To prepare commissioning and operating manuals.
- To prepare ‘as-built’ drawings and finalised documents for handover to COMPANY.
- To prepare the Approved for Construction Bills of Quantities.

COMPANY has performed FEED to determine at a high level, an optimal configuration of the facilities and hence provide a basis for CONTRACTOR to perform the detailed design. The level of detail contained in the FEED shall not relieve the CONTRACTOR of his responsibility for developing a detailed design that fully complies with the requirements and achieves the functional intent of the facilities as set out in the contract documents. Changes to the FEED design shall however, be agreed with COMPANY.

The provisions of this Scope of work are without prejudice to the CONTRACTOR'S responsibilities under the CONTRACT, including, without limitation, fitness for purpose of the WORK.

2. Review, Verification, Update and Acceptance of the FEED Package

The CONTRACTOR shall review the scope of the WORK as defined herein and confirm, as appropriate, for the WORK:

- Full understanding of the scope of the WORK.
- Receipt of all documentation / clarifications necessary to complete the WORK.

In accordance with the CONTRACT, the CONTRACTOR shall have undertaken a review of the FEED documentation and submit a Design Verification Report noting any errors, omissions or discrepancies and all reviews carried out. The CONTRACTOR shall be responsible for the cost of rectifying any discrepancies, errors or omissions that are not identified in his Design Verification Report.

The FEED works were done using existing field survey data and geotechnical investigation report.

3. Detailed Engineering Design Scope

3.1 Mobilization of the engineering team and infrastructure

5.3.1.1 DESIGN OFFICE

CONTRACTOR shall set up a design office in Nigeria which shall be inspected and approved by COMPANY prior to commencement of detailed engineering. Design firm must be registered with COREN (Council for the Regulation of Engineering in Nigeria). Design office shall have effective IT collaboration tools to enable online real time reviews between CONTRACTOR and COMPANY personnel.

5.3.1.2 ENGINEERING PERSONNEL

CONTRACTOR shall provide engineering staff covering all the disciplines with a lead engineer and a senior engineer per discipline, leading that discipline. All CVs of engineering personnel assigned for this detailed engineering shall be reviewed and approved by COMPANY. Each Lead Engineer shall have not less than ten (10) years cognate experience and must be registered with COREN. The disciplines to be covered are:

- Civil / Structural
- Geotechnical
- Electrical
- Process Automation Control & Optimisation (Instrumentation)
- Mechanical Static
- Mechanical Piping
- Technical Safety
- Materials & Corrosion
- Process
- IT/IM
- Quality
- Commissioning
- Operations Readiness and Assurance (OR & A)

The scope shall include the setting up of the project management, design and procurement office, and mobilisation of all the personnel including COMPANY Resident team, and provision of all the support infrastructure including the document control system.

5.3.1.3 DETAILED DESIGN

The CONTRACTOR shall be responsible for carrying out the detailed design necessary to complete the WORK in conformity with the project specifications and requirements indicated herein. The general requirements shall include:

1. Site assessments. Site verification surveys, topography and soil resistivity tests, probing for buried facilities, location of tie-in points, and any measures deemed necessary for detailed design.
2. Preparation of Design Deliverables Register (DDR) for the Project
3. Preparation of the Detailed Design, based on the FEED deliverables, developed and updated to:
 - Approved for Construction status

- Incorporate approved changes agreed with COMPANY;
 - Incorporate vendor, site and other information required for the development of detailed design, including the results of all engineering and safety studies and workshops performed;
4. Preparation of all drawings and documents required for detailed design, fabrication, construction, testing, pre-commissioning, commissioning, start-up and operations and maintenance such as PEFS, philosophies, studies, dynamic process model, calculations, schematics, block diagrams, data sheets, detailed specifications, reports, material take-offs (MTOs), As-Built drawings, requisitions, including regular update of equipment lists, drawing registers and vendor data registers. A detailed listing of documents shall be provided in the MDR-Master Deliverable Register.
 5. Preparation of equipment layouts, piping routing, structural and non-structural steel design, reinforced concrete design, cable and duct routing.
 6. Preparation of layout details, tertiary steel design, piping isometrics, fabrication drawings, interconnection diagrams, loop diagrams and installation details.
 7. Development of 3D PDMS Models.
 8. Preparation of calculations, studies, tests, dynamic process models, design reviews, documentation, models, etc, to demonstrate to COMPANY that the CONTRACTOR has adequately addressed all issues relating to the WORK including safety, reliability, efficiency, availability, operability, maintainability and integrity consistent with COMPANY's operating objectives.
 9. Design of all systems required for equipment installation, SAT and commissioning.
 10. Compilation of complete list of deviations to standards/codes for each equipment/item and obtaining specific COMPANY approval in writing prior to implementation.
 11. Issue of AFC data (drawings and documents) without "holds". It shall be the responsibility of the CONTRACTOR to obtain all necessary information to make AFC data "hold free". Full inter-disciplinary reviews shall be completed before any of the key issues of drawings, such as Approved for Purchase (AFP) and AFC.
 12. Preparation of equipment and material requisitions, performing technical evaluations and making the technical recommendation for vendor selection for COMPANY approvals. CONTRACTOR shall indicate in all equipment requisitions, that all equipment and associated software shall be able to integrate with existing systems.
 13. Review of vendor data/drawings and responding to vendor queries. Incorporation of as-built vendor data and drawings into final as-built package; CONTRACTOR participation in FATs of all materials and equipment as applicable.
 14. Preparation of a complete schedule of spares and special tools for operation and maintenance. Preparation of a commissioning, start-up and initial operations spares schedule. These shall comprise a tabulation of vendor recommended spares and CONTRACTOR recommended spares for all equipment (process, safety, piping & layout (including equipment handling), mechanical, materials and corrosion, electrical, telecom, Process Automation Control and Optimization, Civil and structural systems). The tabulation shall follow the COMPANY standard E-SPIR format (DEP 70.10.90.81-Gen).
 15. Preparation of procedures (methodologies and drawings) for construction, installation, inspection, testing, pre-commissioning, commissioning, decommissioning and concurrent operations.
 16. Definition of commissioning systems and preparation of pre-commissioning and commissioning manuals and checklists, and start-up procedures, covering all systems, prior to commencement of pre-commissioning activities at WORKSITE;
 17. Initiation and implementation of the Management of Repeated Failure to ensure safe-first time right operational service .

18. Preparation of Asset and Maintenance Management System documents for the facilities, prior to commencement of Commissioning.
19. Multidiscipline site engineering support and resolution of site queries.
20. Preparation of Design Close-Out Report.
21. Update the design basis in line with the following: design philosophies, control philosophies, operating and maintenance philosophies and technical notes in accordance with overall design development and VENDOR data.
22. Produce the Design Data Book for the whole work (separate document from the calculation file). This is to cover all engineering disciplines.
23. Carry out technical evaluation of bids for all equipment and materials purchase, preparation of Technical Evaluation Reports, recommendations for purchase, including liaison with Vendors, review and approval of Vendor data and co-ordinate and participate in Vendor inspection and FAT of materials, equipment and packages as required.
24. Produce a complete spares schedule for Capital (Insurance), Commissioning and two (2) years operation based on VENDOR recommendation.
25. With a team of COMPANY agreed composition take responsibility for carrying out equipment FAT, SAT and Performance Test and ensuring that all resulting punch-list items are implemented, and reports issued accordingly.
26. Requirements and listing of trainings for identified COMPANY operations and maintenance personnel (see Article 12).
27. Prepare the following final documents in accordance with COMPANY requirements:
 - Commissioning, maintenance and operating manuals
 - VENDOR data manuals
 - 'As-built' drawings
 - Certification documentation

The CONTRACTOR shall ensure that all calculations, back-up documentation, etc produced to substantiate the design are in a consistent format. All computer hardware and software, including specially developed spreadsheets by CONTRACTOR, shall be checked and verified by the COMPANY prior to use. The back-up documentation for all disciplines shall be collated and indexed for handover to COMPANY.

4. CONTRACTOR Prepared Plans, Specifications and Drawings

All calculations, simulations, plans, specifications, drawings and procedures prepared by the CONTRACTOR hereunder shall be available for review and audit by COMPANY, to ensure conformity with the CONTRACT specifications during development and promptly upon COMPLETION. All such plans, specifications and drawings required to be submitted by the CONTRACTOR for the review and audit of COMPANY shall be prepared and processed in accordance with the requirements and specifications set forth herein.

COMPANY's review and audit of plans, specifications and drawings submitted by the CONTRACTOR shall not relieve the CONTRACTOR of its responsibility for the correctness thereof or of its obligation to meet all the specifications and requirements of this CONTRACT. The CONTRACTOR shall not modify or deviate from plans, specifications and drawings agreed by COMPANY without COMPANY's prior written agreement to such modification or deviation.

The CONTRACTOR shall maintain at the sites, at all times when construction is in progress, a complete copy of all plans, specifications and drawings kept current with all changes and modifications. The CONTRACTOR shall grant COMPANY free access thereto for the purposes of inspection and review.

5. Process

The CONTRACTOR shall Review /verify all the Process engineering FEED deliverables and carry out detailed simulation studies – (steady state and dynamic) using the stipulated software. CONTRACTOR shall perform process simulation and flow assurance for the entire piping system at Gbaran CPF. CONTRACTOR shall also produce all required engineering deliverables in line with the COMPANY approved MDR. Some of the Key deliverables include the items below;

1. Process Flow scheme (PFS)
2. Process Engineering Flow scheme (PEFS/ P&IDs)
3. Process Simulation Report (Steady state and Dynamics)
4. Process Design report
5. Heat and Material Balance Report (for all cases)
6. Relief, Flare and blowdown Study Report
7. Process Safeguarding Flow Scheme (PSFS)
8. Process Safeguarding Memorandum
9. Chemical Requirement report
10. Green House Gas and Energy Management report
11. Utility Flow Scheme (UFS)
12. Utility Engineering Flow Scheme (UEFS).
13. Process Safeguarding Memorandum (PSM)
14. Flow assurance studies

In addition, the CONTRACTOR shall also:

- Perform all process steady state and dynamic simulation studies necessary to demonstrate their overall controllability, safe operability and reliability. The stable operation pipeline and associated equipment shall be studied under all start-up, operating, transient and shut-down conditions. Data and results shall be submitted to COMPANY for independent verification.
- Produce the Process Design Data Book to be incorporated in the overall Design Data Book. This is the successor to the design basis, project specifications, Functional Specifications and philosophies.
- Update Equipment List throughout the design, to include latest sizing, skid weight and process data. Ensure principal disciplines are updated with latest equipment list contents. Provide issues up to as-built;
- Revision of the line list, to include such information as line number, service, insulation/personnel protection, minimum/normal/maximum design parameters, etc, for all process and utility lines.
- Sizing of all relief valves, restriction orifices, control valves and their inlet and outlet pipework;
- Provide input to Health, Safety, Security and Environment (HSSE) documents as required, including a hazardous product schedule to support the preparation for and execution of HSSE reviews. Take part in HSSE reviews and audits.
- Provision of discipline input to other disciplines, where necessary, including review of requisitions and vendor drawings.
- Provision of input to preparation of start-up and operating manuals.
- Produce utility load lists.
- Produce Shutdown and Isolation Philosophy, Drainage Philosophy, Process control philosophy
- Validation of data sheets prepared during FEED and development of process data sheets for outstanding items (e.g. instrumentation and relief valves).
- Implementation of recommendations arising from safety and other reviews.
- Organise detailed HAZOP with COMPANY rep's in attendance reviews of the whole design (including vendor packages) before conclusion of the detailed design phase, and implementation of appropriate recommendations.

- Organise all other formal reviews as required and implementation of appropriate recommendations.
- Definition and detailing of systems for commissioning, to ensure facilities are safe and effective.

6. Mechanical

CONTRACTOR shall:

1. Prepare definition of equipment packages limits to maximise off-site fabrication and commissioning, minimise on-site works and requirement for installation taking into account maintainability, transportation and handling limitations and requirements.
2. Prepare all project specific multi-discipline technical specifications for mechanical equipment and packages, based on the project specifications in Section X – Technical Information.
3. Prepare mechanical equipment list to include latest sizing, skid weight and process data. Ensure principal disciplines are updated with latest equipment list contents; Prepare equipment mechanical design.
4. Prepare equipment data sheets, specifications and Materials Take Off (MTO) and enquiry/purchase requisitions for all mechanical equipment (tanks, vent stack, pumps, and other mechanical equipment)
5. Prepare nozzle load, orientation and elevation data, and provision of access platforms.
6. Prepare the Plot Plan and ensure compliance with equipment safety layout specifications and ample distance for equipment removal and safety access.
7. Carry out an Erection/Construction study for all mechanical equipment and prepare a report for COMPANY review and approval.
8. Prepare pressure testing PEFS, marked up to show the extent of each test system and ensure that adequate high vent points and low drain points are provided.
9. Prepare an Equipment Suitability Report based on purchase requisitions ensuring that safe operation and performance of the equipment has not been adversely affected by changes in design data (e.g. process revisions or finalisation of pipe routings).
10. Prepare noise reports defining noise levels across the plant and requirements for noise attenuation, including protection and access restrictions, to ensure facility is in compliance to the DEP and Nigerian Regulatory requirements.
11. Take responsibility for equipment FAT, SAT and Performance Test with full review and participation of COMPANY reps.
12. Arrange documentary acceptance of all applicable equipment by the certifying authority.
13. Prepare installation procedures for all items of equipment/modules and preservation procedures for all items of equipment covering in-shop preservation; in-transit preservation and the period between delivery and placing into service.
14. In designing and selecting equipment, ensure that adequate consideration is given to the Human Factors Engineering requirements relating to the ease and efficiency of performance of maintenance tasks. This shall include consideration of the WORK involved in gaining access to the WORKSITE or equipment, and re-building or replacing equipment prior to re-commencing production. This SHALL be reviewed in line with COMPANY maintainability and operability guidelines.
15. Design should ensure that maintenance tasks is taken into consideration to remove undue complexities or risks, rather than relying on procedures.
16. Maintain records to be able to demonstrate what consideration has been given to Human Factors aspects of Operations and Maintenance tasks.

17. Perform Constructability study encompassing operability & maintainability , mechanical handling, and access for all equipment. A detailed report is to be prepared covering methods and procedures for removal of equipment for maintenance, removal of spool pieces for isolation, turning of spectacle blinds, insertion of blinds and provisions for in-situ maintenance. Access requirements, weights, etc. shall be fully documented. The detailed requirements for all permanent lifting facilities (overhead gantries / A-frames, etc) shall be identified for correct equipment handling during maintenance. Special procedures for items to be moved or removed at elevated levels are also to be included.

7. Piping/Layouts

CONTRACTOR shall:

1. Prepare a fully detailed piping/layout design for all facilities. The design and engineering documentation shall be prepared in sufficient detail to enable the CONTRACTOR to procure, fabricate, inspect, test, construct and commission the WORK. The piping/layout scope shall include the following:
 2. Perform layout studies to establish and/or confirm:
 - Overall plot locations and sizes required for the new equipment at the Worksites;
 - Equipment layouts, including provision of adequate maintenance access;
 - Locations of isolation valves, spectacle blinds, spacers and spades are adequate for isolation of equipment for maintenance.
 - Pipe rack details;
 - Construction/installation sequences;
 - Major mechanical handling issues and solutions;
 - Extent of hazardous/non-hazardous areas.
 3. Produce a piping test plan that describes piping drain, vent and isolation locations for each pipe or system of pipes to be tested.
 4. Produce key plans for all piping.
 5. Conduct appropriate Human Factors Engineering programme compliant with DEP 30.00.60.10-GEN.
 6. Prepare and finalize design of all utilities (process and non-process).
 7. Carry out valve analysis in line with DEP 30.00.60.13, and determine the maximum torque required for manually operated valves.
 8. Provide and issue throughout detailed design material take-offs. The Material take-offs shall be continuously kept up to date.
 9. Produce fully developed standard pipe support specifications with standard pipe support drawings.
 10. Provide specifications and drawings for non-standard pipe supports.
 11. Produce piping general arrangement drawings for all systems, providing plans, elevations and cross sections to fully define routing and location of piping, showing location of access ladders and platforms, pipe racks, equipment, in-line equipment and instrument locations, pipe support positions, their arrangement and type for all piping.
 12. Produce complete equipment layouts for the plant. Show and identify all main equipment locations and outlines including major piping, cable routing and future equipment.
 13. Carry out evaluation of technical bids for piping, valves, pipe fittings and special items
 14. Review vendor's documentations and submit for COMPANY's approval .
 15. Produce a complete set of piping isometrics for all piping. Isometric sheets shall include a full Material Take-Off (MTO) for each drawing, design conditions, hydrostatic test requirements, stress relief limits, field welds, internal and external surface preparation and coating requirements, heat tracing requirements and insulation thickness. All welded attachment pipe supports shall be shown.

16. Produce the Layout Close-Out Report that describes how each action item from the Mechanical Handling Review and Layout Review was implemented.
17. Identify/confirm all piping tie-in locations and prepare detailed tie-in schedule.
18. Provide input to line list and equipment list.
19. Develop a 3-dimensional CAD modelling of entire WORK using PDMS to eliminate possible clashes and to ensure the design is fully ergonomic.

The 3D model must contain all information necessary in order for the fabricators to complete their scope of work. Reference should be made to the following DEP 30.10.05.11-Gen: Plant 3D CAD Model and Design Review and DEP 30.10.05.90 – Gen: 3D Model Review Scope for guidance. As a minimum, the models shall achieve the following details:

- All field instruments, F&G devices, cable routes, flow meters, junction boxes, and other devices are to be indicated.
- Field Auxiliary Room, electrical substation and field equipment shall be modelled. Perimeter, lighting, package lighting, distribution boards, local control stations for motors, Sockets, Isolators and Field Junction boxes should be modelled as part of detailed design. Ladder rack minimum size to be modelled shall be 300mm and package cable tray minimum size to be modelled shall be 150mm.

 20. Perform stress analysis of critical service piping systems and preparation of a piping stress analysis specification that shall address the following subjects as a minimum:
 - Codes and standards;
 - Environmental data;
 - Critical line definition;
 - Methods of stress analysis;
 - External load limits on equipment;
 - Friction effects;
 - Pressure drop across valves;
 - Pipe supports;
 - Existing lines/piping tie-ins;
 - Thermal expansion;
 - Fatigue through vibrations induced by flow or machinery (either mechanical vibration or acoustic pulsations).
 21. Prepare all necessary detailed drawings showing interfaces and tie-ins.
 22. Prepare purchase specifications for piping materials, valves and Special Piping items. These specifications shall include as a minimum, the following:
 - Applicable codes;
 - Specific requirements;
 - Materials of construction;
 - Design;
 - Testing, examination and repair;
 - Certification and traceability;
 - Deviations/substitutions;
 - Painting/preparation for shipment;
 - Insulation;
 - Identification.
 - Input to a line list and an equipment list
 23. Prepare specifications to cover shop and field fabricated piping. These specifications shall cover the following subjects as a minimum:
 - Codes and standards;
 - Design requirements;
 - Materials;

- Fabrication;
- Welding;
- Non-destructive testing;
- Installation and assembly;
- Flushing and cleaning;
- Pressure testing and leak testing;
- Painting;
- Insulation;
- Identification.

All shop and field-testing of pipework shall be in accordance with the approved specifications.

24. Prepare Piping deliverables, which shall include as a minimum the following:

- Plot Plans, Piping Layout General Arrangement Plan and Section Drawings, Isometrics, Piping Demolition drawings.
- Specifications/requisitions for materials and equipment
- Mechanical Equipment List
- Material Take Off
- Tie-ins Study Report and Tie-in procedures for connections into existing lines. These procedures will define isolation and draining requirements.
- Mechanical equipment data sheets
- Equipment Movement and Storage Logs

25. Produce the Piping Design Data Book to be incorporated in the overall Design Data Book.

8. Electrical

CONTRACTOR shall:

1. Prepare electrical equipment list, load schedules with load classifications and efficiency columns
2. Design the Electrical Power systems including power distribution, equipment sizing, requisition and specifications, cable sizing and specifications, datasheets, philosophies, protection schemes, earthing System Calculations, illumination System modelling, Electromagnetic Compatibility (EMC) Review.
3. Ensure integration of electrical equipment with PAS, SIS and F&G.
4. Design temporary power generation and distribution systems in line with relevant COMPANY GROUP DEPs and Electrical Safety Rules.
5. Prepare lighting and small power design, installation and layout
6. Prepare earthing and lightning protection system design and integrate with existing facilities.
7. Using SKM Power Tool for Windows, carry out power systems studies, including Load Flow Studies, Short Circuit Studies, arc flash study, Protection Coordination Studies, etc.
8. CONTRACTOR electrical personnel shall be required to undergo electrical competence assessment/authorisation examination to be conducted by COMPANY.
9. Prepare terms of reference (TOR) for and carry out SAFOP studies, with full participation of COMPANY representatives and issue report as per specification. The SAFOP to be chaired by COMPANY appointed lead. Implement and follow-up all actions from the studies (including previous action points from FEED SAFOP studies).
10. Prepare specifications, data sheets, requisition documents for all electrical equipment and materials, including completion of Inspection and Certification requirements (ICR), SDRLs, schedules and drawings.
11. Prepare Technical Bid Evaluation documents, and carry out Technical review of bids, review of vendor data and drawings; resolution of vendor technical queries; co-ordinate activities of

MANUFACTURERS/VENDORS and certifying authorities to ensure compatibility and correct operation of all electrical equipment.

12. Produce detailed drawings and documents, which shall include as a minimum the following:
 - Key single line diagrams for the entire WORKS;
 - Single line diagrams for the entire WORKS;
 - Equipment layout drawings;
 - Equipment datasheets and ATEX certifications
 - Schematic diagrams, including motor control schematics;
 - VENDOR drawings, including wiring and connection diagrams;
 - Control system block diagram and interconnection diagrams;
 - Protection and metering Single Line diagrams;
 - Protection discrimination curves (using SKM Power tools CAPTOR software);
 - Protection setting schedule.
 - Lighting and small power layouts and installation details;
 - Lighting photometric layouts;
 - Comprehensive cable schedule;
 - Equipment general arrangement drawings;
 - Cable routes, trench, road crossing, cable tray supports, cable transit and termination details;
 - Earthing and Lightning protection details and layout drawings and integration to existing earthing system
 - Power and control cables sizing calculations report;
13. Prepare philosophies/procedures for testing the electrical systems and commissioning including detailed method statements to cover all aspects of the electrical construction, testing and commissioning.
14. Produce Material take-offs (MTO) for all electrical equipment, bulk materials and others.
15. Produce a complete spares schedule for commissioning and two (2) years operation based on VENDOR recommendation and pass the same through the COMPANY for review and acceptance.
16. Prepare the detailed installation procedures and method statements (including crossings) for the Power and Control cables.
17. Carry out the design, specification and installation of earthing and lightning protection for all electrical, instrument, mechanical equipment and systems, structural- including concrete reinforcement bar and piping systems
18. Provide the manufacturer's recommended list of test equipment and special tools for electrical system operation and maintenance;
19. Compile the Hazardous area equipment register and certification dossier (including electrical, instrument and telecommunications equipment) installed in hazardous areas.
20. Prepare installation and preservation procedures for all items of electrical equipment covering in-shop preservation; in-transit preservation and the period between delivery and placing into service.
21. Prepare operations and maintenance manuals.
22. Produce the electrical Design Data Book to be incorporated in the overall Design Data Book.
23. Produce the equipment layout drawings and update the plot plan to include all new and existing electrical equipment and facilities.
24. In liaison with OEMs and equipment integrators, develop the FAT protocols complete with acceptance criteria.
25. Perform FAT, SIT, SAT etc. as reviewed, witnessed and agreed by COMPANY rep's.
26. Produce the as-built documentations.

9. Process Automation, Control and Optimisation

CONTRACTOR shall:

1. Carry out the Process Automation, Control and Optimization (PACO) engineering scope of work, which shall include as a minimum the design of the following:
 - A new Process automation, safety and F&G Systems complete with system and marshalling cabinets
 - A new vibration monitoring system for dehydration unit train 3
 - Integration of new systems to existing Gbaran control and safeguarding systems
 - Process Control Domain (PCD) Architecture and IT Security Design Package.
2. Update all control and automation related project philosophies.
3. Prepare detailed specifications, Approved for Construction (AFC) drawings, data sheets and requisitions for all control and automation systems and equipment, field devices, junction boxes, cabling and other installation bulk materials (cable tray, fire and gas devices' stands, Junction box stands, etc.).
4. Prepare the instrumentation database using SPI (Smart Plant Instrumentation) software.
5. Carry out equipment selection and sizing calculations (choke valves, control valves, relief valves, flow meters, restriction orifices, etc.) using InstruCal/SPI software.
6. Carry out a comprehensive and exhaustive Risk Assessment Study (SIF classification) according to DEP and implement all findings and recommendations. Design all safety instrumented functions to fulfil the required SIL levels, carry out SIL verification calculations to prove compliance and issue a SIL implementation report.
7. Implement the outcome of Fire and Gas detection mapping studies and use the report to form the basis for the fire and gas layout drawing. F&G mapping study will be done by COMPANY.
8. Execute cause and effects qualitative reviews, graphics studies, control systems ergonomics reviews and alarm management / classification and prioritisation studies.
9. Prepare / update all necessary drawings to AFC status, including as a minimum:
 - Layout and location drawings showing instrument locations, junction box locations, cable routes, fire and gas detector locations;
 - Prepare Fire and Gas Cause and Effect matrix and incorporate to the existing Gbaran F &G cause and effect.
 - Fieldbus segment layout design;
 - Prepare process Cause and effect diagrams and incorporate to the existing Gbaran process cause and effect;
 - Prepare process control and safeguarding narratives
 - Functional logic diagrams;
 - Functional design specification for controls, safeguarding, fire and gas systems;
 - Process, pneumatic, electrical hook-up drawings;
 - Instrument loop and Fire and Gas loop diagrams;
 - Instrument datasheets (temperature, pressure, flow, level, etc)
 - Valve datasheets (Choke, control, shutdown, blowdown, relief)
 - Fire and Gas devices datasheets
 - Cable tray layout
 - Junction box and marshalling cabinet termination drawings;
 - VENDOR interface drawings;
 - Cable schedules and route drawings
 - Panel wiring drawings
 - PAS/SIS architecture drawings
 - Update of existing architecture drawings to capture new systems

10. Prepare material take-offs based on schedules, layouts, routing diagrams and drawings, and including all cabling, tubing, fittings, junction boxes, cable trays cable glands, etc.
11. Prepare requisition packages for all systems, equipment and field devices.
12. Carry out technical review of bids and bid evaluations, review of VENDOR drawings and resolution of VENDOR queries.
13. Maintain interface /coordination with OEMs of PAS and SIS at the design, installation and commissioning phases of the project to ensure seamless integration of all 3rd party packages.
14. Review vendor documentation and design.
15. Co-ordinate manufacturer/VENDORS activities, and interface with all certifying authorities to ensure compatibility and correct operation of all instrument equipment.
16. Provide the manufacturer's recommended list of test equipment, commissioning spares, 2 years running spares and special tools for operation and maintenance;
17. Integrate all new devices with the plant Asset Management System (AMS)
18. Perform FAT, SIT, SAT etc. as reviewed, witnessed and agreed by COMPANY rep's.
19. Produce the Process Automation, Control and Optimisation Design Data Book to be incorporated in the overall Design Data Book
20. Interface with control and safeguarding systems VENDOR.

10. Civil/Structural

CONTRACTOR shall:

1. Perform detailed site topographical and buried facility survey required to carry out the design for all WORKS.
2. Prepare and finalize equipment foundation, miscellaneous foundations and super structures design and model reports and associated drawings – layout, plans, sections and elevations including details.
3. Prepare and finalize site and drainage layout drawings
4. Prepare and finalize equipment foundations layout drawings and pile layout drawings
5. Prepare and finalize all civil/structural engineering specifications and associated philosophies.
6. Prepare and finalize painting, surface finish and passive fire protection specifications.
7. Prepare and finalize design of roads, paving and drainage facilities.
8. Prepare and finalize designs with reports for all structural steel works (e.g. equipment packages, supports, pipe supports, platforms, ladders, stairways, walkways, runway beams, lifting facilities, shelters, lighting stations. Each lifting requirement shall be supported with adequate design for COMPANY approval in addition to the general lifting plan to be prepared by CONTRACTOR. Skids and packaged equipment shall be provided with lifting devices (lifting eyes, trunnion, etc) and appurtenances.
9. Develop Method Statement for all activities including testing, lifting, etc.
10. Prepare bar bending schedules for all reinforced concrete structural elements and foundations.
11. Prepare MTO for Civil/ Structural works.
12. Perform weight control study for each plant structure, module or package to establish total weight and centre of gravity for transportation and installation purposes.
13. Comply with Human Factors engineering activities as they affect the Civil/Structural designs.
14. Prepare procedures for piling works including pile load tests.
15. Carry out metal probing for buried/under-ground facilities and piping prior to detailed design and before installation, in line with COMPANY Excavation Manual. Establish plot plan for underground facilities and ensure that no equipment foundation is placed over a live underground service line.
16. Produce the Civil & Structural Drawing index, General Notes, 3D PDMS model .

11. Technical Safety

The basis of the detail design HEMP activities shall be in accordance with HSSE & SP Control Framework and COMPANY's HSE policy and Standards. The engineering Scope of WORK for HEMP activities shall include as a minimum the following activities:

1. Prepare a HEMP Plan for detail design, procurement, construction, installation and commissioning phases, detailing all safety studies and reviews to be undertaken, their scheduling, inputs required and relevant responsible parties and their responsibilities.
2. Develop a waste management plan to identify and characterize wastes produced by project activities and identify means to reduce, reuse/recycle, recover, treat and dispose wastes in a controlled manner, according to legislative requirements.
3. Implement FEED safety studies recommendations in detail design.
4. Develop and document design specifications for all safety and environmental design aspects (e.g. Layout Design, HAC Schedule and Drawing), fire and gas detection and fire protection (active and passive). The specifications shall clearly define the basis and requirements for the detailed design of the safety aspects of all the new facilities.
5. Participate in all safety reviews and audits and implement recommendations from the studies & audits.
6. Technical review of bids and bid evaluation.
7. Prepare the Project Safety Action Tracking Register
8. Incorporate the EIA/EMP recommendations in the design and development of a system for implementation and monitoring.
9. Prepare Hazardous Area Classification schedule of release. Drawings complete with sections and integrate with existing Gbaran CPF Plant drawings.
10. Prepare stand-alone specifications and data sheets required for the procurement of safety equipment.
11. Develop Emergency Response Plan that will align with existing Operations Emergency Response Plan. The Emergency Response Plan shall also define the Emergency Response Procedures for construction phase on site.
12. All the new equipment and other facilities will be installed within an existing gas plant that will remain operational during construction. CONTRACTOR shall therefore review the hazard identification (HAZID) carried out in FEED and implement all actions earmarked for Detail Design. The CONTRACTOR shall also prepare SIMOPS (Simultaneous Operations) procedure that covers both technical and management of concurrent operations to be carried out in line with existing COMPANY Matrix of Permitted Operations (MOPO). Perform Construction HAZID in line with COMPANY HAZID guide (EP HSE Guide: HAZID, EP 95-0312), develop BOWTIE for Major Accident Hazards using BOWTIE XP tool and Constructability Studies
13. Perform a fire and explosion hazard assessment, to establish the impact of credible accidents involving the new equipment/facilities and their impact on existing facilities, in particular the impact on safe areas, emergency response facilities etc. in order that appropriate protection measures are identified. Fire & explosion hazard assessment shall be carried out utilizing COMPANY GROUP proprietary software (FRED, Shepherd, etc). Identify the new facilities requiring passive fire protection and implement.
14. Prepare layout drawings showing locations of hydrants and portable firefighting safety equipment.
15. Prepare layout of all safety systems including gas detectors, fire detectors, smoke detectors and manual call point.

16. Close outstanding action items in the Hazard and Risk Register arising from the previous design stages. Maintain and update the Hazard and Risk register and transfer remaining risks to the Asset Hazard and Effects register.
17. Carry out detailed design HAZOP studies as per specification to verify the safety and operability of the new facilities and interfaces with existing facilities. This detailed design HAZOP studies shall include the TEG Contactor, Dehydration and Regeneration packages. All findings from the HAZOP shall be incorporated into the Approved for Construction (AFC)/Approved for tender (AFT) PEFS and other AFC/AFT deliverables. The scope shall include undertaking HAZOP studies by an independent Facilitator and implementation of the HAZOP studies recommendations and actions. COMPANY PMT shall be invited to attend the HAZOP studies. The methodology shall be approved by COMPANY and shall detail not only the HAZOP study method but also the procedure for follow up and close out actions. HAZOP shall be in line with DEP 80.00.00.15-Gen.
18. The CONTRACTOR shall supply all manpower and resources to conduct the HAZOP studies and shall implement as part of the WORK the resulting recommendations.
19. Prepare construction, installation and commissioning safety procedures.
20. Carry out Escape route evaluation and prepare drawings showing escape routes, manual call points, safety signs, first aid and lifesaving equipment layout, firefighting equipment layout, etc.
21. Prepare HSE plan for Construction and Commissioning.
22. Perform Design Technical Integrity Verification Assurance and issue report.
23. Prepare specifications for safety signs, first aid equipment, lifesaving equipment and portable firefighting equipment for construction and operational phases of the project.
24. Prepare the Design HSE Case and update existing Gbaran CPF Operational HSE Case. The Operational HSE Case shall be completed 6 (six) months before the scheduled start of the 90 days reliability run.
25. A manual handling risk assessment should be carried out during detailed design to determine the extent of manual handling required during construction and operation phases. As far as reasonably practicable, facility design should eliminate the need for personnel to undertake any manual handling operations, which involve a risk of their being injured.
26. Perform Fire Protection Analysis studies to assess all fire and explosion events, including unignited releases and their impact on new and existing facilities and put appropriate protection measures in place.
27. Perform a Quantitative Risk Assessment using Shepherd and FRED.
28. Prepare Project HSSE Activity Plan.
29. Identify the Safety Critical Elements and Performance Standards. Prepare listing of Safety Critical Elements and Performance standards in agreement with COMPANY. This shall include definition of (a) Performance criteria, (b) Assurance Measure and (c) Assurance Values and Verification activities.
30. Produce the Technical Safety Design Data Book to be incorporated in the overall Design Data Book.

12. Human Factors Engineering

The CONTRACTOR shall carry out as a minimum constructability and operability studies to ensure that equipment layout is constructible, operable and meet HFE requirements.

The CONTRACTOR shall perform Human Factors assessments on the design of the various vendor packages / interfaces, in conjunction with COMPANY input from Operations and Maintenance project staff, in order to ensure that ergonomic aspects are adequately addressed in the design.

The CONTRACTOR shall ensure that the principles and best practice in Human Factors Engineering are applied. The CONTRACTOR shall adopt a suitably balanced strategy for Human Factors Engineering compliant with DEP 30.60.00.10-Gen and covering design, testing, construction, commissioning,

operations and maintenance. HFE activities during the construction phase will be managed in compliance with DEP 30.00.60.14-Gen (HFE Application during the Construction phase). The CONTRACTOR shall maintain an auditable record of activities demonstrating compliance with Human Factors Engineering principles.

13. Engineering Reviews

The CONTRACTOR is responsible for and shall make adequate allowance for the time and resources for undertaking and participating in all the reviews and audits specified in this CONTRACT and shall detail the reviews and audit programme and required close out activities in the schedule. This shall as a minimum include:

- HAZOP;
- SAFOP;
- HAZID and Bow-tie Analysis
- Construction Risk Assessment review;
- Layout review;
- PDMS model review, to be done at 30%, 60% and 90% of detailed design;
- SIF classification of Safety Instrumented Functions;
- FirePran Review
- SIMOPS/MOPO Review
- QRA
- Mechanical Handling review;
- Constructability review;
- Q-Area development workshop
- Operations Readiness and Assurance Review.
- Human Factors design review. The scope of this review will cover all areas of the project. This review is to be conducted when the design is 30%, 60% and 90% complete. (Note: this review could be integrated with the 3D model review);
- Independent Design Review and Operating Mode and Assurance Review to be conducted by COMPANY and supported by CONTRACTOR's engineering team – all disciplines.

The timing of the reviews shall be such that any recommendations can be easily implemented in the design without impacting on the project progress.

COMPANY reserves the right to participate in these reviews, and shall be informed at least 30 days in advance, prior to the planned date of all these reviews.

14. Materials and Corrosion

CONTRACTORS shall:

1. Carry out further work at detailed engineering design (DED) to ensure that the intents of corrosion control and management are met effectively.
2. The CONTRACTOR shall ensure that DSS welds are not be subjected to post weld heat treatment (PWHT) but all welds shall be 100% X-rayed in line with COMPANY approved specifications.
3. Conduct the corrosivity assessment for internal corrosion as part of the material selection study for the facilities and a report shall be issued to COMPANY for approval.

4. Prepare the Corrosion Management Framework for the facilities; HEMP studies shall be incorporated.
5. Design the cathodic protection system for all the buried on-plot facilities .
6. Provide insulating kits for all dissimilar materials interfaces.
7. Ensure that corrosion under insulation is prevented and that any personnel protection/lagging material complies with specifications.
8. Preparation and implementation of Corrosion Management Drawings.
9. Design of corrosion monitoring devices for the barred Tees (thickness measurement) at the Oil and test line tie-in and termination for real time data collection.
10. Design for all newly installed above ground bulk line, structures, etc., according to painting specification and DEP.30.48.00.31-Gen. (Protective coatings for onshore and offshore facilities).
11. Design procurement and installation of corrosion monitoring devices at the Uzu-1 and Uzu-2 locations.
12. Design and Install corrosion sampling points and connections at the Uzu-1 and Uzu-2 and CPF locations.
13. Conduct initial Risk-Based Inspection (RBI) study and generate report using COMPANY approved software and methodology for the facilities.
14. Analyse actual fluid from Uzu-1 and Uzu-2 wells for presence of bicarbonate. Data from analysis shall be applied in the corrosivity modelling to check impact on the corrosion allowance. The CONTRACTOR shall review existing corrosion management framework (CMF) and mark up for changes to ensure that they can function effectively without corrosion threat within the expected service life of the facility.
15. Ensure that welding are carried out with approved and qualified welding procedure specification and shall be carried out in a safe manner, especially within the existing facility and shall be subject to the permit to work system of the facility.
16. Ensure that all manufacturing/fabrication ITPs (inspection and Test Plans) are duly approved by COMPANY.
17. Be responsible for the corrosion management of the facilities for a period of 90 days from first day of production. During this period, contractor shall ensure availability of inhibitor and continuous injection into the pipelines. The frequency of inspection/sampling/data collection shall be at least once monthly. These data shall be part of the input into the Corrosion Management Framework. Key parameters shall include:
 - a. Iron count
 - b. Corrosion inhibitor amine residual analysis and measurement
 - c. Manganese count
 - d. Wall thickness measurements from the ER probes
18. Submit to the COMPANY for review and approval the baseline measurements of the intelligent pigging, IP for integrity purposes.
19. Generate all documents/drawings/specifications/studies in line with the MDR.

15. PROCESS CONTROL DOMAIN (PCD) IT SECURITY

15.1 General

- The CONTRACTOR shall ensure that all designs delivered to the COMPANY as part of the PERMANENT WORK are compliant to the following COMPANY standards:
 - I. DEP 32.01.20.12-Gen / PCD – Industrial Automation and Control Systems Security

- The PCD IT Security scope shall be implemented by the CONTRACTOR against the requirements set by COMPANY in the Process Automation System, PCD Architecture and IT Security Design Package.
- All systems used in the PCD shall be certified according WIB Report M 2784 X10, Process Control Domain – Security Requirements. For Vendors, level bronze is the minimum.
- The CONTRACTOR shall be responsible to maintain PCD IT security procedures as per Shell DEP 32.01.20.12-GEN during installation up to handover to the COMPANY commissioning & start-up team (CSU).

15.2 Detailed Design

- The CONTRACTOR shall develop the PCD IT Security detailed design as set by the COMPANY in the Process Automation Systems, PCD Architecture & IT Security Design Package. The PCD Architecture & IT Security Design Package is developed by the CONTRACTOR in conjunction with the MAC vendor.
- The CONTRACTOR shall be responsible for developing deliverables in the Process Automation System, PCD Architecture and IT Security Design Package.

The following list represents the minimum deliverables the CONTRACTOR shall produce:

- a. Control Systems Architecture Drawings (Physical).
- b. Control System Architecture Drawings (Logical).
- c. Control Systems Network Design Specification.
- d. Vendor Supplied Packages Integration Design Specification.
- e. Process Control Domain Network Equipment Register.
- f. PCD IT Security Design Specification.

Others include:

FAT, SAT Testing Procedures for PAS and PCD IT Security
PCD IT Security FAT for DCS & Sub-System Packages
PCD IT Security SAT for DCS & Sub-System Packages
Integrated testing of third-party packages
PCAD Integration of DCS & Sub-System Packages
Operation / Maintenance Procedures for PAS

- The following list represents the minimum deliverables the CONTRACTOR shall support COMPANY to develop:
 - a. Process Control Domain (PCD) Network Design Specification.
 - b. 3rd Party Systems Process Control Network (PCN) integration Specification.
 - c. PI Network Architecture.
 - d. Supplier Security Maturity Gap Assessment.
 - e. Conduct CHAZOP Review of PCD Architecture.
 - f. PCD IT Security Design Controls Maturity & Compliancy Assessment workshop

15.3 Factory Acceptance Test (FAT)

The CONTRACTOR shall be responsible for conducting the Factory Acceptance Test (FAT) of all the PCD IT Security installation and configuration.

The primary aim of the FAT is to demonstrate that PCD IT Security operates in an integrated manner as per requirements set in the PCD Architecture & IT Security Design Package, prior to the equipment being dispatched to the WORKSITES, thereby minimizing risk of rework later in the project.

To this end, as a minimum the CONTRACTOR shall:

- Develop the FAT procedure and shall ensure that it is approved by the COMPANY prior to commencing any part of the FAT.
- Notify the COMPANY at least 30 DAYS in advance of a planned commencement date of the FAT.
- Temporarily install the PCD IT Security equipment (including equipment provided and free-issued to the CONTRACTOR by the COMPANY – Process Control Access Domain – PCAD) at the FAT facility. The PCAD comprises of 2 x 19 inch equipment racks.
- Complete the FAT in line with the COMPANY approved FAT procedure, produce a comprehensive test report and supporting documentation and rectify all identified performance deficiencies before the equipment is cleared for despatch from the FAT test facility by the COMPANY.

15.4 Installation and Pre-Commissioning

The CONTRACTOR shall:

- Following completion of the FAT, arrange for delivery of the PCD IT Security equipment to the WORKSITES, including the PCAD equipment free-issued to the CONTRACTOR by the COMPANY.
- Install the PCD IT security equipment, ensuring that the installation is only performed by qualified personnel. During the installation, arrange for full time presence of a COMPANY's supervisor.
- Install electrical supply, clean and protective earth to the PCD IT Security equipment cabinets.
- Provide the physical interconnection from the PCD domain and the COMPANY's PCD IT Security equipment (PCAD).

15.5 Site Acceptance Test and handover

The CONTRACTOR shall:

- Develop the SAT procedure for PCD IT security during Part II of the WORK and shall make sure that it is approved by the COMPANY before the testing begins.
- Ensure that the SAT procedure covers functional and interoperability testing of all interfaces between the individual telecommunication subsystems.
- Include failover and system redundancy checks in the SAT procedure.
- Commence the SAT only after each individual PCD IT subsystem has been commissioned and the commissioning reports have been approved by the COMPANY.
- Under the SAT procedure repeat all of the functional checks completed during the FAT, only in the actual environment of the WORKSITE.
- Prepare the SAT test report including the test records and measurements and submit it to the COMPANY for approval.
- Rectify any punch list "A" type items discovered during the SAT in order to warrant approval of the SAT by the COMPANY.

The successful completion of the SAT signifies the final acceptance of the PCD IT Security deliverable by the COMPANY.

6.0 OPERATIONS AND ASSET MANAGEMENT

1. General

CONTRACTOR shall be responsible for developing the under-listed Asset Management Deliverables. The studies and effort required for the development of these deliverables, and the contents are described in the subsequent sections. Templates for developing these documents are attached as a guide.

The CONTRACTOR shall SUB-CONTRACT the development of the under-listed Asset Management Manuals and Deliverables to a COMPANY approved Computerised Maintenance Management System (CMMS) SUB-CONTRACTOR. Note that the request to SUB-CONTRACT does not absolve CONTRACTOR of her responsibility to ensure completeness of this aspect of the WORK.

The SUBCONTRACTOR shall develop all Asset Management / CMMS/CIMS and spares data for the Project and fully integrate them with existing Gbaran CPF asset management systems.

The CONTRACTOR shall make available all necessary drawings, specifications, data sheets, VENDOR manuals, Purchase Orders and any other information required for the development of the Asset Management Deliverables (Article 6.1.1), Asset Manuals (Article 6.1.2) and Other Deliverables (Article 6.1.3). Templates for developing these documents are available and will be provided by COMPANY. Detailed descriptions of these deliverables are also stated as guide to the CONTRACTOR and can be found in Article 6.2 (Asset Management Deliverables) and Article 6.3 (Asset Manuals).

Unless otherwise specified for a particular document within this CONTRACT the CONTRACTOR, shall provide below listed deliverables in the following format and number:

- Full set of (signed and accepted) documents in hardcopy format - one (1) set.
- Full set of documents in soft copy format on Hard Drive – five (5) sets.
- Full meta-data included with the above soft copy sets in an ODBC compatible format.
- Full indexing of hard copies.

All Operations and Asset Management deliverables as listed in this section shall be readily available for upload into COMPANY maintenance management systems (including SAP-PM, CIMS and EDW) prior to Pre-Start-up Audit (PSUA) and/or commissioning and handover of the project to asset team following the timeline for this project delivery.

1.1 Asset Management Deliverables

The Asset Management deliverables are as listed below and shall be readily available prior to PSUA and/or commissioning for upload into COMPANY maintenance management systems:

- Asset Register in line with as-built drawings.
- Integrated maintenance activities/plan (Maintenance Matrix for all equipment).
- Planned Maintenance Routines (PMRs) or Maintenance Job Routines (MJRs (for all the new equipment related to the project).
- Spares and consumables data in E-SPIR format.
- Bill of Materials (BoMs).
- Maintenance Reference Plan.
- Safety Critical Elements (SCEs).
- Performance Standard (PS).

- Isometric Corrosion Management Drawings (AutoCAD and PDF).
- Data Loading Utilities – DLU.
- Populated CIMS - MDLU (Monitored Data Loading Utilities) with baseline data gathered from site in
- MS-Excel format (template to be issued by COMPANY).
- Corrosion Management Framework.
- Technical Integrity Verification (TIV) Report.
- Critical documents and drawings as per OE minimum standard (Appendix 6.11)
- Intelligent Computer Aided Drawings (ICAD) in AutoCAD format up-loadable into CIMS-CM.
- Statement of fitness

1.2 Asset Manuals

- Equipment Manuals (operating and maintenance guidelines).
- Operations HSE Case.
- Optimized Concurrent Operations plan for the Project.
- Updated Manual of Permitted Operations (MOPO) for the Project
- Original Equipment Manufacturer (OEM) Electronic Catalogue (e-Cat).
- Service Bulletins (SB).
- Plant and equipment accessibility report (30%, 60% & 90% PDMS).
- Chemical Injection Manual.

1.3 Other Deliverables

- Baseline Survey Reports and baseline data populated in CIMS Monitored Data Loading Utility template (MDLU) in MS-Excel format.
- Design Data Book (DDB) (refer to List of Document Deliverables).
- Design Drawing Book (DDWB) (refer to List of Document Deliverables).
- Instrument Database (refer to List of Document Deliverables).
- Vendor Data Book (VDB) (refer to Supplier Document Requirements List).
- Detailed Integrated Training Plan (for operations and maintenance personnel).

1.4 Operating Mode Assurance Study/Reliability and Availability Modelling

As part of the detailed engineering deliverables, the CONTRACTOR shall provide necessary support to the COMPANY to carry out the following studies:

- An operating mode assurance study /review OMAR (if required) integrating the new facilities with existing Gbaran CPF and advise findings to ensure robustness of the new operating mode post start-up of the facilities.
- An integrated reliability and availability modelling of the Gbaran CPF and the new facilities to confirm that Gbaran CPF availability is not compromised.

2. Maintenance Management System

CONTRACTOR shall provide all asset management deliverables, equipment data and develop maintenance and inspection routines (based on RBI, RCM, and SIL) with procedures suitable for direct electronic input into SAP-Plant Maintenance (SAP-PM) module/database and Engineering Data Warehouse (EDW) using specialist maintenance management system consultants familiar with COMPANY requirements in this area of specialisation.

Prior to input of data into SAP-PM, COMPANY shall review the data to ensure data provided meets COMPANY's Computerised Maintenance Management System (CMMS) standards.

SAP-PM, the COMPANY CMMS and CIMS -CM for corrosion shall be used to administer maintenance and inspection management of the Uzu + CPF Upgrade Project Assets. Further details of the requirements of this software are described in the Computerised Maintenance Management System (CMMS), as well as in the projects document in Section X - Technical Information.

2.1 Asset Register

The CONTRACTOR shall with the review by the COMPANY develop the Asset Register for the facilities that is essential to the development of the MRPs. The asset register forms the basis of engineering and operations systems used to monitor and report on asset performance and costs.

The function and importance of each system with respect to production asset, and asset integrity shall be determined. The performance objective of each asset shall be stated with a specification of the boundaries for acceptable performance;

- List of all the equipment on which maintenance operations activities may be required. Each item, down to component level, shall be individually numbered and named. The COMPANY GROUP system for general classification and coding of equipment (asset hierarchy) is the Engineering Data Classification Code (EDCC), which can be used in preparing this inventory. It is a hierarchical scheme in which the numbering for items reflects the unit (function/system/sub-system), to which they belong (Appendix 14.12 – Tag Numbering Philosophy);
- When the register is completed, performance objectives shall be developed which specify, for each of the items listed, the boundaries of acceptable performance;
- Determine asset category. The relative importance of the asset functionality should be categorized with respect to the consequences of their failure. The asset categorization (Equipment criticality) shall be as defined in the asset philosophy;

2.2 S-RBI Strategy development

The CONTRACTOR shall develop the risk-based approach strategy using S-RBI techniques in conjunction with CIMS, which can result in one or a combination of the following or other maintenance options:

- Condition based (on line or off line) maintenance; Scheduled maintenance to restore to as close to original condition as possible or replace before failure.
- Corrective maintenance following breakdown;

S-RBI strategy development must satisfy the following (as a minimum):

- Threats Barrier Matrix (TBM), Corrosion Management Framework (CMF) shall be prepared as part of the RBI.
- Failure Mode and Effect Analysis (FMEA), Failure Characteristics Analysis (FCA) and a Maintenance Strategy Review (MSR) analysis to determine the appropriate maintenance tasks and intervals;

2.3 Maintenance Job Routines Development

CONTRACTOR shall develop the Planned Maintenance Routines (PMRs) or Maintenance Job Routines (MJRs) and supporting procedures (Ref. Appendix 6.1, Step 5 of MRP development) for all new equipment associated with this project.

This shall be based on a combination of vendor recommendation and experience gained from operating and maintaining similar or other equipment for population into COMPANY's CMMS, i.e. SAP-PM system. The MJRs should reference the activities and resources needed to carry out the WORK, which should also include the necessary HSE precautions. The procedures and schedules shall be derived from a mixture of RCM, RBI, IPF and read across strategies (dependent on equipment criticality)

The CONTRACTOR shall ensure that the timings or the operations defined in the routines developed are realistic and shall also schedule the maintenance based against the principal resource availability to ensure an achievable overall maintenance schedule is developed.

The CONTRACTOR shall ensure that any operations defined do not invalidate the OEM/VENDOR's warranty. Appendix 6.1 illustrates the way in which information will be used to create maintenance job routines. CONTRACTOR shall comply with the requirements of the CMMS Data for Projects and the SAP EP Blueprint Plant Maintenance Data Minimum Standards EP 2007-5614.

2.4 Spares and Consumables Data

The CONTRACTOR shall develop an operating spares and consumables schedule, covering all equipment and machinery at the facilities to such a level that is commensurate with the local conditions in Nigeria for COMPANY's approval.

The details of spares/consumables supply and stocking shall be developed in line with DEP 70.10.90.11 and Scope of work articles 7 and 10. Also note that commissioning spares shall be managed different from the two years' operating spares. Operating spares SHALL not be used as commissioning spares, but where such is borrowed during commissioning, they must be replaced prior to facilities handover. Manufacturers' part numbers should be used for coding of spares as against vendor part numbers.

The operating spares SHALL be developed in E-SPIR software package at www.e-spir.com However, all data entries, spares recommendations in addition to all documents shall also be captured in ShareCat which is the platform deployed for the management of all vendor documentation on the project. The CONTRACTOR shall ensure that the part numbers for items in E-SPIR are the original equipment manufacturer part numbers.

All consumables with limited shelf life should be clearly identified and life span marked to allow timely re-order and adequate disposal method for expired/damaged goods provided.

All chemical and health hazard products shall contain Material Data Sheet, Safe Handling of Chemicals (SHOC) cards and shall comply with COMPANY approved chemicals list, with the COMPANY deviation procedure applied where deviation from the approved list is proposed.

2.5 Corrosion Inspection Strategy Methodology (Corrosion Data)

CONTRACTOR shall develop a specific Strategy Methodology (in line with existing methodology for the Gbaran CPF) for COMPANY approval. The data of the assets on which corrosion/erosion will be monitored shall be loaded in the COMPANY Corrosion System CIMS. Data collected shall conform to CIMS requirements.

The corrosion inspection strategy to be developed shall satisfy and entail the following steps (as a minimum):

- Equipment identification;
- Criticality assessment;
- CAD PFDs;
- Inspection method and frequency.

6.2.5.1 EQUIPMENT IDENTIFICATION

CONTRACTOR shall identify the position, operating context and specification of process equipment and piping that is subject to corrosion. These areas shall be identified using the asset register, PFSs, PEFs, vendor and operating manuals.

6.2.5.2 CAD PFDS

CONTRACTOR shall provide a graphical illustration of the equipment identification and criticality assessment. The PFDs will be colour coded to illustrate the areas of WORKS to be covered by the corrosion system and their criticality. CONTRACTOR shall be responsible for filling the templates that shall include among other things, Data Loading Utility (DLUs), Corrosion Management Drawings (CMDs) etc.

6.2.5.3 PRODUCTION OF ISOMETRICS CORROSION MANAGEMENT DRAWINGS (CMDs)

The CONTRACTOR shall study the facility documents (PEFS, plant layout etc) and review it against the developed CMDs. The CMDs shall show the Thickness Measuring Location (TML) for the on-plot piping & Vessels, Pipeline, Tanks, SPM, PLEM etc of the facility with the tag numbers and corrosion hotspots. The corrosion hotspots shall be clearly marked and serially numbered in the CMDs. For piping, the features/key points include Elbows, Tees, Reducers, pipes etc. On a straight run pipe, the key point should be placed at 5m intervals and where close to a weld point, should be located adjacent to it. The CONTRACTOR shall submit the final CMD to COMPANY for review/approval.

2.6 Baseline Measurement

The CONTRACTOR shall carry out baseline measurements after mechanical completion. The CONTRACTOR shall verify the baseline data gathered and update the baseline survey following the successful identification of corrosion measurement key-points in the facility to close out any gaps. Wall thickness baseline measurement shall be taken on all the features/key points identified in the CMD and captured in CIMS. The key points should be physically marked on the piping for future referencing. The baseline data shall be entered into the monitored data DLU template downloaded from CIMS database. The CONTRACTOR shall submit Final work to COMPANY for review/approval.

2.7 Provision of ICAD Drawings

The CONTRACTOR shall convert the sectional isometric corrosion drawings produced above into intelligent drawings that are usable by the CIMS ICAD module. Guideline to this action should be provided by COMPANY. The CONTRACTOR shall submit Final work to COMPANY for review/approval.

2.8 Maintenance System Routines and Data Population

CONTRACTOR shall generate a categorized list of asset register and group them (safety critical, production critical and others) for the newly added assets to be maintained as outlined in contract. CONTRACTOR shall develop the Maintenance Matrix of all newly identified maintainable assets in line with OEM advice, corporate maintenance strategy guidelines and operational philosophy. The

CONTRACTOR shall also write the Job Maintenance Routines (Article 6.2.2) for the maintainable assets in line with the Corporate Maintenance Strategy.

3. Asset Manuals

3.1 Asset Management Manuals Operating Information

CONTRACTOR shall prepare the following operational manuals in English language as per COMPANY Equipment Manual Standard (Specification). Appendices 6.2 and 6.3 COMPANY Equipment Manual Standard (Specification) attached hereto.

CONTRACTOR shall collate all requisite documents required to update the Operating Procedure Guides (OPGs) and Plant Operating manuals.

3.2 Plant Operating Manual

CONTRACTOR shall develop the Plant Operating Manuals (POM) in English language and in accordance with the Process Control Philosophy, existing Gbaran CPF operating philosophy, Gbaran Phase 2A Operations and maintenance philosophy, strategy and requirements (and the Integrated Operations Standards (IOS) FO/OP/024).

The Plant operating manuals (POM) shall be an integral part of the overall facilities operating manual. They will contain all the required detailed operating information to operate the facility. The technical level of the content of the operating manuals is to be aimed at newly trained process operators. Each manual shall contain a minimum level of cross-references to other manuals unless by hyperlink. All manuals shall be available at least six (6) months before start-up of the plant.

The contents shall include the following, as a minimum:

The operating manual shall as a minimum include: -

- Narrative description of the plant;
- Workflow schemes that depict operational activities (logic diagrams of start-up, shut down, mode changes, emergency response etc.);
- Procedures and instructions for operational tasks.
- Process control narrative.

3.3 Maintenance Manuals

CONTRACTOR shall provide maintenance manuals covering all disciplines, which shall cover as a minimum, the following:

- Assembly drawings and parts lists,
- Repair/overhaul procedures,
- Lubrication requirements,
- Inspection routines and frequencies,
- Planned maintenance and frequencies,
- Trouble shooting and fault-finding information,
- Safe work practises and safety of equipment,
- Mechanical handling study.

3.4 Concurrent Operations Plan and Manual of Permitted Operations

CONTRACTOR shall develop a specific and detailed Concurrent Operations Plan (COP) and MOPO (following from existing Gbaran CPF MOPO) that shall include as a minimum:

- Assessment of concurrent project activities with inherent level of risks;
- Develop a final site-specific COP;
- Manual of Permitted Operations (MOPO);
- Job Hazard Analysis (JHA);
- Emergency Evacuation and Response (EER);
- Organizational structure and role and responsibilities for site work execution.

A copy of existing Gbaran CPF Plant steady state operation MOPO shall be provided to the CONTRACTOR as guide.

3.5 Reference Directory (Total Content)

Reference Directory (Total Content) listing all assets installed during the CONTRACT and indicating contents of each equipment dossier.

4. Original Equipment Manufacturer Electronic Catalogue (e-Cat) Access

CONTRACTOR shall warrant COMPANY on-line access to OEM Electronic Catalog (e-Cat) to allow graphical navigation/drawings checks for parts list/parts interchangeability for equipment fleet etc.

5. Technical Integrity

There will be an independent technical integrity verification exercise to be conducted by a joint team comprising CONTRACTOR and COMPANY representatives leading to the production of the technical integrity verification report (a requirement for SoF – Statement of Fitness) based on approved TIV plan. As part of demonstrating technical integrity, the CONTRACTOR shall develop the register of Safety Critical Elements (SCEs), including their Performance Standards and Assurance Tasks. The SCEs are derived from the result of the bow-tie analysis that will be performed during detailed engineering. The SCEs so identified, with their groupings shall be reviewed and approved by COMPANY as applicable. Acceptance criteria for the SCEs verification shall be 100% success of all elements so identified. A sample Asset Register showing the SCEs and their groupings, including RRM (S-RCM/RBI/IPF) can be found in Appendix 6.8 –CMMS Data Requirements for Projects as a guide. Similarly, the Global Operate Phase Performance Standard Template can be found in Appendix 6.7 to use in populating the work carried out. The following documents shall form part of the contract and the CONTRACTOR shall comply with them to demonstrate technical integrity.

- EP Technical Integrity Framework (EP.03.ST.04).
- Safety Critical Element Management Manual (EP 2009-9009).
- Maintenance & Integrity Management Standards (EP 2007-9007) – Document has been replaced by Operational Excellence Standard
- Verification Scheme for SCEs and Technical Integrity Verification Plan (template attached).
- Global Operate Phase Performance Standards (Appendix 6.7).
- DEM1/DEM2 Compliance

Management of Repeated Failures (Formally Flawless Project Delivery)

The Management of Repeated Failures is based on the systematic elimination of flaws from past start-ups by rigorous application of a process for capture & dissemination of these failures from project to project and the implementation of appropriate mitigation measures through the WORK.

CONTRACTOR shall implement a practical system of Managing the Risk of Repeated failures through the entire phases of the project.

CONTRACTOR scope under the Management of Repeated Failures shall include, but not be limited to the following;

1. The identification of applicable quality risk areas;
 - Tightness
 - Cleanliness and Preservation
 - Novelties
 - Operability and maintainability
 - HSE in Transition
 - Information management
 - Interfaces
 - Functional integrity by discipline. (Civil/Structural, Mechanical- static & Rotating, Electrical, PACO, Telecoms, etc)
2. The Identification/assignment of responsibilities to the discipline focal points.
3. Development of the assurance plans and mitigating actions
4. Definition of roles and responsibilities
5. Development of the Management of repeated Failures implementation plans with timelines for alignment meetings and workshops.
6. Implementation of the management of repeated failures.

Management of Repeated Failures (FLAWLESS) Implementation assurance plan shall include the following activities.

6.1.1 FLAWLESS External Audits.

FLAWLESS audits shall be integrated into the CONTRACTOR Quality management system and led by COMPANY shall be conducted at least twice a year to ensure effective FLAWLESS Programme implementation and that the project is on track for a successful start up and first cycle of operation. The audits will cover all identified Q risk areas and will be in the form of reviewing documentation and one on one discussion with Q risk area focal points, and CONTRACTOR FLAWLESS Team and other relevant specialists. The main topics of the audit discussion shall include:

- Implementation of an integral Quality Management Plan that addresses mitigation of Quality risks in past projects (FLAWS)
- To check that risks are prevented at relevant phase of the project.
- To ensure that risk identification and mitigation is backed up with the relevant close out evidence.

Audit Reports will be generated by CONTRACTOR to develop and execute Recovery Action Plan.

6.1.2 FLAWLESS Internal Audits

Internal FLAWLESS Audits will be conducted by CONTRACTOR with COMPANY participation. CONTRACTOR FLAWLESS Managers to ensure quality, standards and specifications are maintained during the close out of FLAWS. –

Monthly/Weekly Q Rounds (as applicable) shall be implemented for each Contractor/Supplier and at all locations, unless otherwise agreed with the COMPANY. The CONTRACTOR shall develop Q Round Score Cards for each Q-Area and agree the content with COMPANY. The outcome of these Q Rounds shall be reviewed in FLAWLESS weekly/monthly meetings and improvement to FLAWLESS controls agreed and implemented.

DRAFT

7.0 CONTRACTING & PROCUREMENT

7.1. Introduction

The term "Procurement" as used herein encompasses all those activities necessary to obtain equipment/ materials for fabrication and construction of the facilities of Gbaran CPF Upgrade project i.e. requisitioning, request for quotations and clarifications, technical and commercial evaluation, purchase order placement, pre-manufacturing review meetings, material expediting, pre-inspection review meetings, manufacturing inspection, final inspection and testing, transportation, shipping, insurance, invoice payment, importation, customs clearance, payment of duties, storage, preservation and issue for construction.

CONTRACTOR will provide and use materials management/tracking solutions, tools, software or applications for efficient project execution.

CONTRACTOR shall be responsible for organising, coordinating and performing all shipping and transportation arrangements and activities for MATERIALS to and from the WORK SITE/s including handling of shipping documentation, import duty, export customs formalities, dispatch advice. The WORK includes the organising, coordinating and performing re-export and import of MATERIALS that are required to leave and return to the WORKSITES/ Yard location for repair and/or replacement.

CONTRACTOR shall appoint a dedicated full time Procurement Co-Ordinator to act as liaison contact on procurement matters. The CONTRACTOR shall appoint a Document Controller to act as a focal point for all matters concerning CONTRACTOR produced documents, VENDOR documents and spare parts listing. The language used on all procurement documents and forms shall be English Language.

1. Scope of Procurement Activities

The CONTRACTOR shall be responsible for the procurement of all materials, temporary and permanent materials and equipment, including as a minimum the following: consumables, gaskets, bolts, nuts, Hot Bends, control and safeguarding systems, field instruments, pre-commissioning and commissioning spares/materials, 2 years' operating and capital spares, all disciplines' bulk material and consumables etc.

Notwithstanding the responsibility of the CONTRACTOR to procure all materials, COMPANY may elect to free issue some materials to CONTRACTOR. Details of the materials to be free issued to CONTRACTOR shall be agreed prior to commencement of procurement by CONTRACTOR. All free issued materials will be valued, and the value deducted from the CONTRACT PRICE as downward variation when applicable.

The CONTRACTOR shall perform all procurement of materials required for Gbaran CPF Upgrade Project in accordance with the terms and conditions of the CONTRACT, or as may otherwise be explicitly agreed in writing between the CONTRACTOR and COMPANY. COMPANY reserves the right to audit the CONTRACTOR's basis / back up regarding local VENDOR selection.

The CONTRACTOR shall purchase the permanent equipment and consumables from VENDORS shown in the APPROVED Vendor list (Appendix 7.1.). Where the VENDORS do not exist on the approved Vendor List for any particular item or scope of work, the CONTRACTOR shall submit its proposal to COMPANY for approval. Such proposal shall be fully justified, including details of recent experience and appraisal information which shall include as a minimum, detailed technical, quality, commercial and financial analysis/audit reports. The approval process for any new VENDOR/SUBCONTRACOR may take up to eight (8) weeks and COMPANY reserves the right to accept or reject proposed additional VENDOR/SUBCONTRACTOR.

The "Vendor List" is strictly confidential and the CONTRACTOR shall not divulge its contents to others. In case of a "packaged unit" or pre-fabricated "module", the sub-vendors used by the Vendor shall also conform to the above referenced Vendor List.

CONTRACTOR shall procure all off-skid civil, mechanical, piping, bends, piping fittings, valves, instrumentation, telecoms and electrical, materials required for the work and integrate them into existing Gbaran CPF Plant system. CONTRACTOR shall also participate in design reviews, meetings, safety reviews, FAT etc., specifically related to the interfaces with the equipment vendors.

2. Free Issued Materials

No materials are to be free issued by COMPANY. CONTRACTOR shall be responsible for procurement of ALL materials required for the successful execution of the works which shall be deemed to be included in the CONTRACT PRICE.

CONTRACTOR shall take into consideration all HSE requirements necessary for the handling, transportation, delivery and storage of all procured materials to site.

3. Responsibilities of CONTRACTOR

It is the intention that most equipment and materials will be delivered to the various sites as pre-fabricated "modules" or skids, which are fully assembled, complete with electrics / instrumentation and fully tested as far as practicable. The CONTRACTOR shall be responsible for managing any SUB-CONTRACTS which may be necessary for this activity and for co-ordinating shipment of the necessary equipment and materials, within the CONTRACTOR's supply, to the pre-fabrication sites.

CONTRACTOR shall be responsible for shipment / transportation of the relevant prefabricated skids / modules / materials and equipment for installation at the SITE.

The CONTRACTOR shall be responsible for the technical integrity and suitability of all equipment and materials procured for the WORK and for providing all required services and personnel essential for the efficient accomplishment of all related procurement activities, which shall include as a minimum the activities outlined in this Article 7.

The CONTRACTOR shall ensure that suitable procurement records are maintained and that a clear audit trail is evident. The CONTRACTOR shall present draft copy of purchase orders (un-priced) for permanent materials/equipment to COMPANY for review before final order placement. The CONTRACTOR shall prepare the list of vendors to be used for the project and present to COMPANY for review and approval. The CONTRACTOR shall be responsible for incorporating all VENDOR data into VENDOR dossier manuals and issued to COMPANY upon TRANSFER.

The CONTRACTOR shall be required to carry out Procurement closeout, which involves reporting quantity of materials procured and materials used for the project.

The CONTRACTOR shall present Procurement Plan, Procurement Procedure and Site Materials Management Procedure to COMPANY for review and approval before embarking on materials / equipment procurement two weeks after commencement of the CONTRACT. The CONTRACTOR shall continuously prepare MONTHLY Procurement Status Report throughout procurement phase and submit to COMPANY for review.

4. Shipping, Imports and Customs Formalities

The CONTRACTOR shall be responsible for importing into Nigeria and onward forwarding to the various Sites, all materials and equipment necessary for carrying out the WORK. Transport insurance from point of origin to the various sites shall be arranged by the CONTRACTOR. CONTRACTOR shall be responsible for any demurrage incurred as a result of delays in loading and unloading of vessels.

The CONTRACTOR shall be responsible for all customs formalities at "port of entry" and customs inspection in "Country of Origin".

Payment of duties for all items procured by the CONTRACTOR, including work tools, special tools, etc. that shall not form part of the PERMANENT WORK shall be for the account of the CONTRACTOR.

The CONTRACTOR shall provide a list of materials and equipment that qualifies for customs duty exemption on materials and equipment for direct incorporation into PERMANENT WORK.

CONTRACTOR shall refer to the applicable legislation for clarity on items subject to duty exemption.

In the event that the legislation is repealed, the CONTRACTOR shall treat the duty payment as specified above wherein the Import Duty Exemption is not in place

The CONTRACTOR shall inform COMPANY six (6) months prior the expiration of the Import Duty Exemption Certificate for any list of equipment or materials that will not be cleared through the Customs before the expiry of the certificate. The certificates are usually for one (1) year.

The CONTRACTOR shall maintain a ledger of paid customs duties with all relevant documents which shall be issued to COMPANY upon request and upon FINAL COMPLETION. The CONTRACTOR shall ensure that all necessary documents and information are prepared in order to carry out and complete export / import formalities in a timely manner. The CONTRACTOR is advised to acquaint herself with the import regulations for Nigeria particularly with respect to inspection in "Country of Origin" by a Nigerian Customs Official. The CONTRACTOR shall notify COMPANY should any difficulties arise with respect to import and customs documentation requirements.

The CONTRACTOR shall be responsible for processing claims for non-delivery, short shipment, damages and off-specification of materials.

Packing, handling and transport of modules / skids involving heavy-lifts and over-sized cargoes may be subject to inspection by COMPANY prior to shipment.

The CONTRACTOR shall arrange for the necessary details and advise COMPANY at least twenty-five (25) working days in advance of shipment.

4.1 Import Duty Exemption" Certificate (IDEC)

The COMPANY shall obtain relevant import duty exemption certificates (IDEC) to enable CONTRACTOR clear import duty exempt project materials and promptly advise CONTRACTOR accordingly.

Where COMPANY cannot provide IDEC for project materials, COMPANY shall at its sole discretion either:

Make direct payment to Nigerian Customs for Import Duties, Import Duty Surcharges, and Customs VAT based on valid import documents submitted by CONTRACTOR, or;

Authorise CONTRACTOR to proceed with payment of import duties in which case CONTRACTOR shall be reimbursed at cost plus mark-up as per the CONTRACT.

The CONTRACT PRICE shall be inclusive of cost of all other importation charges including but not limited to port charges, handling charges, stevedoring.

4.2 Customs Bond

In the event that IDEC is delayed, COMPANY shall, as deemed necessary, open Custom Bond to facilitate the release of urgent shipments required on site from Customs.

4.3 Procedures for Management Of Freight Handling & Shipment

The CONTRACTOR shall develop procedures within sixty (60) days of the EFFECTIVE DATE detailing how the CONTRACTOR shall manage freight handling and shipment.

The CONTRACTOR shall advise COMPANY via weekly reports the following requirements for shipment expected:

- SUBCONTRACT number
- Item numbers if split
- Intended ex works date(s)
- Vessel/flight booked on
- Loading airport/port
- Estimated time of departure
- Estimated time of arrival at destination

The CONTRACTOR shall advise COMPANY via monthly reports the following requirements for spare parts expected:

- Status for spare parts data
- Status of insurance and capital spares list

The frequency of these reports shall be assessed and changed on a needs basis depending on criticality of the materials or expediting requirements.

For all oversize/heavy lift MATERIALS, the CONTRACTOR shall within sixty (60) days of the EFFECTIVE DATE, prepare a thirty/sixty/ninety (30/60/90) Day Shipment Forecast Plans covering full details of the transportation. CONTRACTOR shall issue weekly updates on MATERIALS arriving at the port.

The CONTRACTOR shall not deliver MATERIALS to the PROJECT SITE that are in an unfinished condition without formal written COMPANY approval. In exceptional circumstances the CONTRACTOR may apply prior to shipment to COMPANY for a formal waiver approved by COMPANY.

The CONTRACTOR shall not ship any MATERIALS to the PROJECT SITE without prior formal inspection release certificate signed by the COMPANY. Where COMPANY's inspector does not attend final inspection and release, then the CONTRACTOR shall apply for COMPANY's written agreement to release.

5. Specialist Supervision

The CONTRACTOR shall, where applicable, provide for vendor specialists to attend and supervise Site erection, testing, commissioning and start-up of equipment. Attendance of VENDOR representatives shall be deemed to be included in the CONTRACTOR's Lump Sum Price.

6. Materials Tracking and Tagging

It is the intention of COMPANY to increase construction schedule certainty. For this reason, the COMPANY requires accurate position of materials (location and current ownership), including estimated time of arrival, to provide the needed confidence and assurances that the materials will arrive at the SITE to meet construction schedules.

The CONTRACTOR shall be responsible for all MATERIALS tracking. This shall allow monitoring of MATERIALS position from SUBCONTRACTORS' premises until arrival at, and within, WORK SITE until incorporation into the PERMANENT WORK.

The CONTRACTOR shall provide the COMPANY twenty-four (24) hours seven (7) days a week access to the tracking system to enable COMPANY to ensure location of MATERIALS.

CONTRACTOR shall ensure that all spares MATERIALS have a tag attached before commissioning and/or before handover of these spares to COMPANY, whichever happens first.

The exact make and model and attachment method of the tag to be attached to any spares MATERIALS shall be approved by COMPANY. The tag shall have a minimum expected life in the storage conditions of twenty-five (25) years.

6.1 Supply Chain Events Tracking

The CONTRACTOR shall provide COMPANY with assurance of materials availability to ensure construction plans can be executed as planned. As such, the CONTRACTOR shall provide COMPANY with the following information:

- L4/5 Construction schedules, including breakdown of construction work packages and associated procurement work packages
- Real time, or otherwise daily, Material supply chain event information covering:
 - Current material location
 - Current temporary material ownership (e.g. supplier, LMS partner, fabricator, etc.)
 - Material Supply chain milestone status (e.g. dispatched by supplier, at customs, fabricating, etc.)
 - Updated estimated time of material arrival at construction material consolidation yard
 - The CONTRACTOR shall immediately advise COMPANY of any significant delivery slippage of MATERIALS and associated schedule impact, and remedial actions taken to mitigate the delay.

The CONTRACTOR shall be responsible for all expediting activities from the inception of a requisition until all the MATERIALS, CONSTRUCTION EQUIPMENT (including all the associated documents) are received and punch list items (if any) are fully closed out.

The COMPANY may, from time to time, carry out control visits/checks in order to ascertain that the CONTRACTOR has made early expediting visits to identify problems well in advance.

The CONTRACTOR shall ensure that all its subcontractors such as component suppliers and logistic partners are subject to the same provisions.

The CONTRACTOR shall provide the Supply Chain Events Tracking system and own and manage the system. COMPANY will advise on the preferred system and if desired shall provide it to the CONTRACTOR.

6.2 Construction site Onsite Materials Tracking

The CONTRACTOR shall ensure that at minimum all major construction materials have an AUTO-ID tag attached from arrival onsite up until final installation in construction. The CONTRACTOR shall ensure that all subcontractors are subject to the same provisions.

The tag (passive AUTO-ID / barcode) shall consist of:

- a printed machine-readable barcode with the identifier and a human readable text with the same identifier

under Construction critical materials the minimum is understood: generators, turbines, gas separators, compressors and MAC, and is subject to further detailing between CONTRACTOR and COMPANY

Both the CONTRACTOR and the COMPANY shall have access to the Materials tracking system 24/7 to enable both to know what materials are where and when, from arrival onsite up until final installation in the construction.

The CONTRACTOR shall provide the AUTO-ID tags (barcode).

The COMPANY shall provide the CONTRACTOR a list of preferred suppliers for the system.

7. Spare Parts

Recommendations for spare parts are laid down in DEP 70.10.90.11 - Gen "Spare Parts" dated February 2014, which includes instructions for the completion of the Spare Parts Interchangeability Record (SPIR) forms. The CONTRACTOR shall use the software package E-SPIR for the preparation and delivery of SPIR forms electronically. The CONTRACTOR shall request, in all equipment enquiry requisitions, that SUBCONTRACTORS/ VENDORS submit a priced list of spare parts and an SPIR form with their Tender.

The CONTRACTOR shall be responsible for data input of spares requirement into COMPANY's E-SPIR 2000 software package, available at www.e-spir.com. The CONTRACTOR shall ensure that the part numbers for items in E-SPIR are the original equipment manufacturer part numbers.

Purchase orders/ requisitions for equipment and equipment packages shall include the supply of commissioning and start-up spares, two (2) years operational spares and capital insurance spares as recommended by the equipment vendor and verified/approved by COMPANY.

- Capital insurance spares shall be clearly defined by the CONTRACTOR based on the Capital Insurance Spares Study to be conducted by CONTRACTOR and approved by COMPANY. Capital insurance spares are defined as assemblies and parts requiring more than three months' supply lead time (including delivery time). The CONTRACTOR shall ensure that the recommended quantities of spare parts are commensurate with the local conditions in Nigeria, i.e. spare parts holding should be based on operations in remote locations. The cost of these items is included in the CONTRACT scope.
- All special tools required for the installation, commissioning, operation and maintenance of the package. These shall include any special lifting devices for any of the equipment or any major sub-component within it. The cost of these items is included in the CONTRACT scope.
- Spare parts required for Pre-commissioning, Commissioning and Start-up. CONTRACTOR will submit to COMPANY for approval the spare parts (commissioning and start-up spares).
- All two (2) years' normal operation spares for the equipment and packages purchased including E-SPIR documentation complete with copies of all specified drawings and associated documentation.

CONTRACTOR will be responsible for delivering these spares to site and ensure that all spares are well preserved until HANDOVER. All spare parts shall be supplied together with the main equipment items to which they relate.

All commissioning spares shall be available prior to commencement of commissioning activities. In the event of breakdown or malfunction during commissioning or where spares outside the vendor advised commissioning spares range are required it will be acceptable, subject to COMPANY approval, and immediate placement of replacement order by CONTRACTOR to utilise the two (2) years operational spare(s) to be replaced by CONTRACTOR as soon as received. The cost of such replacements shall be for the account of the CONTRACTOR.

Copies of the SPIR forms, when received from VENDORS, shall be submitted to COMPANY with recommended stock levels and SAP numbers assigned. After review by COMPANY, these will be returned to the CONTRACTOR with the minimum/ maximum stock levels that the CONTRACTOR will be expected to provide upon HANDOVER of the facilities. The SAP coded items together with their current stock level and COMPANY's stock requirement shall be entered into the SAP System.

CONTRACTOR shall ensure that all project spares are coded in the COMPANY SAP R3 coding system in E-SPIR before ordering, to enable suppliers to label the spare parts with allocated SAP number, which will facilitate the identification upon receipt. CONTRACTOR shall liaison with COMPANY for the coding of all identified spares prior to procurement. All project spares should not be ordered without allocation of SAP numbers. CONTRACTOR shall ensure that the part numbers for items in E-SPIR are the Original equipment manufacturer part numbers.

Specifically, the CONTRACTOR shall:

- prepare lists of each category of spares, as recommended by Suppliers for equipment items and by CONTRACTOR for bulk materials in accordance with Vendor Catalogue and MESC coding requirements~~Vendor Catalogue and MESC coding requirements~~.
- The CONTRACTOR shall ensure the supplier provides the electronically compiled Spare Parts list to COMPANY for approval within six (6) weeks after CONTRACTOR has released the purchase order for the material or equipment.
- Ensure a complete overview of spares within each category is made and handed over to COMPANY at project completion for purpose of smooth handover to COMPANY.
- Ensure spare parts selected for inclusion in the lists, and the recommended stock level for Operational Spares are suitable and adequate for the facility, noting that the facility shall be operated and maintained by COMPANY personnel.

7.1 Development of spare parts lists

CONTRACTOR shall:

- Ensure that its Suppliers develop and provide lists of spare parts consistent with the above categories and complying with the requirements of this Scope of Work
- Include this as a mandatory requirement of its enquiry requisitions for MATERIALS

Prior to issue of purchase orders by CONTRACTOR for any MATERIALS, CONTRACTOR shall issue the list of Insurance, Commissioning/Start-up, and 2 years' normal operation spare parts for review by COMPANY. COMPANY will revise these lists based on its previous experience and maintenance strategy and return them to CONTRACTOR for inclusion in the Purchase Orders

COMPANY reserves the right to contact CONTRACTOR'S Suppliers and/or manufacturers directly to verify the accuracy and suitability of the spare parts lists.

7.2 Identification of additional spare parts required

CONTRACTOR shall:

- Provide additional or replacement parts found to be required during any phase of the WORK up to completion of the DEFECTS CORRECTION PERIOD, over and above the expected usage defined in the Maintenance Manuals or the spares stock defined in the lists prepared by CONTRACTOR.
- Revise and re-issue the spare parts lists to include additional spare parts which are considered to be necessary following re-assessment by COMPANY.
- Administer any associated warranty claims with Suppliers for replacement of defective items

7.3 Vendor Catalogue and MESC coding requirements

COMPANY requires that:

- The maintenance and sparing policy for facility will operate on the principle of identification of common spares between different items of equipment from one Supplier and between different Suppliers
- Spare parts list identifying each component by all part numbers originated by Manufacturer, Sub-Supplier, Supplier etc. which are needed to identify the component on drawings, in manuals, on purchase orders, in packing lists etc. regardless of the source of each document
- MESC numbers (Materials and Equipment Specifications and Codes) are listed for every item for which an MESC exists. Refer to DEP 31.38.01.11-Gen (DEM-1) which contains a mandatory requirement for piping materials to be MESC coded. An electronic version of the MESC catalogue will be provided to CONTRACTOR by COMPANY
- Spare parts are listed using COMPANY'S Vendor Catalogue system for the collection of Vendor spares and the E-SPIR advisor application to review the final spare parts and BOM build
- As an integral part of spare parts procurement, CONTRACTOR shall:
 - Complete the Electronic Spare Parts and Interchangeability Record in the Vendor Catalogue for all spare parts. Instruction on how to load spares information will be provided by COMPANY to CONTRACTOR. Contractor shall use Vendor Catalogue to compile the Spares list and issue to COMPANY. Hard copy will not be accepted. Where applicable, include in the Vendor Catalogue spare parts record, for each line item the MESC number where relevant, the different part numbers used for each component by the Manufacturer and/or Supplier for the same line item, the Operations and Maintenance (O&M) manual reference, the GA drawing reference, and the name and contact details of the Manufacturer or Supplier.
- Collates and ensures all data information. Contractor shall load individual vendor spare parts lists from the Vendor Catalogue into Company's E-SPIR Advisor program and review for completeness.

7.4

7.5 Packing, labelling, preservation, delivery and storage

CONTRACTOR shall clearly organize and label all spare parts in accordance with COMPANY's requirements. Each part shall be properly tagged with a weatherproof label, showing the following information:

- PO number
- Name and tag of parent equipment that the spare or Special Tool is belonging to / used for
- MESC number.
- Manufacturer's unique part number.
- Description of the part.
- Expiry date for parts having a limited shelf life.

Small items with the same part number shall be tagged and packed together in a small plastic bag or box, and the tag shall be also shown on the outside of the bag or box.

Spare parts shall be packaged and preserved to ensure a shelf life of at least three years without any deterioration or loss of effectiveness of the preservation. Shelf life expiry dates shall be clearly marked on the outside of the packaging. Preservation, packing and protection methods and materials shall as a minimum comply with Supplier's recommendations and the requirements of Project Specification.

Electronic or other items which require air-conditioned storage shall be clearly identified on the external labelling.

CONTRACTOR shall:

- deliver all Insurance, Capital spare parts, Pre-commissioning, Commissioning/ Start-up, initial operating spare parts and special tools to the WORKSITE in clearly identified dedicated crates
- The insurance, capital and special tools shall be addressed to COMPANY'S warehouse for storage by COMPANY.
- separately pack and deliver the initial operating spare parts, which shall be opened only under COMPANY supervision.
- separately pack and deliver the Initial Operating Spares in two delivery categories:
- those to be delivered and stored at the CONTRACTOR's warehouse at the WORKSITE.
- those to be delivered and stored at COMPANY's warehouse.
- work with the COMPANY to transfer the initial operating spares into COMPANY inventory management system.
- make sure special tools are clearly labelled in relation to respective equipment and marked for commissioning / operation purposes so they can be segregated
- provide adequate space in these storage systems for spare parts supplied by others.
- take delivery of spares supplied as COMPANY PROVIDED ITEMS from COMPANY at CONTRACTOR's WORKSITES and include in the actions described above.
- preserve and protect all spare parts until transfer of Care, Custody and Control of the PERMANENT WORK to COMPANY for Commissioning.

7.6 Spares Tracking

The COMPANY aims to auto-ID all spares for warehousing purposes. This shall be done using tags attached to the material which will be capable of being read by humans as well as RFID and barcode readers.

- The CONTRACTOR shall ensure that all spares have a tag attached upon handover of these spares to the COMPANY. The CONTRACTOR shall ensure that all subcontractors are subject to the same provisions.
- The tag shall have a unique identifier and shall be placed on the material. The tag shall consist of a passive RFID tag coded with the unique identifier and a printed machine readable barcode with the same identifier and a human readable text with the same identifier.
- All location information should be stored in a tracking system, which should at least contain the link between the materials engineering tag, unique identifier of the AUTO-ID tag last seen location with timestamp, and a historical trace of locations starting from arrival onsite. The tracking system shall have the means for searching materials and displaying its location.
- The exact make and model and attachment method of the tag to be attached to any spares (e.g. valves, motors, electrical parts, etc.) shall be agreed between the CONTRACTOR and the COMPANY. The tag shall have a minimum expected life in the storage conditions of 25 years. The tagging shall conform to the EPC Gen2 V2 standard 2008.
- If the RFID tag on a spare item is found to be defective or missing, the CONTRACTOR shall immediately replace the tag and link the unique tag identifier to the material.
- The CONTRACTOR shall provide the tracking system including RFID tags, mobile handhelds and/or vehicle mounted readers. The COMPANY shall provide the CONTRACTOR a list of preferred suppliers for the tracking system.
- The CONTRACTOR shall upon handover of the spares provide an auto-ID database that will contain the unique identifier, linked to the spare part as identified in the COMPANY equipment database system, the present location of the spare part in an appropriate and

agreed coordinate system or warehouse in location, and the date/timestamp when the last reading took place.

7.7 Spares Inventory

The CONTRACTOR shall complete an inventory of all spares upon their arrival at site. Stock remaining after commissioning/ RFSU shall be entered into the SAP System, utilising SAP numbers obtained from the coded ESPIR, prior to HANDOVER. The COMPANY SAP codes shall be made available to the CONTRACTOR during execution of the WORK.

7.8 Operational readiness

All spare parts shall be delivered, checked for completeness and stored as noted above before the PERMANENT WORK may be deemed to be ready for HANDOVER.

CONTRACTOR shall make due allowance for manufacturing time, delivery time, transportation, importation, receipt, checking, load out and storage when scheduling its enquiries, development of spare parts lists, and purchase order placement.

7.9 License for Materials Tagging and Tracking systems

CONTRACTOR shall provide COMPANY with all necessary assistance, data, information and document for the purpose of the COMPANY obtaining and maintaining all permits, licenses, approvals and other consents required to be obtained and maintained for the WORK.

8. Receipt and Inspection

The CONTRACTOR shall be responsible for receiving, off-loading, handling, inspection, storage / preservation and protection of all materials necessary for completion of the WORK. The CONTRACTOR shall establish, at the construction sites, a materials handling and storage area with fencing, office/ storage facilities and handling facilities for the purpose of materials protection, preservation and control.

The CONTRACTOR shall refer to Section IX - QUALITY MANAGEMENT for specific quality requirements, including inspection. The CONTRACTOR shall perform all pre- inspection and inspection activities in the WORK.

The CONTRACTOR shall provide COMPANY with copies of all inspection reports within seven (7) days from completing the inspection visit. Any Non-Conformance Reports and Inspection Release Certificates shall be provided to COMPANY within forty-eight (48) hours of completing the inspection visit.

The COMPANY shall exercise its right to attend inspections and witness tests. The CONTRACTOR shall furnish COMPANY with all purchasing documentation, schedule details, specifications, drawings and other information and documentation so that these inspections and tests can be executed efficiently.

The CONTRACTOR shall provide sufficient notice of inspection and test activities to allow timely mobilisation of COMPANY's inspectors. The CONTRACTOR shall ensure that access is provided to COMPANY's inspectors at all WORKSITES. The CONTRACTOR shall ensure that SUBCONTRACTORS carry out the specified FPD activities.

The CONTRACTOR shall not ship any MATERIALS to the WORKSSITE without prior formal inspection release certificate signed by the COMPANY. Where COMPANY's inspector does not attend final

inspection and release, then the CONTRACTOR shall apply for COMPANY's written agreement to release.

Immediately upon receipt of materials at the WORKSITE, the CONTRACTOR shall inspect and verify the condition and contents listing. Inspection shall be undertaken by qualified personnel and shall include verification of dimensional correctness and material certification and checking for shortages and damage. Inspection activities shall not be combined with expediting activities. They shall be independent functions and combined expediting / inspection visits to any vendor shall not be made by the same person.

9. Material Storage, Control and Inventory

The CONTRACTOR shall be responsible for all preservation and storage activities.

The CONTRACTOR shall ensure that all materials for use and incorporation into the WORKS are segregated from any other materials, that access is possible only via CONTRACTOR's stores personnel and that all areas are secure against unofficial access. COMPANY shall have the right to inspect the stores and records at any time without prior notice.

All materials shall be protected against deterioration and the CONTRACTOR shall provide any necessary temperature and humidity control for preservation and maintenance in accordance with OEM recommendations. For example, heat sensitive instrumentation and control items shall be stored in temperature-controlled cabins. All materials received by the CONTRACTOR for incorporation into the WORKS shall be adequately protected against damage at all times. In the event of damage occurring to any materials, the CONTRACTOR shall immediately submit a damage report to COMPANY and rectify the damage in an agreed manner.

The CONTRACTOR shall be responsible for all storage materials procured directly by CONTRACTOR or SUBCONTRACTOR in the material fabrication yard during the course of manufacture, assembly of individual materials or packages. The warehousing and storage of all scope of WORK related material shall be such that:

- Size, location and management of the new/existent lay-down area / warehouse is fit for purpose.
- If existent warehouse facilities are envisaged to be used, Shell Warehousing Subject Matter Expert shall be consulted on evaluation of current warehouse suitability and capacity.
- When developing the Warehouse Concept Design, Shell's Warehouse Design Guide shall be used
- CONTRACTOR is responsible to maintain adequate security measures within and around the warehouses and lay-down areas to prevent loss or theft of materials
- With regards to proper storage of materials, following shall be taken in consideration:
- As a minimum, CONTRACTOR shall ensure that the packing, protection and preservation of materials in CONTRACTOR'S possession are maintained in accordance with the Manufacturers' or Supplier's instructions, or DEP 70.10.70.11-Gen "Preservation of New and Old Equipment Standing Idle", whichever is more stringent.
- Adequate protection for materials at pre-shipment marshalling locations and at the WORKSITE, which effectively prevent damage to or deterioration of the materials is in place. CONTRACTOR shall submit the proposal to COMPANY for approval.
- specific procedures are present for segregation of stainless and duplex steel items from carbon steel and galvanized items.

- The CONTRACTOR is responsible to ensure that special storage requirements are clearly marked by Suppliers on the outside of packing. CONTRACTOR shall provide any additional preservation measures required due to extended storage, conditions of storage, opening of packing for inspection, or other factors which may affect the integrity of the materials.

CONTRACTOR shall ensure safe custody and control of materials, including those used by Suppliers, VENDORS and SUBCONTRACTORS during manufacture of equipment.

The CONTRACTOR shall regularly inspect and maintain all materials, wherever located, for the duration of the CONTRACT. The CONTRACTOR shall, after completion of all WORK, export or dispose of all materials and equipment, which are not required by COMPANY.

10. Surplus Materials

The CONTRACTOR shall manage and store all SURPLUS MATERIALS in accordance with approved warehouse and storage procedures, preservation and preservation logs, complete with MATERIALS certification and full import and export documentation. The CONTRACTOR shall be responsible for all aspects of the ownership, identification by category and COMPANY's unique materials identification number, control, traceability (all the way back to original manufacturer's records), reconciliation, segregation, suitable recommendation and eventual disposal (with any weighbridge certificates), including COMPANY's approval for sale and credits due to the COMPANY for such sales.

The CONTRACTOR shall be responsible to properly manage and leave the WORK SITE/s free of all waste in accordance with the provisions of this CONTRACT and the approved SURPLUS MATERIALS Procedure. All SURPLUS MATERIALS shall be properly catalogued specifying the COMPANY's issue documentation, together with a description and, where applicable, shall be packed or boxed.

CONTRACTOR's SURPLUS MATERIALS procedure shall also provide for the manner by which the CONTRACTOR and COMPANY shall identify and segregate those MATERIALS which will constitute SURPLUS MATERIALS from those MATERIALS which will constitute waste.

11. Material and Equipment Warranties

All requisitions and purchase orders shall specify that VENDORS shall guarantee and warranty the design/workmanship/performance of material/equipment for a period of 24 months from delivery or 12 months from first placing in service on site, whichever shall first occur. The CONTRACTOR shall impose similar guarantee/warranty clauses on their OEM vendors/sub-vendors. In case of any defect or deficiencies in the material/equipment those shall be rectified immediately by the CONTRACTOR at its own cost, CONTRACTOR shall novate all warranty provisions to COMPANY at the COMPLETION DATE (as relevant).

12. Procurement Procedures and Materials Management Plan

12.1 Procurement Procedures

Within forty-five (45) days of the EFFECTIVE DATE OF COMMENCEMENT OF THE CONTRACT, the CONTRACTOR shall submit its standard procurement procedures to be used for the CONTRACT for COMPANY review. Where required to meet specific project or COMPANY requirements, CONTRACTOR shall update its standard procurement procedures to be project specific and

incorporate any comments made by COMPANY. These procedures shall contain all standard forms to be used for procurement activities and shall include as a minimum, the following:

- Requisitioning and ordering of modules, skids, equipment and bulk materials;
- Recording and processing of CONTRACTOR purchase orders and any variations;
- Desk and field expediting activities;
- Insurance;
- Progress control and reporting on materials;
- Numbering, recording and handling of inspection and test certificates;
- Shipment and transportation of materials to WORKSITE;
- Customs and import formalities;
- Inspection of materials upon arrival at the WORKSITE;
- Overall receipt, storage, preservation and issue of materials;
- Administration, accounting and tracking of materials;
- Non-delivered and non-conforming materials;
- Site safety and security with respect to material matters;
- Material identification and traceability by means of marking and documentation;
- SUBCONTRACTOR procurement activities;
- Detailed local (Nigerian) procurement activities including testing for suitability of materials prior to purchase;

Detailed spares parts handling procedures clearly differentiating between commissioning, insurance (capital), one-year initial operating and two (2) year operating spare parts requirements.

12.2 Materials Management Plan

Within forty-five (45) days of the EFFECTIVE DATE OF COMMENCEMENT OF THE CONTRACT, the CONTRACTOR shall provide for COMPANY's review and approval a copy of the MATERIALS Management Plan covering as a minimum:

- Materials Management (MM) Organization
- E2E approach to materials management
- Systems
- Interfaces into other systems and processes
- Inventory management including SUBCONTRACTOR managed inventory
- Lay-down area and temporary storage
- Warehouse sizing, location, management and staffing
- Warehousing and Preservation including Plan for flow of MATERIALS receiving, storing and dispatching and a Warehousing Plan
- Marking, tracking and packing
- Spare parts ordering and management, including method for ordering and tagging spare parts
- Freight Forwarding (including shipping, import and customs)
- Customs, expediting and logistics for all MATERIALS and equipment inbound and outbound
- Standardization
- SUBCONTRACTOR documentation management;
- SURPLUS MATERIALS management including sale process and documentation
- Long Lead Items (MATERIALS with delivery lead time from SUBCONTRACT execution to WORK SITE)
- List of Engineered MATERIALS Proposed for WORK SITE MATERIALS Tracking
- KPIs for tracking MM performance

13. Documentation

The CONTRACTOR shall ensure that procurement records are maintained and that a clear audit trail is evident. The CONTRACTOR shall be responsible for incorporating all vendor data into vendor dossier manuals and issuing to COMPANY upon COMPLETION.

The CONTRACTOR shall submit all procurement documents for COMPANY's review. COMPANY reserves the right to request copies of any document produced during the procurement phase. All vendor documentation shall show requisition number, equipment number and COMPANY document number.

Documents to be submitted for COMPANY review and retention shall include as a minimum the following:

- All materials and equipment requisitions;
- Requisition technical evaluations including a list of technical deviations from specifications;
- Spare parts and inter-changeability records (electronic copies in the E-SPIR 2000 format);
- Vendor data as defined in the Supplier Document Requirement List (SDRL);
- Inspection and expediting reports;
- Vendor requests for technical deviations from specifications;
- List of vendor documents not issued to COMPANY for review;
- A record of Final purchase order prices for all equipment and materials.

14. Requisitions

The CONTRACTOR shall prepare all required requisitions at a sufficient early date to ensure timely supply of materials, equipment and services taking into account the phased construction, commissioning and start up sequence.

The CONTRACTOR shall ensure sufficient contingency is ordered to cater for shortage, loss, pilferage, changes, as the availability of suitable additional materials on the local market is negligible.

15. Request for Quotation

All RFQs shall be prepared by the CONTRACTOR and shall be sent, complete with relevant documentation and specifications, directly to the selected number of vendors from the COMPANY Corporate List of Approved Vendors and Equipment, SPDC ES-M-T-001, Rev D2.

As part of the schedule, priced spare parts quotations shall be obtained together with the original equipment and materials quotation and shall include recommended parts normally required during commissioning, insurance (capital), two (2) year operations spares and any special tools. Spares quotations shall have a validity of one (1) year.

Vendors shall provide manpower rates for specialist site personnel including any mobilisation and demobilisation costs as part of their bid and to be included in the purchase orders for commissioning and start-up of the equipment in their supply scope.

The CONTRACTOR shall prepare RFQs for health care contracts to be priced as part of the equipment RFQs. COMPANY shall subsequently enter into a separate health care contract with the Vendors for the operations phase of the WORK.

The CONTRACTOR shall advise as part of the RFQs, the inspection requirements and inspection authority.

16. Expediting

The CONTRACTOR shall be responsible for all expediting requirements under the CONTRACT and shall appoint a dedicated expediting co-ordinator. Expediting responsibilities shall include as a minimum, the following:

- Co-ordination activities for desk and field expediting;
- Desk and field expediting for all materials/equipment;
- Expediting of internal documentation;
- Expediting of all vendor data/drawings;
- Compilation of all expediting reports.

Since "inspection" and "expediting" have different objectives, these functions shall be segregated from each other and no combined expediting/inspection visits to any vendor shall be made by the same person.

The CONTRACTOR shall immediately advise COMPANY of any significant delivery slippage of MATERIALS, spare parts lists and supporting documentation, and associated schedule impact, and remedial actions taken to mitigate the delay. The CONTRACTOR shall be responsible for all expediting activities from the inception of a requisition until all the MATERIALS, CONSTRUCTION EQUIPMENT (including all the associated documents) are received and punch list items (if any) are fully closed out.

The COMPANY shall, from time to time, carry out control visits/checks in order to ascertain that the CONTRACTOR has made early expediting visits to identify problems well in advance.

CONTRACTOR shall undertake every effort to clarify spare parts requirements by COMPANY from suppliers.

8.0 FABRICATION AND CONSTRUCTION

General

CONTRACTOR shall be responsible for all the fabrication, construction, installation and hook-up activities required to complete the WORK, including all freight, logistics and transportation required to move the materials, equipment and modules from the vendor works/fabrication yards and to final installation at the WORKSITE.

CONTRACTOR shall co-ordinate the effort of all SUBCONTRACTORS and shall ensure their activities are properly monitored and controlled in accordance with the relevant specifications. The CONTRACTOR shall be responsible for safe execution of all aspects of the job including SUBCONTRACTORS scope and provide adequate supervision for such scope.

CONTRACTOR shall be responsible for provision of all plant, tools, equipment, materials, consumables, labour and supervision required to construct, erect, hook-up, pre-commission and commission the WORK including any transport required by the CONTRACTOR's workforce. The CONTRACTOR shall perform the WORK diligently, competently, in a good and workmanlike manner and in accordance with this CONTRACT. In any instance where this CONTRACT does not mandate a specific standard, the WORK shall be in accordance with international construction industry standards.

The CONTRACTOR shall be responsible for preparation and execution of an appropriate and balanced Human Factors Construction plan, compliant with DEP 30.00.60.10-GEN.

All Construction activities and sequencing shall be such as to minimise the oil/gas production deferment and brown-field works. As such, shutdown and tie-in durations shall be for the minimum practical durations and shall be performed in line with the CONTRACTOR's Concurrent Operations Plan.

CONTRACTOR shall provide and deploy fit for purpose Habitats for hot works to be carried out in the live plant or work area classified as Hazardous Area on the COMPANY facilities so as to optimise on shutdown windows if required.

COMPANY has performed a preliminary Constructability Review to assure itself of the Constructability of the facilities. CONTRACTOR shall review this report to acquaint themselves with already identified constraints and take these into consideration while developing its Project Execution Plan. As a minimum, the mitigation measures for identified constraints form part of the Scope of Work.

1. Mobilisation and Demobilisation of Work Locations

The CONTRACTOR shall be responsible for the design, supply, installation, Pre-commissioning, commissioning and start-up, hook-up and maintenance of all temporary facilities, utilities and services required at the WORKSITE to enable it to perform the WORK. These shall include as a minimum the provision of the following facilities for the use of CONTRACTOR and COMPANY:

- Security and emergency evacuation infrastructure,
- Fully equipped construction offices,
- Site drawing office and document management facilities,
- Construction camp with recreation, messing and accommodation facilities,
- Medical and other emergency response facilities
- Telecommunications (voice and data),
- Power (including earthing and lightning protection and bonding)
- Transportation of personnel, equipment and other resources required for the WORK,

- Potable and industrial water supply,
- Sufficient construction equipment and materials required for the WORK including piling rigs and associated facilities/equipment and concrete batching plant,
- Maintenance workshops,
- Stores/warehouses,
- Pre-fabrication workshops and lay-down areas,
- Waste and sewerage disposal facilities,
- Test laboratory,
- Toilet facilities,
- Hygienic eating shelters for labour,
- Temporary power cable runs,
- HSE induction briefing room,
- Security posts,
- Meeting rooms.

The standards for the offices, messing and accommodation, medicals and telecommunications infrastructure are defined in Scope of work (Section V). The works shall be recorded on the approved quality check sheets and records kept.

The construction camp recreation facilities shall comprise as a minimum:

Indoors:

Internet room with 1PC for internet access and 55" TV (with cable network- DSTV Premium bouquet) and DVD room for 40 people; 1 table tennis tables, Chess, drafts, snooker boards, dart board, playing cards, and recreation bar

Gymnasium:

2 treadmills, 2 spinning cycles, 2 weigh bench, 10 skipping ropes and overhead bars.

CONTRACTOR shall accommodate its workers and COMPANY personnel on site. CONTRACTOR shall make arrangements for transportation to site for Local workers recruited by CONTRACTOR from local community. CONTRACTOR shall feed workers (including COMPANY personnel) being accommodated in the base camp. CONTRACTOR shall provide lunch at the restaurant for all workers engaged in the project at site.

Mobilisation of facilities for construction shall be considered complete when these facilities described above are in place.

The CONTRACTOR shall be responsible for installation and erection of any temporary facilities required for the safe execution of the WORK both at the fabrication yards and at the construction sites. These include as a minimum, weather protection, lightning protection systems, access roads and scaffolding. Scaffolding shall be erected in accordance with Scaffolding Erection Standard.

CONTRACTOR shall be responsible for all temporary access roads to suit the installation of all facilities. The roads shall be well-compacted granular material or similar to support the installation work. CONTRACTOR shall be responsible for the final installation methodology.

Demobilisation from the construction site shall include the removal of all construction facilities and waste materials from all WORKSITES and temporary sites and restoration of all temporary sites to their original state on COMPLETION of the WORK. It shall also include the restoration of all site access roads damaged as a result of the construction activities, to their original state.

2. CONTRACTOR Organisation

CONTRACTOR shall provide an on-site supervision team to ensure that the WORK is carried out and tested in accordance with the drawings, specifications and agreed procedures. CONTRACTOR shall provide a designated Construction Manager and site representative at each WORKSITE, who will be responsible for the day-to-day running of the construction WORKSITE and liaise with the COMPANY representative(s) on all HSE, Quality, scheduling, execution, control, inspection and testing, approvals, etc. CONTRACTOR's supervisory team shall be responsible for the progress and quality of the WORK carried out by the individual disciplines, which shall include as a minimum the following:

- Implementation of agreed construction and QA/QC procedures and associated inspection and test plans;
- Deployment of safe working practices as defined in the HSSE & SP Framework manual;
- Construction planning to reflect execution, completion and (pre-) commissioning;
- Maintenance of construction and testing documentation;
- Erection and operation of telecoms system to support construction
- Supervision of CONTRACTOR's personnel including any trade and/or qualification tests and maintenance of the records of such tests;
- Ensuring that all WORK is constructed in accordance with approved drawings and specifications at the correct revision including the checking of "as-built" drawings;
- Review, approval and implementation of any design modifications;
- Reporting and participation in progress meetings.

In addition to construction management the CONTRACTOR shall be responsible for the provision of any on-site engineering, procurement or other field services which may be required as a result of design changes or additional WORK.

The CONTRACTOR shall be responsible for:

- Ensuring that all CONTRACTOR personnel are fully qualified and competent to carry out the WORK, and that they are always adequately supervised. In addition, the CONTRACTOR shall ensure that all tests and qualifications required by the specifications and codes, e.g. welding, are satisfactorily performed and recorded;
- Provision of any on-site service, including the attendance of VENDOR representatives during the fabrication, construction, testing, pre-commissioning and commissioning and 90-day reliability run phases of the project;
- Implementation of preservation and maintenance of installed and stored materials and equipment prior to commissioning and until COMPLETION CERTIFICATE is issued.
- Provision of a completely "fitted out" facility, including all painting, insulation, installing of fire-fighting equipment, installing general equipment signs and installing safety signs and equipment;
- Provision of all furnishings and ancillary equipment for the temporary accommodation modules, restaurant, laundry, recreational facilities, offices, workshops, laboratories, fire station, storage areas (including humidity-controlled units for sensitive materials) and clinic.
- The collection and proper disposal of all waste materials/refuse from the various WORKSITES at regular intervals and before issue of a COMPLETION CERTIFICATE (as relevant), in accordance with the requirements of the EIA;
- Removal of all construction equipment, excess materials temporary structures from each WORKSITE prior to issue of a COMPLETION CERTIFICATE (as relevant);
- Performance of conformance checks and surveys on final installation and production of as-built specifications and drawings;

- Preparation of a fabrication and construction close out report as an input to the Project Close Out Report, highlighting successes, failures and learning points;
- Compliance with the Environmental Impact Assessment (EIA) to be issued by COMPANY.
- Develop Environmental Monitoring Plan (EMP) and submit monthly compliance report.

The CONTRACTOR shall be responsible for all COSTS associated with the provision of any on-site services, including the attendance of VENDOR representatives during the fabrication, construction, testing, pre-commissioning, commissioning, start-up and 90-day reliability run phase of the project;

All facilities within the CONTRACTOR's scope of WORK, including structural aspects, piping, equipment, instrumentation and electrical shall have protective coatings applied and paintwork touched-up, as specified in COMPANY standard construction specifications and design and engineering practices (DEPs) The CONTRACTOR shall be responsible for removing all redundant plant, facilities and materials from site prior to HANOVER.

The CONTRACTOR shall make good all damage to equipment, structures, finishes, etc, caused during the performance of the WORK.

The CONTRACTOR shall reinstate to its original state, any areas disturbed during the WORK including any temporary access ways, roads (public or otherwise), piping /cables, temporary bases, drains system, etc.

The CONTRACTOR shall clear and make good the construction/lay down areas at each WORKSITE within two months after the relevant COMPLETION DATE, in accordance with the requirements of the Environmental Impact Statement.

3. As-built Documentation

The CONTRACTOR shall compile an as-built dossier of the facilities for submission to COMPANY at HANOVER. The dossier shall contain all the facilities, construction, inspection, testing, certification, pre-commissioning, commissioning and survey records, including

- As-built drawings and documentation
- Compilation of welding and NDT reports, certificates, etc
- As-built drawings of cathodic protection system
- Compilation of test records and reports
- Mechanical completion dossiers including both "A" and "B" check sheets, sub system and system completion certificates.
- Compilation of pre-commissioning & commissioning records and reports
- Baseline survey reports
- Foundation soil settlement monitoring reports

4. Security and Safety

CONTRACTOR shall take all measures necessary to ensure the safety and security of all personnel, plant, equipment and materials from site mobilisation until the COMPLETION DATE of all the WORK, in accordance with CONTRACTOR's HSE and Security Plans and the requirements of Section VIII – HSSE & SP. CONTRACTOR's Security Provisions for the WORK shall include sufficient personnel, equipment, logistics and infrastructure which shall be in place to suit the Conditions prevalent in the Niger Delta and these shall be well articulated in the Security Plan which shall address such issues as:

- Provision of Adequate Security personnel including GSF to ensure protection and security of all work locations and all work activities
- Security Infrastructure at all works sites. Including secure fencing, guard/observation towers,

- sand bag protection
- Security for Transportation of personnel, equipment and materials
- Command responsibilities.
- Contingency plans for emergencies.
- Method of staff payments to minimise the handling of cash at the various Sites.
- Dedicated communication channels.
- Accident prevention, reporting and investigation.
- Security & Safety trainings.

CONTRACTOR shall establish facility boundaries, erect permanent security fencing and provide all necessary security personnel and requirements, as detailed in the CONTRACTOR's security plan, at each WORKSITE, prior to the receipt of materials or commencement of any part of the WORK.

WORKSITE entrances shall be minimised, and the location of such entrances shall be agreed with COMPANY.

CONTRACTOR shall designate one Site HSE personnel and one Security Officer who will be responsible for the day-to-day co-ordination with COMPANY representative(s) on all safety and security aspects of the WORK, and community unrest. Staff assigned to the various sites shall be provided with security awareness training during which inter-community issues shall be described.

All WORK shall be subject to a permit-to-work system, in line with COMPANY requirements. Details of the system required at various phases of the WORK shall be agreed with COMPANY but shall include completion of Job Hazard Analysis for all WORK, and detailed WORK method statements for each key non-routine activity.

As the various WORKSITES will have their electricity generators and distribution systems powered up, the need for strict safety procedures for operating and maintenance during construction activities shall be of particular importance. These activities shall be co-ordinated under the direct supervision of a competent electrical engineer. The CONTRACTOR shall demonstrate that his organisation and safety procedures fully address this aspect and comply with COMPANY's Electrical Safety Rules and the relevant DEP.

CONTRACTOR shall supply his employees, and his SUB-CONTRACTORS and VENDORS' employees with adequate personal protective clothing and other protective equipment which shall be maintained in good condition or replaced and shall be worn on all relevant occasions as indicated by notices, instructions and good practice. CONTRACTOR shall provide a minimum of 4 sets of COMPANY approved coverall/work vest and hard hat to each employee every year for the duration of the WORK.

CONTRACTOR shall be responsible for ensuring that all WORKSITES are kept clean and tidy and that all scrap materials and tools are removed from each WORKSITE on completion of the WORK. For the purposes of maintaining a clean and tidy worksite, the CONTRACTOR shall employ a dedicated housekeeping team under suitable supervision and equip them with the tools and equipment including colour coded waste bins for segregating waste. Contractor shall provide adequate number of portable toilet facilities within the construction area in each location for use by the workforce. The number of toilets shall be in accordance with DEP 34.17.00.32-Gen (Section7.2.3), DEP 34.17.10.34-Gen (page 23) and Accommodation & Welfare Guide (page 107). There will be sufficient numbers of the housekeeping workers and supervisors to cover all the WORKSITES.

CONTRACTOR shall as a minimum provide a clinic at the Construction base camp and adequate medical emergency response facility such as retainer's clinic, ambulance, first aid boxes, defibrillators etc and adequate trained personnel in line with the COMPANY standards.

Free access by all persons on the various sites to all fire extinguishing and safety equipment must be maintained always.

4.1 Warning Signs and Symbols

For promoting HSE on the project and increasing the drive towards achieving Goal Zero it is intended to make use of posters, signs, symbols, etc to pictorially convey HSE messages to workers on the project. CONTRACTOR shall provide posters, stickers, or signs that depict the various hazards identified on site and within the scope of work.

Posters/stickers shall be pasted on all bulk materials and equipment to warn workers of the hazards associated with transportation, handling and installation of such materials and equipment. Posters shall also be pasted on any other equipment or materials and at various locations around the WORKSITES as may be directed by COMPANY. The posters/stickers shall also provide direction on how the hazards can be avoided. Posters/stickers shall be pasted on equipment and tools used to conduct high risk activities to warn the operators and workers of job-related hazards and provide directive on the correct work procedures.

The stickers shall be weather resistant and shall contain pictorial information with minimal use of words and shall be designed to attract the attention. Signal words such as DANGER, WARNING and CAUTION can be used. The posters shall be of A4 and A3 sizes but must be legible and readable from the position of any person with the highest potential of exposure to the hazard which the sticker is meant to warn against. Where symbols and signs are to be used on posters, they shall be designed to meet the requirements set out in ISO 3864 and ANSI Z535.3.

Notwithstanding the requirements set out in ISO 3864 and ANSI Z535.3, CONTRACTOR shall develop posters or stickers to convey HSE messages using pictorial illustrations where necessary.

5. Fabrication and Construction Work

5.1 Workface Planning

CONTRACTOR will develop/define as part of the construction execution planning effort the construction sequence and captured in the Construction Execution Plan under CONTRACT Section XIV – EXECUTION PLAN. The construction sequence is generally known as the Path of Construction. The Path of Construction is the optimal sequence of construction activities that will yield the safest, most efficient, and lowest cost in construction execution.

CONTRACTOR will reflect any updates in the construction sequence in the engineering and procurement schedule.

CONTRACTOR will include in the updates any revised quantities to be constructed, updated construction productivities, updated durations, updated manpower loading per area, updated planned arrival dates at site of pre-fabricated assemblies (i.e., pipe spools, modules, engineered equipment) and any updates to Commissioning and Start Up schedule.

5.2 Civil/Structural Work

The CONTRACTOR shall be responsible for all civil, structural, geotechnical and infrastructural activities related to the WORK, which shall include as a minimum the following:

- Site surveys, underground facilities probing, topographic and geotechnical investigation;

- Site preparation, sand filling, earthworks and dewatering systems (well-point dewatering pumps, etc) to ensure expeditious progress of site works;
- Temporary fabrication /paint shops;
- All structural steelwork for equipment modules, plant support structures, pipe racks; shelters etc.
- Installed deep and shallow foundations for equipment and packages (lighting poles, transformers, F&G devices);
- Conduct pile load test, deep foundation testing;
- Roads, pavings (flexible and rigid);
- Concrete, reinforcement steel and materials testing
- Site drainage and storm water channels (and covers where required);
- Security fencing and gates;
- Excavation for cables and piping
- Passive fire protection
- Weather protection shed/rest area
- Overbridge

CONTRACTOR shall develop for COMPANY review, all necessary detailed work method procedures to perform the WORK.

5.3 Piping and Mechanical Fabrication, Site Erection and Hook-up

The CONTRACTOR shall be responsible for all yard fabrication, site erection and hook-up of all mechanical and piping facilities to complete the WORK. The WORK shall include as a minimum the following:

- Fabrication and assembly of all packages/modules;
- Installation of all packages, modules and individual equipment items on prepared foundations;
- Pre-fabrication and hook-up of all interconnecting pipework, including fitting and support, and installation on pipe-racks and requisite bolt tensioning;
- Interconnection of all ancillary services such as flares, drains, etc;
- Tie-ins, where required to existing systems/equipment;
- Complete QA/QC approved inspection and testing of all mechanical and piping systems including blowing of and cleaning of completed or sectional lines;
- Fabrication and installation of pipe supports, pipe racks, supporting structures, etc;
- Painting;
- Protection/preservation of equipment from time of installation at site to time of commissioning;
- Dimensional checking;
- Hydro-testing, pneumatic testing and nitrogen leak testing of completed piping systems;
- Calibration and certification of all test equipment, lifting equipment, hooks, slings and shackles, hoses, power cables, etc.
- Provision of a fit for purpose Habitat for hot work in the live plant or area designated as hazardous.
- CONTRACTOR shall develop for COMPANY review, its own detailed construction and installation strategy/procedures to perform the WORK. This shall also include the hydro-testing strategy and procedure.
- Preparation of all As-Built documentations.

5.4 Electrical Installation and Hook-up

The CONTRACTOR shall be responsible for all the construction, installation, hook-up, integration, testing and commissioning of the electrical WORK at the WORKSITE. All electrical installation works shall be executed in accordance with the COMPANY Electrical Safety Rules. Temporary Electrical Specifications, Procurement and Installations shall be treated in the same way as Permanent Electrical Installations. CONTRACTOR shall be responsible for the provision, operation and maintenance of all temporary power equipment, installations and consumables.

The scope to be performed for the PERMANENT WORKS and for the temporary installations required at the WORKSITE shall include as a minimum, the following:

Installation, erection, hook-up, and testing of all electrical equipment forming part of the WORK, including:

- Equipping of empty cubicles on CPF remote LV Substation
- Modification of existing Glycol FAR LV Switchboard
- Perimeter, in-plot, platform, equipment shelter lighting
- Lightning protection, earthing system & bonding
- All HV, LV power, control, earth, communication cabling
- Dual Channel transformer rectifiers and hook-up to Well Head Control Panels
- All electrical equipment including cables, lighting fixtures and fittings, poles, brackets, earthing, bonding and lightning protection systems,
- Cable trays, ladders, and supports in accordance with specifications.
- Materials - cables (power, earth, control), junction boxes, glands, lugs, earth bosses etc. required for all the installation & commissioning works.
- Earthing and Bonding, earthing rings/ grids extension, earthing pits/chambers and integration to existing plant earth grid
- Cathodic protection systems for on-plot underground piping
- All interfaces with existing electrical facilities
- Installation, hook-up, and testing of all, Motor operated valves,
- All electrical equipment, including all certified electrical equipment, area lighting, Remote control units, perimeter fence lighting, floodlighting, normal and emergency plant lighting for all the areas including photocell controls and manual controls. gears,
- Installation, connection and testing of Earth electrodes, earthing ground-beds, system earthing, including bonding of all electrical equipment, skids, fences and all metallic structures;
- Above ground and underground power, control, earth, communication cables, together with the associated ducting, cable tray work, conduits, glands, fire barriers, and including:
 - i. cable transits, accessories and protective ducts/sleeves;
 - ii. Laying, glanding, termination, jointing, connection and identification of all cables and equipment;
 - iii. Preparation, verification and execution of instructions contained in equipment test sheets for the purposes of pre-commissioning the various components of the installations.
 - iv. Cable identification using cable tags (stainless type), reinforced concrete tiles, cable route markers and joint identifiers.
- Provision of manufacturer's recommended test equipment and work tools for all electrical system operation and maintenance;
- Preparation of operating procedures for all components and equipment.
- Preparation of method statements for all electrical installations.

- Preparation of Temporary Power Management Procedures.
- Preparation of all As-Built documentations.

All temporary power supplies shall comply with the DEP requirements and in particular, hand tools shall be Double or reinforced insulation equipment, Class 2 of IEC 61140 and IEC 60364, connected to the mains via a 30 mA RCCB, protecting both the supply cord and the equipment. All distribution boards for the site use in the construction phase shall be equipped with socket feeders protected with 30mA RCCBs. All sockets and plugs shall be industrial weather-proof type. Extension cords shall not be longer than fifty metres from the Junction boxes or Distribution Boards.

CONTRACTOR shall be responsible for providing, operating and maintaining all temporary power generation and distribution equipment including fuelling of the generators.

CONTRACTOR shall note that all equipment in use shall be new from approved manufacturers and all cables in use shall be of continuous length.

CONTRACTOR shall submit all soft copies including Power Systems Studies Modelling to COMPANY.

CONTRACTOR shall ensure that electrical testing equipment is calibrated, and a log is kept for ease of tracking.

5.5 Instrument Installation, Hook-up and Calibration

CONTRACTOR shall be responsible for the installation, hook-up, calibration and testing of all field devices and instrumentation at the WORK, including as a minimum:

- Installation, configuration, hook-up and testing of control and automation systems and equipment (instrument cabinets, panels FAR, panels, etc.);
- Configuration, calibration, installation and testing of all field devices and valves, including those supplied on packages and modules, irrespective of such work having been performed at the vendors' works;
- Installation, glanding, termination, connection and testing of all cable work;
- Cold setting, testing and certification of all Relief Valves no more than 60 days before placement in service.
- Installation and testing of all pneumatic, electrical and hydraulic connections;
- Installation of all instrument air supply lines, impulse lines and sample transport lines including the installation and coating of any supports and ducting;
- Provision of all labels, tags and identifiers.

CONTRACTOR shall develop for COMPANY review, all necessary detailed installation procedures to perform the WORK, including identification of calibrated and tested equipment as work proceeds.

8.5.5.1 FIELD INSTRUMENTS

As part of the WORK, individual field wiring, field junction boxes shall be installed, pre-commissioned and commissioned for the process control system (PAS), safeguarding system (SIS), fire & gas system (F&G) and package by the CONTRACTOR.

Field instruments such as transmitters and gauges should generally be mounted locally, i.e. directly onto piping flanges by means of mono-block assembly, in accordance with DEP 32.37.10.11-Gen - Installation of On-line instruments and DEP 32.37.20.10-Gen - Instrument signal lines The I/Os of the F&G from field devices shall include all devices involved in the detection of fire and gas. These shall

include, but are not limited to Fire, Smoke, Flame and Gas detectors including Manual call stations, sounders and beacons.

All plant instruments and measuring elements shall be installed in locations and ways that will make them accessible for maintenance purposes.

CONTRACTOR shall provide all stanchions and instrument shades required for installation of field instruments.

8.5.5.2 INSTRUMENT CABLING

CONTRACTOR shall be responsible for the laying and connection of all instrument cables to their destination terminal boards/junction boxes / marshalling cabinets including cable marking, for skid and non-skid equipment where applicable. CONTRACTOR shall carry out the following;

- Cables shall be routed on cable trays as much as possible or by the side of the gratings vertically where applicable and on the surface where necessary. All cable trays shall be covered and they shall be perforated. The routing shall be done in accordance to but not limited to the instrument cable routing layouts
- IR and continuity tests on all instrument cables
- Cable terminations in the marshalling cabinets, systems cabinet and logic solvers shall be done under the supervision or assistance of the control and automation Vendor.
- installation and termination of all communication cables in the FAR
- installation of cable glands/shrouds and to ensure ingress protection is installed between the interface of the gland termination points and junction boxes etc;
- Interconnection cables of the various subsystems (skids and non-skids) to the control centre shall also be done under the supervision or assistance of the control and automation Vendor.
- Terminate the cables of the field instruments to their respective junction boxes as shown in the instrument cable routing layout.
- Installation of instrument junction boxes and junction boxes support.
- Installation of instrument earth system and connecting to the earth.
- Installation of field instruments supports, shades/canopies and foundation.
- Installation of cable trays, cable glands, cable trays, cable core markers, cable slabs, cable route markers.
- Excavation and backfilling of cable trenches

8.5.5.3 FIRE AND GAS DEVICES

CONTRACTOR shall be responsible for the installation of all fire and gas detection devices and panels including portable detection devices on this Project. The CONTRACTOR's WORKS shall include as a minimum the following:

- Inspect all fire and gas detectors and devices for damage during the transportation and submit an inspection report
- Test and set/calibrate the flammable limits of all the fire and gas detectors and submit a testing and calibration/setting report
- The fire and gas detectors shall be installed in accordance with the approved AFC Fire and Gas Layout diagrams and mapping studies report.
- CONTRACTOR shall terminate the cables of the fire and gas detectors to their respective junction boxes.
- Fire and Gas cable terminations in the marshalling cabinet and the F&GS/SIS Logic solver shall be done by the CONTRACTOR under the supervision or assistance of the control and automation Vendor.

- Fire and Gas detectors should be mounted at the same elevation as the potential source of leakage. In general, gas sensors should not be mounted less than one metre above grade or ground level to avoid damage by ingress of splash water
- The CONTRACTOR shall install open-path gas detectors to a maximum path length of 30-60 metres
- The detectors must be mounted on substantial and rigid supports that do not vibrate to ensure consistent alignment
- Installation of Pushbuttons and Manual Call Points in the facility.

8.5.5.4 EARTHING AND SURGE PROTECTION

CONTRACTOR shall supply, install and connect adequate earthing and surge protection system for all field instrument devices and equipment, marshalling cabinets, system cabinet, HMI workstations, instrument stands, Junction Boxes, and panels. All installations shall be tested and commissioned by CONTRACTOR to the satisfaction of COMPANY. The earthing philosophy shall comply with the existing Gbaran CPF Plant earthing philosophy.

CONTRACTOR shall provide adequate earthing and surge protection system on all buildings and temporary structures to be erected during construction.

5.6 Detailed Installation and Hook-up Procedures

CONTRACTOR shall prepare and submit to COMPANY for review, all necessary detailed installation procedures, and Inspection and Test Plan to perform the WORK, including as a minimum, the following:

- Detailed and comprehensive method statements, Job Hazard Analyses, Lifting Plans, etc. describing how it proposes to execute all of the WORK (e.g. civil, process, mechanical, piping, electrical, instrumentation, telecoms, etc.)
- Procedure for all necessary site preparation, clearances and civil works necessary for each equipment foundation, including pipe rack foundation.
- Procedure for identification of calibrated, tested and pre-commissioned equipment as WORK proceeds.
- Procedure for site preparation, including handling, storage/stockpiling of excavated materials.
- Procedure for keeping natural water courses free from blockage during and after construction.
- Procedure for transportation to site (land / marine transportation).
- Procedure for laying all cables including Fibre Optic Cables, power cables and control cables.
- Cable installation and termination procedure
- Cable Splicing and jointing procedure
- Lock-out and tag-out procedures (LOTO)
- Procedure for management of temporary power supply and equipment.
- Procedure for equipment and material preservation.
- Inspection and testing procedures.
- Lowering-in, backfilling and site reinstatement.
- Procedure for road crossings.
- Welding procedures (including weld repair) and QA/QC process requirements.
- Welder qualification procedure.
- NDT Procedures
- Procedure for filling, gauging and hydrostatic testing.

- Procedure for de-watering, drying, preservation of the piping.
- Procedure for cathodic protection installation.
- Site reinstatement procedures.
- Number of welding spread, number of joints per day and effect on project timescale.
- Weld inspection methodology including defect tracking and analysis tending, resources, film processing facilities, interpretation and logistics.
- Procedure for the tie-ins for utilities, Fibre Optic Cable and piping in the CPF area, including concurrent operations.
- Piping salvaging and removal to a COMPANY appointed Site procedure.

The CONTRACTOR shall order sufficient quantities of Corrosion Resistant Alloy (CRA) piping materials well in advance of the start of fabrication / construction in Nigeria in order to permit timely local welder selection, training and qualification and welding procedure qualification. All welding activities shall be performed in accordance with applicable DEPs and specifications. For the manufacture and welding of all piping materials the CONTRACTOR shall use the applicable specifications. Refer to Section VII - Administration Instructions and Project Controls, for further quality requirements during the welding process. In addition, all materials shall be fully traceable: the CONTRACTOR shall implement a control system which will ensure that all materials (including Carbon Steel and CRA pipes) can be traced from the installed equipment back to the original mill/foundry materials certificates and vice versa. The CONTRACTOR shall provide segregated and dedicated storage for the CRA materials.

6. Mechanical Handling

6.1

6.2 General

Handling of equipment within the area involved with the project shall be carried out with minimum disruption to production and operational activities, and without compromising personnel safety. CONTRACTOR shall carry out detailed mechanical handling study and issue an updated report and refer to the Layout Review Report and shall close out/develop further the issues raised therein in an updated report. Adequate access to equipment shall be provided for maintenance and component replacement, along with designated transportation routes to dedicated lay-down areas.

6.3 Lifting Facilities for Installation, Commissioning and Maintenance

Lifting facilities for installation, commissioning and maintenance shall be in accordance with DEP 30.00.60.18-Gen- Human factors engineering - design and procurement of skid-packaged units, DEP 31.25.00.10-Hoisting facilities and weather protection for rotating equipment, EP 2005-0264 (Manage Logistics – Lifting and Hoisting HSE), and EP 95-0270 document on General Workplace Practices.

All equipment and associated accessories for lifting must be inspected, certified fit and colour coded by COMPANY approved Inspectors (List of Inspectors to be made available by COMPANY)

All lifting activities must be accompanied by Lifting plan with approval from COMPANY before commencement.

All personnel involved in lifting and hoisting must be competent and must possess certificates issued by training schools or institutes that comply with the Nigerian factories Act Section 23, 24 and ISO15513 demonstrable by an accreditation with any of the industry recognized governing bodies or trade association like OPITO, IADC or other equivalent.

6.4 Mechanical Handling Assessment Procedure

Mechanical handling requirements and details of individual component handling shall be determined by the CONTRACTOR. Thus, the CONTRACTOR shall:

- Identify and assess the mechanical handling activities for the equipment involved in the project's scope of work.
- Ensure the safety of personnel, plant and equipment during any handling process.
- Ensure compliance with COMPANY's HSE Golden Rules and 12 Life Saving Rules.
- Determine mechanical handling requirements that are in line with the operating and maintenance philosophy of the equipment and the entire plant.
- A detailed procedure shall be prepared covering methods and procedures for dismantling, removal and assembly of equipment and component parts.
- Access requirements, weights, dimensions, etc, shall be fully documented.

6.5 Maintenance and Lay-down Areas

CONTRACTOR shall provide adequately covered lay down spaces for major repairs and overhauls that will be carried out on site. CONTRACTOR shall ensure good accessibility to all parts of the equipment for maintenance/removal purposes in order to eliminate unnecessary handling operations required to gain access to the components. Locations for lay-down areas and safe working loads shall be identified by the CONTRACTOR and shown on the relevant equipment layout drawings.

Other requirements are:

- Equipment shall be laid out such that clear accesses, with defined escape routes are provided for operating and maintenance personnel
- Emergency escape routes shall be considered
- All valves and field instrumentation e.g. gauges, level indicators etc. shall be easily and safely accessible.
- Suitably enclosed and equipped workshops are required for carrying out minor/major on-site equipment repair and instrument calibration
- Isolation and de-isolation procedure shall be adhered to before the execution of major maintenance tasks for the equipment installed.
- Positive isolation for hydrocarbon service of ANSI Class 600 and below must be ensured by the use of leak tight valve and spectacle blind. Double block and bleed valve arrangement (with spade/blind) shall be used to ensure positive isolation for hydrocarbon service of ANSI Class 900 and above.
- Equipment that requires working at height shall have top working platform with access ladder to facilitate easy access for maintenance/inspection activities

6.6 Maximum Package Sizes

Guidelines for package limit sizes for land transportation shall be as contained in the latest revision of the Standard Specification for Packaged Equipment SPDC-ES/MR/T/004

6.7 Handling during Installation

The mechanical handling during installation of all equipment and ancillaries shall be in full compliance with the subsections 19.10, 19.11 and 19.12 of SPDC-2006-04-00000025-Standard Construction Specification-Section 19 (Mechanical equipment). Equipment shall be installed and inspected in

accordance with DEP 61.10.08.11-Gen (Field inspection prior to commissioning of mechanical equipment).

6.8 Access to Site by OTHER COMPANY CONTRACTORS

CONTRACTOR shall grant access into the WORKSITES (through their own security and access management systems) to the essential personnel of COMPANY, its Agents and any Contractor working for COMPANY, in fulfilment of the requirements for the WORK. A joint concurrent activities plan shall be agreed between the CONTRACTOR and all other Contractors for all activities potentially to be conducted in the same work location.

6.9 Permit to Work

CONTRACTOR shall use an integrated permit-to-work system based on the COMPANY Permit to Work (PTW) system, to ensure safety at Worksites during concurrent work in the same location.

CONTRACTOR shall follow the PTW system for management of construction activities within a 6 km radius of the CPF, and within 15 m radius of any pipeline crossing. Where the PTW is applicable, CONTRACTOR shall consider the time required to process the PTW application and ensure that work commences promptly daily. CONTRACTOR shall nominate personnel for training on COMPANY PTW and appoint them for PTW administration thereafter.

6.10 Tie-in and Terminations

The Gbaran Gas Plant Location is a live facility. Consequently, the applicable brown field requirement shall apply. CONTRACTOR shall execute all tie-in's associated with the WORK.

CONTRACTOR shall verify and identify tie-in points and existing pipe-racks to be used for tie-ins as part of detailed engineering design of the WORK to ensure that the suitable tie-in points feasible for the existing facilities have been considered appropriately in the detailed design. CONTRACTOR shall make provision for any other suitable tie-in points not identified at FEED during CONTRACTOR's detailed engineering design.

CONTRACTOR shall plan the tie-in WORKS that require plant shutdown to coincide with the plant's planned shutdown window. CONTRACTOR shall provide all the materials required for tie-in's or termination (example gaskets, bolts, nuts, blind flanges termination kits, lugs, glands, cleats), and for the testing of the tie-in /termination points for integrity. CONTRACTOR shall be responsible for establishing the necessary interface with the COMPANY Operations team at Gbaran CPF for the purposes of planning and executing the tie-in works.

In the event that CONTRACTOR completes all the WORK necessary for tie-in before the plant's planned shut-down window, CONTRACTOR shall install the valve(s) on the flanges at the battery limits (to be provided by CONTRACTOR) and blind off (all materials to be provided by CONTRACTOR). In any event, CONTRACTOR will carry out the final tie-in's at no additional cost to COMPANY.

6.11 Concurrent Operations

Construction activities shall be carried out concurrently with production operations. CONTRACTOR shall develop Concurrent Operations Plan for COMPANY review, in accordance with the Guideline for Concurrent Operation Plan (Appendix 8.2- Guidelines for Concurrent Operation Plan), and COMPANY Manual of Permitted Operations in Section X – Technical Information.

9.0 INSPECTION AND TESTING

General

CONTRACTOR shall perform all tests and inspections necessary to determine that the WORK meets the requirements of this CONTRACT and shall make the test and Inspection reports available to COMPANY. This shall include as a minimum:

- Provision of a team of discipline qualified quality control personnel;
- Inspection and verification of all materials including receipt inspection and storage;
- Surveillance of manufacturing and fabrication;
- Ensuring that all inspection and tests are carried out and documented in accordance with the project specifications;
- Ensuring that all testing equipment is set up and calibrated in accordance with specification requirements;
- Ensuring that any re-work is carried out in a satisfactory manner and re-inspected.
- Ensuring that all completed work is released to site only after all Inspections and Tests have been completed to COMPANY satisfaction, including proper packaging, protection and preservation for shipment

1. Inspection and Testing Plans (ITPs)

The CONTRACTOR shall prepare and submit Inspection and Testing Plans (ITPs) to COMPANY for review and approval, within thirty (30) days of the EFFECTIVE DATE of COMMENCEMENT of the CONTRACT covering:

- Detailed Design and Procurement
- Vendor procurement works (critical items)
- Construction work procedure and associated test plans

The CONTRACTOR shall prepare and submit Inspection and Testing Plans (ITPs) to COMPANY for review and approval, minimum sixty (60) days prior to the COMMENCEMENT OF WORKS, covering but not limited to:

- Materials and Equipment Receipt and Inspection at fabrication yard;
- Construction and Installation works at fabrication yard (by discipline)
- Systems Turnover and Testing works at fabrication yard;
- Pre-Commissioning works at fabrication yard;
- Preservation, Sea Fastening and Transport of equipment to site;
- Construction and Installation works at WORKSITE (by discipline);
- Pile installation and Integrity including pile load testing.
- Concrete works
- Structural steel works
- Systems Turnover and Testing works at WORKSITE;
- Pre-Commissioning works at WORKSITE;
- Commissioning works at WORKSITE.
- Welding procedures qualification review and testing;
- Welder qualification testing programme;
- Fabrication works;
- Surface finishing and painting;
- Fire proofing;
- Static and rotating installations;

- Pressure testing;
- Electrical, telecoms and instrumentation;
- Cathodic protection;

The Inspection and Test Plan for all materials (line pipes, fittings and forgings, etc) for both new items and stock items shall reflect the requirement for material inspection certificate 3.2 as per BS EN 10204:2004.

The ITPs shall include detailed inspection activities, inspection frequency, inspection method, relevant codes references, acceptance criteria, pro-forma, hold and witness points for both CONTRACTOR and COMPANY

The CONTRACTOR shall carry out all activities in accordance with the ITPs and shall ensure that all phases of the WORK are satisfactorily inspected and tested and that appropriate COMPANY approvals are obtained on the relevant documentation.

All inspection and testing work, including inspection and testing at any vendor works, shall be subject to witnessing and approval by COMPANY. Thirty (30) days prior written notice shall be given to COMPANY to allow initial pre-inspection meeting attendance. Thereafter, thirty (30) and ten (10) days' notice for COMPANY Hold and Witness point's attendance respectively.

The ITPs shall follow the guidelines specified in DEP 82.00.10.10-GEN Project Quality Assurance Appendix L

2. Inspection and Testing Requirements

Equipment and package testing requirements are defined within the package specifications and the data sheets. CONTRACTOR shall review the recommended tests and propose any additional tests that will be required to achieve the minimum site commissioning objective.

CONTRACTOR shall ensure that formal inspection and testing plans covering all items of equipment, packages and construction activities are established and agreed with COMPANY.

The CONTRACTOR shall be responsible for providing adequate workshops, testing facilities and equipment to enable it to complete the WORK, including radiography, other NDT methods and instrument calibration and testing. The CONTRACTOR shall provide safe storage for all radioactive isotopes, which must comply with Nigerian government regulations and the NNRA will be required to certify the storage facilities if located at the work site.

CONTRACTOR shall ensure that all plant and equipment is tested and pre-commissioned in complete packages and systems at manufacturing facility prior to shipment. CONTRACTOR shall carry out all functional testing of complete modules at the WORKSITE, in line with the requirements of the project specifications, such that site testing is minimised to the fullest extent and correct functioning of complete systems can be guaranteed.

Where it is impossible to ship out complete systems, testing at fabrication yards/vendor's yard shall be such that high confidence is achieved to minimise on-site verification.

Inspection and testing of mechanical/electrical equipment and packages carried out at vendor's works shall be subject to witnessing by the CONTRACTOR, COMPANY and the certifying authority as required in the specifications and DEPs, in accordance with the CONTRACTOR's approved Inspection and Test Plan.

3. Factory Acceptance Testing (FAT) and Site Acceptance Test (SAT)

The under listed critical items require Factory Acceptance Testing:

- Process Automation Systems, Safety Instrumented Systems, Fire and Gas Detection System;
- TEG Packages, Electrical, Telecoms and instrument cables
- Safety critical equipment such as “shut off valves” etc.

SATs shall be carried out for all site integration activities, hardware and software modifications.

CONTRACTOR shall revalidate this list and propose to COMPANY, any other systems or equipment with a requirement for FAT/SAT in CONTRACTOR's Inspection and Test Plans.

The CONTRACTOR shall prepare and submit a full FAT schedule and shall notify COMPANY in writing seventy five (75) in advance prior to any FAT being carried out at vendor works.

4. Weld Inspection

All welding shall be in accordance with the requirements of the COMPANY DEPs 30.10.60.18 Welding of metals (amendments/supplements to API RP 582) and DEP 31.38.01.31 Shop and field fabrication of piping.

The CONTRACTOR shall develop a Welding Consumable Control Procedure and submit to COMPANY for review and approval, thirty (30) working days after the EFFECTIVE DATE OF COMMENCEMENT OF THE CONTRACT or prior to commencement of any production welding activities whichever comes first. The procedure shall, as a minimum, define control aspects associated with receipt and inspection, baking and re-baking, storage and environment, issue and traceability of all welding consumables.

The CONTRACTOR shall maintain a register detailing the amount of production pipe butt welds per welder and shall ensure that any percentage radiography is adequately allocated across the welding procedures and the welder resource pool in order to verify the quality output of welders.

The CONTRACTOR shall maintain a register that defines the current weekly and cumulative pipe butt weld and structural welding repair rates per welder and the overall cumulative project weld repair rate and shall submit to COMPANY on a weekly basis. The CONTRACTOR shall make both of these registers available, at site, for COMPANY review when requested. The CONTRACTOR shall trend all weld defects to ensure adequate controls are in place to avoid recurring defects.

All NDT shall be implemented in accordance with the requirements of the COMPANY GROUP DEP 30.55.03.31-Gen NDT vendor capability assessment for fabrication inspection.

Inspection Classes for Piping:

All piping WELD inspection shall be carried out in accordance with DEP 30.10.02.31, DEP 30.10.60.18, 31.38.01.31-GEN Appendix 4 (INSPECTION CLASSES FOR PIPING) Table 4.1 and Table 4.2, DEP 74.00.10.10, ASME B31.3 Code and COMPANY Construction specifications.

Pressure testing of piping systems shall be in accordance with DEP 74.00.10.10 and the codes referenced within the DEP specification.

Inspection Classes for vessels:

All vessel WELD inspection shall be based on DEP 31.22.10.32

4.1 Submission of Radiograph

The CONTRACTOR shall submit all radiographs for viewing and approval by COMPANY. In addition, the CONTRACTOR shall provide COMPANY with external hard drives containing digitised images of all radiographs. The method of digitisation and stored image quality shall be approved by COMPANY.

If ultrasonic inspection is to be used in lieu of radiography of pressure equipment including both piping and vessels, the DEP 31.22.00.12 “UT in Lieu of RT for code construction of pressure equipment” must be strictly adhered to. (This applies for all UT techniques including Phased Array technique)

All other NDE inspection techniques such as magnetic particle (MT), Dye penetrant (PT) shall be applied in accordance with DEP 31.38.01.31 GEN.

4.2 Positive Material Identification (PMI)

The CONTRACTOR shall develop and submit to COMPANY for review, a material verification program for duplex and super duplex as well as austenitic stainless steel components and welding consumables, thirty (30) working days after the EFFECTIVE DATE OF COMMENCEMENT OF CONTRACT. This program shall be in accordance with the requirements of DEP 30.10.00.10-GEN Positive Material Identification (PMI) program. As a minimum the program shall include a description of the positive material identification (PMI) methods, physical component marking and program record keeping. PMI equipment to be used shall be either portable optical spectrometer or portable X-ray fluorescence spectrometer type. In addition, the level of PMI testing shall be as per table 1 of the above referenced DEP, see examples as follows:

- Receipt inspection: 10% of all items, but at least one from each heat number, as identified from the material certification. For welding consumables this shall be one electrode or wire sample from each lot or package of alloy weld rod.
- Installed pipework: 20% of all items and welds, as identified by COMPANY. This may be reduced to 10% with the agreement of COMPANY on demonstration of proper material control.
- The timing of the PMI checks shall be that materials are captured during fabrication at supplier/vendor location, delivery to site during receipt inspection and during assembly at site.

5. Additional Testing

Should COMPANY request material and equipment tests, in addition to those required by the CONTRACT, the CONTRACTOR shall be advised allowing sufficient time to permit the preparation of test specimens during manufacture, fabrication, and construction. Unless otherwise provided, such additional tests shall be in accordance with the requirements of the applicable codes and shall be carried out by COMPANY approved organisations. As a rule, the COMPANY will perform 5% hand on verification checks on selected components.

The type and number of additional testing, including witness requirements, in addition to those required hereunder, shall be determined solely by COMPANY. The CONTRACTOR shall be notified of and may be represented at all such tests. The actual costs of such additional testing shall be reimbursed to the CONTRACTOR by COMPANY in line with Section IV - Schedule of Prices. A provisional sum for these additional testing shall be allowed for in Section IV - Schedule of Prices. The expenses of the CONTRACTOR's representatives at these additional testing, if any, shall be borne by the CONTRACTOR. All the provisions contained in this Article shall be extended to cover

SUBCONTRACTORS and vendors employed or retained by the CONTRACTOR. The CONTRACTOR shall be responsible for informing its SUBCONTRACTORS and vendors of these requirements.

If the CONTRACTOR completes all or any portion of the WORK prior to inspection or testing by COMPANY, the cost of any necessary dismantling to allow the missed inspection plus re-work to re-assemble shall be borne by the CONTRACTOR unless there is a written waiver from COMPANY.

DRAFT

10.0 PRE-COMMISSIONING, COMMISSIONING AND START-UP

1. Introduction

This chapter defines COMPANY requirements for the organization, preparation and execution of pre-commissioning, commissioning and start-up activities necessary to clean, inspect, test and inert: CPF Upgrade Scope in preparation to receive NAG fluids from the wells from Zarama 15 (Uzu 1), Zarama 8-11 (Uzu 2) and Oil from Zarama 8-11 locations.

Commissioning and Start-up is a COMPANY led activity. However, the CONTRACTOR under the supervision of the COMPANY shall be fully responsible for the pre-commissioning and commissioning Integrated Production System of the CPF Upgrade scope.

CONTRACTOR shall be responsible for all mechanical completion, pre-commissioning and commissioning activities necessary to bring the entire facility to the point of “Ready for Start-Up” (RFSU), i.e. ready for the introduction of hydrocarbon through the 90-day reliability run.

At the point of RFSU, start-up (introduction of hydrocarbon) of the facility shall be led by the COMPANY (with support from CONTRACTOR), who shall be responsible for the introduction of hydrocarbons into the facilities, and for continuous operation of the facility.

CONTRACTOR shall retain care and custody of the facilities, until the end of the 90-day reliability run under the supervision of COMPANY.

To facilitate a smooth handover of the facility to COMPANY, commissioning activities will be prepared by the CONTRACTOR and executed by an integrated commissioning team led by COMPANY.

CONTRACTOR shall follow the Flawless Start-Up Guidelines and the Operations Readiness Assurance process, to facilitate safe, right first-time start-up.

CONTRACTOR shall provide COMPANY with technical support, labour, materials, test equipment, tools, schedules and detailed procedures required for start-up, i.e. from the introduction of hydrocarbons to the end of the ninety (90) days reliability run.

At all times from Mechanical Completion to the end of the ninety (90) day reliability run, the CONTRACTOR shall retain responsibility for the performance and technical integrity of the facilities. CONTRACTOR shall be responsible for demonstrating that the facilities have satisfactorily passed the seventy-two (72) hour performance test, followed by the ninety (90) day reliability run in accordance with guarantees.

From Construction to 90-day reliability run, CONTRACTOR is responsible for managing the interface between Construction, Commissioning and Vendor activities and for implementing procedures for safe and progressive hand-off of responsibilities from Construction team to Commissioning team, and from commissioning team to COMPANY. A critical element of this is the management of the shift in HSES emphasis to additional safe systems of work as commissioning activities commence concurrently with the remaining Construction work.

Throughout the Construction phase of the project, personnel, site safety and HSE requirements are governed by the Project HSE Plan and HSE Manuals and Policies. During the transition between

project construction and Asset operation, HSE for commissioning can often become a grey area. It is, therefore, especially important that the safety requirements and standards for Commissioning activities are prepared by CONTRACTOR and reviewed by COMPANY before these Commissioning activities commence. This document is often referred to as HSE in Transition plan.

It is the responsibility of the CONTRACTOR to develop detailed method statements, using HEMP methodology to mitigate hazards to ALARP level and ensure Continuous Improvement as per the risk assessment matrix.

2. Key Reference Documents for Executing Pre-Commissioning and Commissioning

CONTRACTOR is referred to COMPANY definitions that relate to Mechanical Completion, Pre-commissioning, Commissioning, Start Up, and Acceptance.

The CONTRACTOR shall carry out the pre-commissioning and commissioning in accordance with the following documents developed by COMPANY, attached in Section X Technical Information:

- GBARAN PHASE 3B - UZU with CPF Upgrade Project - Commissioning and Start Up Plan – Document No: GBU3B-DMG-UZU-BA5711-00001
- GBARAN PHASE 3B - UZU With CPF Upgrade Project - CSU Deliverables and Responsibilities Matrix - GBU3B-DMG-UZU-BA6178-00001
- Guidelines for Management of Repeated Failures ONTRACTORS shall generally ensure that completion processes (pre-commissioning, commissioning, start-up and performance testing) as defined in the Commissioning Process Map, are performed in accordance with COMPANY DEPs, COMPANY Commissioning Manuals and specifications, industry codes and vendor recommendations. They shall be executed in order to comply with the Management of Repeated Failures.

3. Integrated Commissioning Organisation

In order to prepare, manage, control, execute commissioning activities; provide clarity in roles, responsibilities and authorities between COMPANY and the CONTRACTOR, the CONTRACTOR shall develop an organisation chart with detailed deliverables and responsibilities matrix for the development of the completions work scope, completion of commissioning procedures, schedules, identification of temporary requirements and vendor specialist requirements for each phase for COMPANY review and acceptance. Also, to be included in the detailed deliverable and responsibility matrix document is strict communication protocol developed and put in place before Start-up which will be submitted to COMPANY for review as part of the document delivery register.

The execution of all commissioning activities is to be managed and performed by the Integrated Commissioning Team consisting of CONTRACTOR commissioning engineers, COMPANY Commissioning Engineers, COMPANY Operations & Maintenance staff and vendor specialists. Composition of the integrated team will be defined by COMPANY with input from the contractor, with the aim of developing the Pre and Post RFSU (Ready for Start Up) Organogram/Organization.

CONTRACTOR shall develop lists of qualified and authorised signatories (to be held within CMS) for Permit to Work controls, management of electrical safety issues including control of electrical energisation, handover certification, issue of Commissioning Spares and for any other relevant control procedures.

Within ninety (90) days from the EFFECTIVE DATE OF COMMENCEMENT OF THE CONTRACT, CONTRACTOR shall appoint a Commissioning Manager, who shall be responsible for all aspects of design liaison to ensure that all commissioning and flawless start up requirements are incorporated into the design, planning and co-ordination of all pre-commissioning and commissioning activities.

CONTRACTOR Commissioning Manager will be responsible for preparation of the WORK and for leading the Integrated Commissioning Team in the execution, tracking and reporting of the WORK.

CONTRACTOR shall be required to make available Vendor Representatives on Site for assistance during installation, pre-commissioning and commissioning activities. As a minimum, all equipment with the requirement for FAT (refer to Scope of work article 9.4) and SAT shall require Vendor Representatives on site. CONTRACTOR shall develop a vendor call-out register for COMPANY review and agreement, detailing the equipment that will require vendor technicians and call-out schedule.

For all activities up to Ready for Start-Up (RFSU), the CONTRACTOR-led integrated commissioning team (comprising CONTRACTOR and COMPANY personnel) shall control activities, while for the period from start-up, up to the end of the ninety (90) day reliability run, a COMPANY-led integrated start-up team (COMPANY and CONTRACTOR) shall assume responsibility.

CONTRACTOR shall provide (subject to review at time of actual requirement), adequate number of the under-listed personnel, with PPE, tools and equipment, as a minimum to support the COMPANY led team prior to Mechanical Completion

- Instrument Supervisor/ Engineer
- Instrument Technician
- Mechanical Technician
- Electrical Technician
- Telecoms Technician
- Vendor Representatives

As identified in the call out schedule.

The equipment and tools to support COMPANY from pre-commissioning to start-Up shall include as a minimum, mobile cranes, fibre-scope, elevating platform, scaffolding, torque wrenches, requisite commissioning tool kits.

4. Completions Management System (CMS)

CONTRACTOR shall utilise QEDi Go-Completions tools to manage the project activities from construction up to Handover. COMPANY shall grant access to CONTRACTOR.

QEDi Go-Completions will be used - to populate both the construction and commissioning database, sustain the required focus on where completions work is needed to meet schedule, provide traceability for all acceptance certification, demonstrate technical integrity of commissioning work completed and ultimately to verify project completion.

Features of the QEDi tool include:

- Computerised database structured by system/sub-system, comprising the register of equipment tag numbers and loop numbers (basic functions) imported from the Engineering Database;
- Relevant check sheets allocated against them prescribing requirements for Mechanical, Pre-commissioning and Commissioning completion;
- Capability to rapidly populate required work from database and integral Inspection and Test Reports (ITR's);

- Capability to generate reports on a day to day basis at levels to be defined;
- Capability to manage changes in priorities;
- Capability to store all data records for the project;
- Capability to administer the Conformity Punch List classification and completion tracking;
- Capture original certification against tagged items;
- Full time System Administrator fluent in English language within scope of supply.

CONTRACTOR personnel that will manage the access shall be provided with basic training by COMPANY. It should be noted that the WORK is only finished when the associated documentations and certifications (Construction to 90-day reliability run) are signed off and witnessed as appropriate. Commissioning progress shall only be reported into the CSU Completions Management System database based on completion of the relevant documentations.

5. Commissioning Execution Strategy

The CSU strategy should provide a clear roadmap of the commissioning and start-up activities with defined parties responsible for the preparation; execution and acceptance of these activities taking into consideration key risks and opportunities related to the CSU requirements, tools and activities and the coordination required for the commissioning and start-up of the facility.

The COMPANY recommendation is that specific integrated team members be delegated ownership and responsibility for the delivery of a number of specific systems or sub systems. Owners will ensure that system pre-commissioning and commissioning is achieved and will direct the necessary resources to meet the handover schedules which will need to be developed.

All mechanical completion, pre-commissioning, commissioning and start-up activities shall be performed strictly in accordance with COMPANY Engineering Codes, COMPANY DEPs, Industry Codes and VENDOR recommendations.

CONTRACTOR shall develop Commissioning Dossiers by systems, incorporating all discipline activities. System Handover is a phased process, System-by-System, until a complete Unit or Plant is handed over from CONTRACTOR to COMPANY. These must be prepared, ready for population with test results and commissioning procedures, thirty (30) days prior to site mobilization.

Each System Commissioning Dossier shall include as a minimum:

- System description and limits, associated systems and statement of intent;
- Safety precautions to be taken during work on the system include work permit system;
- Mechanical, Completion procedures, system cleaning and integrity check procedures, water sources, characterisation and disposal means, 'A' work instructions, discipline and system check sheets and resource requirements;
- Pre-commissioning procedures, resource requirements, 'B' work instructions, discipline and system check sheets;
- Factory Acceptance Test Reports (including punch list items, Factory Acceptance Testing strategies and procedures and acceptance criteria);
- Site Acceptance Test strategies and procedures and acceptance criteria
- Completed Factory Acceptance Test Procedures;
- VENDOR support requirements in line with the VENDOR call-out register;
- Preservation, lay-up and de-preservation procedures;
- Commissioning spares and consumables requirements including first fill;

- Test equipment, tools and temporary supplies;
- Commissioning and start-up procedures, manuals (F&G, Instrument, Safety Equipment, etc), defining the pre-requisites and the commissioning steps leading to the full commissioning of a system and acceptance criteria and defining the resource requirements. This procedure shall describe steps for documenting and recording commissioning performance and define system hand over requirements including witnessing of steps by COMPANY;
- Testing requirements and procedures, indicating parameters to be measured and performance evaluation mechanisms and acceptance criteria for individual plant/equipment and for systems;
- As-Built drawings and VENDOR data requirements;
- Handover strategy, documentation and protocols.

The systems and sub-system activities shall be executed and documented using the above structure. These dossiers for the various systems shall form part of the handover documents to COMPANY. Commissioning Dossiers shall be set up in advance during detailed design from CMS to define the work to be done by system, by node for later population as systems are handed over from Construction.

The administration procedures, strategies, schedules, plans, start-up procedures, test pack dossiers, evaluation and acceptance criteria shall be developed in line with the commissioning requirements as defined in Scope of work article 10.1 above, during detailed design, and shall be submitted to COMPANY for review and acceptance.

5.1 Integrated Construction and Commissioning Plan

A critical success factor will be the development of a credible, integrated construction and commissioning plan that addresses the need for:

- The most logical and economical sequence of installation and hook-up to enable optimization of Pre-commissioning/Commissioning activities and avoid unnecessary waiting time;
- Hook-up sub schedule;
- Pre-commissioning and commissioning conducted, as far as is practicable, away from the field environment;
- Rigorous factory acceptance testing and system integration testing as far as this can be accomplished offsite;
- Optimisation of module and materials delivery method and routing;
- A fully resourced, level 3 precedence network in Primavera P6 driven by the Activity Model;
- System acceptance processes from Construction to Commissioning (fabrication to pre-commissioning) and for progressive facility turnover from the Project to the Asset Operator;
- Management and control from CMS;
- Facility data update of Engineering Data Warehouse (EDW) on incremental basis;

CONTRACTOR shall develop the following procedures, plans and schedules within ninety (90) days of the EFFECTIVE DATE of COMMENCEMENT of the CONTRACT for COMPANY review and acceptance:

- A detailed commissioning execution plan and strategy covering the CPF upgrade scope, integrated production system: manifolds, header, process piping, and instrumentation, telecoms, electrical and tie-ins into the Gbaran Central Processing Facility.
- A detailed Commissioning Manual covering the CPF upgrade scope, the integrated production system and the tie-in into Gbaran Central Processing Facilities, describing the detailed commissioning and start-up procedures and defining the pre-requisites leading to

- the introduction of permanent operating fluids. Procedures will incorporate shutdown and safeguarding tests to verify the operability of the systems under dynamic flowing conditions. It should also describe the plant performance testing and documentation procedures. These documents shall meet the Verification Certificate of Readiness (VCR) format (where applicable);
- A high-level logic and start-up sequence, levels 2, 3 and 4 plans/schedules for all the activities from mechanical completion to the end of the ninety (90) day reliability run for the WORK;
 - A detailed precedence network/plan for commissioning the Integrated Production System Capacity (IPSC), indicating milestones, with clear distinction between utility systems, e.g. power supply, instrument air and hydrocarbon utility systems such as fuel gas, drains/vents and the "pure" process hydrocarbon systems;
 - A commissioning schedule, in accordance with the commissioning manual, which shall be reviewed and updated on a daily basis during the commissioning period;
 - A daily commissioning log detailing commissioning activity accomplished, overrides initiated and cleared, isolation valves moved, relief valves tested and other key information;
 - The facility reliability evaluation criteria, acceptance requirements and witnessing requirements, including test procedures for the ninety (90) days test, in compliance with the Management of Repeated Failures covering the following areas as a minimum:
 - Number of alarms and trips within a certain period.
 - Alarm over-rides.
 - PAS robustness in full automatic mode.
 - Asset Integrity Verification System.
 - Handover strategy, documentation and protocols.

6. Commissioning Procedures

CONTRACTOR shall prepare within ninety (90) days from the EFFECTIVE DATE of COMMENCEMENT of the CONTRACT, the administrative procedures as listed in the governing documents, which shall be utilised for managing and controlling the pre-commissioning, commissioning and start-up activities. These procedures shall define / include the processes for:

- System Delineation on PEFS;
- Completions Management System control and administration;
- Flushing, dewatering, drying, and preservation lay up of piping;
- Recording and reporting mechanism of progress of commissioning deliverables including VENDOR documentation;
- Work permit requesting and work verification and documentation;
- Recording and reporting mechanism of physical pre-commissioning and commissioning work progress.
- Equipment function testing (Commissioning Test Procedures/Supporting VCR (where applicable));
- Preservation of equipment packages for storage and transit and during subsequent site lay down and construction up to the point of Ready for Commissioning;
- Work verification and documentation;
- Critical Valve definition and testing;
- Load, brake and beam deflection testing of all registered lifting devices (preferably at the fabrication yard before shipment to site);
- Interface management;

- System Leak Testing with Nitrogen/Helium at system design pressure or 95% of PSV setting (if PSV is installed for the system) shall be carried out prior to introduction of process fluids on all hydrocarbon piping systems and vessels;
- Procedures for managing software changes during testing and commissioning;
- Procedure for Physical Asset Verification (PAV);
- Procedure for Engineering Data Warehouse update during commissioning.

7. Tools and Test Equipment

CONTRACTOR shall provide as part of the Lump Sum Contract, all tools and test equipment required for executing the WORK. CONTRACTOR shall provide to COMPANY for review, a listing of all required tools and test equipment necessary to support all the scheduled activities. Test equipment shall comprise a listing of test equipment type, manufacturer, quantity, serial number, test range, calibration date, recalibration date. The test equipment shall also include a bolt tensioning equipment, alignment tools, IR temperature measurement tool, vibration monitoring equipment and requisite commissioning tools.

CONTRACTOR shall have at its disposal a calibration laboratory for the scheduled recalibration of all test equipment and shall allow for substitution of such when estimating numbers and range of required test instruments.

All test equipment and tools required for all pre-commissioning, commissioning and maintenance activities shall be handed over on completion to COMPANY, in calibration, for future maintenance activities.

Special tool requirements shall be specified at the time of procurement of equipment packages for separate packaging, identification and delivery with their associated equipment package.

Commissioning tools and test equipment shall be clearly identified and stored in a locked, secure, and segregated area of the warehouse and shall be issued against signature only to commissioning personnel authorized in writing by the Commissioning Manager.

CONTRACTOR shall provide an industrial Borescope, complete with extensions, camera attachment and spare parts, for the internal examination of piping and equipment as work proceeds. This equipment shall similarly be stored in the secure commissioning section of the warehouse and be handed over on completion to COMPANY, in full working order, for future maintenance activities.

8. Commissioning HSES Manual

CONTRACTOR shall develop a Commissioning HSES Manual to define the additional safe systems of work that must be introduced prior to commencement of pre-commissioning and commissioning activities. These systems and procedures must be prepared, communicated and understood by relevant sections of both the Construction, Commissioning, Vendor and Operations organisations prior to the commencement of concurrent pre-commissioning and Construction work. CONTRACTOR is expected to prepare toolbox and classroom safety training modules to introduce the concepts associated with the shift in safety emphasis. These safe systems of work supplement the Construction safety plan; they do not replace it.

CONTRACTOR shall develop Commissioning Safe Working Procedures to include the following: -

- Permit to Work Procedure;
- Safe Electrical Energization;
- Electrical Lock out and Tag out (LOTO);
- HV, LV, Control and Fibre Optic cable testing Procedure;
- Gas Testing;
- Concurrent Operations Risk Assessment and Controls;
- Authorisation of changes to Alarm and Trip Settings and Logic Sequences;
- Safe use of Nitrogen;
- Nitrogen/helium Reinstatement Leak Testing at COMPANY at system design pressure or 95% of PSV setting if PSV is installed;
- (Additional) Emergency Response Procedures;

CONTRACTOR shall prepare the project Matrix of Permitted Operations, which defines the activities that may be concurrently carried out together in proximity. The existing MOPO for the Gbaran Central Processing Facility shall be used as a guide.

All activities shall be subject to a risk assessment and measures taken to minimize or mitigate risks to As Low as Reasonably Practicable (ALARP). The risk assessment shall also address Environmental and Occupational Health considerations.

Most activities shall be subject to the COMPANY Permit to Work System. CONTRACTOR shall be responsible for all training of CONTRACTOR, SUB-CONTRACTOR and VENDOR personnel required for utilizing the system.

9. Pre-Start-Up Audit

Prior to start up, an independent pre-start up audit will be conducted by COMPANY (not earlier than 12 weeks from Start-Up date but not later than 4 to 6 weeks before Start-Up) in accordance with the Operations Readiness and Assurance process. This will be scheduled in good enough time to manage any issues or shortfalls identified without adverse effect on the start-up date, but at a point where the WORK is sufficiently advanced to demonstrate that the WORK, processes, plans and procedures are working and in control.

The objective shall be to verify that the:

- Facilities are constructed as per design;
- Facilities are compliant to the electromagnetic compatibility requirements (DEP 33.64.10.33);
- Power System Studies have been completed and implemented;
- Operations Philosophy is complied with;
- Asset Integrity is verified and can be demonstrated;
- Operations staff is sufficiently trained and competent to start-up and operate;
- Asset Management Deliverables (data and documentations) are available and uploaded into the COMPANY Engineering Data Warehouse (EDW) and Maintenance Management System, ready for operations;
- VENDOR deliverables are available on Worksite;
- Emergency response preparedness is demonstrated and complete;
- Audit and review actions, site queries, technical queries and non-conformances have been closed out;
- HSE-MS is in place;
- Commissioning and operational spares and special tools are available on Worksite;

- Flawless start-Up and Operations Readiness Pre-requisites have been satisfied;
- Verification of Certification of Readiness is complete (if applicable);
- SCE and performance standard documentation is in place.

The pre-start up audit will cover a wider spectrum than the previous audits, and will, next to HSE, concentrate on the facilities, systems and operations readiness.

The CONTRACTOR shall be responsible for:

- Providing all technical information, drawings and documents required for the audits, e.g. design drawings, documents and change control register, audit close-out reports, operations management system and readiness documents, commissioning execution strategy, plan and manual, start-up procedures and organisation, test pack dossiers, handover strategy, commissioning HSE Plan, emergency procedures, communications procedure, etc;
- Providing the engineers to offer clarifications to the audit team;
- Implementing and closeout of all audit recommendations that affect the WORK.

The implementation of any recommendation shall not absolve the CONTRACTOR from any of its responsibilities under this CONTRACT. If the CONTRACTOR has an objection to implementation of any recommendation, then CONTRACTOR shall advise COMPANY in writing stating the reason for the objection, prior to the implementation of the recommendation.

10. Completion Processes

CONTRACTOR shall generally ensure that completion processes (construction, pre-commissioning, commissioning, start-up and performance testing) as defined in the Commissioning Process Map, are performed in accordance with COMPANY DEPs, COMPANY Commissioning Manuals and specifications, industry codes and VENDOR recommendations.

10.1 Mechanical Completion

CONTRACTOR shall carry out and document the construction, fabrication, installation and hook-up activities required to prepare individual systems for pre-commissioning. This involves fabrication, installation, integrity strength testing of vessels and piping systems and conformity checking to validate the complete and correct execution of Construction WORKS, in accordance with the scope and specifications.

Mechanical completion is achieved when construction and precommissioning activities have been completed, followed by issuance of a Mechanical Completions Certificate.

Mechanical completion tests (A and B check sheets) recorded in the QEDi Go-Completions Management System and retained in handover test pack dossiers by System / Sub-system to ensure asset integrity can be verified and demonstrated. Any deficiencies or shortcomings identified shall be recorded as punch lists. All punch lists shall be uploaded to CMS for record and monitoring. Category A punch lists are items that must be completed before the activities can move to the next stage, while category B punch lists are those that can be cleared as the activities continues, but before the issuance of a Mechanical Completion Certificate.

On achieving mechanical completion, and clearing of the Category A punch list items, there will be a transfer of responsibility from the CONTRACTOR's construction team to the CONTRACTOR's commissioning team.

10.2 Pre-commissioning

Prior to the start of pre-commissioning activities, CONTRACTOR and COMPANY shall perform a joint walk-down and conformity check for each systems and sub systems, to verify that all equipment and units have been completely installed and necessary isolations and other safety barriers are in place. The COMPANY Commissioning & Start-Up team shall also verify that documentation to support Construction Completion is in place, so that work will not be repeated.

CONTRACTOR shall then carry out pre-commissioning activities generally on a single discipline basis to clean equipment and complete preliminary tests and inspections. They will not require equipment or systems to be permanently energised and will include bench calibration of instruments, instrument loop checks, electrical cable insulation and continuity tests, cleaning and inspection and lay up of vessels and piping and the leak testing of valves and fittings. CONTRACTOR shall develop details and populate required work from CMS in the status index.

The CONTRACTOR shall maintain the water management plan to prepare and segregate water for testing and flushing carbon steel and CRA systems, covering: water quality analysis, verification of chloride content, monitoring, control, estimated water volumes, temporary storage facilities, ultimate treatment and disposal.

All pre-commissioning checks will be documented on check sheets known as B check sheets and uploaded into QEDi Go-Completion Completions Management System and retained in Commissioning dossiers by System

Pre-commissioning activities shall include as a minimum, the under-listed activities:

10.10.2.1 MECHANICAL & PIPING

- Thorough cleaning and flushing of the internals of the system piping and vessels to ensure no debris;
- Dewatering, drying out and lay up of vessels and piping systems with the installation and removal of temporary blinds as necessary;
- Removing, cleaning and replacing screens and filters, including the replacement and adjustment of packing and seals, where necessary and required;
- Alignment checks in accordance with the manufacturers' requirements;
- Installation of final gaskets, tightening of flanges;
- For piping systems, installation and removal of temporary blinds as required;
- Installation of safety equipment and ensuring they are charged and fully functional;

10.10.2.2 INSTRUMENTATION & TELECOMMUNICATIONS

- Installation of control valves, relief valves and orifice plates;
- Calibration and testing of all instruments including those installed on packages or skids;
- Calibration and installation of relief valves not more than 60 days before placement in service;
- Instrumentation loop checks and verification of communication protocols;
- Function testing of monitoring and control loops and third-party interfaces;
- Testing of alarm and shutdown devices and verification of alarm management system;
- Testing of event time stamping in Sequence of Events Recorder, and synchronisation of entire system time;

- Testing of power, and instrument cables (continuity and earth resistance tests);
- Testing of Fiber Optic Cable (OTDR)
- Verification of UCP interfaces with PAS/SIS, F&G systems.

The results of these tests shall be documented on Check Sheets known as 'B' Check Sheets, which will be recorded in the QEDi Go-Completions Completions Management System and retained in handover test pack dossiers to ensure asset integrity can be verified and demonstrated.

Category A and B punch lists shall be managed as described in Scope of work article 10.11.1.

10.10.2.3 ELECTRICAL

Testing of all electrical system components including switchgear and motor starters, distribution boards, UPS/battery systems, lighting systems, motors, earthing and lightning protection systems;

Functional and load testing of all equipment in compliance with manufacturer's requirements, including all motors, lighting, distribution boards, electrical systems, alarms and shutdown devices;

Miscellaneous checks on equipment, where appropriate, such as fuse ratings, polarity, etc;
Power and control cable (HV/LV) checks and tests including integrity checks.

The CONTRACTOR shall ensure that all electrical engineers and technicians assigned to this work are competent and duly registered with the relevant regulatory body/ies.

The results of these tests shall be documented on Check Sheets known as 'B' Check Sheets, which will be recorded in the QEDi Go-Completions Completions Management System and retained in handover test pack dossiers to ensure asset integrity can be verified and demonstrated.

Category A and B punch lists shall be managed as described in Scope of work article 10.11.2.

10.3 Offsite Testing/Factory Acceptance Testing

CONTRACTOR shall minimise site WORKSITE operations by maximising vendor/fabrication yard pre-commissioning and testing within the constraints of weight, size and transportation logistics for the project. CONTRACTOR shall be responsible for the provision of temporary facilities and spools where required in order to maximise fabrication yard testing.

Interconnection of various equipment modules shall be, as far as practicable, with the actual equipment purchased as part of the WORKS. Where constraints exist, and temporary systems need to be used, CONTRACTOR shall seek written approval from COMPANY for implementation.

Related skids shall be temporarily interconnected to achieve maximum functionality testing. All FARs shall be tested with the equipment they control.

All fabrication yard package/skid pre-commissioning, commissioning and testing shall be subject to the same quality and safety controls, procedures, standards, planning, detail and documentation as those on WORKSITE.

Where temporary systems, e.g. power, air, etc. are to be used, these should be engineered to appropriate project standards and risk assessed.

All non-standard modes of operation (i.e. using simulated process inventories) must be confirmed as suitable by the vendor and any operational limitations proposed by vendor complied with. Vendor representation shall be required for the FAT.

COMPANY shall witness the FAT as agreed in the Inspection and Test Plan. It shall be designed to give the COMPANY production and maintenance staff, and the CONTRACTOR's operations support team the opportunity for training and familiarisation with the facilities.

10.4 Commissioning

Once pre-commissioning has been completed and signed off to the satisfaction of COMPANY, the equipment and/or system, mechanical completions certificates is signed off and considered ready for commissioning.

Commissioning is the multi-disciplined, energised testing of systems to demonstrate functionality and safeguarding prior to placing the system in permanent service. It shall be carried out progressively, on a system by system basis by a team of engineers and operations staff and shall be executed in line with pre-prepared procedures requiring the introduction of process fluids and operation of the system.

Commissioning shall also include the introduction of utility fluids, handover and start-up of utility systems. The progressive handover of utility systems to the care and control of Operations is part of the seamless overall handover process. This handover phase will also include the successful completion of the electromagnetic compatibility study, power system study and the pre-start up audit.

Pre-start up audits shall be carried out and shall include the closing out of any remedial actions associated with the above prior to the RFSU milestone being achieved.

The CONTRACTOR shall undertake the following checks in preparation for the introduction of hydrocarbons and/or operating fluids. This should include as a minimum the following:

- Commissioning testing of hydrocarbon systems on simulated fluids where practicable prior to introduction of well fluids;
- Verification of F&G and SGS systems;
- Complete Cause and Effect checks including commissioning of all safety detection systems such as fire detection, smoke detection, gas detection, public address system, manual alarm/call points;
- Leak testing with nitrogen of the entire installed facilities, CPF upgrade scope at system design pressure or 95%PSV setting and correcting /arresting the resulting leaks;
- Purging of the entire installed facilities including the piping with nitrogen to <1.0% oxygen;
- Testing of equipment package OPC servers to ensure full compatibility with the main PAS OPC platform.
- Contractor shall provide OEM/Vendor Commissioning engineers and ensure successful integration/commissioning of all installed equipment/packages

11. Start-Up

Start-up refers to the period from the introduction of operating fluids, through the dynamic commissioning/test, seventy-two (72) hour performance test up to the end of the ninety (90) day reliability run for each phase. The start-up activity shall be managed in compliance with the Flawless Start-up Initiative (FSI) described in the CONTRACTOR Quality Management System .

The Flawless Project Delivery is a formalized program to achieve the objective of world-class commissioning, start-up and operational performance for the total project including first cycle operation. It encompasses a systematic approach to ensure a successful commissioning, start-up and first cycle operation of the Facility. It means that more than 99.9 % of the functionality needs to be first-time right-on demand.

During the start-up, CONTRACTOR shall achieve the following objectives:

- Demonstrate compliance to the Flawless Start-Up Process as described in the CONTRACTOR Quality Management System.;
- Bring the item or system into service and hand it over to the asset owner;
- Confirm equipment has not deteriorated during transportation, storage and installation;
- Prove the integrity and performance of the WORKS and re-confirm that the integrity and performance recorded by the individual modules/packages during the fabrication yard pre-commissioning phase is maintained and/or improved upon;
- Establish/confirm the performance of the Plant/Systems via a seventy-two (72) hour performance test of the facilities;
- Establish/confirm the reliability /availability of the WORKS via a ninety (90) day reliability run;
- Demonstrate and record that equipment or systems that have been modified or newly installed are able to perform in accordance with specified requirements;
- Monitor alarm \and event reporting for potential flooding of Sequence of Events Recorder (SER);
- Demonstrate that OPC/Modbus TCP/IP compliant equipment packages can be shut down without PAS disturbance.

12. Commissioning Spares

CONTRACTOR shall provide all the required commissioning spares in accordance with Scope of work Article 7.8 based upon individual approved vendor recommendations. In the event of breakdown or malfunction during commissioning or the 90-day period, where spares outside the vendor advised commissioning spares range are required it will be acceptable, subject to COMPANY approval, and immediate placement of replacement order by CONTRACTOR (reimbursable by COMPANY) to utilise the 2-year operational spare(s).

Prior to the commencement of pre-commissioning activities, and up to the end of the 90-day reliability run for each system, CONTRACTOR shall maintain registers of all spares and consumables, the order status, delivery dates, location when delivered, usage rates and replacement orders. The records shall be subject to COMPANY review and be available and accessible to COMPANY at all times.

Commissioning Spares shall be locked in a segregated section of the warehouse and shall only be issued to commissioning staff authorised in writing by the Commissioning Manager

Any Commissioning spares remaining on Contract completion shall be handed over to COMPANY.

13. Commissioning Consumables and First Fill

CONTRACTOR shall provide as part of the Lump Sum Contract, all commissioning consumables. These shall include, temporary and permanent gaskets, personal protective equipment, wet weather protection, temporary hoses, etc.

CONTRACTOR shall provide as part of the Lump Sum Contract, all first fills required for the commissioning of the PERMANENT WORKS. These shall include glycol; detergent & water, greases, lubricants and, corrosion inhibitor.

14. Quality Assurance Processes during Commissioning

CONTRACTOR shall submit a Quality Assurance Plan to include Quality management through-out the completions processes.

This is greatly facilitated through the selection of the most effective CMS tool having all elements of Quality Management embedded within it.

Elements of Quality assurance managed within CMS are expected to include

- Conformity Punch listing by all disciplines
- Change management controls
- Authorisation of changes to Alarm and Trip settings
- Resolution of technical Queries
- Authorisation of Technical deviations
- Relief valve register

15. 72 Hour Performance Test

After the systems associated with each of the On-stream phases as defined in Scope of work article 10.6 have reached and maintained the required production level for twelve (12) hours, the defined performance evaluation criteria shall be demonstrated. This shall be achieved using the seventy-two (72) hour performance test.

The purpose of the seventy-two (72) hour performance test is to confirm that the capability of the individual systems, combined as a whole, fulfil the performance requirements specified in the CONTRACT for all modes of operation.

The seventy-two (72) hour performance test shall include ramp up and ramp down of throughputs to demonstrate design requirements.

All necessary parameters shall be logged and recorded by the CONTRACTOR and confirmed by COMPANY to enable the performance of each system to be documented for acceptance by COMPANY. The run shall be uninterrupted and product gas quantity and quality shall be maintained continuously over the whole period. Any deviation from the performance requirements shall be rectified by CONTRACTOR and a further seventy-two (72) hour performance test shall be carried out.

The CONTRACTOR shall be responsible for the supply of sampling devices, sampling, analysis and interpretation of all required data to confirm the performance of the facilities.

All the seventy-two (72) hour performance tests shall be carried out at the design capacity of the respective systems.

To avoid unnecessary delays, the CONTRACTOR and COMPANY shall agree exact format of performance test within the start-up and operating constraints of the facilities at least two (2) months before commencement of the test.

16. 90 Day Reliability Run

The ninety (90) day reliability run shall commence upon successful completion of the seventy-two (72) hour performance tests. The focus will be on performance of the production system capacity, as agreed with COMPANY.

The CONTRACTOR shall demonstrate the system reliability during the ninety (90) day reliability run. This shall be done for the whole plant as defined in Scope of work article 10.6.

Equipment failures shall be manually logged throughout the duration of the test. This information shall be backed up by SER. Measures to rectify the fault recorded and the total downtime shall also be logged throughout the duration of the test, for overall input into the CMMS to form the basis of the equipment history. Equipment items to be monitored are:

Type A	Major rotating equipment, i.e. main NAG compressors and their drivers (trips caused by associated process controls and protection equipment are to be included in equipment down time).
Type B	All pumps with their drivers; air conditioning units; electrical heaters. All other process and utility systems/packages e.g. instrument air system packages, fuel gas packages.
Type C	Metering systems; ESD/OSD systems; fire and gas detection systems; process control systems; UPS systems. All other control, monitoring and safeguarding systems.

For spare equipment, any individual item shall be placed on 'standby' for only one week at a time. This shall ensure that each item is in operation and tested for a significant part of the ninety (90) days period. The reliability of each item shall be recorded separately. All change-overs shall be recorded (logged).

During this period, CONTRACTOR shall demonstrate automatic change-over of all spared equipment without production deferment and shall prepare, not less than 6-months before start-up, a list and procedures for all such change-over tests. This shall include mechanical, electrical, instrumentation and telecommunications.

During this period, should the CONTRACTOR require shutdown of units or systems to perform work to optimise the performance of the facilities or correct faults, the CONTRACTOR shall submit to COMPANY a written request for the shutdown. Such requests will be considered by COMPANY on a case-by-case basis in relation to COMPANY's integrated activity plan. COMPANY shall have sole discretion in granting or refusing such requests but will not unreasonably withhold such request. COMPANY will, at its sole discretion, decide upon the timing of the shutdown.

If a unit or system is shut down for maintenance or correction of a fault, the CONTRACTOR shall immediately effect such maintenance or correction and advise COMPANY when the unit or system is re-instated and ready for operation.

The ninety (90) day reliability run shall be accepted provided that the availability percentages indicated below are achieved during the specified periods.

Weeks	Type A Equipment	Type B Equipment	Type C Equipment
1-4	80%	80%	95%
5-8	85%	90%	99%
9-13	95%	95%	99.85%

The ninety (90) day reliability run shall continue until the availability criteria in the above table are met for all equipment. A fault rectified during the ninety (90) day run will be classified as minor and shall constitute a ‘clock-stop’ event only without reset to ‘zero-time’. Occurrence of a substantial fault during the test period shall constitute a failure and a new ninety (90) day reliability run period for each item of equipment shall commence once the fault has been rectified.

A substantial fault shall be defined, for the purpose of each item of equipment’s ninety (90) day reliability run, as a failure or malfunction of the facilities which gives rise to any of the following circumstances:

- Any fault causing a hazardous or potentially hazardous situation;
- Any fault that can only be rectified using non-standard maintenance procedures;
- Repeated trips causing standby equipment to be brought on-line;
- Repeated trips or faults requiring operator intervention in automated functions;
- Repeated faults preventing gas export;
- All other faults shall be designated minor faults for the purpose of the ninety (90) day reliability run. Minor faults shall not constitute a failure of the ninety (90) day reliability run, however the test shall not be complete until all minor faults have been rectified or rectification measures put in place to the satisfaction of COMPANY.

Interruption of the ninety (90) day reliability run attributable to COMPANY or with written COMPANY agreement shall not constitute a failure of the test.

17. Documentation of the 90 Day Reliability Run

For the entire duration of the ninety (90) day reliability run, COMPANY and the CONTRACTOR shall each assign a full-time representative to the plant control room whose duty shall be to maintain a Logbook of Plant Operations. The logbook shall record all facilities operations and the time at which each event occurred. Additionally, a separate detailed log shall be kept for each and every fault, separately identifying intentional shutdowns required by COMPANY’s operations programme. Times shall be recorded to the nearest minute. Detailed notes of any differences in opinion between COMPANY and the CONTRACTOR of the causes of faults or shutdowns shall be recorded separately and attached to the logbook.

At the end of each shift, the COMPANY representative and the CONTRACTOR representative shall both sign and date the logbook before handing over to the next shift. In the event of any dispute regarding the content of the logs, the CONTRACTOR’s opinion shall also be noted in the logbooks.

18. Technical Documentation

All technical documentation generated during commissioning to record and/or measure, and to verify the facilities mechanical completion, pre-commissioning, commissioning and start up status shall be accepted/witnessed, subject to the nomination, and be used as part of the handover suite of documentation to be submitted by the CONTRACTOR to COMPANY. See Scope of work article 15 Information Management for the documentation requirements.

18.1 As-Built Drawings

Red Line ‘As Built’ drawings shall be maintained by the CONTRACTOR as part of the commissioning documentation and updated to reflect commissioning changes as commissioning activities proceed.

Back drafting of all required ‘As Builts’ shall be completed by the CONTRACTOR immediately after commissioning and shall form part of the final handover documentation to COMPANY.

18.2 Punch Lists

Punch list records shall also be included as part of the systems handover documentation. Systems punch lists shall incorporate any items outstanding on vendor equipment carried over at the time of release of the equipment from the vendor’s premises. The CONTRACTOR shall be responsible, via the vendor for closing out such items. All punch list items shall be closed out before COMPLETION of the WORKS associated with each system.

19. Baseline Surveys

CONTRACTOR shall carry out baseline integrity surveys on all elements of the systems making up the plant, which shall be subject to regular inspection during the operational period. These shall include as a minimum, the under-listed activities. The report shall be submitted as part of the documents to be handed over to COMPANY:

- Condition monitoring on all new rotating equipment performance data covering vibration, pressure, temperature, speed, flow, run-hours, etc;
- In-plot piping and vessels baseline thickness survey, using ultrasonic techniques;
- Noise verification surveys as described in the DEP to be conducted by a 3rd party consultant;
- Illumination surveys (for normal and emergency lighting)
- Cathodic protection systems as described in Scope of work;
- Foundation soil settlement monitoring reports as described in Scope of work article 3.12 herein.

The timing of each survey will be as agreed with COMPANY, and could be either prior to pre-commissioning, during pre-commissioning or set after the introduction of continuous well fluids and establishment of steady state operations.

20. Completion Audit

Prior to issue of a COMPLETION CERTIFICATE, a Completion Audit shall be performed by COMPANY. This is to confirm that: -

- Sustainable steady state operating conditions are met
- Performance acceptance criteria are met
- Availability profile has been met
- Ramp up profile has been met
- All Punch list items and technical queries have been closed out
- Commissioning report has been received by COMPANY
- The Asset Management System is working
- Final documentation deliverables have been submitted to COMPANY
- Project close out report has been reviewed and accepted by COMPANY

Any items considered incomplete by COMPANY shall be completed prior to the issue of the COMPLETION CERTIFICATE.

11.0 TRAINING FOR OPERATIONS AND MAINTENANCE PERSONNEL

The objective of the training component of the WORK is the development of COMPANY Operation and Maintenance personnel to a level of competence to be able to effectively operate and carry out production and maintenance operations activities on the Facility from day one (Start-Up) and these COSTS will be RE-IMBURSABLE, in line with Section IV - Schedule of Prices.

CONTRACTOR shall nominate a Training Focal Point (FP) as key personnel in accordance with Article 4.4.3 of the scope of work. CONTRACTOR's Training Focal Point shall develop and submit for review and approval by COMPANY, training programme covering operation and maintenance of the key equipment and packages, requisite interface with the Gbaran CPF facilities, including job specific HSE and effect VENDOR equipment packages training.

The training programme shall be designed to train COMPANY personnel to enable them to become sufficiently skilled on the PERMANENT WORK to be able to participate in the commissioning, start up and safe operation of the plant.

Training programme to be developed by the CONTRACTOR shall cover the following areas/phases, as a minimum:

- Competence Assessment (pre-training);
- Re-skilling;
- Formal class room training including interactive simulation models;
- Vendor Training including Factory Acceptance and Site Acceptance Tests;
- Hands-on (OJT) through the integration of COMPANY operations and maintenance staff into the Integrated Project Commissioning Team and safe execution of operations and maintenance activities using maintenance manuals of the equipment installed;
- Competence Assessment (post-training).

The content and schedule of the training shall be developed and executed from the detail design up to the COMPLETION and handover to COMPANY, to facilitate a smooth, flawless start-up and steady state operation phase of the integrated facilities by COMPANY personnel.

The training process and plans shall commence immediately following CONTRACT award i.e. latest three (3) months following EFFECTIVE DATE of COMMENCEMENT of the CONTRACT.

Training Focal Point shall work closely with COMPANY nominated Training Co-ordinator who shall be responsible for approval of the training programme and its course contents and modules. All training materials (manuals, CD-ROMs, etc.) shall be handed over to COMPANY on completion of each training session. All training (and training materials) shall be provided in English language.

12.0 NIGERIAN CONTENT

1. Introduction

Nigerian Content is defined as the quantum of composite value added to or created in the Nigerian economy by a systematic development of capacity and capabilities through the deliberate utilisation of Nigerian human, material resources and services in the Nigerian oil and gas industry. COMPANY is committed to the Government's aspiration of utilizing as much as possible the skills and resources available in the Nigerian industry and in expression of this commitment has undertaken to carry out the following in its operations:

- Employment and personal development opportunities for Nigerians.
- Maximise the use of Nigerian manufactured goods and services.
- Drive structured training and skill development for effective transfer of management and technical skills.
- Sustainable development of Nigerian businesses as suppliers, sub-contractors and service providers.
- Promote the contribution of Nigerian Contractors to the development of the national industrial base beyond the Oil and Gas Industry.

This section has been provided as a guide to help meet the Nigerian Content target (s) in Schedule A of the Nigerian Oil & Gas Industry Content Development Act (Appendix 12.1). The CONTRACTOR shall develop and implement a Nigerian Content Plan to meet or exceed the Nigerian Content targets. The Nigerian Content Targets that are applicable to this CONTRACT include the following amongst others:

- 90% Detailed Engineering for Onshore Facility.
- 80% Fabrication of Pressure Vessels
- 50% Utilities module/packages
- 100% Pipeline systems - Construction
- 90% of Low Voltage Cables.
- 90% HV Cables
- 60% Valves
- 50% Heat Exchangers
- 45% Electrical/Instrumentation Services
- 100% Trenching % Excavation
- 60% of Welding and Jointing Services.
- 90% Pressure Testing Services
- 80% of Construction Management & Supervision Services.

2. CONTRACTOR's Responsibilities

The CONTRACTOR shall:

- Develop a Nigerian Content Plan, which shall explain the methodology of how it intends to comply with the requirements of the plan and how to achieve the set target(s) in Schedule 'A' of Nigerian Oil & Gas Industry Content Development Act (Appendix 12.1) and any targets set by the Nigerian Content Development Monitoring Board.
- Produce a List of work packages in the CONTRACT that should be reserved for Nigerian Contractors and those for community Contractors.
- Produce a list of services that will be provided by Nigerian Companies.

- Produce a list of materials that will be procured from Nigerian Manufacturers.
- Set the Nigerian Content Target for the period of the CONTRACT in percentages (which shall be reviewed and agreed between COMPANY and the CONTRACTOR prior to CONTRACT award).
- Produce a plan of how it intends to measure performance against set targets.

During the period of the CONTRACT, CONTRACTOR shall without limitation do the following:

- Produce and submit Nigerian Content monthly reports as more specifically detailed in Section VII - Administration Instructions.
- Grant full access to COMPANY's Nigerian Content team / Nigerian Content Monitoring Board representatives or any other Government Agencies into its books /accounts/ records/ payroll summary/ contractor payments with a view to ascertaining the level of implementation of the Nigerian Content.
- Appoint a Nigerian Content Manager who shall have the responsibility for the Implementation of the Contractors' Nigerian Content Plan and Report Periodically on Performance.
- Develop and implement a training program which shall provide sustainable training & development (including certification as applicable) for Nigerian Engineers, Supervisors, Skilled, Semiskilled and Unskilled Workers in line with the Human Capacity Development Initiative Guideline of the Nigerian Content Development and Monitoring Board's (NCDMB) (see Appendix 12.2 of this scope of work). The training plan shall include measurable targets. The COSTS for this training shall be part of the Lump Sum Price.
- Should COMPANY or JV Partners request additional training of Nigerian Engineers, Supervisors, Skilled, Semiskilled and Unskilled Workers as part of NCD (in excess of the base requirements via CONTRACT / CONTRACTORS employers), this will be RE-IMBURSABLE to the CONTRACTOR in line with Section IV - Schedule of Prices. A provisional sum for this shall be allowed for in Section IV - Schedule of Prices

3. Nigerian Content Plan

The CONTRACTOR shall maintain a Nigerian Content Plan throughout the CONTRACT duration including any extensions thereto. This Plan shall document all aspects of the CONTRACTOR'S strategy for achieving the Nigerian Content commitments in accordance with their submitted Commercial proposal and consistent with the minimum targets set in Schedule A of the Act (Appendix 12.1). The plan shall include details of the following:

- Plans for the use of Nigerian labour, goods, services and equipment.
- Plans by which Nigerian companies shall be involved in the execution of the work specified in the Invitation to Tender and encouraged to compete for work under the CONTRACT.
- The proposed utilisation of Nigerian labour, goods and services for engineering design elements of the WORK.
- The proposed utilisation of Nigerian labour, goods and services for procurement elements of the WORK.
- The proposed utilisation of Nigerian labour, goods and services for fabrication and assembly elements of the WORK.
- The proposed utilisation of Nigerian labour, goods and services for construction, installation, pre-commissioning and commissioning elements of the WORK.
- The proposed utilisation of Nigerian representatives and/or agencies, to import those goods and services and equipment originating from outside Nigeria.

- The proposed utilisation of competent Nigerian manufacturers and fabricators as appropriate in the manufacture, assembly and fabrication of component parts.
- The Training Plan shall encompass a comprehensive training and development plan covering the establishment of training facilities and externally accredited training programmes for the development of skills and competence amongst Nigerian labour hired for the WORK. The programmes shall cover all skills required for the WORK, specifically including engineering design, procurement, logistics, fabrication, construction, inspection, testing, commissioning and project management.
- Proposals for the employment of Nigerian trainees on the WORK for a minimum of twelve months after their training is complete or until COMPLETION DATE, whichever is longer; subject always to such trainees meeting the required standards and their skills being required for the WORK.

In pursuing its Nigerian Content Plan, the CONTRACTOR shall:

- Aid development of Nigerian companies in a sustainable and ethical manner. This will include the appointment of a mentor in the CONTRACTOR's organisation to guide and coach Nigerian owned companies in general business management, quality management and HSE management.
- Promote the development of Nigerian companies by the transfer of technology from the CONTRACTOR and international SUB-CONTRACTORS.
- Facilitate foreign investment in Nigeria in the form of permanent facilities (research centres, training centres, fabrication facilities, equipment manufacture and overhaul facilities etc.).
- Proactively pursue opportunities for undertaking WORK with Nigerian companies by employing Nigerian labour.
- Proactively pursue the use of Nigerian fabrication facilities where competency exists, specifically including the use of Nigerian facilities by foreign SUB-CONTRACTORS.
- Include requirements for maximizing Nigerian Content in all SUB-CONTRACTS.
- Encourage international SUB-CONTRACTORS to enter into sustainable and value adding relationships with Nigerian companies.
- Specifically reserve WORK scopes in respect of services for which there exists Nigerian company capabilities and potential for development.
- Liaise with COMPANY to ensure that the pursuit of Nigerian Content is at all times fully aligned with the Article titled Sustainable Community Development in this CONTRACT. (Section VIII).
- Provide monthly report on Nigerian Content deliverables showing status (Actual versus Target).

4. Detailed Engineering

The drive by the Nigerian Government is to have all Detailed Engineering Design domiciled in Nigeria and to be executed by Nigerian SUB-CONTRACTORS. Specific Schedule 'A' targets for FEED and Detailed Engineering & other Engineering Services are contained in the attached Schedule 'A' to the Act.

- The CONTRACTOR may go into Joint Venture/Partnership with competent Nigerian Engineering Companies.
- Execute identified work packages in-country using in-country /non in-country resources.

The CONTRACTOR shall form an integral team with Nigerian Contractors by engaging a number of Nigerian Engineers in each discipline with a view to training them and give them a hands-on detailed

design experience. They shall also be incorporated into the construction support team and follow-through, up to commissioning.

5. Procurement

The Nigerian Oil & Gas Industry Content Development Act requires the submission of a plan to establish in the catchment area where the project is to be located, a project office where Project Management and Procurement decision making are to take place. The CONTRACTOR shall comply with Nigerian Oil & Gas Industry Content Development Act and minimum Nigerian Content target for Materials and Procurement in Schedule ‘A’ (Appendix 12.1) and utilize as much as possible, the materials produced in Nigeria that conform to project standards and specification.

Maintenance capabilities for major equipment shall be developed in Nigeria. All major VENDOR supplied equipment must demonstrate local presence in Nigeria. Where such presence is not available, there should be a clear demonstration of the desire to do this within the contract execution period. For materials/equipment not produced in Nigeria, Local (Nigerian) Agents/ stockists shall be utilised where applicable as a means of increasing Nigerian Content. Materials that can be sourced locally include as a minimum the following:

- Fabricated structural steel.
- Rebars.
- Wire mesh.
- Structural steel and steel sheets.
- Sheet piles.
- Low pressure vessels fabrication.
- High pressure vessels fabrications.
- Paints and protective coating.
- Low voltage lighting and earthing cable.
- Low voltage power and control cable.
- Hot insulation material (rockwool blanket).
- PVC piping for electrical ducts.
- Cement.
- Concrete products.
- Cast iron products.
- Gaskets.
- Civil engineering construction materials etc.
- Aluminium products.

6. Fabrication

In compliance with the Nigerian Oil & Gas Industry Content Development Act and Schedule ‘A’ targets on fabrication, the CONTRACTOR shall ensure that all fabrication works on the project is carried out in Nigeria. Value to the Nigerian economy will be added by the utilization of the fabrication yards in Nigeria. During fabrication, the CONTRACTOR shall be required to provide training to Nigerian Contractors/Sub-Contractors’ personnel in the following areas:

- Safety.
- Quality Management.
- Supervisory Skills.
- Equipment Certification.

- Radiography Interpretation.
- Craft development training in various disciplines (e.g. special material welding, heat treatment).

During the fabrication of major equipment, VENDOR shall be required to train Nigerian Maintenance and Operations Engineers to a competence level of carrying out normal maintenance and inspection of the equipment. VENDORS must develop local capacity to maintain equipment after commissioning.

7. Construction

The CONTRACTOR shall comply with Nigerian Oil & Gas Industry Content Development Act and Schedule A targets on Construction and engage/ involve Nigerian and local community Contractors in the works and services, and grow the competencies/ capabilities of these contractors. The CONTRACTOR shall form an integral team with a Nigerian SUB-CONTRACTOR (enter into Joint venture) for the execution of the works and will be responsible to develop their competence in terms of quality delivery, scheduling and HSE. During construction, training shall be given to Nigerian Contractors/ Sub-Contractors' personnel. During commissioning, the commissioning team shall be required to train Nigerian maintenance and operations engineers to a competence level of carrying out normal maintenance and inspection. The following specialties amongst others have been identified as available in Nigeria:

- Engineers.
- Designers.
- Project management.
- Civil works.
- Piles.
- Buildings.
- Roofing & cladding.
- Roads.
- Mechanical and electrical works.
- Building services.
- Painting.
- NDT.
- Insulation.
- Fireproofing.
- Surveys.
- Waste disposal.

8. Project Services, Project Management and QA/QC

The CONTRACTOR shall comply with Nigerian Oil & Gas Industry Content Development Act and appropriate Schedule 'A' targets (Appendix 12.1) and maximise Nigerians and Local Community Service providers in order to grow the competencies/capabilities of these contractors without compromising quality and having negative impact on the already tight project schedule. The CONTRACTOR shall recruit Nigerians for the purpose of training and following up the PQMS contract.

The training program shall include without limitation the following:

- Project management.
- Safety.
- Quality management.
- Inspection.

- Supervisory skills.
- Equipment certification.
- Radiography interpretation.
- Planning & scheduling.
- Cost control.

DRAFT

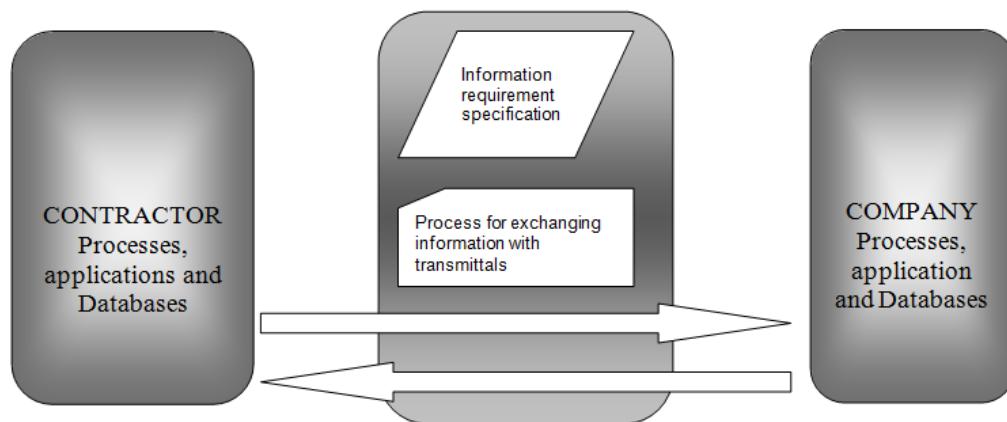
13.0 INFORMATION MANAGEMENT

1. General

This section sets out standards and controls for documents and data to be issued by CONTRACTOR or VENDORS in the course of executing the WORK.

The CONTRACTOR shall provide information management services, computing and telecommunications infrastructure for use by the CONTRACTOR and/or VENDORS for efficient and effective execution and management of any assignment on the project.

CONTRACTOR shall be responsible for the management of all information and data generated during the execution of the WORK as stipulated in the Project Information Management Scope of Work (GBU3B-DMG-UZU-JA7880-00002) Appendix 13.1. CONTRACTOR shall handover this information and data to COMPANY in the format specified herein both during and at the completion of WORK execution. The following diagram illustrates the information exchange protocols between the CONTRACTOR and COMPANY.



CONTRACTOR's Information Management Infrastructure shall permit electronic data exchange between all work locations as well as COMPANY project office, and the generation, compilation, storage, validation and handover of data to COMPANY in the specified format at the COMPLETION of the WORK.

The CONTRACTOR shall provide competent Information Management Lead, Document Controllers and Data controllers for the WORK. The CONTRACTOR shall prepare an Information Management & Technology Plan (IM&T Plan) to the satisfaction of COMPANY, which shall describe its internal information gathering, document and data quality management processes and handover procedures. The CONTRACTOR shall prepare an IM Schedule Template, which captures the planned, forecast and actual information delivery dates.

The objective for COMPANY is that the information which the CONTRACTOR shall handover at COMPLETION of the WORK shall be sufficient, of adequate quality and in a format that can be used in the target processes and applications of COMPANY for asset management, engineering modifications, operations and maintenance. This objective can be achieved through a well-managed, consistent data generation and handover process for all data formats.

Information Management delivery shall be a component of the milestone breakdown for the CONTRACT and as such COMPANY shall release payment for the associated milestone(s) dependent on the availability, quality and completeness of information delivered. Information (Document & Data deliverables shall be co-referenced to the activity code on the Primavera schedule for the WORK.

2. Reference Specifications and Documents

CONTRACTOR shall comply with the requirements of the following documents:

- Engineering Information Specification - DEP 82.00.10.30. This provides the definition of each table in the Project Specification Data Templates and further information on the handover requirements. In the event of a discrepancy between the two (2) documents, the CONTRACTOR shall seek for direction from COMPANY through appropriate Site Query mechanism.
- Project Specification Data Templates (Appendix 13.2): The Data Templates consists of two (2) types of table:
 - Reference information tables, which contain reference data supplied by COMPANY to be used by the CONTRACTOR. The CONTRACTOR may not change the definition of any of the tables, however, project specific additions to the reference data may be made if agreed with COMPANY. The CONTRACTOR shall alert COMPANY to additional requirements within the “DOCUMENT_TYPE”, “COMPANY” and “CLASS” tables;
 - The contract Information Specification (GBU3B-DMG-UZU-JA7880-00001) clearly stipulates the mandatory information CONTRACTOR shall handover and in what format they are required. In addition, it provides a guide as to the basic requirement for information exchange. The fields, format and relationships shall be adhered to irrespective of the handover tool employed.

The database is not intended as a tool for data capture or handover. CONTRACTOR shall propose tools for information handover that adhere to the rules defined within the specification database for COMPANY's agreement.

- List of Document Deliverables (Appendix 13.3): This is a listing of all the documentation to be generated during the execution of the WORK, which supplements Appendix 13.2. In the event of any discrepancy between the document type in the database in Appendix 13.2 and the List of Deliverables in Appendix 13.3, CONTRACTOR shall clarify through appropriate Site Query mechanism. The database will then be updated as may be required. If CONTRACTOR identifies any further document that is not listed in Appendix 13.2 or 13.3, or identifies any issues, CONTRACTOR shall notify COMPANY for correction.
- Data Source Template, Appendix 13.4. This is an MS-Excel spreadsheet template with the information requirements listed, to be completed by the CONTRACTOR during the engineering kick-off, as part of the process to identify the sources of data required for handover.
- Project Document Numbering Procedure (Appendix 13.5) to be issued at kick-off

- Generic Supplier Documents Requirements List Template (Appendix 13.6)
- PM Data Minimum Standards EP2007-5614 (Appendix 13.7).
- CMMS Data Specification Templates (Appendix 13.8). This includes the specification and data templates required for delivering the CMMS (including the Corrosion Monitoring system). In the event of any discrepancy in the data requirements in Appendix 13.7 & Appendix 13.6, the CONTRACTOR shall seek for direction from COMPANY through appropriate Site Query mechanism. CONTRACTOR shall utilise the COMPANY-supplied Excel Templates to populate and submit the CMMS deliverables for review and acceptance by the COMPANY.
- COMPANY SPI (Smart Plant Instrumentation) Baseline data (Appendix 13.9)
- COMPANY AutoCAD Standard (Appendix 13.10). This includes both the specification and the drawing template to be used for all drawings.
- COMPANY Document Template (Appendix 13.11) to be issued at kick-off.

3. Information Quality Management Framework

The CONTRACTOR shall prepare an Information Quality Management Framework (IQMF). The document shall demonstrate that the information to be handed over by the CONTRACTOR complies with as a minimum, the requirements laid down in the COMPANY Engineering Information Management Specification. DEP 82.00.10.30 (EIS) and is of standard acceptable to COMPANY.

Refer to section 2.7 of the UZU Project IM SoW: GBU3B-DMG-UZU-JA7880-00002 (Appendix 13.1)

4. Summary of Information Deliverables

Refer to the Contract Information Specification (GBU3B-DMG-UZU-JA7880-00001) for the types of Information deliverables required to be developed by the CONTRACTOR during the project.

The timing and document control requirements are specified within Scope of work article 9 of Section VII - Administration Instructions.

CONTRACTOR shall prepare a controlled Document Deliverable Register (DDR) showing as a minimum detailed listing of all required document deliverables, numbering, planned delivery date. The Register shall also contain the Activity ID in Primavera Planning tool to enable clear linkage between activities and deliverables. The register shall be updated and submitted to COMPANY on monthly basis to capture the forecast and actual delivery dates. See more details on DDR requirements in Section VII - Administration Instructions and Project Controls. COMPANY will provide the required template for the DDR.

5. Vendor Data and Documentation Requirements

CONTRACTOR shall ensure that all VENDORS and/or SUBCONTRACTORS documentation and data are in electronic format and in the COMPANY requested format as indicated in reference specification and documents. The process and requirements for information to be delivered by the vendor are as enumerated in Contract Information Specification - GBU3B-DMG-UZU-JA7880-00001.

CONTRACTOR shall be responsible for ensuring that any discrepancy between the delivered vendor Information (document & data) and this requirement is corrected within agreed time frame. The CONTRACTOR shall ensure that all materials procured shall be requisitioned using standard forms.

The CONTRACTOR shall use the standard COMPANY requisition forms and data sheets unless the CONTRACTOR demonstrates that his standard forms are equal or superior to the COMPANY forms.

A controlled vendors/suppliers deliverable register shall be prepared showing the planned, forecast and actual dates for the start, review and completion of each vendor document and data deliverable.

The CONTRACTOR shall ensure that the requisitions and supporting engineering documents, specifications and drawings are sufficiently clear, well-structured and complete to obtain realistic, technically comparable quotations meeting the requirements under the CONTRACT. The CONTRACTOR shall ensure that the requisition includes specific provisions for obtaining vendor recommendations for:

- Special tools required for all routine maintenance activities.
- Installation, Commissioning and two years' operating spare parts list in E-SPIR database.
- Capital and Insurance spares.
- Maintenance Job Routines (MJR).
- Manufacturing Record Book (MRB) and Installation, Operating and Maintenance Manual (IOM).
- Vendor/Equipment Data Template.
- Vendor Document Register/Schedule.

The CONTRACTOR shall be accountable for complete and compliant delivery of model information through the Vendor Catalogue, in all circumstances. The model information currently in scope shall include as a minimum:

- Measurement and arrangement drawings
- Manuals for installation, operation and maintenance
- Ex-certificates and conformity declarations
- Illustrated part-list
- Product description and ordering information
- Spare parts information
- Data properties relevant for each equipment model

The CONTRACTOR shall approve the model information as mentioned above and submit to COMPANY in timely manner, as per agreed schedule and format.

The CONTRACTOR shall be accountable for updating and keeping the model information in Vendor Catalogue evergreen and to ensure the latest information available to COMPANY.

The CONTRACTOR should not take existing content in the Vendor Catalogue "as is" / for granted / to be "relied upon" because being delivered by trusted party COMPANY / prescribed by COMPANY.

Instead, positively ensure (via the Vendors, preferably) that any piece of information delivered to the Project:

- Is the latest available version at source (usually OEM Vendor) e.g. most recent revision maintenance instruction, latest OEM spare part numbering etc.
- Spare parts are 100% complete (if applicable)
- Matches the agreed IM requirements of that specific Purchase Order (PO): extra information might be needed; the project EIS Reference Data might contain an upgraded VDDR for a class which did not apply when most TEK info of that class was last approved etc.
- In any other aspect matches the actual equipment being delivered for the specific PO. E.g. resolve XYZ 123456-A specified in design, included in TER-import and matched with a TEK while physically XYZ 123456-B is installed on that same tag.

The Vendor Catalogue to deliver and manage vendor documentation for COMPANY shall be ShareCat.

COMPANY has developed a generic Supplier Documents Requirements List (SDRL) template for some major equipment packages which shall be re-validated by CONTRACTOR. The re-validated SDRL agreed with COMPANY shall be issued as part of the CONTRACTOR's requisition package for all equipment.

Equipment delivery milestone shall be considered payable only after COMPANY confirms required equipment information (data and documents) has been uploaded by CONTRACTOR into ShareCat and Sharepoint as the case may be.

PURCHASE ORDERS issued by CONTRACTOR shall only be complete after confirmation by COMPANY that all vendor data (including proper equipment nameplates where applicable) and documentation is received.

6. Compliance Assessment and Monthly Reporting

The CONTRACTOR shall allow COMPANY access to the CONTRACTOR generated data at the earliest possible date to be mutually agreed by COMPANY and the CONTRACTOR within three (3) months of EFFECTIVE DATE OF COMMENCEMENT of the CONTRACT, to enable COMPANY to assure compliance with this specification and enable any corrective action to be taken. Compliance assurance shall be achieved by regular monitoring of CONTRACTOR data, using a tool with COMPANY rules embedded. COMPANY may initiate an Information Management audit as necessary.

CONTRACTOR shall include, as part of the Monthly Reporting Procedure a short narrative reflecting the progress of the information deliverables defined in this CONTRACT.

7. Handover Package

7.1 Documents

Files for electronic delivery are limited to the documents identified in "DOCUMENT_TYPE" After Project Category field as 'Legal', 'Essential' or 'Interest'. All documents included in the Information Handover Package must be revision A01 or above. CONTRACTOR shall supply only the latest, up to date revision of every document. (See document reference "Gbaran Phase 3B (UZU) Project: "Contract Information Specification for EPC" (GBU3B-DMG-UZU-JA7880-00001" chapters "Document" and "Set_Of_Files"). The CONTRACTOR shall hand over with the documents three electronic copies (External Hard drive) of all indexing data. See document reference "Gbaran Phase 3B (UZU) Project: Contract Information Specification (GBU3B-DMG-UZU-JA7880-00001) for more information.

7.2 Approved for Construction Drawings

Following the update to reflect "AFC" conditions the CONTRACTOR shall provide to COMPANY electronically archived sets of all "AFC" drawings, electronic copies of customized menus and software needed for continued maintenance of the CAD drawings. The above shall apply to drawings prepared by the CONTRACTOR or SUBCONTRACTORS. The file(s) for the document shall be delivered after the document has reached its final review status. COMPANY may request the CONTRACTOR to deliver copies of CAD drawings in native format prior to AFC.

In addition, CONTRACTOR shall make available to COMPANY all final reviewed/updated software e.g. PDMS, SKM, STAADPro, FRED, BowTieXP, UNISIM (Steady state and Dynamic), SHEPHERD, etc.

7.3 As-Built Drawings

Prior to issue of the COMPLETION CERTIFICATE the CONTRACTOR shall, provide COMPANY with all As-Built drawings, software and documents in both electronic and hardcopy formats (3 sets). Such documents shall include all detailed engineering drawings updated to As-Built status. However, during construction, electronic As-Built documents shall be delivered to COMPANY in phases as work is completed. The phases shall be agreed with COMPANY. The CONTRACTOR shall keep accurate records of changes made in the field during the construction and commissioning phase. Drawings shall be properly marked up, as changes occur to reflect the AS BUILT situation. The CONTRACTOR shall permit COMPANY access to these drawings at all times. The above shall apply to drawings prepared by the CONTRACTOR or SUBCONTRACTORS. The file(s) for the document shall be delivered after the document has reached its final status of Issued for Construction (IFC) or As-Built. COMPANY may request for soft copies in native format prior to final delivery.

7.4 Instrumentation Data

Instrumentation data shall be captured and handed over separately using SPI (Smart Plant Instrumentation) and conform to the requirements of the Project Specification definition of SPI. See document reference “Gbaran Phase 3B (UZU) Project: Contract Information Specification for EPC” (GBU3B-DMG-UZU-JA7880-00001”, Chapter 3.8 INFORMATION DELIVERED IN A NON CSV FORMAT.

7.5 Final Handover of Data Other than Instrumentation

The CONTRACTOR shall ensure that data handover shall comply with the Information Quality Management Framework section above, except that it shall be complete for all deliverables. The CONTRACTOR shall demonstrate that a physical asset verification (PAV) has been conducted and the outcome is incorporated into the final hand over data

7.6 Spares Data

See document reference “Gbaran Phase 3B (UZU) Project: Contract Information Specification for EPC” (GBU3B-DMG-UZU-JA7880-00001”, Chapter 3.8 INFORMATION DELIVERED IN A NON CSV FORMAT

7.7 Asset Information

The CONTRACTOR shall provide all asset information to COMPANY in CSV or other ODBC compatible format. The delivery schedule shall be one that is incremental from the Detailed Engineering phase and shall be progressively more complete and accurate through to commissioning and final handover. All asset information shall be validated by COMPANY incrementally before acceptance and loading into the Engineering Data Warehouse (EDW) and other Asset Management systems required for Asset Operations and Maintenance.

8. Final Quality Assurance and Control

COMPANY will undertake a final review to approve the Information Handover Package. See document reference “Gbaran Phase 3B (UZU) Project: “IM Scope of Work” (GBU3B-DMG-UZU-

JA7880-00002", Chapter 4.4 FINAL QUALITY ASSURANCE AND CONTROL. This final review is not a substitute for the CONTRACTOR's own quality control system and does not relieve the CONTRACTOR of any responsibilities relating to the Quality of procedures, the work or delivery times. This final review will only be conducted after the CONTRACTOR has carried out a documented in-house quality control on the Information handover package. The CONTRACTOR shall close out all vital and essential non-conformance items before COMPANY accepts the final handover package.

DRAFT

14.0

DRAFT

15.0 RISK MANAGEMENT

1. Contractor Responsibility for Risk Management

The CONTRACTOR shall be responsible for the management of all risks that may affect the CONTRACTOR's ability to meet its obligations under the CONTRACT.

CONTRACTOR shall conduct a risk workshop not later than two weeks after CONTRACT kick-off meeting to pro-actively identify, assess, and generate a risk register. Throughout the duration of the CONTRACT, CONTRACTOR shall continuously assess and manage any risks and opportunities potentially affecting the Contractors' ability to meet its obligations under the CONTRACT.

2. Risk Management System

The CONTRACTOR shall develop, establish, implement, maintain and continually improve a risk management system that ensures that the CONTRACTOR manages risk for the duration of the CONTRACT.

3. Risk Management Organisation

The CONTRACTOR shall establish and fully resource a risk management organisation as part of the CONTRACTOR's organisation to support the CONTRACT.

The CONTRACTOR shall appoint a risk manager to its organisation who reports directly to the CONTRACTOR's project manager.

CONTRACTOR shall demonstrate in its project organization charts how the risk management function is organized and structured. The organization charts shall show reporting lines.

Functional reporting shall be differentiated by dotted lines.

The structure shall illustrate how the risk management organization functions and connects to other dependent risk management organizations, for example other contractors and SUBCONTRACTORS.

4. Risk Register

The CONTRACTOR shall establish, implement and maintain a structured risk register. The register shall track and record risks and actions and opportunities through the typical cycle of "Proposed", "In Progress", "Proposed Closed", "Closed" or "Taken" steps archiving entries as they become rejected, closed or taken.

5. Risk Management Plan

No later than 30days following the EFFECTIVE DATE the CONTRACTOR shall submit to the COMPANY a comprehensive risk management plan.

The CONTRACTOR's risk management plan shall detail how the CONTRACTOR shall identify risks that should they occur, will hinder or prevent the CONTRACTOR meeting its obligations under the CONTRACT and the process by which the CONTRACTOR shall mitigate or eliminate such risks.

The CONTRACTOR'S risk management plan shall include and/or address the following as a minimum:

- A detailed description of the CONTRACTOR's risk management organization and the roles and responsibilities of the CONTRACTOR PERSONNEL deployed in the risk management organisation and the CONTRACTOR organisation charts showing how the risk function is incorporated into the CONTRACTOR organisation.
- A detailed description of the CONTRACTOR's risk management processes that is/are used to identify risks. Risks should be identified in all risk categories including: technical (including HSSE), economic, commercial, organisational, and political.
- A detailed description of all risk management tools that the CONTRACTOR shall use to manage and track risks and mitigation actions.
- A detailed description of the CONTRACTOR's risk assessment methodology demonstrating how risks, once identified are ranked and prioritised for action.
- A detailed description of the CONTRACTOR's process for assigning and approving mitigating actions.
- A detailed description of how the CONTRACTOR tracks and records progress of risk mitigating actions.
- A detailed description of how the CONTRACTOR tracks and review risks as the mitigation is worked and how the risks are re-assessed and updated to reflect progress.
- The CONTRACTOR should describe the frequency of risk and risk register reviews and who participates and how these reviews are recorded.
- A detailed description of how the CONTRACTOR closes risks and who has the authority to close risks and their associated actions.

6. Risk Reporting:

The CONTRACTOR shall produce and distribute a monthly risk management report aligned with COMPANY's reporting schedule. Monthly risk and action reporting shall be provided by the CONTRACTOR at the timing requested by the COMPANY to support its own reporting process and timing.

The report should include the metrics as a minimum: -

- Unique risk ID
- Risk title and description in the format cause, risk, effect together with associated mitigating actions and their planned completion dates.
- Assessment of probability of occurrence.
- Assessment of cost, schedule and HSSE impacts.
- Listing of top ten risks or "hot spot" risks and status: worsening, stable, and improving.
- List of new proposed risks and actions.

- List of risks closed.
- Summary of risk management reviews conducted in the reporting period and a summary of the outcomes.
- The CONTRACTOR shall notify the COMPANY of the consequences that identified risks may have on the COMPANY or any of the COMPANY'S other contractor's work.
- Controllable or non-controllable by the CONTRACTOR
- The CONTRACTOR shall attend risk review meetings as required by the COMPANY.

7. SUBCONTRACTOR's Risk Management

The CONTRACTOR shall ensure that SUBCONTRACTORS are obligated to perform the requirements for Risk Management.

16.0 INTERFACE MANAGEMENT

1. Introduction

Considering that the WORK will interface with existing facilities, there may be other Contractors, Sub-Contractors, and agents or employees of COMPANY and its affiliates working at or adjacent to the WORKS during the performance of the WORK by the CONTRACTOR.

The CONTRACTOR shall anticipate in its WORK Programme and its expenses that the performance of the WORK may be interfered with or temporarily delayed on account of the concurrent activities of others.

The CONTRACTOR shall fully co-operate with COMPANY and other Contractors and sub-contractors to avoid any delay or hindrance of their activities and to ensure the orderly completion of the WORKS.

The CONTRACTOR shall be fully responsible for the management of all interfaces related to the contract. CONTRACTOR shall organise an interface management meeting with all identified stakeholders not later than two weeks after contract kick-off. The meeting shall outline the process and reporting format for effective management of interfaces.

2. Typical Interfaces

Execution of the CONTRACT shall involve extensions and modifications to existing COMPANY facilities. Typical interfaces that may arise from the execution of the work shall include as a minimum:

- Tie-in to operational production facilities, pipelines, etc;
- Shutdown of existing production facilities
- Instrumentation and electrical works interfaces as described in Scope of work
- Civil works interfaces as described in Scope of work
- Commissioning and Start-Up

3. Contractor Responsibility for Interface Management

The CONTRACTOR shall be responsible for the management of all interfaces that may arise from the execution of the works under the CONTRACT.

Throughout the WORK, the CONTRACTOR shall pro-actively identify, collate, track, close out and report any interfaces that may arise from the execution of the works under the CONTRACT.

4. Interface Management System

The CONTRACTOR shall develop, establish, implement, maintain and continually improve an interface management system that ensures that the CONTRACTOR effectively manages interface for the duration of the CONTRACT.

CONTRACTOR should be aware that interface management is an ongoing process and new interfaces may be identified during the course of the WORK, or working arrangements changed to suit circumstances. In order to monitor and control this process, COMPANY shall review and approve all documentation and processes set up by CONTRACTOR, to manage interfaces in relation to:

- Identification of dependencies and interfaces.
- Scheduling of interdependent activities.
- Procurement (commonality) issues.
- Document and data exchange (web based with joint access), format, protocol and review duration.
- Planning and participation in design reviews.
- Planning of concurrent construction activities and Matrix of Permitted Operations
- Final documentation.
- Commissioning/Start-up.

The Interface Management teams of COMPANY and CONTRACTOR, including other stakeholders shall meet monthly at the initial stage, and may be adjusted later as appropriate. Interface meetings shall be held in any location as agreed by COMPANY and CONTRACTOR. All expenditure related to the meetings shall be deemed to be part of the CONTRACT scope and shall be at no extra COSTS to COMPANY.

5. Interface Management Organisation

The CONTRACTOR shall establish and fully resource an interface management organisation as part of the CONTRACTOR's organisation to support the CONTRACT.

The CONTRACTOR shall appoint an interface manager to its organisation who reports directly to the CONTRACTOR's project manager.

CONTRACTOR shall demonstrate in its project organization charts how the interface management function is organized and structured. The organization charts shall show reporting lines. Functional reporting shall be differentiated by dotted lines.

The structure shall illustrate how the interface management organization functions and connects to other dependent interface management organizations, for example other contractors, SUBCONTRACTORS and COMPANY departments.

6. Interface Register

The CONTRACTOR shall establish, implement and maintain a structured interface register. The register shall collate, track and record interfaces. The register shall record when requests are made, who the requester and action parties are including status of requests.

7. Interface Management Plan

No later than 30days following the EFFECTIVE DATE the CONTRACTOR shall submit to the COMPANY a comprehensive interface management plan.

The CONTRACTOR's interface management plan shall detail how the CONTRACTOR shall identify interfaces. The CONTRACTOR'S interface management plan shall include and/or address the following as a minimum:

- A detailed description of the CONTRACTOR's interface management organization and the roles and responsibilities of the CONTRACTOR PERSONNEL deployed in the interface management organisation and the CONTRACTOR organisation charts showing how the interface function is incorporated into the CONTRACTOR organisation.
- A detailed description of the CONTRACTOR's interface management processes that is/are used to identify interfaces. Interfaces should be identified in all interface categories including: stakeholder identification and mapping, hardware match across battery limits, contract match points, scope boundaries, tie-in points and discipline interfaces.
- A detailed description of all interface management tools that the CONTRACTOR shall use to manage, track and report interfaces.
- A detailed description of how the CONTRACTOR tracks and records progress of interface actions.
- A detailed description of how the CONTRACTOR tracks and reviews interface as the actions are worked and how the interfaces are updated to reflect progress and final close-out.
- The CONTRACTOR should describe the frequency of interface register reviews and structured interface meetings describing who participates and how these reviews are recorded.
- A detailed description of how the CONTRACTOR closes interfaces

8. Interface Reporting:

The CONTRACTOR shall produce and distribute a monthly interface management report aligned with COMPANY's reporting schedule. Monthly interface and action reporting shall be provided by the CONTRACTOR at the timing requested by the COMPANY to support its own reporting process and timing.

The report should include the metrics as a minimum: -

- Unique interface ID
- Interface title and description
- Interface levels
- Interface coding reflecting requester, action party and disciplines involved, as a minimum
- Status of interface
- Latest Estimated Completion for overdue items
- Format interface is requested
- Summary of interface management reviews conducted in the reporting period and a summary of the outcomes.
- The CONTRACTOR shall notify the COMPANY of the consequences that identified interfaces may have on the CONTRACTOR'S performance of the work including any of the COMPANY'S other contractor's work.
- The CONTRACTOR shall organise and manage interface review meetings. The frequency of these meetings shall be agreed with the COMPANY.

9. Subcontractors Interface Management

17.0 HEALTH, SECURITY, SAFETY, THE ENVIRONMENT AND SOCIAL PERFORMANCE (HSSE & SP) Management System

1. CONTRACTOR Responsibilities

The CONTRACTOR and SUBCONTRACTORS shall take all reasonable measures to prevent injury, damage or loss to personnel, property, environment and/or community of the CONTRACTOR, SUBCONTRACTOR, COMPANY and all other persons who may be affected by the WORK.

The CONTRACTOR shall execute the WORK within the framework of COMPANY Group HSSE & SP Management System Policies, Standards, Control Framework Manuals and other statutory laws and regulatory requirements.

The CONTRACTOR shall achieve the same or higher HSSE & SP-MS standard as those required by COMPANY for its own operations.

The CONTRACTOR shall clearly demonstrate the existence of a Health, Security, Safety, the Environment & Social Performance Management System (HSSE & SP-MS). The CONTRACTOR's HSSE & SP-MS shall exhibit the same degree of application and assurance of safe operations without injury, damage or loss to personnel, property, environment, and/or community.

The CONTRACTOR and SUBCONTRACTORS shall allocate sufficient resources to ensure effective implementation of their HSSE & SP-MS throughout the various phases of the WORK and until final demobilization of resources and COMPANY's acceptance of project HSSE & SP-MS close out report.

The CONTRACTOR shall assign competent senior management personnel (HSSE&SP focal point) to be responsible for the management and implementation of all HSSE & SP-MS aspects throughout the various phases of the WORK.

The CONTRACTOR shall prepare the construction, commissioning and operations HSSE & SP cases with inputs and approval by COMPANY.

The CONTRACTOR shall maintain a comprehensive register and copies of all applicable statutory laws and regulations, COMPANY Group codes, standards, and HSSE & SP requirements, and comply with all relevant requirements during the execution of the WORK at various sites. The latter are provided in Section VII - Administration Instructions and project Controls.

The CONTRACTOR shall ensure that all its staff and SUBCONTRACTOR staffs are adequately inducted, clearly understand and comply with all applicable statutory laws and regulations, COMPANY HSSE & SP Policies, standards and 3 Golden Rules, 8 EP House Rules and the COMPANY 12 Life-Saving Rules at the various sites.

The CONTRACTOR shall retain a Community Relations Officer (CRO) who is responsible for maintaining cordial relationships with the local communities while executing the WORK in Nigeria, in accordance with Section VIII – HSSE & SP, Section VIII, Sustainable Community Development herein.

The Community Relations Officer shall be responsible for developing and execution of the Community Relations Plan and for keeping COMPANY's Community Relations Officer (CRO) informed through regular reports / meetings.

The CONTRACTOR's Community Relations Officer shall also liaise with COMPANY's Community Relations Officer and agree a strategy for the execution of the community development programme. The Community Relations Officer will also be responsible for the implementation of the SUBCONTRACTOR's community Relations activities.

2. HSSE and Social Performance Documentation

Within sixty (60) calendar days of the EFFECTIVE DATE, the CONTRACTOR shall submit to COMPANY, for approval, an updated copy of the following documents which shall be specific to this CONTRACT:

1. Health, Security, Safety, the Environment & Social Performance (HSSE & SP) Management System.
2. Health, Security, Safety, the Environment & Social Performance (HSSE & SP) Activity Plan.
3. Construction HSSE Case.

These documents shall include updates of the preliminary Hazard & Effect Management Register, Job Hazard Analyses (JHA) and HSSE & SP procedures submitted by the CONTRACTOR as part of his tender.

These documents, once approved, shall demonstrate to COMPANY, CONTRACTOR's and SUBCONTRACTORS' personnel and other interested parties how the CONTRACTOR intends to implement his own HSSE & SP policies and management system in line with COMPANY HSSE & SP requirements, throughout all phases of the WORK.

The CONTRACTOR shall make available a comprehensive list of all documents and standards together with a description of their purpose, revision date, custodian and cross referenced to the appropriate activities and hazards. The CONTRACTOR shall ensure all documents are available and accessible at all locations where they are needed.

CONTRACTOR shall carry out quarterly HSSE & SP performance reviews with COMPANY in line with HSSE & SP MS requirement on Performance Monitoring and Reporting.

3. HSSE & SP MANAGEMENT SYSTEM

Prior to mobilisation at the various sites, the CONTRACTOR shall issue to COMPANY and its supervisory staff the current HSSE & SP MS as a reference to the implementation and maintenance of the existing management systems. The HSSE & SP management system (ref.: COMPANY HSSE & SP Policy, Standard and Control Frame Work Manuals) shall, as a minimum, contain the following:

1. A visible expression of the CONTRACTOR's senior management commitment to HSSE & SP and the readiness to provide adequate resources to develop, operate and maintain the HSSE & SP

management system and attain the HSSE & SP policy and strategic objectives.

2. The CONTRACTOR's corporate policy statement, addressing corporate intentions, principles of action and aspirations with respect to HSSE & SP, and the aim of continuous improvement in its HSSE & SP performance.
3. The Organisation structure, roles and responsibilities of individual employees, competence assurance, and resources allocated to manage effectively HSSE & SP, relevant codes, standards, procedures, statutory laws and regulations.
4. Effective and efficient management of SUBCONTRACTORS's HSSE & SP in line with COMPANY HSSE & SP Control Frame Work Manual requirement on CONTRACTOR's HSSE & SP Management.
5. Evidence or records to demonstrate that all potential Health, Security, Safety, the Environment & Social Hazards & Effects on CONTRACTOR's and SUBCONTRACTORS' personnel, COMPANY representatives and the public, the environment and assets of the CONTRACTOR, SUBCONTRACTORS, COMPANY or public have been systematically identified, assessed and analysed to the full implication; eliminated where possible or controlled adequately to mitigate any negative impact through formal procedures and planning methods, and covered by recovery measures (contingency plans) to deal with identified consequences of potential loss of control. (Ref: Appendix 13.1- COMPANY HSSE & SP Policies, Standards and Control Frame Work Manuals).
6. Overall work programme plans and strategies for achieving HSSE & SP objectives and performance criteria. The CONTRACTOR shall ensure adequate plan for every WORK task, providing competent personnel, required procedures, fit-for-purpose standard tools and equipment, safe working place, and adequate time scale for the WORK.
7. A description of how activities are to be performed according to procedures and work instructions, and monitored, and how corrective actions are to be taken when necessary. The CONTRACTOR shall be able to demonstrate quarterly the extent of compliance with its HSSE & SP policy and its requirements and the extent to which planned objectives and performance criteria have been met.
8. A procedure and schedule for HSSE & SP management system audit and review of HSSE & SP performance to assess conformance to plan, suitability and effectiveness in line with HSSE & SP Manual requirement on Performance Monitoring and Reporting.
9. A listing of all applicable standards and project specific regulations, procedures and work instructions covering all aspects of the WORK and facilities, activities, operations, systems, equipment and any other resource that will be employed in the execution of the WORK shall be made available and accessible to COMPANY by CONTRACTOR. Relevant documents shall be attached to the HSSE & SP Plan and made available and easily accessible to personnel at work locations.

4. HSSE & SP Plan

The HSSE & SP Plan shall be prepared in accordance with the HSSE & SP Plan Guidelines for Major contracts MODE II (EP 2005-0110 Appendix 13.2) and maintained throughout all phases of the CONTRACT. Where major areas of the WORK are Subcontracted, then the SUBCONTRACTOR shall

be required to prepare its own plan, vetted for suitability by the CONTRACTOR. SUBCONTRACTOR shall be required to carry out their activities with the same or higher standards as the CONTRACTOR. The CONTRACTOR shall carry out a comprehensive induction for the SUBCONTRACTOR with consideration for skill levels of the personnel. The content of the induction shall be subject to COMPANY approval.

The HSSE & SP Plan shall specify activity, deliverable, responsibility and target date. The plan shall provide a framework for the CONTRACTOR to:

1. Confirm his understanding that COMPANY requirements that represents the minimum standards.
2. Demonstrate his preparedness and familiarity with the type of WORK involved.
3. Define his execution proposal.
4. Demonstrate that all potential risks (Personal & Technical and/or Process Safety – DEM 2 requirements) have been identified and reduced to as low as reasonably practicable (ALARP).

5. HSSE Case

A Construction HSSE Case shall be prepared that will demonstrate that there is a systematic approach to HSSE management during construction phase at the facility, which assures compliance with relevant HSSE legislation and COMPANY's own HSSE policies and objectives and facilitates the maintenance of continuous improvement in HSSE performance. The HSSE Cases shall be aligned with the COMPANY HSSE MS and shall be a live document, which shall be continuously updated/amended as the need arises throughout the duration of the CONTRACT.

6. Pre-Mobilisation Inspection / Pre-Execution Audit of CONTRACTOR Resources

The CONTRACTOR shall ensure that the quality of resources deployed to all COMPANY WORKSITES meets COMPANY HSSE & SP and CONTRACT requirements before site work commences. The CONTRACTOR shall carry out an in-house pre-mobilisation inspection exercise, through the use of standard checklist prepared by professionals in relevant fields, to ascertain/confirm the preparedness for mobilisation to site and communicate such to COMPANY. After all the identified lapses from the in-house exercise have been corrected, the CONTRACTOR shall formally invite COMPANY for a comprehensive pre-mobilisation inspection of all the resources that will be deployed for the WORK. Pre-mobilisation inspection certificates shall be issued for all the equipment that meets the specified minimum required standards.

The CONTRACTOR shall maintain the same standard throughout the WORK, and no new resources (equipment and/or personnel) may be deployed to or re-deployed from any WORKSITE without prior written consent of the responsible COMPANY site representative. Subsequently, the responsible COMPANY site representative and the CONTRACTOR shall carry out Monthly inspections after the commencement of WORK at the site to re-affirm that the resources are maintained to the same standard as prior to mobilisation.

7. Environmental Management

The CONTRACTOR shall endeavour to protect the surrounding environment by preparing and implementing a sound Environmental Management Plan, as part of his HSSE & SP Plan, which complies with the requirements of the Environmental Impact Assessment report. The Environmental Management Plan shall include a set of rules and procedures for each phase of the project which includes the commitments made in the Environmental Impact assessment. The Environmental Management Plan shall also comply with the relevant environmental / conservation acts and regulations.

CONTRACTOR shall submit a signed-off Environmental Management Plan report quarterly and a signed-off Environmental Compliance Monitoring report monthly to COMPANY to confirm implementation and verification activities in respect of the Environmental Management Plan and specified in CONTRACTOR HSSE & SP Plan and consistent with COMPANY HSSE & SP Environmental Policies, Standards and relevant COMPANY control Frame Work Manuals.

CONTRACTOR shall implement standard measures to ensure effluents and other wastes generated in the course of the WORK is disposed and/or managed in a manner consistent with approved contract standards.

CONTRACTOR shall develop and implement a site-specific solid waste management plan in line with COMPANY waste management guidelines. Thus:

- a. Waste shall be segregated at source using colour-coded or labelled bins.
- b. Scrap metal/pipe off-cuts shall be transported and shall be managed by CONTRACTOR in line with site-specific waste management plan.
- c. Generated glass and paper materials shall be managed by CONTRACTOR in line with site-specific waste management plan.
- d. Camp sites shall be equipped/fitted with a biological sewage treatment plant or septic tank in line with provisions of EGASPIN 2018. Effluents from sewage treatment plant to be monitored for compliance in line with EGASPIN 2018 before disposal.
- e. Spent batteries shall be taken to approve battery re-cycling company.
- f. Medical waste shall be collected in appropriate receptacles and taken to medical incinerator at Shell IA.
- g. Spent fluorescent tubes shall be stacked in appropriate storage and taken to Shell IA.
- h. Hydrotest water shall be characterized for quality before disposal
- i. CONTRACTOR shall implement all recommendations from Environmental Impact Assessment studies.

8. Sustainable Community Relations

8.1 General

The area surrounding the construction sites are prone to community disturbances, which could extend to theft of property / possessions and danger to life. As such, the CONTRACTOR shall be responsible for fostering good relations with the local communities in order to minimise adverse social impact and disharmony between COMPANY / CONTRACTOR, Community and other Stakeholders. The CONTRACTOR shall also be responsible for site security and the welfare of his personnel. The CONTRACTOR shall adhere to the latest version of COMPANY 'Guidelines on the use of External Security'.

The CONTRACTOR shall take a pro-active role in community relations to alleviate any potentially negative responses.

The development of the project is likely to be welcomed by the local community as a potential source of employment and revenue. The CONTRACTOR is therefore encouraged to make provision for the employment of local labour and the use of local facilities, wherever possible. The CONTRACTOR shall also consider the likely impact of de-mobilising large numbers of such local community labour forces towards the end of the fabrication and construction phases and shall plan and implement appropriate measures, to be agreed with COMPANY, to avoid potential community relations disruptions upon such de-mobilisation.

The CONTRACTOR shall develop a Community Relations and Security Action Plan in line with COMPANY guidelines as part of his HSSE & SP Plan.

8.2 Communities Affected by WORK

The CONTRACTOR shall identify all communities that are likely to be affected by the WORK and inform COMPANY directly.

8.3 Pre-mobilisation Community Visits

Prior to commencement of activities at the sites, the COMPANY authorised representative together with the CONTRACTOR's authorised representative, CONTRACTOR's Community Relations Officer and COMPANY's CRO will hold a meeting with the landlord community affected by the proposed WORK, where appropriate, and pay a courtesy call on its leadership with customary drinks / items of presentation.

During this meeting the nature and duration of the job, and its likely impact / consequences on the community shall be explained and assistance offered to the community.

8.4 Employment of Local SUBCONTRACTOR and Local Labour

The CONTRACTOR shall endeavour to award minor contracts to competent SUBCONTRACTORS from the community. However, CONTRACTOR shall sub-contract the management of general wastes to indigenous SUB CONTRACTORS.

The CONTRACTOR shall obtain from COMPANY the list of local SUBCONTRACTORS prior to the commencement of activities at the WORKSITES.

These small-scale SUBCONTRACTORS may be suitable for minor contracts and civil works, such as bush clearance, site labour, cleaning and watchmen. A number of local people shall be recruited and employed directly by the CONTRACTOR from the local communities during the construction activities at the various sites in line with Nigerian Content Development requirements.

8.5 Settlements of Problems

Any problems with the host communities should be promptly recorded in the Community Relations Register and settled by the CONTRACTOR. In all cases, COMPANY's CRO shall be informed and where necessary involved in the settlement process.

Any damages to third party property caused by the CONTRACTOR during execution of the WORK shall be promptly settled by the CONTRACTOR and reported to the COMPANY representative and the CRO. Damage to local roads and bridges caused by the CONTRACTOR shall be reported to the COMPANY representative and the CRO specifying the exact damage caused and steps being taken to restore such facilities to their original condition.

8.6 Operation of Marine Equipment

Special care must be taken by the CONTRACTOR in the operation of his marine equipment as this may cause grievances. The CONTRACTOR shall develop marine equipment management/storage procedure.

8.7 Awareness of Staff

CONTRACTOR's staff and field workers must be made aware of the following:

1. All marine vessel quartermasters and captains must slow down when overtaking local dug-out canoes or when passing canoe marinas.
2. Where the waves from a CONTRACTOR's marine vessel cause a canoe to capsize or damages THIRD PARTY property, the crew must assist in the rescue of those affected and record all damages together with the place, date, time of incident and all those affected.
3. Avoidance of fish traps and fishing nets.
4. No night sailing.
5. The potential of communicable diseases and the implications of drug and alcohol abuse, unprotected sex, prostitution and the need to obey native laws and customs and to sustain cultural values of host Communities through quarterly awareness campaigns. CONTRACTOR shall keep appropriate records of such campaigns.

All CONTRACTOR's staff and field workers must be made aware that they will be representing COMPANY and as such are required to:

1. Exhibit a high sense of responsibility, avoiding any show of superiority.
2. Be receptive and polite in dealing with the public.
3. Exhibit fairness and sincerity, avoiding any show of disdain or discrimination.
4. Recognise and respect native customs, norms and traditions of the communities.
5. Politely handle complaints and criticism from the public and refer these to supervisors if need be.
6. Report and follow-up on each public issue.
7. Explain the CONTRACTOR's or COMPANY's position without making unauthorised promises.
8. Avoid interviews with the press but refer them to the appropriate supervisory level.
9. Confirm facts before presentation to the public.

10. Work at all times in accordance with the provisions of COMPANY's HSSE & SP Policies, Standards and Control Frame Work Manuals.

8.8 Medical Facilities/ Occupational Health

In order to enhance the general safety and emergency response capability of the WORKSITES, CONTRACTOR shall construct a Temporary Construction Site Clinic which shall be ready for use prior to commencement of site works. However, CONTRACTOR shall also retain the services of a COMPANY approved hospital for the referral of critical cases. The camp clinic shall be equipped with treatment area and separate resting area with beds and at least one stretcher and medical emergency resources. The camp clinic shall be audited fit for purpose by COMPANY OH team

CONTRACTOR shall:

1. Conduct medical examination to confirm the medical fitness of all their employees and their SUBCONTRACTOR from a recognised and approved medical facility. The required tests shall take into consideration the age and tasks of the persons employed in accordance to COMPANY's fitness to work protocol.
2. Ensure that the pre-employment and periodic medical tests should include an ECG for workers over the 40 years of age every 2 years, while blood pressure and blood sugar estimation should be done for all staff. Vision tests should be done specifically for drivers.
3. Obtain and keep copies of certificate of fitness of its employees at site.
4. CONTRACTOR shall also keep some basic medical information on the workers in the site clinic or at the retainership hospital.
5. Employ a qualified Medical Doctor and an Industrial Nurse to man the camp clinic.
6. Keep Medicaments including anti-snake venom in line with the COMPANY recommended list in camp clinic at all times.
7. Keep records of drugs dispensed including workers attendance to the site clinic.
8. Develop a MEDEVAC procedure and provide necessary resources for immediate emergency response. The procedure should be communicated and understood by all the employees.
9. Provide dedicated ambulance vehicle for emergency at site.
10. Implement the COMPANY Minimum Health Management Standards (MHMS) on the WORK.
11. Develop and maintain a program of occupational Health on the WORK.
12. Implement a Health Risk Assessment for construction activities.
13. Develop a list of chemicals to be used on project and provide SHOC Cards for all chemicals.
14. Develop staff work schedules that meets exposure limits of each specific chemical hazard.
15. Carry out Pre-employment and periodical Audiometric test.
16. Carry out ambient air quality/noise level monitoring in line with FMENV/DPR requirement (NOx, COx, SOx, SPM etc).

17. Carry out Noise Survey (Noise map) and develop and implement schedules for personal noise monitoring. CONTRACTOR shall ensure that all standard machinery with noise levels are within acceptable limits, provide acoustic mufflers for generators with noise level above acceptable limits and provide ear muffs/ plugs for use by personnel in high noise environments.
18. Ensure the watering of exposed soil surface during construction to reduce the effect of dust on personnel.
19. Notify the COMPANY within 24 hours of any work-related illnesses recorded.
20. Equip the site clinic to industry standard. The items with Priority 1 in the attached equipment checklist are mandatory, inability to provide any of these Priority 1 items will require a detailed justification to be approved by the COMPANY. Appendix 13.3 – Standard (clinic) Checklist.
21. Comply with COMPANY Medical Emergency Response standard EP2005-0151.

18.0 APPENDICES TO THE SCOPE OF WORK

Number	Title
Appendix 3.1	SPDC-ES-I-T-006 (Installation & Interconnections)
Appendix 4.1	Gbaran Infill Permits and Consents Plan
Appendix 4.2	Local and State Government permits
Appendix 4.3	Project Change Control Procedure
Appendix 4.4	Software List
Appendix 4.5	Personnel Qualifications.
Appendix 4.6	Provision of Offices and Associated Services for COMPANY Personnel and Visitors.
Appendix 4.7	Catering and Accommodation Services for COMPANY Personnel and Visitors
Appendix 4.8	Minimum Standards for Field Accommodation and SPDC Guest Houses.
Appendix 4.9	Catering Health and Safety.
Appendix 4.10	Medical Equipment List for Temporary Site Clinic
Appendix 6.1	Gbaran Ubie Phase 2 Management of Repeated Failures.
Appendix 6.5	Main Steps in Developing Maintenance Reference Plan (MRP)
Appendix 6.6	CMMS Data Requirements for Projects
Appendix 6.7	EP 2007-5614 SAP EP Blueprint Plant Maintenance Data Minimum Standards.
Appendix 6.8	Pipeline Minimum two years operating/Insurance spares for Gbaran Infill Project.
Appendix 6.9	Global Operate Phase Performance Standard Template.
Appendix 6.10	SPDC-E-S-M-T-001 Corporate List of approved Vendors & Equipment
Appendix 6.11	Procedure for Equipment Supplier Document Requirements
Appendix 8.1	Scaffolding Erection Standard
Appendix 8.2	Matrix of Permissible and Non Permissible activities.
Appendix 8.3	Guideline for Concurrent Operation Plan.
Appendix 9.1	Gbaran Infill Commissioning and Start Up (CSU) Strategy
Appendix 9.2	Testing and Performance Acceptance Criteria Guide
Appendix 11.1	Nigerian Oil & Gas Industry Content Development Act
Appendix 11.2	Nigerian Content Worksop for CONTRACTOR
Appendix 11.3	Nigerian Content Monitoring Sheet

Appendix 12.1	Engineering Information Specification (DEP 82.00.10.30).
Appendix 12.2	Project Specification Data Templates
Appendix 12.3	List of Document Deliverables
Appendix 12.4	Data Source Template
Appendix 12.5	Project Document Numbering Procedure
Appendix 12.6	Generic Supplier Documents Requirements List Template
Appendix 12.7	PM Data Minimum Standards EP2007-5614
Appendix 12.8	CMMS Data Specification Templates
Appendix 12.9	SHELL INtools Baseline data
Appendix 12.10	SPDC AutoCAD Drawings Standard
Appendix 12.11	SPDC Document Template
Appendix 12.12	Computerised Maintenance management System
Appendix 12.13	CIMS Data Specification Template
Appendix 13.1	COMPANY HSSE & SP Policies, Standards and Control Frame Work Manuals
Appendix 13.2	HSSE & SP Plan Guidelines for Major contracts MODE II (EP 2005-0110)
Appendix 13.3	Standard (clinic) Checklist

The above appendices have been provided to the CONTRACTOR

SECTION V – SCHEDULE OF PRICES

TABLE OF CONTENTS

1.	GENERAL.....	251
2.	COMPOSITION OF THE CONTRACT PRICE.....	<u>252</u> <u>251</u>
3.	PROFIT	<u>265</u> <u>258</u>
4.	PROJECT MANAGEMENT	<u>265</u> <u>258</u>
5.	HSSE AND SOCIAL PERFORMANCE (SP).....	<u>265</u> <u>259</u>
6.	VARIATIONS	<u>265</u> <u>259</u>
6.1	General	<u>265</u> <u>259</u>
7.	PAYMENT SCHEDULE.....	<u>268</u> <u>261</u>
8.	SUSPENSION BY COMPANY FOR CONVENIENCE	<u>269</u> <u>262</u>
9.	TERMINATION BY COMPANY TERMINATION FOR CONVENIENCE	<u>270</u> <u>263</u>
10.	LIQUIDATED DAMAGES	<u>271</u> <u>264</u>
11.	COMMUNITY DELAY	<u>271</u> <u>264</u>

1. GENERAL

- (a) The CONTRACT PRICE will be the total of the fixed price lump sums in sub-article 2.2 - Contract Price Summary and as amended by VARIATIONS.
- (b) The descriptions in this SCHEDULE OF PRICES and the Bills of Approximate Quantities do not attempt to detail every operation involved in carrying out the SCOPE. The SCOPE is more fully described in the SCOPE DESCRIPTION, and other parts of the CONTRACT. Any description of SCOPE or any part thereof contained within this SCHEDULE OF PRICES will not limit or qualify the SCOPE and any omission from the description of SCOPE which may reasonably be ascribed to SCOPE will be deemed to be included within that item. No VARIATION will be accepted on the grounds of defective description that further operations other than those described are necessary to complete the SCOPE item described, shown or inferred in the drawings, specifications or elsewhere in the CONTRACT.
- (c) All lump sums, prices, amounts, rates, charges and percentages included in this SCHEDULE OF PRICES are fixed and not subject to any fluctuation or revision for the duration of the CONTRACT.
- (d) Pursuant to the Articles titled TAXES and COMPLIANCE WITH APPLICABLE LAWS, BUSINESS PRINCIPLES, AND HSSE STANDARDS in Section IIIB - General Terms and Conditions, a 1% deduction imposed under the Nigerian Oil and Gas Industry Content Development Act will apply to all rates and prices of the CONTRACT PRICE. COMPANY will deduct a total of one percent (1%) of the CONTRACT sum for NCD Fund from the main CONTRACTOR's invoice

2. COMPOSITION OF THE CONTRACT PRICE

2.1 CONTRACT PRICE

For the performance of the WORK in accordance with the CONTRACT, COMPANY shall pay the CONTRACTOR the all-inclusive lumpsum CONTRACT PRICE of \$xxxx + Nxxxx (Amount in words), based on value of work done and exclusive of INDIRECT TAXES

2.1.1 Items Included in RATES AND CONTRACT PRICE

Except where specific exclusions have been made in this SCHEDULE OF PRICES and the Bills of Approximate Quantities, the lump sums, prices, amounts, rates, charges and percentages included in this SCHEDULE OF PRICES and the Bills Of Approximate Quantities are deemed to be fully inclusive of all overheads (general and corporate), contribution to profit, and all costs incurred by CONTRACTOR arising out of or in connection with the performance of the SCOPE, including:

Personnel wages, salaries, overtime, travel, accommodation and subsistence, public holidays, sickness leave, bonus premiums, incentive or any other premium payments, employee benefits, fees and charges for statutory services, allowances, consumables, hand tools, vacations, employee insurance and social security benefits, all payroll taxes, burdens and costs, all income tax and national insurance, premiums for public liability insurance and all other insurance premiums measured by payroll costs and all contributions and benefits imposed by any applicable

law or regulation and CONTRACTOR'S own personnel policies including all costs associated with employment of AGENCY PERSONNEL;

- (i) Any premiums for overtime and shift working required to meet the PROGRAMME;
- (ii) Provision, maintenance and replacement of personal protective equipment for all CONTRACTOR PERSONNEL;
- (iii) Personal protective equipment, monitors/detectors, communication and alarm equipment, training for personnel, practice drills, response time for alarms and all other requirements for the management of HSSE risks;
- (iv) All vessels, CONTRACTOR EQUIPMENT and tools;
- (v) Provision of all fuels, lubricating oils, all other consumables, water and sewage disposal including any other waste matter;
- (vi) All harbour and berthing dues, customs dues, import taxes and all other encumbrances imposed in the WORKSITE;
- (vii) All maintenance, certification, calibration and replacement of CONTRACTOR materials, temporary materials, temporary works, erection aids, equipment and tools;
- (viii) Office space and associated utilities for personnel including, but not limited to rent;
- (ix) rates, heating, lighting, power, security, maintenance and common parts;
- (x) All costs of the preparation of standard procedures, methods etc., and training and similar activities;
- (xi) General management and general services, all corporate and administrative services including, but not limited to, security, janitorial, maintenance, general purchasing, general accounting, project accounting (e.g. financial accounting, book keeping, payroll, invoicing, disbursements, accounting related to cost reporting and similar activities), employee relations and reception, together with supervision and supporting secretarial, clerical and word processing involved in operating CONTRACTOR'S office;
- (xii) Provision of all communication services and equipment including, but not limited to, mail, messenger, facsimile, telephone and IT services including all lines, rental and usage costs;
- (xiii) Provision of all computing resources and services required including, but not limited to, the provision rental and usage of all necessary computer hardware and software, printers and consumables;
- (xiv) Provision of all stationary, drafting, reprographic resources and services including, but not limited to, the provision of all necessary personnel and the provision, rental and usage of all necessary equipment, including any specific requirements set out in the JOB SPECIFICATION;

- (xv) All costs in respect of royalties, licence fees, know-how fees, usage of proprietary information (including, but not limited to, royalties, licence fees and similar charges for computer programs) and all similar items;
- (xvi) All costs of research and development (including, but not limited to, those related to the development of computer systems);

- (xvii) All corporation, capital gains, turnover, income or other taxes;
- (xviii) All costs of maintaining CONTRACTOR insurances;
- (xix) CONTRACTOR'S contribution to profit;
- (xx) CONTRACTOR'S contribution to profit on SUBCONTRACTORS and third party charges and all other profit;
- (xxi) CONTRACTORS allowances for business risk;
- (xxii) All costs incurred by CONTRACTOR during execution of the SCOPE associated with Section XIII – COMPANY PROVIDED ITEMS;
- (xxiii) All costs in respect of mechanical breakdown, weather downtime, all aspects of MOBILISATION and DEMOBILISATION, all vessels, CONTRACTOR EQUIPMENT, personnel and materials, storage of all material, and all other items and resources necessary for the performance and completion of the SCOPE in accordance with the requirements of the CONTRACT; and
- (xxiv) All other costs not specifically identified in this SCHEDULE OF PRICES and the Bills of Approximate Quantities and Contract Price Summary – Lump Sum
- (xxv) Expenditure related to GMOU is not included in the CONTRACT PRICE. CONTRACTOR shall be reimbursed for any aspect of GMOU executed by CONTRACTOR on COMPANY's instruction at cost plus mark up.

2.2 CONTRACT PRICE SUMMARY – LUMP SUM

The lump sum CONTRACT PRICE consists of the following elements:

SUMMARY OF LUMPSUM COMPONENTS

FIRM SCOPE					
ITEM	WORK ELEMENT	LUMP SUM PRICE		NIGERIAN CONTENT	
		Total Cost Firm Scope		NC VALUE	
		Naira (NGN)	US Dollar (US\$)	Naira (NGN)	US Dollar (US\$)
1	Mobilisation				
2	Project Management				

3	Detailed Engineering					
4	Procurement of materials and equipment					
5	Shop Fabrication Works (inc. inspection & Testing)					
6	Construction & Installation (inc. inspection & Testing)					
7	Pre-commissioning, and Commissioning					
8	Flawless and Asset Management Delivery					
9	Demobilisation					
Total Lump sum Contract Price						
S/N	Description			PRICE		
				USD	NGN	

BREAKDOWN OF THE LUMPSUM COMPONENTS

ITEM	WORK ELEMENT	LUMP SUM PRICE		NIGERIAN CONTENT		
		Total Cost		NC VALUE		NC
		Naira (NGN)	US Dollar (US\$)	Naira (NGN)	US Dollar (US\$)	Percentage
1	Mobilisation					
1.1	Mobilisation For Project Management, Detailed Engineering Design, and Procurement completed, Including Offices, Key Personnel and requisite resources					
1.2	Mobilisation for site construction works: temporary construction camp,					

	offices, storage yards & fabrication workshops completed.					
1.3	Mobilisation of site personnel, equipment, materials and other resources for construction and installation works completed					
1.4	Mobilisation of all personnel for pre-commissioning, commissioning, pre-commissioning tools & equipment, completed					
Total Lump sum Price for Mobilisation						

ITEM	WORK ELEMENT	LUMP SUM PRICE		NIGERIAN CONTENT			N C P	
		Total Cost		NC VALUE				
		N aira (NGN)	U S Dollar (US\$)	N aira (NGN)	U S Dollar (US\$)			
2	Project Management							
2.1	Project Execution Plans (including Flawless Project Delivery Plan), and Procedures issued by CONTRACTOR and Approved by COMPANY							
2.2	Provision of Project Management activities for the duration of the CONTRACT (including Flawless project delivery, procurement services, maintenance of site clinic, operation and maintenance of camp site facilities, Quality Management, HSSE Management, Information							

	Management, Sustainable community development, Security, etc.) for duration of the CONTRACT.				
2.3	Provision of three (2) new 4WD double cabin air-conditioned Pick-up vehicles (Toyota Hilux) for COMPANY use.				
	Total Lump sum Project Management				

ITEM	WORK ELEMENT	LUMP SUM PRICE		NIGERIAN CONTENT		
		Total Cost		NC VALUE		N C
		N aira (NGN)	U S Dollar (US\$)	N aira (NGN)	U S Dollar (US\$)	P ercentage
3	Engineering					
3.1	FEED review, verification, acceptance and update completed and report issued					
3.2	Completed site verification surveys including subsoil investigations and data gathering at the WORKSITES					
3.3	All Discipline work plans, QA plan and key procedures issued and approved by COMPANY					
3.4	Detailed Engineering Design including PDMS Model completed. All design reviews required to guarantee technical integrity including HAZOP, SAFOP, FRPRAN, HAC, SIL Classification,					

	Layout Reviews, PDMS, Constructability, Independent Design review, etc					
3.5	Delivery of all Engineering Handover data (including as-built documentation and drawings) and acceptance by COMPANY.					
3.6	Final Engineering Close out Report issued and Accepted by COMPANY					
Total Lump sum price for Design & Engineering						

ITEM	WORK ELEMENT	LUMP SUM PRICE		NIGERIAN CONTENT			N C P	
		Total Cost		NC VALUE				
		N aira (NGN)	U S Dollar (US\$)	N aira (NGN)	U S Dollar (US\$)			
4	Procurement							
4.1	Procurement of Major and Long Lead Equipment/Materials including FAT, Delivery, Site storage and Preservation							
4.2	TEG Dehydration Package complete with ancillary accessories							
4.3	Air Cooler							
4.4	Inlet Separator							
4.5	Fiscal Metering train							
4.6	Integrated Control and Safe Guarding Systems							
4.7	2.0MVA 11/0.72kV Transformer/11KV feeder							

4.8	Glycol Reboiler Heater Control Panel				
4.9	Valves				
4.10	Bulk Materials (Civil/Structural, Electrical, Instruments, Mechanical, Piping, etc)				
4.11	Pre-commissioning and Commissioning spares, insurance spares, consumables, first fills for commissioning, Testing equipment and Procurement close out				
Total Lump sum Price for Procurement					

ITEM	WORK ELEMENT	LUMP SUM PRICE		NIGERIAN CONTENT			N C P
		Total Cost		NC VALUE		C	
		Naira (NGN)	U.S. Dollar (US\$)	Naira (NGN)	U.S. Dollar (US\$)	Percentage	
5	Shop Fabrication Works (inc. inspection & Testing)						
5.1	Shop Fabrication of mechanical, piping, ancillary units and associated in plot piping						
5.2	Shop Fabrication of structural steel						
Total Lump sum Price for Shop Fabrication							

ITEM	WORK ELEMENT	LUMP SUM PRICE		NIGERIAN CONTENT		N C
		Total Cost		NC VALUE		

		Naira (NGN)	U.S Dollar (US\$)	Naira (NGN)	U.S Dollar (US\$)	Percentage
6	Construction & Installation (inc. Inspection & Testing) Brownfield works Gbaran CPF					
6.1	Site preparations and Foundation Works for all equipment/vessels etc					
6.2	Structural works including, access platforms, pipe rack modifications, support structures, etc for all equipment and piping					
6.3	All other Civil works (Filling, Pavings, drainages, Landscaping ,etc)					
6.4	Equipment Installations (TEG Package, Air cooler and Inlet Seperator, etc)					
6.5	Mechanical Installations, tie-ins/erection and hook-up works					
6.6	Piping Installations, tie-ins/erection and hook-up works					
6.7	Electrical Installations, tie-ins and hook-up works					
6.8	Instrumentation Installations, tie-ins and hook-up works including tie-in of the new fiscal metering train					
6.9	Cathodic Protection (Sacrificial anode) system Installation and Hook-up work completed (excludes pipeline related CP systems)					

Total Lump sum Price for Construction & Installation							
ITEM	WORK ELEMENT	LUMP SUM PRICE		NIGERIAN CONTENT			
		Total Cost		NC VALUE		C	
		N aira (NGN)	U S Dollar (US\$)	N aira (NGN)	U S Dollar (US\$)	U percentage	P
7	Flawless and Asset Management deliverables						
7.1	Flawless Implementation in line with COMPANY requirements						
7.1.1	Implementation of the FPD Plan: 50% of FPD workshops and reviews conducted and 90% of the resulting actions closed out.)						
	Implementation of the FPD Plan: 100% of FPD workshops and reviews conducted and the resulting actions closed out.						
7.2	Asset Management Deliverables						
7.2.1	Work procedure and resources in place and qualified CONTRACTOR staff deployed for developing of all project handover data as listed in the SoW						
7.2.2	First cut delivery of ALL project handover data for initial review (CMMS, Asset Register, E-SPIR, etc), including manuals, etc before pre-commissioning commences.						

7.2.3	Final submission of ALL updated project handover data (CMMS, Asset Register, E-SPIR, etc), including As-builts, and manuals after all commissioning activities completion					
	Total Lump sum Price Flawless and Asset Management deliverables					

ITEM	WORK ELEMENT	LUMP SUM PRICE		NIGERIAN CONTENT		
		Total Cost		NC VALUE		C
		Naira (NGN)	U.S. Dollar (US\$)	Naira (NGN)	U.S. Dollar (US\$)	P
8	Pre-commissioning and Commissioning					
8.1	Pre-commissioning Activities					
8.1.1	Pre-Commissioning activities completed, including pre-Start-Up Audit completed, and All CONTRACTOR's actions closed-out for the CPF Upgrade works. Hand marked 'As-Builts' issued and Ready for Commissioning (RFC) achieved					
8.2	Commissioning activities					
8.2.2	Commissioning activities completed, including 12hrs steady state run, 72 hours performance test completed, 90 days reliability and close-out report accepted by COMPANY					

Total Lump sum Price for Pre-commissioning and Commissioning				
---	--	--	--	--

ITEM	WORK ELEMENT	LUMP SUM PRICE		NIGERIAN CONTENT		
		Total Cost		NC VALUE		C
		Naira (NGN)	U.S. Dollar (US\$)	Naira (NGN)	U.S. Dollar (US\$)	P
9	Demobilisation					
9.1	Demobilisation of temporary site facilities, offices/workshops from site, including site clean-up, reconciliation and return to COMPANY all surplus materials.					
9.2	Demobilisation of all equipment and personnel from site					
9.3	Submission and acceptance by COMPANY of the Project Close-out Report					
Total Lump sum Price for Demobilisation						

S/N	Activity	Percentage (%) Markup on Net Price
1	(Capital) Spares	
	Customs Clearance	
2	(OEM) Personnel training in Nigeria	
3	Items Procured Outside Nigeria - the mark-up includes; ALL handling, freight, provisions for profits and overheads, transportation, HSE, agents fees and loading on vessel in country of purchase; clearance, agent fees, off-boarding and transportation to worksite within Nigeria	
4	Item Procured inside Nigeria - the mark-up include handling, provisions for profits and overheads, HSE, and transportation to worksite within Nigeria	
5	Reimbursable items Mark up – (Other Miscellaneous Services by CONTRACTOR)	

3. PROFIT

- (a) CONTRACTOR's profit is included in any reference to lump sums, prices, amounts, rates, charges and percentages in this SCHEDULE OF PRICES and the Bills of Approximate Quantities

4. PROJECT MANAGEMENT

- 4.1 The element of the CONTRACT PRICE for the part of the WORK that comprises Project Management shall be determined in accordance with this Article.
- 4.2 The price for Project Management shall be deemed to include the CONTRACTOR's Project Management personnel, facilities and resources associated with the project from the EFFECTIVE DATE to COMPLETION, which shall include, but not be limited to, the requirements as defined in Section V - Scope of Work – Project Management.
- 4.3 The price for Project Management shall include the costs of profit and overheads associated with the requirements of Section V - Scope of Work – Project Management.
- 4.4 All costs associated with obtaining and maintaining swimming test certification for CONTRACTOR personnel is for CONTRACTOR'S account. COMPANY shall not consider claims arising from a failure to obtain swimming test certification for CONTRACTOR personnel. Any costs incurred by the CONTRACTOR as a result of delays in execution of the WORK due to failure to obtain swimming test certification shall be borne by CONTRACTOR.

5. HSSE AND SOCIAL PERFORMANCE (SP)

- 5.1 The element of the CONTRACT PRICE for the part of the WORK that comprises CASHES (Community Affairs, Safety, Health, Environment and Security) shall be determined in accordance with this Article.
- 5.2 The Lump Sum for CASHES shall be deemed to include for the CONTRACTORS' HSSE/SP personnel, facilities and resources associated with the project from the EFFECTIVE DATE to COMPLETION, which shall include, but not be limited to, the requirements as defined in Section V – Scope of Work and Section VIII - HSSE and SP.
- 5.3 The Lump Sum for CASHES shall include the costs of profit and overheads associated with the requirements of Section V – Scope of Work and Section VIII - HSSE and SP.

6. VARIATIONS

6.1 General

- (a) The amount to be paid for any VARIATION will be determined in accordance with this Article and will be on the basis stated on the Variation Form, contained in Section VII – Administration Instructions, as authorised by COMPANY. Such basis may be the same as or different from a basis specified for the preparation of an estimate of the effect of the VARIATION.

6.2 Estimates for VARIATIONS

(b) COMPANY will specify the basis upon which estimates for the effects of a VARIATION will be determined. Preference for the method to be applied will be in the following order:

i. Lump sum

Where CONTRACTOR is requested to provide a fixed lump sum for COMPANY agreement for a VARIATION, CONTRACTOR'S estimate will be prepared using CONTRACTOR'S normal estimating methods supported by complete estimating details including quantity take-offs, man-hour breakdowns by individual work operations, man-hours by trade and/or discipline and unit pricing to provide a lump sum.

ii. Measured Work Unit Rates

Where CONTRACTOR is requested to provide a price for a VARIATION based upon measured work unit rates, CONTRACTOR'S estimate will be prepared using the CONTRACT measured work unit rates for a VARIATION included in the Bills of Approximate Quantities and broken down into the respective discipline areas necessary to complete the VARIATION.

iii. Dayworks

Where CONTRACTOR is requested to provide a price for a VARIATION based upon daywork rates, CONTRACTOR'S estimate will be prepared by applying the estimated increase or decrease in the time attributable to the VARIATION to the corresponding daywork rates included in the Appendix 1 - Schedule of Daywork Rates. The estimate will provide complete estimating details as follows:

- A. Numbers and discipline of personnel
- B. Man-hours
- C. CONTRACTOR EQUIPMENT type and hours worked
- D. Planned start and finish of each task
- E. Duration of each task

iv. Reimbursable Cost

Where CONTRACTOR is requested to provide an estimated price for a VARIATION on a reimbursable basis CONTRACTOR'S estimate will be based upon:

- A. Labour Unit Rates provided under Appendix 1 – Schedule of Daywork Rates.
- B. CONTRACTOR EQUIPMENT Rates provided under Appendix 1 – Schedule of Daywork Rates.
- C. NET COST of third party personnel, services, materials, plant and/or equipment and consumables plus a mark-up on the NET COST of the relevant lump sum charge set out in Appendix I – 3.0 Schedule of Miscellaneous Charges. Such lump sum charge will be deemed to include for all CONTRACTOR'S costs, overheads and contribution to profit in respect of the provision of such personnel, services, materials, plant, equipment and

consumables including but not be limited to procuring, expediting, receiving, materials handling, inspection and the like and obtaining of all necessary certification documents for these items as per Appendix I - 3.0 Schedule of Miscellaneous Charges

6.3 Evaluation of VARIATIONS

- (c) The basis to be specified by COMPANY for the evaluation of any VARIATION will be one or more of those described in sub-article 6.2 in this SCHEDULE OF PRICES and the Bills of Approximate Quantities, except that, apart from where a lump sum basis is specified, actual quantities and time units will be used instead of estimates. Where a lump sum is agreed between the PARTIES it will not be subject to change except as a result of a further VARIATION.

6.4 Rates Prices and percentages

- (a) All rates, prices and percentages contained in this SCHEDULE OF PRICES and the Bills of Approximate Quantities are to apply equally to executing any VARIATION regardless of location, large or small quantities or whether it is an addition or reduction to the SCOPE.
- (b) Where required, additional rates will be established on a basis consistent with the existing rates included in this SCHEDULE OF PRICES and the Bills of Approximate Quantities and such new rates will be established using one of the following methods:
 - (i) Proration of Existing Rates

The existing rates being interpolated or prorated to establish the new rates for similar work; or
 - i. Setting of New Rates

Where interpolation or prorating of existing rates is not appropriate and no similar rate can be used as a basis for establishing an additional rate, then the new rate will be established in a manner consistent with the make-up of the relevant existing rate. New rates will be developed by CONTRACTOR and agreed by COMPANY prior to such rates being used to evaluate a VARIATION. New rates when approved by COMPANY will remain valid for the remainder of the CONTRACT. In the event that COMPANY and CONTRACTOR cannot agree on any additional rate, COMPANY will proceed in accordance with sub-article 8.7 of VARIATIONS (Section IIIA)

7. PAYMENT SCHEDULE

7.1 PAYMENT MILESTONES

- (a) The CONTRACT PRICE will be paid as and when the CONTRACTOR achieves PAYMENT MILESTONES as defined in PAYMENT MILESTONES schedule. The amount due at each PAYMENT MILESTONE will be calculated based on
 - (i) a proportion of the Preliminaries, related to the Contractor's progress in completing the SCOPE
 - (ii) re-measurement of the actual quantities of measured work executed,
 - (iii) the value of VARIATIONS completed.
- (b) Please refer to Appendix V.1 – PAYMENT MILESTONES SCHEDULE of this Section IV for details of how the CONTRACT PRICE will be paid.

Milestone Breakdown of Contract Price

(Insert if available and applicable)

- (c) A milestone will be agreed as complete after COMPANY issues the relevant PAYMENT MILESTONE CERTIFICATE to CONTRACTOR in accordance with Section VII – Administration Instructions.
- (d) Following receipt by CONTRACTOR of the relevant PAYMENT MILESTONE CERTIFICATE, CONTRACTOR will be entitled to invoice for the amount calculated in accordance with 5.1 (a) to the relevant PAYMENT MILESTONE when the next invoice for payment becomes due in accordance with the CONTRACT.

7.2 Payment of VARIATIONS

- (a) VARIATIONS will be allocated to PAYMENT MILESTONES according to the following arrangements, in the following order of preference:
 - (i) Where feasible the value of the VARIATION will be allocated to the PAYMENT MILESTONE(s) most influenced by the change;
 - (ii) If necessary, an additional PAYMENT MILESTONE may be created (or an existing PAYMENT MILESTONE deleted) to cover the VARIATION scope;
 - (iii) Where the SCOPE under the VARIATION has yet to be executed the value will be distributed over future PAYMENT MILESTONES, pro rata;
 - (iv) Where the SCOPE under the VARIATION affects more than one PAYMENT MILESTONE the value will be distributed over all the PAYMENT MILESTONES affected by the VARIATION, prorate; and
 - (v) To the extent that the value of the VARIATION relates to a PAYMENT MILESTONE(S) for which a PAYMENT MILESTONE CERTIFICATE has already been issued, CONTRACTOR will be entitled to include such values in the next invoice.
- (b) Where COMPANY agrees to a VARIATION on the basis of reimbursable cost CONTRACTOR will be entitled to claim payment for any such reimbursable cost after CONTRACTOR has paid such costs and provided proof of payment to COMPANY. CONTRACTOR will be entitled to include such values in the next invoice following submission and written acceptance by COMPANY of the amounts claimed.

8. SUSPENSION BY COMPANY FOR CONVENIENCE

- (a) In the event that COMPANY issues a notice in respect of SUSPENSION of all or any part of the SCOPE in accordance with COMPANY's right to SUSPENSION for convenience (sub-article 5.2 of Section IIIB), then only the items described below in this Article, and only where relevant, shall be included in the evaluation of any subsequent VARIATION.
 - (i) CONTRACTOR KEY PERSONNEL
 - (A) To the extent that it is not possible for CONTRACTOR to use or reduce the numbers of CONTRACTOR PERSONNEL or to reallocate them to other work after obtaining approval in advance from COMPANY for any such reallocation, CONTRACTOR shall be entitled to payment for such CONTRACTOR KEY PERSONNEL for the period of suspension, or such lesser periods as may be appropriate having taken into account any periods of reallocation. Payment for such CONTRACTOR KEY PERSONNEL shall be at the appropriate rates included in Appendix I – 2 – Schedule of Daywork Rates or if not applicable at NET COST.
 - (ii) Facilities
 - (A) To the extent that it is not possible for CONTRACTOR to use or reallocate to other work the approved WORKSITE office and fabrication facilities

specifically allocated to performance of SCOPE, after obtaining approval in advance from COMPANY for any such reallocation, CONTRACTOR shall be entitled to payment for such facilities for the period of suspension or such lesser periods as may be appropriate having taken into account any periods of utilisation as described above. Payment for such facilities shall be at the appropriate rates included in Appendix I - 2– Schedule of Daywork Rates where applicable or if not applicable at NET COST.

(iii) CONTRACTOR EQUIPMENT

- (A) To the extent that it is not possible for CONTRACTOR to use or reallocate approved CONTRACTOR EQUIPMENT specifically allocated to performance of SCOPE to other work after obtaining approval in advance from COMPANY for any such reallocation, CONTRACTOR shall be entitled to payment for such CONTRACTOR EQUIPMENT for the period of suspension or such lesser periods as may be appropriate having taken into account any period of use or allocation. Payment for such CONTRACTOR EQUIPMENT shall be the appropriate rates included in Appendix I - 2– Schedule of Daywork Rates where applicable or if not applicable at NET COST.

(iv) Protection, Securing, Preservation and Storage

- (A) If applicable, CONTRACTOR shall be paid for any work to protect, secure, preserve and store the SCOPE. Payment for such work shall be at the appropriate rates included in Appendix I - 2– Schedule of Daywork Rates where applicable or if not applicable at NET COST. No payment will be due for storage of CONTRACTOR'S fabrication facilities, the costs of which are deemed to be included in (b) above.

(v) Removal of Measures to Protect, Secure, Preserve and Removal of SCOPE from Storage after lifting of suspension.

- (A) If applicable, CONTRACTOR shall be paid for any work to remove measures to protect, secure, preserve and remove SCOPE from storage after lifting suspension. Payment for such work shall be at the appropriate rates included in Appendix I - 2– Schedule of Daywork Rates where applicable or if not applicable at NET COST.

9. TERMINATION BY COMPANY TERMINATION FOR CONVENIENCE

9.1 In the event of termination of all or part of the SCOPE in accordance with COMPANY's right to termination for convenience (sub-article 5.4 of Section IIIB), the amount due to CONTRACTOR shall comprise the payments stated in sub-article 5.4 (b) plus the following items:

- (a) The NET COST to CONTRACTOR of any equipment, materials or supplies reasonably ordered for the terminated part of the WORK which have been delivered to CONTRACTOR or for which CONTRACTOR is legally liable to accept delivery and which CONTRACTOR no longer requires as a result of such termination

10. LIQUIDATED DAMAGES

- (b) If CONTRACTOR fails to complete a part of the SCOPE by the relevant date set out in the SCHEDULE OF KEY DATES, CONTRACTOR will be liable to COMPANY for LIQUIDATED DAMAGES. The amounts of such LIQUIDATED DAMAGES will be as specified in Appendix 2 to this SCHEDULE OF PRICES. Payment of LIQUIDATED DAMAGES by CONTRACTOR shall not relieve CONTRACTOR from its obligations to complete the SCOPE in accordance with the CONTRACT.
- (c) LIQUIDATED DAMAGES that may become due on failure to complete in accordance with the SCHEDULE OF KEY DATES will based on a complete calendar day of 24 hours starting at 0.00 hours. No amounts will be payable for parts of a day. LIQUIDATED DAMAGES will accrue from 0.00 hours on the day following the date of the event in the SCHEDULE OF KEY DATES.
- (d) If CONTRACTOR without the prior written approval of COMPANY (which approval shall not be unreasonably withheld) withdraws KEY PERSONNEL from the WORK or replaces KEY PERSONNEL, CONTRACTOR will be liable to COMPANY for LIQUIDATED DAMAGES, set out in Appendix 2 to this SCHEDULE OF PRICES.
- (e) In the event that CONTRACTOR is liable to pay LIQUIDATED DAMAGES, COMPANY will send CONTRACTOR a written notification.
- (f) Unless otherwise mutually agreed to the contrary, the maximum cumulative amount payable by the CONTRACTOR to COMPANY in respect of all liquidated damages shall not exceed five per cent (5%) of the CONTRACT PRICE at the EFFECTIVE DATE OF THE COMMENCEMENT OF THE CONTRACT.

11. COMMUNITY DELAY

11.1 Applicable Percentage Stand-By Rates during Community Delay

Subject to the provisions of Section IIIB – General Terms and Conditions, article headed COMMUNITY DELAY, when all or part of the WORK is delayed due to a COMMUNITY DELAY occurrence, the CONTRACTOR shall be entitled to payment for all CONTRACTOR PERSONNEL plant and equipment normally based at the affected WORKSITE and engaged in the performance of the part of the WORK directly impacted by a COMMUNITY DELAY as follows:

Cumulative Periods (applicable to each Occurrence)	The following percentages shall be applied to the Variation rates specified in this Section IV.
0 – 3 Working days	0%
4 – 7 Working Days	75%
8 – 14 Working days	60%
15 – 21 Working days	40%
More than 21 Working days	20 %

11.2 Applicable Rates For Demobilisation And Remobilisation As A Result Of Community Delays.

Subject to the provisions of Section IIIB – General Terms and Conditions, the Article headed COMMUNITY DELAY, when all or part of the WORK is delayed due to a COMMUNITY DELAY occurrence, the CONTRACTOR shall be entitled to payment for all Demobilisation and subsequent re-mobilisation costs where applicable for CONTRACTOR PERSONNEL plant and equipment engaged in the performance of the part of the WORK directly impacted by a COMMUNITY DELAY agreed by COMPANY to be de- mobilised and subsequently re-mobilised at the applicable rates.

APPENDIX V.1 – PAYMENT MILESTONES Schedule

APPENDIX V.2 - Liquidated Damages and SCHEDULE OF KEY DATES

a). Liquidated Damages and SCHEDULE OF KEY DATES

Part of the SCOPE	SCHEDULE OF KEY DATES, which may be adjusted in accordance with the CONTRACT	Liquidated Damages for each day or part of a day beyond SCHEDULE OF KEY DATES, (US\$/Day)]
EFFECTIVE DATE OF COMMENCEMENT OF CONTRACT		Not Applicable
SCHEDULED HANDOVER DATE		Not Applicable
MOBILIZATION FOR DESIGN		Not Applicable
MOBILIZATION FOR SITE CONSTRUCTION		Not Applicable
SCHEDULED MECHANICAL COMPLETION		TBA
SCHEDULED 1 ST GAS DATE		TBA
SCHEDULED COMPLETION DATE		TBA

APPENDIX 1: Schedule of Day Work Rates**APPENDIX A – SCHEDULE OF RATES FOR VARIATIONS: MISCELLANEOUS SERVICES PROVIDED BY CONTRACTOR FOR COMPANY**

			Lump sum Fixed Prices
Item	Description	Unit	Naira (NGN)
	<i>Office Facilities</i>		
1	One Office and all facilities suitable for 1 person	day	
2	One Office and all facilities suitable for 2 persons	day	
3	One Office and all facilities suitable for 3 persons	day	
4	One Meeting room for twenty persons complete with facilities as described SoW	day	
5	A0 Reproduction Charges: Photocopy	No	
6	A1 Reproduction Charges: Photocopy	No	
7	A2 Reproduction Charges: Photocopy	No	
8	A3 Reproduction Charges: Photocopy	No	
9	A4 Reproduction Charges: Photocopy	No	
10	3D CAD Terminal complete with software in Engineering Base	day	
	<i>Living, Accommodation and Facilities</i>		
11	One Living Accommodation and Facilities for one.	day	
	<i>Messing (Not at Site)</i>		
12	Provision of breakfast for COMPANY personnel per person	No	
13	Provision of lunch for COMPANY personnel per person	No	
14	Provision of dinner for COMPANY personnel per person	No	
	<i>Messing at Site</i>		
15	Provision of breakfast for COMPANY personnel per person	One	
16	Provision of lunch for COMPANY personnel per person	One	
17	Provision of dinner for COMPANY personnel per person	One	

**APPENDIX B – SCHEDULE OF RATES FOR VARIATIONS: LABOUR AND WORKING SUPERVISION
RATES: WORKS CARRIED OUT BY EXPATRIATES**

Labour rates per day worked shall include for the provision of all small tools, items of minor equipment and consumables (except for electrodes) and all-inclusive rate for the use of such labour

Item	Description	Lump sum Fixed Prices							
		Hourly Rate		Day Rate		Weekly Rate		Monthly Rate	
		Naira (NGN)	US\$	Naira (NGN)	US\$	Naira (NGN)	US\$	Naira (NGN)	US\$
1	Project Manager								
2	Project Engineer								
3	Lead Engineer								
4	QA/ QC Supervisor								
5	Discipline Engineer								
6	Rotating Equipment Specialist								
7	Piling Supervisor								
8	Welder Specialist								

During periods of standby or suspension, expressed as a of percentage of the Working Rate	
---	--

During periods of standby as a result of Force Majeure, expressed as a of percentage of the Working Rate	
--	--

**APPENDIX C – SCHEDULE OF RATES FOR VARIATIONS: LABOUR AND WORKING SUPERVISION
RATES: WORKS CARRIED OUT BY NIGERIANS**

Labour rates per day worked shall include for the provision of all small tools, items of minor equipment and consumables (except for electrodes) and all-inclusive rate for the use of such labour

LABOUR AND WORKING SUPERVISION RATES: WORKS CARRIED OUT BY NIGERIANS					
Item	Description	Lump sum Fixed Prices			
		Hourly Rate (Naira)	Day Rate (Naira)	Weekly Rate (Naira)	Monthly Rate (Naira)
1	Project Manager				
2	Deputy or Site Manager				
3	Administration/ Procurement / Engineering/ QA Manager.				
4	Site Superintendent				
5	Project Engineer				
6	Lead Engineer				
7	QA/ QC Supervisor				
8	Safety Supervisor				
9	Senior Discipline engineer				
10	Discipline Engineer				
11	Junior Discipline Engineer				
12	CAD Designer				
13	Junior CAD Designer				
14	Simulation Specialist				
15	Rotating Equipment Specialist				
16	Technical Assistant				
17	Foreman				
18	Welder				
19	Civil Tradesman				
20	Stock Controller				
21	Welder Specialist (coded)				
22	Operator				
23	Planning and Cost Control				
24	Accountant / Buyer				
25	Materials Co- coordinator				
26	Site Supervisor / Engineer				
27	Carpenter				
28	Cooks				

29	Stewards					
30	Driver Light Duty					
31	Driver Heavy Duty					
32	Logistic Co- coordinator					
33	Labour / Attendants					
34	Commissioning / Project Co- coordinator					
35	Occupational Health Physician					
36	Nurse					
37	Community Liaison Officer					
38	Painter					
39	Pipe Fitter					
40	Rigger/Scaffolder					
41	Radiographer					
42	Radiographer Assistant					
43	Grit Blaster					
44	Security Officer					
45	Surveyor					
46	Contract Engineer					
47	Cost Engineer					
48	Electrical Technician					
49	Watchman					
50	Instrument Technician					
51	Fireman					
52	Fabrication Supervisor					
53	Document Controller					
54	Pilling supervisor					
55	Pilling Foreman					
56	Secretary					
57	Plumber					

During periods of standby or suspension, expressed as a percentage of the Working Rate	
--	--

During periods of standby as a result of Force Majeure, expressed as a percentage of the Working Rate	
---	--

APPENDIX D – SCHEDULE OF RATES FOR VARIATIONS: (PLANT & EQUIPMENT)

Plants & equipment day work rates including certified driver/operator, fueling & maintenance

PLANT AND EQUIPMENT WORK RATES:				
Item	Description	Day Rate	Weekly Rate	Monthly Rate
		Naira (NGN)	Naira (NGN)	Naira (NGN)
1	Mobile Crane 15 Tonnes			
2	Mobile Crane 50 Tonnes			
3	Mobile Crane 100 Tonnes			
4	Mobile Crane 150 Tonnes and above			
5	Crane, barge mounted, 100 tonne capacity			
6	Crane, barge mounted, 150 tonne capacity			
7	Crawler Crane – 50 tonnes			
8	Crawler Crane – 100 tonnes			
9	Hydraulic Crane 15 Tonnes			
10	Hydraulic Crane 30 Tonnes			
11	Barge, 500 tonne capacity			
12	Barge, 1000 tonne capacity			
13	Water barge, 700 tonne capacity			
14	Ramp Barge up to 1000 Ton			
15	Pipe Barge - 1,500 tonnes			
16	Fuel barge, 700 tonne capacity			
17	Machine/bevel barge (500 tonne)			
18	Tugboat, 500hp			
19	Tugboat, 700hp			
20	Tugboat, 850hp			
21	Tugboat, 1000hp			
22	House Boat Junior Staff incl. generator (up to 20 men)			
23	House Boat Junior Staff incl. generator (20-40 men)			
24	House Boat Senior staff (up to 40 men)			
25	House Boat Junior Staff (Security)			
26	Grader CAT 140 or similar			
27	Flat bed Truck 2 Tonne			
28	Flat bed Truck 7.5 Tonne			
29	Passenger Bus 30 Seater			
30	2 Tonne truck with HIAB Crane			
31	7.5 Tonne truck with HIAB Crane			
32	Fuel/Lubrication Truck			
33	Water Bowser 6000 Litres			
34	4x4 Pick-up Truck			
35	4x4 Suburban			

36	Low Bed Trailer 35 Tonne with Tractor			
37	Low Bed Trailer 50 Tonne with Tractor			
38	Welding set Diesel 200 amp			
39	Welding set Diesel 300 amp			
40	Welding set Diesel 400 amp			
41	TIG Welder			
42	Hydraulic Pipe Bending Machine			
43	Grinding Machine			
44	Drilling Machine			
45	50-300 Tape-streamer			
46	Cutting/burning Gear complete set			
47	Diesel Compressor 140 CFM			
48	Diesel Compressor 250 CFM			
49	Diesel Compressor 325 CFM			
50	Diesel Compressor 600 CFM			
51	Diesel Compressor 750 CFM			
52	Diesel Generator 3.5 KVA			
53	Diesel Generator 20 KVA			
54	Diesel Generator 50 KVA			
55	Diesel Generator 80 KVA			
56	Diesel Generator 250 KVA			
57	Fill Pump 1000 gpm			
58	Fill Pump 2000 gpm			
59	Fill Pump 3000 gpm			
60	Test Pump 300 PSI			
61	Test Pump 5000 PSI			
62	Low bed trailer with Hydrotest Equipment incl. Tanks			
63	Water Storage tank 20,000 litres			
64	Airless Spray Paint set + 2 guns & hoses			
65	Grit Blast Pot with hoses & 2 blast guns			
66	Fuel tanker 30,000 Liters			
67	Land skid/Roller, Rails			
68	Swamp excavator, Cat 215 or similar			
69	Swamp excavator, Cat 225 or similar			
70	Pull buggy			
71	Little Giant backhoe or dragline			
72	Personnel boat, 20 person capacity			
73	Personnel boat, 12 person capacity			
74	Bucket dredge, or dragline, 3.0 cubic metre capacity			
75	A-frame tie-in pontoon c/w winch			
76	Diesel twin engine fast boat (8 passengers)			
77	Excavator Cat 225 with rock-hammer			
78	Excavator Cat 235 with rock-hammer			

79	Concrete Mixer (240 Liters)			
80	Landing Craft			
81	Speedboat 2 X 50 hp			
82	Concrete Mixer Truck			
83	12-18" Internal Line up Clamp			
84	12-18" External Line up Clamp			
85	Test Pontoon			
86	Speedboat 2 X 50 hp			
87	Forklift Truck 2 Tonnes			
88	Forklift Truck 4 Tonnes			
89	Dozer D8 or similar			
90	Dozer D9 or similar			
91	Flat Wagon 10 Tonnes			
92	Hydraulic Jack 20 Tonnes			
93	Hydraulic Jack 100 Tonnes			
94	Tipper truck 20 Tonnes			
95	Excavator with back-hoe JCB or similar			
96	Excavator CAT 225 or similar			
97	Excavator CAT 325 or similar			
98	Font end Loader CAT 950 or similar			
99	CAT 950 Sideboom or similar			
100	Grader CAT 120 or similar			
101	Grader CAT 140 or similar			
102	Personnel Car (Saloon 2000cc)			
103	Ambulance			
104	Passenger Bus 16 Seater			
105	Pickup 4WD (Single Cabin) Toyota Hilux or approved equivalent			
106	Pickup 4WD (double Cabin) Toyota Hilux or approved equivalent			
107	Land cruiser 4WD (Prado)			
108	Holiday Detector			
109	Piling Equipment and Leader			
110	Filling pump (15bar)			
111	High Pressure Test Pump (up to 250 bar)			
112	Dewatering Pump			
113	Fuel Tanker 30 Tonnes			
114	Water Tanker + Pump			
115	40fts Storage Container			
116	T2 Theodolite			
117	EDM (Distomat)/Accessories			
118	T2 Theodolite			
119	EDM (Distomat)/Accessories			

120	Automatic Leveling instrument			
121	Echo Sounder			
122	Total Station (TCR 3107 or equivalent)			
123	GPS Survey system			
124	Automatic Welding Equipment			
125	NDT Equipment X-ray or UTA			
126	Punch Machine			
127	Sawing / Cutting Machine			
128	Plate Cutting Machine			
129	Profile Cutter			
130	Plate Bending Machine			
131	Drilling Machine (Pedestal Mounted)			
132	Hydraulic Press			
133	Face Machine			
134	Horizontal Miller Universal Head Table			
135	Lap-top computer with modem			
136	One Desk top Computer minimum 100GB hard drive, 3GB RAM , 2.5GHz processor speed complete with laserjet printer			
137	One Low Volume Free- Standing Photocopier Make Model			
138	One Medium Volume Free Standing Photocopier with automatic document feeder and 20-bin sorter. Make Model			
139	One hand held walkie- talkie radio receiver/ transmitter with charger facilities			
140	One Mobile cell phone including all phone COMPANY charges			
141	Wellpoint dewatering system with 500 GPM pumps			
142	Wellpoint dewatering system with 1500 GPM pumps			

During periods of standby or suspension, expressed as a of percentage of the Working Rate

During periods of standby as a result of Force Majeure, expressed as a of percentage of the Working Rate
--

APPENDIX E – SCHEDULE OF RATES FOR VARIATIONS: CIVIL WORKS

In the event that COMPANY requires CONTRACTOR to carry out Site Preparations works at remote manifold locations, including site clearance and sand fill operations, COMPANY shall re-imburse CONTRACTOR at the following rates.

The rates shall apply irrespective of distance required to transport sand to remote manifold location and quantity of sand fill required.

CIVIL WORKS AT REMOTE LOCATIONS AND CPF			
1	Bush clearance according to the project site clearance specification (ref. Document GBU-4510196993-GEN-CS7880-00009)		
Item	Civil Works at Remote Locations and CPF	Unit	Naira (NGN)
1.1	Light	sq.m	
1.2	Medium	sq.m	
1.3	Thick	sq.m	
2	Sand Filling		
2.1	Supply and haul to site, sharp sand from CONTRACTOR's stockpile not exceeding 20km from site.	cu.m	
2.2	Supply and haul to site, company approved volumes of sharp sand from CONTRACTOR's stockpile not exceeding 50km from site.	cu.m	
2.5	Place and compact sand/filling material in layers of 150mm	cu.m	
2.6	Excavation		
2.6.1	Excavation of trench in soil up to 1.5m depth, including all shoring and dewatering.	cu.m	

CIVIL WORKS AT REMOTE LOCATIONS AND CPF			
2.6.2	Excavation of trench in soil exceeding 1.5m depth, including all shoring and dewatering	cu.m	
2.6.3	Bulk excavation in soil not exceeding 3m depth, including all shoring and dewatering	cu.m	
2.6.4	Bulk excavation in soil exceeding 3m depth, including all shoring and dewatering	cu.m	
2.6.5	Scarfify existing surface and remove top soil to depth of 300mm and compact	Cu.m	
3 Steel Pile Installation			
3.1	Setting out of each piling point	Nos	
3.2	Supply and deliver heavy duty ø406mm steel tubular piles, each 12m long	Nos	
3.3	Handle, pitch and drive ø406mm steel cased piles, including jointing of piles	m	
3.4	Supply and weld 16mm x ø420mm shoe plate on piles	Nos	
3.11	Jointing of steel casings	Nos	
3.12	Trimming of pile head to required elevation	Nos	
3.13	Supply and weld 16mm plate pile cap on piles	Nos	
3.14	Supply and weld 20mm plate pile cap on piles	Nos	
3.15	Supply and weld 25mm plate pile cap on piles	Nos	
4 Rates for upward downward variation of steel piles depth			
4.1	All inclusive price for the provision and installation of ø406mm steel pile	meter	
5 Pipe Support Foundations			
5.1	All inclusive rate for the supply and installation of a project typical pipe support foundation (Reference PSF1) as per project specifications	Nos	
5.2	All inclusive rate for the supply and installation of a project typical pipe sleeper Type 1 as per project specifications	Nos	
5.3	All inclusive rate for the supply and installation of a project typical pipe sleeper Type 2 as per project specifications	Nos	
5.4	All inclusive rate for the supply and installation of a project typical miscellaneous pipe sleeper (Reference MP) as per project specifications	Nos	
5.5	All inclusive rate for the supply and installation of a project typical lighting and F&G pole foundation as per project specifications	Nos	
6 Paving			
6.1	All inclusive rate for the supply and installation of 1 meter sq. of light paving (100mm thick) as per project specifications (Ref Drawing GBU-4510196993-GBRS2-CX2397-00034-001)	sq.m	
6.2	All inclusive rate for the supply and installation of 1 meter sq. of heavy duty (road) paving (250mm thick) as per project specifications (Ref Drawing GBU-4510196993-GBRS2-CX2397-00034-001)	sq.m	
6.3	All inclusive rate for the supply and installation of 1 meter sq. of crushed stone paving (250mm thick) as per project specifications (Ref Drawing GBU-4510196993-GBRS2-CX2397-00034-001)	sq.m	
6.4	All inclusive rate for the supply and installation of 1 meter of a 4m wide paved road, including drainage, as per as per project specifications (Ref Drawing GBU-4510196993-GBRS2-CX2397-00034-001, Section A)	meter	

CIVIL WORKS AT REMOTE LOCATIONS AND CPF		
6.5	All inclusive rate for the supply and installation of 1 meter of a 6m wide paved road, including drainage, as per as per project specifications (Ref Drawing GBU-4510196993-GBRS2-CX2397-00034-001, Section B)	meter
6.6	Supply 0-50mm granite crushed rock materials, place and compact to required profile	Cu.m
6.7	Supply, place and grade sharp sand	Cu.m
6.8	MCO/MC1	Sq.m
6.9	Apply Colas A at 1.36litres/sq.m (including sharp sand)	Sq.m
6.10	Lay and compact asphalt (50mm)	Sq.m
7	Block Work	
7.1	Provide all materials and construct 230mm hollow block work, pointed with 25mm thick 1:4 cement/sand mortar.	sq.m
7.2	Provide all materials and construct 150mm hollow block work, pointed with 25mm thick 1:4 cement/sand mortar.	sq.m
7.3	Provide all materials and construct 100mm hollow block work, pointed with 25mm thick 1:4 cement/sand mortar.	sq.m
7.4	Render and Plaster blockwork using 1:4 cement/sand mortar to required finish.	sq.m
8	General Concrete	
8.1	All inclusive rate for the supply and installation of 1 meter cube of general purpose concrete for non major equipments	cu.m
8.2	All inclusive rate for the supply and installation of 1 meter cube of general purpose concrete for non major equipments	cu.m
8.3	Provide, mix and place grade C16/20 concrete with 20mm aggregate and minimum Portland cement content of 280kg/cu.m.	cu.m
8.4	Provide, mix and place grade C25/30 concrete with 20mm aggregate and minimum cement content of 320kg/cu.m.	cu.m
8.5	Provide, mix and place grade C25/30 concrete with 20mm aggregate and minimum cement content of 320kg/cu.m, with rapid hardening or sulphate resisting cement	cu.m
8.6	Provide, mix and place grade C30/37 concrete with 20mm aggregate and minimum cement content of 360kg/cu.m.	cu.m
8.7	Provide, mix and place grade C30/37 concrete with 20mm aggregate and minimum cement content of 360kg/cu.m, with rapid hardening or sulphate resisting cement	cu.m
8.8	Supply, cut, bend and fix high yield reinforcement bars to BS 4449 not exceeding 20mm diameter in concrete.	tonne
8.9	Supply, cut, bend and fix high yield reinforcement bars to BS 4449 exceeding 20mm diameter in concrete.	tonne
8.10	Supply, cut, bend and fix mild steel reinforcement bars to BS 4449 in concrete.	tonne
8.11	Supply, cut, bend and fix A393 BRC to BS 4483 in concrete.	tonne
8.12	Provide, fix and remove fair finish formwork	tonne
8.13	Supply and place C25/30 concrete in piles, with reinforcement and complete with all fittings, handling, pitch raking and cutting-off pile heads as specified by COMPANY	cu.m
8.14	Provide for and carry-out pile load tests to twice the designed loads as directed by the COMPANY.	each

CIVIL WORKS AT REMOTE LOCATIONS AND CPF			
8.15	Demolition of Concrete	Sq.m	
9	Structural Steel Work		
9.1	Fabricate and install structural steel sections for platforms, walkways, pipe racks, pipe supports, shelters, frames	tonne	
9.2	Fabricate and install structural steel accessories like hand rails, ladders, stair cases, etc as required by COMPANY	sq.m	
9.3	Provide and install 25mm chequered galvanized grating to COMPANY specifications	sq.m	
9.4	Provide and install steel plates with thickness exceeding 10 mm	sq.m	
9.5	Provide and install steel plates with thickness not exceeding 25mm	sq.m	
10	Fencing Work		
10.1	Provide and install high security mesh fence complete with 2.5m x 3.3m high fence mesh panels, galvanized poles, bolts all required fence accessories.	m	
10.2	Provide and install 6m wide x 3.3m high, galvanized steel entrance gate with 1.0m pedestrian access	each	
10.3	Provide and install 1.5m wide galvanized steel pedestrian gate.	each	
10.4	Dismantle existing blockwall or high security mesh fence to extents required by COMPANY	m	
11	Dredging		
11.1	Dredging and disposal of spoil from medium/major rivers	cu.m	
11.2	Lump Sum for Mobilisation of dredge spread	LS	
11.3	Lump Sum for Demobilisation of dredge spread	LS	

APPENDIX E – SCHEDULE OF RATES FOR VARIATIONS: ELECTRICAL WORKS

Item	Work Description	Unit	Rate	
			Naira (NGN)	US\$
1	Inter-Site, Main Distribution HV Cables, Installation & Termination			
1.1	Procure and deliver 3cx70 sq.mm 11KV cable with anti-teredo treatment and equipped complete with FO bundle.	meter		
1.2	Lay 3cx70 sq.mm 11KV cable with anti-teredo treatment and equipped complete with f-o bundle.	meter		
1.3	Supply Kits and joint/terminate 3cx70sq.mm 11 KV Cable with anti-teredo treatment and equipped with FO bundle	Nos		
1.4	Supply kits and splice the embedded FO bundle within the 3cx70 sq.mm 11KV cable.	Nos		
1.5	Provide ducting across roads etc. And pass 3cx70 sq.mm. 11KV cable with anti-teredo treatment and equipped complete f-o bundle through ducting.	meter		
1.6	An all inclusive cost for the provision and installation of a 3Cx70 sq.mm 11KV cable.	meter		
2	Other HV Cable			
2.1	Supply and deliver 3cx95mm 11Kv Cable for GTs connection	meter		
2.2	Lay 3cx95 sq.mm 11KV cable for GTs connection	meter		
2.3	Supply kits and splice the embedded f-o bundle within the 3cx95sq.mm 11kv cable	Nos		
2.4	Supply Kits and joint/terminate 3cx95sq.mm 11 KV Cable	Nos		
2.5	Provide ducting across roads etc. And pass 3cx70 sq.mm. 11KV cable with anti-teredotreatment and equipped complete f-o bundle through ducting.	meter		
2.6	An all inclusive cost for the provision and installation of a 3Cx95 sq.mm 11KV cable.	meter		
2.7	Supply and deliver 3cx50mm LV Cable	meter		
2.8	Lay 3cx50 sq.mm LV cable	meter		
2.9	Supply Kits and joint/terminate 3cx50sq.mm LV Cable	Nos		
3	Single Core LV Cables			
3.1	Supply and deliver 1cx630 sq.mm LV Cable	meter		
3.2	Lay 1cx630 sq.mm LV Cable	meter		
3.3	Supply Kits and joint/terminate 1cx630sq.mm LV Cable	Nos		
3.4	Supply and deliver 1cx400 sq.mm LV Cable	meter		
3.5	Lay 1cx400 sq.mm LV Cable	meter		
3.6	Supply Kits and joint/terminate 1cx400sq.mm LV Cable	Nos		

4	Multi-Core LV Cables			
4.1	Supply and deliver 4cx240 sq.mm LV Cable	meter		
4.2	Lay 4cx240 sq.mm LV Cable	meter		
4.3	Supply Kits and joint/terminate 4cx240sq.mm LV Cable	Nos		
4.4	Supply and deliver 4cx185sq.mm LV Cable	meter		
4.5	Lay 4cx185sq.mm LV Cable	meter		
4.6	Supply Kits and joint/terminate 4cx185sq.mm LV Cable	Nos		
4.7	Supply and deliver 4cx150sq.mm LV Cable	meter		
4.8	Lay 4cx150 sq.mm LV Cable	meter		
4.9	Supply Kits and joint/terminate 4cx150sq.mm LV Cable	Nos		
4.1	Supply and deliver 4cx120sq.mm LV Cable	meter		
4.11	Lay 4cx120 sq.mm LV Cable	meter		
4.12	Supply Kits and joint/terminate 4cx120sq.mm LV Cable	Nos		
4.13	Supply and deliver 4cx95 sq.mm LV Cable	meter		
4.14	Lay 4cx95 sq.mm LV Cable	meter		
4.15	Supply Kits and joint/terminate 4cx95sq.mm LV Cable	Nos		
4.16	Supply and deliver 4cx70 sq.mm LV Cable	meter		
4.17	Lay 4cx70 sq.mm LV Cable	meter		
4.18	Supply Kits and joint/terminate 4cx70sq.mm LV Cable	Nos		
4.19	Supply and deliver 4cx50sq.mm LV Cable	meter		
4.2	Lay 4cx50 sq.mm LV Cable	meter		
4.21	Supply Kits and joint/terminate 4cx50sq.mm LV Cable	Nos		
4.22	Supply and deliver 4cx35sq.mm LV Cable	meter		
4.23	Lay 4cx35 sq.mm LV Cable	meter		
4.24	Supply Kits and joint/terminate 4cx35sq.mm LV Cable	Nos		
4.25	Supply and deliver 4cx25sq.mm LV Cable	meter		
4.26	Lay 4cx25 sq.mm LV Cable	meter		
4.27	Supply Kits and joint/terminate 4cx25sq.mm LV Cable	Nos		
4.28	Supply and deliver 4cx16sq.mm LV Cable	meter		
4.29	Lay 4cx16 sq.mm LV Cable	meter		
4.3	Supply Kits and joint/terminate 4cx16sq.mm LV Cable	Nos		
5	Testing of Cable Installations			
5.1	Testing and commissioning electrical cable installation on HV board	per test		
5.2	Testing and commissioning electrical cable installation on LV board	per test		

5.3	Testing and commissioning electrical cable installation on HV Generator	per test		
5.4	Testing and commissioning electrical cable installation on LV Generator	per test		
5.5	Testing and commissioning electrical cable installation on HV Motor	per test		
5.6	Testing and commissioning electrical cable installation on LV Motor	per test		
6	Earthing			
6.1	Supply and install 20 ftx2" galvanised steel earth electrode complete with clamp	Nos		
6.2	Supply and lay 10-16sq.mm earth cable and terminate at both ends	meter		
6.3	Supply and lay 25-35sq.mm earth cable and terminate at both ends	meter		
6.4	Supply and lay 50-70sq.mm earth cable and terminate at both ends	meter		
6.5	Supply and lay 95-120sq.mm earth cable and terminate at both ends	meter		
7	Trenching			
7.1	Excavate standard cable trench	meter		
7.2	Backfill standard cable trench complete with fine sand as per standard drawing S68.009	meter		
7.3	Supply and Lay standard cable tiles for protection of underground cables	Nos		
7.4	Construct cable trench in paved areas as per Standard drawing S19.001	meter		
7.5	Construct cable trench in paved areas as per Standard drawing S68.009	meter		
8	Cable Tray Works			
8.1	Construct galvanised steel cable tray up to 200mm wide	meter		
8.2	Construct galvanised steel cable tray up to 200mm-300mm wide	meter		

APPENDIX E – SCHEDULE OF RATES FOR VARIATIONS: PIPELINE PROCUREMENT, FABRICATION AND INSTALLATION

Item	Work Description	Unit	Lump sum fixed	
			Naira (NGN)	US Dollar (\$)
1.0	Line pipe procurement			
	Procurement of carbon steel line pipes and delivery to coating yard	meter		
1	6inch dia, 15.3mm WT, L450Q/X65	meter		
2	8inch dia, 10.9mm WT, L450Q/X65	meter		
3	8inch dia, 12.5mm WT, L450Q/X65	meter		
4	8inch dia, 14.4mm WT, L450Q/X65	meter		
5	8inch dia, 16mm WT, L450Q/X65	meter		
6	8inch dia, 18mm WT, L450Q/X65	meter		
7	10inch dia, 16mm WT, L450Q/X65	meter		
8	10inch dia, 17.3mm WT, L450Q/X65	meter		
9	10inch dia, 18.1mm WT, L450Q/X65	meter		
10	10inch dia, 20.2mm WT, L450Q/X65	meter		
11	10inch dia, 20.6mm WT, L450Q/X65	meter		
12	10inch dia, 23.7mm WT, L450Q/X65	meter		
13	12inch dia, 18.3mm WT, L450Q/X65	meter		
14	12inch dia, 20.78mm WT, L450Q/X65	meter		
15	12inch dia, 21.8mm WT, L450Q/X65	meter		
16	12inch dia, 25.3mm WT, L450Q/X65	meter		
	Fabrication and Installation			

	All inclusive rate for the installation of Pipeline/Flowline on seasonally flooded terrain, inc excavation, laying, welding, testing, etc.			
17	6inch dia, 15.3mm WT, L450Q/X65	km		
18	8inch dia, 10.9mm WT, L450Q/X65	km		
19	8inch dia, 12.5mm WT, L450Q/X65	km		
20	8inch dia, 14.4mm WT, L450Q/X65	km		
21	8inch dia, 16mm WT, L450Q/X65	km		
22	8inch dia, 18mm WT, L450Q/X65	km		
23	10inch dia, 16mm WT, L450Q/X65	km		
24	10inch dia, 17.3mm WT, L450Q/X65	km		
25	10inch dia, 18.1mm WT, L450Q/X65	km		
26	10inch dia, 20.2mm WT, L450Q/X65	km		
27	10inch dia, 20.6mm WT, L450Q/X65	km		
28	10inch dia, 23.7mm WT, L450Q/X65	km		
29	12inch dia, 18.3mm WT, L450Q/X65	km		
30	12inch dia, 20.78mm WT, L450Q/X65	km		
31	12inch dia, 21.8mm WT, L450Q/X65	km		
32	12inch dia, 25.3mm WT, L450Q/X65	km		
	All inclusive rate for the installation of Pipeline/Flowline on dry land, inc excavation, laying, welding, testing, etc.			
33	6inch dia, 15.3mm WT, L450Q/X65	km		
34	8inch dia, 10.9mm WT, L450Q/X65	Km		
35	8inch dia, 12.5mm WT, L450Q/X65	meter		
36	8inch dia, 14.4mm WT, L450Q/X65	km		
37	8inch dia, 16mm WT, L450Q/X65	km		
38	8inch dia, 18mm WT, L450Q/X65	km		
39	10inch dia, 16mm WT, L450Q/X65	km		
40	10inch dia, 17.3mm WT, L450Q/X65	km		
41	10inch dia, 18.1mm WT, L450Q/X65	km		
42	10inch dia, 20.2mm WT, L450Q/X65	km		
43	10inch dia, 20.6mm WT, L450Q/X65	km		
44	10inch dia, 23.7mm WT, L450Q/X65	km		
45	12inch dia, 18.3mm WT, L450Q/X65	km		
46	12inch dia, 20.78mm WT, L450Q/X65	km		
47	12inch dia, 21.8mm WT, L450Q/X65	km		
48	12inch dia, 25.3mm WT, L450Q/X65	km		
Pigging Facility				
	Provide pig launcher/Receiver			
49	6'' Pipeline	pc		
50	8'' Pipeline	pc		
51	10'' Pipeline	Pc		
52	12'' Pipeline	Pc		
	Install pig launcher/receiver including associated tie-ins			

53	6" Pipeline	pc	
54	8" Pipeline	pc	
55	10 Pipeline	pc	
56	12" Pipeline	pc	
	Pipeline preservation with nitrogen		
57	All inclusive rate for purging of pipeline per cubic meter of nitrogen used. Rate includes supply of personnel, and equipment to carry out the purging operation.	cu.m	

APPENDIX F – SCHEDULE OF RATES FOR VARIATIONS: OTHERS (COATING)

Notes

1. All prices are inclusive of any mobilisation/travel time and transportation requirements. There shall be no separate mobilisation/demobilisation costs.
2. The SCHEDULE OF RATES shall be used to derive the Lump sum CONTRACT PRICE associated with a PURCHASE ORDER. The final CONTRACT PRICE shall be the sum of all the PURCHASE ORDERS issued by COMPANY and satisfactorily executed by the CONTRACTOR. Payment for works shall be based on final tallied coated line pipes/fittings duly signed by the nominated COMPANY Representative(s).
3. The rates shall apply equally to all PURCHASE ORDERS regardless of their size and location within the division.
4. The description of items are intended only as brief description sufficient for identification and not an exhaustive detailing of all operations necessary to provide the SERVICE.
5. Storage costs for pipes shall commence 45 days after completion of PE and concrete (if applicable) coating for each PURCHASE ORDER.

S/N	Activity	Unit	Unit Rate	
			Naira (NGN)	(US\$)
RECEIVE BARE PIPES AND TRANSPORT TO COATING YARD				
1	Receive bare pipes free from Onne Port and ship by barge to coating yard			
	6" diameter	m		
	8" diameter	m		
	10" diameter	m		
	10" diameter	m		
2	Receive bare pipes free from Onne Port and haul by truck to coating yard			
	6" diameter	m		
	8" diameter	m		
	10" diameter	m		
	10" diameter	m		
3	Receive bare pipes free from NPA Warri Port and transport by barge to coating yard			
	6" diameter	m		
	8" diameter	m		
	10" diameter	m		
	10" diameter	m		
4	Receive bare pipes free from NPA Warri Port and transport by truck to coating yard			
	6" diameter	m		
	8" diameter	m		
	10" diameter	m		
	10" diameter	m		
5	Receive bare pipes free from Port Harcourt port and transport by barge to coating yard			
	6" diameter	m		
	8" diameter	m		
	10" diameter	m		
	10" diameter	m		
	14" diameter	m		
	16" diameter	m		
6	Receive bare pipes free from Port Harcourt port and transport by truck to coating yard			

	6" diameter	m		
	8" diameter	m		
	10" diameter	m		
	10" diameter	m		
7	Receive bare pipes free from COMPANY Kidney Island yard and transported by barge to coating yard			
	6" diameter	m		
	8" diameter	m		
	10" diameter	m		
	10" diameter	m		
8	Receive bare pipes free from COMPANY Kidney Island Yard and transported by truck to coating yard			
	6" diameter	m		
	8" diameter	m		
	10" diameter	m		
	10" diameter	m		
BLAST CLEAN, PRE-HEAT, APPLY PE COAT, LOADING/TRANSPORTATION OF PE COATED PIPES & STORAGE OF BARE AND PE COATED PIPES				
9	Blast clean, pre-heat & apply 3- layer PE coat			
	6" diameter	m		
	8" diameter	m		
	10" diameter	m		
	10" diameter	m		
10	Blast clean, pre-heat & apply 2- layer PE coat			
	6" diameter	m		
	8" diameter	m		
	10" diameter	m		
	10" diameter	m		
11	Load coated pipes on COMPANY or 3rd party truck in the coating yard			
	6" diameter	m		
	8" diameter	m		
	10" diameter	m		
	10" diameter	m		
12	Load coated pipes on COMPANY or 3rd party barge at the coating yard jetty			

	6" diameter	m		
	8" diameter	m		
	10" diameter	m		
	10" diameter	m		
	14" diameter	m		
	16" diameter	m		
APPLICATION OF CONCRETE COATING (ON PE COATED PIPE)				
18	Concrete Thickness - 25.0 inch			
	6" diameter	m		
	8" diameter	m		
	10" diameter	m		
	10" diameter	m		
19	Concrete Thickness - 30 inch			
	6" diameter	m		
	8" diameter	m		
	10" diameter	m		
	10" diameter	m		
20	Concrete Thickness - 35.0 inch			
	6" diameter	m		
	8" diameter	m		
	10" diameter	m		
	10" diameter	m		
21	Concrete Thickness - 40 inch			
	6" diameter	m		
	8" diameter	m		
	10" diameter	m		
	10" diameter	m		
22	Concrete Thickness - 50 inch			
	6" diameter	m		
	8" diameter	m		
	10" diameter	m		
	10" diameter	m		
CUT/BEVEL & REPAIRS				
23	Cut / bevel of one (1) pitted / corroded end of the __-X52			
	6" diameter	m		

	8" diameter	m		
	10" diameter	m		
	10" diameter	m		
24	Supply and Application of Concrete Coating at Nigerian Subcontractor Yard			
	6" diameter	m		
	8" diameter	m		
	10" diameter	m		
	10" diameter	m		
25	Cut / bevel of one (1) pitted /corroded end of the __-X65			
	6" diameter	nos		
	8" diameter	nos		
	10" diameter	nos		
	10" diameter	nos		
26	Double blast to remove mill Lacquer			
	6" diameter	m		
	8" diameter	m		
	10" diameter	m		
	10" diameter	m		
27	Solvent wash to remove excess oil			
	6" diameter	m		
	8" diameter	m		
	10" diameter	m		
	10" diameter	m		

SECTION VI – INSURANCE REQUIREMENTS

1 TYPES AND AMOUNTS OF INSURANCE TO BE PROVIDED BY CONTRACTOR:

1.1 Employer's Liability and Worker's Compensation Insurance

- (a) CONTRACTOR will arrange employer's liability coverage for personal injury to or death of employees of CONTRACTOR, who are engaged in the performance of SCOPE, to the minimum limit required by any applicable legislation, including extended cover (where required) for working offshore, but in any case, in an amount not less than USD \$1,000,000 per occurrence.
- (b) CONTRACTOR will arrange worker's compensation only where required in the jurisdiction in which SCOPE is to be supplied or where required in the locale where CONTRACTOR PERSONNEL are employed.

1.2 General Third Party Liability Insurance

CONTRACTOR will arrange third party liability insurance, including coverage for sudden and accidental pollution and contractual liability, for any incident or series of incidents covering the operations of CONTRACTOR in the performance of the CONTRACT, in an amount not less than USD \$5,000,000 per occurrence.

1.3 Third Party and Passenger Liability Insurance

CONTRACTOR will arrange third party and passenger liability insurance as may be required by applicable law or similar regulation in the countries of use for motor vehicles used by CONTRACTOR in connection with the execution of SCOPE, in an amount not less than USD \$1,000,000 per occurrence.

1.4 Marine Insurance

- (a) If any of SCOPE supplied under the CONTRACT involves the provision of vessels by CONTRACTOR or is performed on or over navigable waters, CONTRACTOR will require the owner or operator of those vessels to arrange the following additional insurances:
 - (i) marine hull and machinery ("H&M") or property insurance, including war risk coverage and, to the extent not provided below, collision liability in respect of all vessels used by CONTRACTOR GROUP in the performance of SCOPE in an amount not less than the full

value of all vessels, craft, or floating equipment owned or hired by CONTRACTOR GROUP; and

- (ii) protection and indemnity ("P&I") liability insurance for each vessel used in the performance of SCOPE including, but not limited to, coverage for injuries to or death of masters, mates, and crews, wreck and debris removal, collision and (if applicable) tower's liabilities not covered under the H&M insurance, third party injury, and property damage liability, excess collision liabilities, and pollution liabilities.

- (b) The policy limit for this insurance must be not less than the following United States dollars per occurrence limits:

type/category of vessel/watercraft	minimum limits outside US	minimum limits for US operations
• standard limits for vessels/watercraft, except as otherwise noted below	USD \$50,000,000	USD \$150,000,000
• drilling vessels, heavy lift vessels, and pipe laying vessels • other vessels/rigs classified as mobile offshore units and not falling into one of the other categories	USD \$250,000,000	USD \$ 500,000,000
• vessels not engaged in the service of tankers, offshore oil rigs, service or installation of pipelines and single point mooring buoys	USD \$20,000,000	USD \$50,000,000
• small craft (< 1000 gt) or inland craft (rivers and littoral areas), which are not engaged in the service of tankers, offshore oil rigs, service or installation of pipelines and single point mooring buoys	USD \$10,000,000	USD \$20,000,000

- (c) Vessels involved in specialised operations within the meaning of the P&I Club rules will carry a limit of not less than USD \$100,000,000 for such special operations to cover loss or damage to third party installations.

1.5 Aircraft Liability Insurance

If any of SCOPE supplied under the CONTRACT involves the provision of aircraft by CONTRACTOR, or aircraft is used by CONTRACTOR GROUP in connection with the execution of SCOPE, CONTRACTOR will arrange or require its SUBCONTRACTORS to arrange aircraft liability insurance with a minimum limit of USD \$150,000,000 per occurrence, unlimited as to the number of occurrences.

1.6 Additional Insurance Requirements

CONTRACTOR will arrange such further insurance as may be required under APPLICABLE LAWS.

SECTION VII – HSSE REQUIREMENTS

PART A

1 PURPOSE

This Section is intended to provide both mandatory HSSE requirements which CONTRACTOR GROUP must comply with in execution of SCOPE and the minimum required elements for the management of HSSE risks. In setting out requirements, COMPANY GROUP assumes no liability for CONTRACTOR's HSSE responsibilities.

2 ADDITIONAL DEFINED TERMS

Where used in this Section, the following capitalised words and expressions will have the following meanings. Other capitalized words in this Section have the meaning given to them in the DEFINITIONS AND INTERPRETATION Section of the CONTRACT.

ALARP	(As Low As Reasonably Practicable) meaning such level of reduction of risk where the cost and effort of further reduction measures becomes unreasonably disproportionate to the additional risk reduction obtained.
BRIDGING DOCUMENT	a document prepared by CONTRACTOR which identifies any gaps between COMPANY's and CONTRACTOR's HSSE-MS and describes the interface between these two systems and how to bridge the gaps.
CONTRACT HSSE PLAN	a document prepared by CONTRACTOR which describes the HSSE activities for each phase of the SCOPE which are necessary to meet the HSSE STANDARDS. The document will address HSSE risk management, associated controls, personnel competence, personnel with performance assessments, and continuous improvement initiative.
EMERGENCY RESPONSE	The activity of mitigating the consequences of an INCIDENT and facilitating the return to normal operations.
HAZARD	an agent with the potential to cause harm to people, damage to assets, or an impact on the environment or community.
HIGH POTENTIAL INCIDENT	an INCIDENT which has a consequence with a severity rating to people, the environment, assets or reputation of 4 or 5 on COMPANY Risk Assessment Matrix (RAM). A HIGH POTENTIAL INCIDENT can result in injury or illness to people or damage to assets, the environment or COMPANY GROUP's reputation, or it can be a near miss.
HSSE CRITICAL ACTIVITY	an activity necessary for the development, implementation or maintenance of a Barrier established for managing Hazards with RAM red Risks or yellow 5A or 5B Risks.
HSSE CRITICAL ROLE	a job that can impact significantly on the execution of an HSSE critical activity at the front line operational or planning/supervisory level.

HSSE-MS	(HSSE Management System) meaning a documented system comprising the structure, practices, procedures, processes, resources and responsibilities that a business does to manage and meet its HSSE objectives.
INCIDENT	an unplanned event or chains of events that result or could result, as in the case of near misses, in injury or illness to people or damage to assets, the environment or reputation.
PERMIT TO WORK (PTW)	a written system used to control and approve work and to communicate work requirements. It identifies the individuals who are responsible for specifying controls, verifying conditions at the work site, authorising the work, and records by signature their understanding of these controls and duties.
SIGNIFICANT INCIDENT	an INCIDENT that has a consequence with a severity rating to people, the environment, assets or reputation of 4 or 5 on COMPANY Risk Assessment Matrix (RAM).

3 COMPLIANCE WITH COMPANY GROUP WORKSITE REQUIREMENTS

In connection with performance of the CONTRACT, CONTRACTOR will adhere to the following requirements:

- (a) CONTRACTOR in performing SCOPE will conduct all activities in accordance with CONTRACTOR's HSSE-MS, the requirements of which are further detailed below.
- (b) Where CONTRACTOR identifies that there are risks associated with SCOPE which are not covered by the HSSE STANDARDS, or where CONTRACTOR concludes the HSSE STANDARDS may be inadequate, CONTRACTOR will immediately notify COMPANY. CONTRACTOR will thereafter diligently work with COMPANY to agree on additional or revised HSSE STANDARDS prior to proceeding with the relevant part of the SCOPE.

4 HSSE MANAGEMENT SYSTEM (HSSE-MS)

4.1 CONTRACTOR's Obligation for an HSSE-MS

- (a) CONTRACTOR will ensure it has an effective HSSE-MS that is materially equivalent to COMPANY's HSSE-MS as determined by COMPANY. At COMPANY's request, and without limiting CONTRACTOR's obligations, CONTRACTOR will provide to COMPANY information documenting CONTRACTOR's HSSE-MS for review by COMPANY.
- (b) COMPANY has the right to verify the overall effectiveness of the HSSE-MS in place to assure that the CONTRACTOR HSSE-MS delivers outcomes materially equivalent to COMPANY HSSE-MS.
- (c) If CONTRACTOR's HSSE-MS is certified by a recognised body, CONTRACTOR will ensure that such certification remains in place during the entirety of the performance of the SCOPE.

4.2 General HSSE requirements for inclusion in the HSSE-MS

- (a) CONTRACTOR will at all times demonstrate its commitment to HSSE and will ensure that all managerial and senior supervisory personnel of CONTRACTOR GROUP:
 - (i) be mindful of HSSE risks;
 - (ii) demonstrate visible HSSE leadership through communication, worksite visits, participation in HSSE activities, HSSE interventions, and feedback;
 - (iii) motivate, coach, and develop personnel in effective HSSE management; and
 - (iv) hold individuals accountable to comply with HSSE STANDARDS and CONTRACTOR's own manuals, standards, rules and procedures.
- (b) CONTRACTOR will establish and maintain the resources needed, including people, equipment, materials, information, and time to implement its HSSE-MS and comply with APPLICABLE LAWS.
- (c) CONTRACTOR will identify HSSE CRITICAL ROLES, accompanying competence requirements and related assurance requirements. These will be subject to approval by COMPANY prior to the start of performance of SCOPE.
- (d) CONTRACTOR will implement a competency assurance process that assures that all CONTRACTOR PERSONNEL have and maintain the HSSE competencies necessary to perform activities supporting performance of the CONTRACT.
- (e) CONTRACTOR will have a training programme for CONTRACTOR PERSONNEL that supports the management of the HSSE Risks of the CONTRACT.
- (f) CONTRACTOR will continuously manage the HSSE risks associated with the SCOPE by means of a structured methodology following internationally recognised practices in line with HSSE STANDARDS. The risk management activities will demonstrate that HAZARDS are identified and where the HAZARD cannot be eliminated the risks are managed to ALARP.
- (g) CONTRACTOR's risk management activities will include:
 - (i) development of a list of all activities that will be used as a basis to determine the scope of reviews;
 - (ii) development of a list of the HSSE HAZARDS of each identified activity;
 - (iii) the assessment of the risk associated with the each identified activity in SCOPE, and applying a risk assessment matrix (RAM) assessment that is aligned with COMPANY's risk assessment matrix.
 - (iv) a description of how each HAZARD will be controlled and the need for specific job HAZARD analysis when the normal procedures and controls are expected to be inadequate;
 - (v) implementation of risk reduction measures to control or mitigate the HAZARD and its effects; and
 - (vi) planning for recovery in the event of a loss of control leading to an unacceptable effect.

- (h) CONTRACTOR will implement a PERMIT TO WORK process to manage the risks of hazardous work.
- (i) CONTRACTOR will manage changes to facilities, processes and organisations to maintain risk controls.
- (j) CONTRACTOR will incorporate EMERGENCY RESPONSE plans, including those for medical emergencies and spills or releases to the environment to maintain preparedness.
- (k) CONTRACTOR will ensure it has a fully implemented fitness to work process that assures that all CONTRACTOR PERSONNEL engaged in supply of SCOPE are medically and physically fit to perform work within SCOPE.
- (l) CONTRACTOR will provide and maintain safe and healthy working conditions for all CONTRACTOR PERSONNEL. Tools or equipment that the CONTRACTOR plans to use must be suitable and safe to use for SCOPE.
- (m) CONTRACTOR will report HSSE performance that meets the performance and monitoring requirements as communicated by COMPANY, including leading and lagging key performance indicators ("KPIs") as agreed between COMPANY and CONTRACTOR.
- (n) CONTRACTOR will take corrective action to improve HSSE performance that does not meet the KPIs agreed between CONTRACTOR and COMPANY.
- (o) CONTRACTOR will report all incidents, including near misses, to COMPANY.
- (p) CONTRACTOR will comply with COMPANY's reporting requirements regarding INCIDENTS associated with the SCOPE and cooperate in all cases where COMPANY determines to investigate the INCIDENT. CONTRACTOR PERSONNEL will, at the request of COMPANY, attend and contribute to COMPANY's INCIDENT investigation in a manner prescribed by COMPANY.
- (q) COMPANY may recommend and communicate corrective action arising from an INCIDENT investigation to CONTRACTOR and CONTRACTOR will be solely responsible to ensure that all recommended actions are taken.
- (r) CONTRACTOR will periodically perform self-audits, reviews and inspections to determine the effectiveness of the HSSE-MS and various HSSE programs and initiatives. CONTRACTOR will also perform audits, reviews, and inspections on its SUBCONTRACTORS. CONTRACTOR will implement areas of improvement arising from CONTRACTOR audits.
- (s) COMPANY will have the right to review CONTRACTOR's compliance with the HSSE STANDARDS on a scheduled basis. These reviews may take place prior to commencement of the SCOPE, during its execution (e.g. at the conclusion of certain major milestones), and at completion of the SCOPE. The inspections may entail WORKSITE visits, document reviews, and CONTRACTOR PERSONNEL interviews.
 - (i) Implementation, monitoring and closure of action items from such audit findings:

- (A) CONTRACTOR will ensure that responses to non-compliance findings and areas of improvement from its own and COMPANY audits, inspections and reviews are documented. CONTRACTOR will implement all recommendations from such audits, inspections and reviews within time scales mutually agreed between COMPANY and CONTRACTOR.
- (B) CONTRACTOR will develop and maintain an action tracking register for all recommendations resulting from both CONTRACTOR and COMPANY audit activities. The status of all actions in the action tracking register will be monitored and reported as part of the monthly reporting cycle. The resolution of each recommendation will be documented in the action tracking register.

5 SUBCONTRACTOR MANAGEMENT REQUIREMENTS

Where CONTRACTOR has received approval from COMPANY to SUBCONTRACT portions of the SCOPE, and without limiting CONTRACTOR's liability, CONTRACTOR will have a documented process for the selection and management of SUBCONTRACTORS that ensures that any SUBCONTRACTOR engaged to perform any portion of the SCOPE complies with all HSSE STANDARDS.

6 CONTRACT HSSE PLAN

6.1 Requirements for CONTRACT HSSE PLAN

- (a) CONTRACTOR will submit the CONTRACT HSSE PLAN, applicable to the SCOPE, to COMPANY for approval, if and when requested by COMPANY. The CONTRACT HSSE PLAN will include:
 - (i) an overview of CONTRACTOR's HSSE-MS that delivers outcomes materially equivalent to COMPANY's HSSE-MS. Where applicable, the CONTRACT HSSE PLAN will include (or make reference to) a BRIDGING DOCUMENT addressing gaps and differences;
 - (ii) full incorporation of COMPANY's Life Saving Rules;
 - (iii) specification of the controls the CONTRACTOR will use to manage the HSSE Risks of SCOPE;
 - (iv) a monitoring and reporting plan, regularly reviewed with the COMPANY, that enables the COMPANY to verify the implementation of the HSSE STANDARDS and CONTRACT HSSE PLAN and ensure they are effective at managing the risks;
 - (v) a process to identify and mitigate performance gaps against the CONTRACT HSSE PLAN with COMPANY agreement on gap closure plans;
 - (vi) a list of HSSE CRITICAL ROLES associated with SCOPE and the competencies of CONTRACTOR PERSONNEL assigned to those roles;
 - (vii) a process to identify and regularly review with the COMPANY any agreed leading and lagging HSSE key performance indicators (KPIs) and any other management data required to be collected in performance of the SCOPE

- (viii) a schedule of all CONTRACT HSSE meetings together with typical agenda and participants;
- (ix) a detailed plan of CONTRACTOR's proposed HSSE activities during the SCOPE including those activities intended to support any leading KPIs agreed upon; and
- (x) a schedule of monitoring activities and HSSE audits that may be undertaken by CONTRACTOR in performance of the SCOPE.

6.2 CONTRACTOR responsibilities for CONTRACT HSSE PLAN

- (a) CONTRACTOR will revise the CONTRACT HSSE PLAN as and when required, including upon addition of any SCOPE not covered by the original CONTRACT HSSE PLAN. If at any time the CONTRACT HSSE PLAN is considered by either COMPANY or CONTRACTOR to be inadequate in practice, CONTRACTOR will revise the CONTRACT HSSE PLAN accordingly. All revisions to the CONTRACT HSSE PLAN must be approved by COMPANY prior to implementation.
- (b) CONTRACTOR is solely responsible for implementing the CONTRACT HSSE PLAN, communicating its relevant parts, including subsequent revisions, to CONTRACTOR PERSONNEL and requiring CONTRACTOR PERSONNEL to comply with the CONTRACT HSSE PLAN.
- (c) CONTRACTOR will include SUBCONTRACTOR activities in the CONTRACT HSSE PLAN.

PART B

7 Safe Isolation – Lock Out Tag Out

- (a) CONTRACTOR will protect people from energy and hazardous substances by isolating equipment, locking movable isolation devices, and placing a tag at each point of isolation.
- (b) CONTRACTOR will establish and maintain isolation and lock out tag out procedures that specify:
 - (i) the authorised persons for isolating, locking out and tagging out equipment;
 - (ii) the types of work that need to be managed by lock out and tag out and the methods of isolation;
 - (iii) how to place and remove locks and tags at each point of isolation and how to manage locks and keys;
 - (iv) the additional controls required and how to use tags on valves instead of locks downstream of unit (battery limit) isolation blinds;
 - (v) the additional controls to maintain an equivalent level of protection when the person who placed a lock or tag is not available to remove it; and
 - (vi) the tests to prove that isolation is complete.

- (c) CONTRACTOR will, for work not classified as short duration work, apply the following hierarchy of control for isolation:
 - (i) remove equipment from HAZARDS, or create an air gap or physical break to prevent the HAZARD from affecting people;
 - (ii) isolate equipment from HAZARDS using a solid physical barrier. Blinding is the minimum isolation requirement for confined space entry and for work covered by the requirements in the Hot Work provision, of the HSSE STANDARDS; and
 - (iii) move to the safe position and lock movable devices, electrical circuit breakers, and valves that isolate HAZARDS.
- (d) When applying the hierarchy of control from the previous paragraph to isolate electrical equipment, CONTRACTOR will verify that electrical back-feed is not possible. When applying the hierarchy of control from the previous paragraph for valves, two valves must be closed and a drain opened between them (double block and bleed), or if a single valve is used, verify that it provides isolation, and provide at least one additional control (such as personal protective equipment). Where the single valve is the barrier to an acute toxic substance, a pressure greater than four bar, a material above its flash point or a material above 60°C (Celsius), this method of control can only be used to install a blind.
- (e) For work not classified as short duration work and where all the elements in the hierarchy of control cannot be applied, CONTRACTOR will:
 - (i) include a requirement to undertake a risk assessment to identify alternative controls;
 - (ii) after a risk assessment is in place, approve any variance from the hierarchy of control or delegate the authority for approval of the variance.
 - (iii) when delegating the authority to approve a variance, verify that the delegate obtains additional approval of another independent, authorised person.
 - (iv) approve single-valve process isolations only when it is proven that the system is de-pressurized prior to intrusive work being performed (zero energy check).
- (f) Before executing short duration work, CONTRACTOR will verify that a:
 - (i) zero-energy check has been performed and a zero energy condition is confirmed;
 - (ii) single operating and/or maintenance team is involved (i.e. no handover or shift change to a new team is involved, and the WORKSITE is not left unattended) while the system is isolated; and
 - (iii) documented and approved risk assessment shows single valve process isolation to be a safe alternative to full application of the hierarchy of control.
- (g) For all work covered by Safe Isolation Lock Out Tag Out, CONTRACTOR will apply a PERMIT TO WORK and an isolation list to manage work and to identify every point where locks and tags are to be applied.
- (h) CONTRACTOR will manage isolation, placement, and removal of locks and tags by:

- (i) shutting down equipment and removing or draining any reserve of stored energy;
 - (ii) isolating equipment from HAZARDS by either disconnecting equipment or installing or operating isolation devices as close as possible to the equipment being worked on;
 - (iii) installing blinds or placing locks and completed tags at isolation points to make it clear to anyone who wants to use or work on the equipment that it is isolated;
 - (iv) using locks and tags that are readily identifiable as being used only for isolation, identifying the person who placed the lock and tag and the time the tag was placed, and ensuring the locks and tags are weatherproof and secure enough to prevent unauthorised or inadvertent removal;
 - (v) verifying that all isolation valves remain in full sight and are under the exclusive management of the team installing the blinds when using isolation tags without locks to install blinds.
 - (vi) verifying that the equipment is properly isolated and that no stored energy or HAZARDS remain;
 - (vii) when the work is complete, telling affected people about the plans to remove isolation and put equipment back in service;
 - (viii) verifying that each person removes their individual lock, and the individuals authorised remove the tags following an agreed plan; and
 - (ix) telling affected people what equipment has been put back in service.
- (i) CONTRACTOR will ensure that CONTRACTOR PERSONNEL engaged in Safe Isolation - Lock Out Tag Out:
- (i) always retain keys used for isolation in their sole possession unless otherwise required by a group lock out tag out procedure;
 - (ii) do not remove a lock or tag placed by someone else unless authorised to do so by the Lock Out Tag Out procedure;
 - (iii) do not operate or energise a device that is locked or tagged;
 - (iv) advise the person named on the tag, or the supervisor, of any tag that has fallen off, or has been misplaced; and
 - (v) remove and return tags as specified by the Lock Out Tag Out procedure.

8 Personal Protective Equipment

- (a) CONTRACTOR will apply the following hierarchy of control to manage personal protective equipment use:
- (i) eliminate the HAZARD or exposure;
 - (ii) substitute materials or equipment to reduce the hazard or exposure;
 - (iii) use engineering control of the HAZARD or exposure;

- (iv) use procedural control of the HAZARD or exposure; and
 - (v) use personal protective equipment.
- (b) CONTRACTOR will verify that personal protective equipment remains effective when the HAZARD, exposure, or controls change.
- (c) CONTRACTOR will establish and maintain a procedure to manage the use of personal protective equipment. In particular, CONTRACTOR will:
- (i) document the arrangements for people to have fitness evaluation prior to the use of respiratory protection in line with the requirements in the Fitness To Work provision, as set out in the CONTRACT, or if not set out in the CONTRACT, as required by COMPANY; and
 - (ii) specify:
 - (A) where and when personal protective equipment must be used;
 - (B) the types of personal protective equipment to be used;
 - (C) methods for making people aware of when and where personal protective equipment must be used;
 - (D) how people are fitted for personal protective equipment;
 - (E) how people are trained to put on and use personal protective equipment and trained in the limitations of its use; and
 - (F) how to issue, inspect, maintain, store, and replace personal protective equipment.

9 Lifting and Hoisting

- (a) CONTRACTOR will establish competence assurance for people in HSSE CRITICAL POSITIONS who supervise or perform lifting and hoisting operations and who inspect and maintain lifting equipment.
- (b) CONTRACTOR will apply procedures that are approved by a COMPANY subject matter expert for lifting and hoisting, which must include the following:
- (i) for routine lifts, develop general lifting procedures that identify and control the HAZARDS;
 - (ii) for all non-routine lifts, assign the authorised person for the lifting and hoisting operation, and the individual in charge of the lift;
 - (iii) for non-routine simple lifts, conduct a specific job hazard analysis to define the lift plan, assess site factors to define logistics, crane stability, and radius of operation, and assess load factors to define load integrity and stability; and
 - (iv) for non-routine complex lifts, appoint a CONTRACTOR subject matter expert for lifting and hoisting to establish the lifting plan, assess site factors to define logistics, crane

stability, and radius of operation, assess load factors to define load integrity and stability, provide the requirements for lifting of personnel, and provide the requirements for performing blind lifts.

- (c) CONTRACTOR will ensure that equipment to be used for lifting and hoisting is:
 - (i) inspected and maintained in line with the manufacturer's recommendations;
 - (ii) certified; and
 - (iii) used only for its intended purpose and within its designed operating limits.
- (d) CONTRACTOR will manage non-routine lifting and hoisting in line with the issued PERMIT TO WORK for the specific activity.
- (e) CONTRACTOR will check the lifting and hoisting equipment before all lifts and confirm that:
 - (i) equipment is suitable for its intended purpose; and
 - (ii) safety devices are installed and operational.
- (f) CONTRACTOR will confirm that required controls are in place and the lift is carried out as per the applicable lift procedure.
- (g) CONTRACTOR will keep people clear of overhead loads and areas of potential impact.
- (h) CONTRACTOR will assign a flagman when moving cranes near overhead electrical lines, reversing, or manoeuvring in an area with plant, machinery, or personnel.

10 Ionising Radiation

- (a) CONTRACTOR will apply the following hierarchy of control for work with sealed and unsealed radioactive sources and generation devices:
 - (i) use alternative non-radioactive applications where practicable;
 - (ii) minimise the strength of sources and energy from devices selected for use; and
 - (iii) minimise the time that sources are on the location and remove when not in use.
- (b) CONTRACTOR will appoint an individual (e.g. a radiation protection officer) at the WORKSITE who is competent in radiation matters to be responsible for establishing and maintaining detailed radiation procedures (Radiation Procedures) which include:
 - (i) protective measures to keep exposures below dose limits.
 - (ii) provision of a secure, lockable source store with managed access to keys.
 - (iii) a system to identify, track and record details of all sources on the location; and.
 - (iv) methods to minimise radioactive waste generated.
- (c) The radiation procedures for work with Naturally Occurring Radioactive Material ("NORM"), the procedures will include the following:

- (i) methods to minimise NORM generated, such as scale inhibition, and to move work with NORM to specialist premises where practicable;
- (ii) methods to identify locations, areas of plant and equipment that may be contaminated with NORM;
- (iii) testing of potentially contaminated equipment for NORM before work begins and when potentially contaminated surfaces become accessible;
- (iv) protective measures when handling NORM or NORM-contaminated equipment;
- (v) methods to minimise environmental impact of disposal routes; and
- (vi) a system to record locations and activities of NORM encountered, names of staff involved in work with NORM, and amounts, activities, and disposal routes of NORM disposed.

11 Hot Work

- (a) CONTRACTOR will apply the following hierarchy of controls:
 - (i) carry out the work outside the classified area when the classified area is free of flammable materials;
 - (ii) eliminate ignition sources by selecting alternative work methods or equipment; and
 - (iii) implement controls to avoid co-existence of flammable materials and ignition sources during Hot Work.
- (b) CONTRACTOR will inspect, and maintain equipment to be used as a control for Hot Work in classified areas.
- (c) CONTRACTOR will manage Hot Work through PERMIT TO WORK requirements.
- (d) CONTRACTOR will:
 - (i) confirm that equipment that could contain flammable materials is gas free and isolated in line with the requirements of the Safe Isolation - Lock Out Tag Out provision of the HSSE STANDARDS before the work begins;
 - (ii) inspect the work area and adjacent areas, and clear them of flammable materials and combustible materials; and
 - (iii) have an authorised person for gas testing establish that the work area and adjacent areas are free of flammable materials.
- (e) CONTRACTOR will test the atmosphere frequently enough to establish that the area remains free of flammable materials.
 - (i) CONTRACTOR will stop the work and investigate any exceedance of flammable gas limits; and
 - (ii) take corrective action before restarting work.

- (f) CONTRACTOR will, when required by the PERMIT TO WORK, maintain a fire watch who is in direct communication with CONTRACTOR PERSONNEL performing the Hot Work.

12 Electrical Safety

- (a) CONTRACTOR will use only authorised persons to work on electrical equipment in line with the qualification and authorisation process within the agreed upon electrical safety rules.
- (b) CONTRACTOR will use equipment or work instructions that manage ignition sources caused by electrical equipment or static electricity in classified areas by:
 - (i) managing the selection, installation and inspection/maintenance of electrical equipment in classified areas; and
 - (ii) using equipment and work practices that manage static electricity.
- (c) CONTRACTOR will manage work on or near electrical equipment and provide safe isolation through the following:
 - (i) provide PERMIT TO WORK for electrical work that could expose CONTRACTOR PERSONNEL to harmful electrical energy as specified by the electrical safety rules;
 - (ii) de-energise and isolate equipment as required in the Safe Isolation - Lock Out, Tag Out provision, as set out in the CONTRACT, or if not set out in the CONTRACT, as required by COMPANY;
 - (iii) verify that there is no voltage and, when required, using earthing, physical barriers, protective equipment, special tools, or other controls to prevent harm to personnel when it is not possible to de-energise equipment;
 - (iv) obtain signed authorisation from an authorised person designated by the electrical safety rules for switching, testing, and working on electrical equipment; and
 - (v) control work, equipment near underground and overhead electrical HAZARDs to prevent contact with energised lines or equipment.
- (d) CONTRACTOR will control electrical work in design and construction by:
 - (i) providing a mutually agreed upon system to review and approve the design, installation, and bringing into service of permanent or temporary electrical systems and facilities;
 - (ii) obtaining COMPANY approval whether newly constructed electrical equipment may be connected to COMPANY electrical power distribution and generation systems; and
 - (iii) verifying that electrical drawings are provided and maintained.

13 Diving and Tunnelling Operations

NOT USED.

14 Confined Space Work

- (a) CONTRACTOR will identify Confined Space Work (CSW) and implement procedures to manage the risk of CSW that:
 - (i) describe local requirements, responsibilities, competence, and monitoring; and
 - (ii) must be controlled by PERMIT TO WORK and include a job-specific risk assessment and identification of controls as part of planning the SCOPE.
- (b) CONTRACTOR will inform CONTRACTOR PERSONNEL of the existence and HAZARDS of confined spaces.
- (c) CONTRACTOR will reduce risk by applying the following hierarchy of controls:
 - (i) eliminate the need for CSW;
 - (ii) avoid the need for respiratory protection or skin protection for CSW by eliminating or minimising flammable, toxic, asphyxiant, or other HAZARDS through emptying, flushing, clearing, and ventilating, and avoid the need for hearing protection, fall protection, lifelines, or other types of personal protective equipment by removing or controlling HAZARDS; and
 - (iii) specify respiratory protection or other protective equipment and apply working methods that reduce the exposure time of people in the confined space.
- (d) CONTRACTOR will:
 - (i) verify that the confined space is isolated from all potential sources of hazardous material and energy, including radiation; and
 - (ii) use isolation points as close as possible to the confined space, in line with the Safe Isolation - Lock Out Tag Out provision of the HSSE STANDARDS.
- (e) CONTRACTOR will verify that atmospheric conditions meet the following criteria before entry, and are maintained throughout the work:

	Without Respiratory Protection	With Respiratory Protection	Inert Entry
Oxygen %	20 to max. 21.5	>16 to max. 21.5	<4
Toxics	< ½ Occupational Exposure Limit	< level that is Immediately Dangerous to Life or Health	Not applicable
Flammables % of Lower Flammable Limit	Not detectable (<1)	<10 For hot work - not detectable	<10

- (f) CONTRACTOR will ensure that:
 - (i) an authorised person for gas testing carries out the gas test before the PERMIT TO WORK is issued; and
 - (ii) the test results are documented and provided with the PERMIT TO WORK.
- (g) CONTRACTOR will ensure that the authorised person for gas testing:
 - (i) repeats the test at a frequency sufficient to verify that occupants in the confined space are protected from atmospheric HAZARDS; and
 - (ii) investigates any deviation in the oxygen level or in the contaminant level of toxics or flammables, and assess risks and take appropriate action.
- (h) CONTRACTOR will allow entry into confined spaces, with respiratory protection, only when the source, nature, and concentration of the hazardous atmosphere are understood, and when an authorised person has:
 - (i) approved the selection of respiratory protection.
 - (ii) verified the quality of air supplied from bottles, compressors, or ventilators.
 - (iii) CONTRACTOR agrees that if contaminants or heat in the confined space can affect entrants' health, CONTRACTOR will:
 - (i) provide a plan for ventilation or other controls prior to entry;
 - (ii) list the controls with the PERMIT TO WORK;
 - (iii) verify that the controls are put in place; and
 - (iv) not use oxygen or oxygen-enriched air to ventilate a confined space.
- (j) CONTRACTOR will include in the PERMIT TO WORK the controls required to manage the risks from any energy sources used inside the confined space.
 - (i) If electrical equipment is needed inside the confined space (e.g. lighting), CONTRACTOR will use low voltage equipment if available. If low voltage equipment is not available, an earth leakage current device or ground fault circuit interrupter must be used to protect entrants against electric shock.
- (k) CONTRACTOR will verify that lighting in the confined space allows entrants to see well enough to work safely and to exit the space quickly in an emergency.
- (l) CONTRACTOR will establish a rescue plan for recovering people from the confined space, and ensure that all equipment and other resources needed for a rescue are readily available whenever people are in the confined space.
- (m) CONTRACTOR will indicate the entry points to be used and barricade or use signs at all other openings to prevent unauthorised entry.
- (n) CONTRACTOR will station an attendant outside the confined space.

- (o) CONTRACTOR will:
 - (i) verify that the attendant is present at all times while entrants are in the confined space; and
 - (ii) before people enter the confined space, establish effective means of communication between the people inside the confined space, the attendant outside, and the control room or the emergency response team.
- (p) CONTRACTOR will prevent unauthorised entry and take action if conditions change, including:
 - (i) maintaining a record of numbers and names of people in the confined space;
 - (ii) monitoring the confined space from outside at all times while entrants are inside, and maintaining communication with the entrants;
 - (iii) stopping any ongoing work and evacuating the confined space if ventilation systems fail, contaminants exceed agreed limits, conditions become unsafe, or other emergencies at the site require evacuation;
 - (iv) activating the emergency response team in the event of emergency; and
 - (v) refraining from attempting a rescue unless it is conducted as defined in the rescue plan.

15 Cleaning of Storage Tanks

- (a) CONTRACTOR will apply the hierarchy of control as follows:
 - (i) minimise the need for, or reduce the frequency of, tank cleaning;
 - (ii) use online cleaning methods (while tank is in operation) that do not require the opening of, or entry into, tanks;
 - (iii) use mechanical cleaning options that do not require people to enter tanks; and
 - (iv) allow personnel entry and manual cleaning of tanks where supported by a documented risk assessment, with reference to the Confined Space Work provision of the HSSE STANDARDS.
- (b) CONTRACTOR will establish and maintain procedures for tank cleaning in accordance with internationally recognised standards that include:
 - (i) pre-cleaning inspection to assess the tank contents and roof condition;
 - (ii) precautions during gas freeing to include vehicle and personnel access restrictions, control of ignition sources, and weather conditions; and
 - (iii) emergency response arrangements during tank cleaning.
- (c) CONTRACTOR will apply PERMIT TO WORK requirements for all tank cleaning. CONTRACTOR will recognise, as a minimum, the HAZARDS of:
 - (i) fire and explosion;
 - (ii) toxic substances and asphyxiation;

- (iii) static electricity due to steam and water jetting and grit blasting; and
- (iv) pyrophoric scale.

16 Excavation

- (a) CONTRACTOR will apply the following hierarchy of controls:
 - (i) eliminate the need for excavation by applying trenchless technology;
 - (ii) apply maximum allowable slopes or benching; and
 - (iii) use shoring or trench shields.
- (b) CONTRACTOR will control excavations in line with PERMIT TO WORK requirements.
- (c) CONTRACTOR will apply the requirement in the Confined Space Work provision of the HSSE STANDARDS when working in a confined space.
- (d) CONTRACTOR will establish and maintain procedures for excavation. Those procedures must:
 - (i) state that for excavation an authorised person must be appointed for each job;
 - (ii) specify the conditions when a CONTRACTOR subject matter expert is required;
 - (iii) specify safe distances from the edge of excavation for the placement of soil to avoid collapse for different types of surface or soil;
 - (iv) define means of avoiding underground and overhead infrastructure, including identification and marking the route of cables, live lines, pipelines, or other hazardous infrastructure, and using hand probing and hand tools only (i.e. no powered excavators) within 0.5 meters (1.6 ft) of a live line, pipeline, or power cable, to prevent damage;
 - (v) specify means and conditions for soil testing and classification;
 - (vi) define maximum allowable slopes or benching or shoring for excavations greater than 1.5 meters (5 ft) deep;
 - (vii) state the restrictions on the placement and movement of excavation machinery to avoid collapse or risk to personnel, including the use of reverse alarm, mirrors, and a flagman when manoeuvring near an excavation;
 - (viii) specify measures to minimise the impact of adverse weather conditions;
 - (ix) specify barriers and safety signs;
 - (x) define safe access and exit for personnel; and
 - (xi) define a rescue plan and rescue equipment.
- (e) CONTRACTOR will implement the procedures established for the type of excavation, including the following:
 - (i) identify and mark the route of cables, live lines, pipelines, or other hazardous infrastructure;

- (ii) confirm the location of underground and overhead infrastructure before starting work;
- (iii) apply the specified procedures for soil testing and classification;
- (iv) inspect excavations and shoring, including areas adjacent to the excavation, for signs of ground instability before each shift and before resuming work after adverse weather conditions; and
- (v) (v) refer to the CONTRACTOR subject matter expert for excavation in case of unforeseen conditions or problems with the planned work.

17 Professional Driver Safety

- (a) CONTRACTOR will ensure the following for CONTRACTOR PERSONNEL who are employed primarily to drive vehicles ("PROFESSIONAL DRIVER") and drive in the performance of SCOPE:
 - (i) meet the driver requirements of Article 11 of this Part B on Driver Safety;
 - (ii) to drive heavy goods vehicles and where permitted by APPLICABLE LAWS, be at least 21 years old and have at least three years' experience driving the type of vehicle concerned;
 - (iii) to drive buses or minibuses in road safety high risk countries and where permitted by APPLICABLE LAWS, be at least 23 years old and have at least four years' experience driving the type of vehicle concerned;
 - (iv) apply controls to make sure that the vehicle is safe to load or unload, that the load is securely contained throughout the journey, and that the load and vehicle are stable;
 - (v) inspect vehicles every day and maintain a record of vehicle inspections;
 - (vi) carry all the documentation required for hazardous loads; and
 - (vii) comply with the duty, driving, and rest hours specified by the COMPANY in the table below, or with APPLICABLE LAWS (if evaluated by a process approved by the COMPANY Principal Technical Expert for road safety).

	At any time (continuous)	Per day (24 hours)	Per 7 days
Maximum driving hours	4.5	9 (extendable to 10 hours up to twice in 7 days)	56
Maximum duty hours		12	72
Maximum working week			6 consecutive days
Minimum break	45 minutes per 12 hours (may be split into three 15-minute breaks)	11 consecutive hours (reducible to 9 hours up to three times in 7 days)	

Minimum shift break	36 consecutive hours when changing shift		36 consecutive hours
---------------------	--	--	----------------------

- (b) CONTRACTOR will provide bus and minibus PROFESSIONAL Drivers an accredited defensive driving course before driving in road safety high risk countries.
- (c) CONTRACTOR will conduct random drug and alcohol checks for all PROFESSIONAL DRIVERS, where permitted by APPLICABLE LAWS.
- (d) CONTRACTOR will provide vehicles in accordance with the following:

	Light Vehicles	Heavy Goods Vehicles (HGVs) and Buses
Anti-lock Braking System (ABS)	Yes	Yes
Rollover Prevention Device	Yes, on vehicles ordered after 2009 where available in the country and there is a high risk of rollover based on experience, or where the centre of gravity of the Vehicle increases rollover risk	Yes, on all bulk vehicles Yes on all other HGVs ordered after 2009 where available in the country and there is a high risk of rollover based on experience, or where the centre of gravity of the vehicle increases rollover risk.
Rollover Protection Device	Decide based on local Risk Assessment for Vehicles that may operate in off-road environments	Yes, on all bulk vehicles
Airbags	Yes	No
Vehicle Side Impact Protection	Yes	No
In Vehicle Monitoring System	Yes, in road safety high risk countries In all other countries, decide based on risk assessment.	Yes
Side and rear under-run protection	No	Yes
Reversing alarm	No	Yes

- (e) CONTRACTOR will inspect and maintain HSSE critical equipment in line with manufacturers' specifications.
- (f) CONTRACTOR will:

- (i) for trips of more than four and a half hours, prepare a journey management plan, including the loading and discharge site (where applicable); the authorised route; the identification of route HAZARDS and communication requirements during the journey, and agree a driving and rest schedule;
- (ii) verify that the PROFESSIONAL DRIVER understands the journey management plan before each journey;
- (iii) verify that the PROFESSIONAL DRIVER reports any change from the journey management plan that occurs during the journey;
- (iv) review any changes to decide whether to update the journey management plan; and
- (v) for transport operations in road safety high risk countries where the trip is less than four and a half hours, perform a local risk assessment that evaluates both safety and security risks to determine if a journey management plan is needed.

18 Driver Safety

- (a) CONTRACTOR will ensure CONTRACTOR PERSONNEL who drive in the performance of the SCOPE:
 - (i) have a current driving license that is valid for the location, type of vehicle and, where applicable, the cargo;
 - (ii) are physically and mentally capable of operating the vehicle, including:
 - (A) be rested and alert to maintain attention throughout the trip;
 - (B) stop the vehicle and take a rest break if attention is lost; and
 - (C) not operate a vehicle while under the influence of alcohol, drugs, narcotics, or medication that could impair driving ability;
 - (iii) use three-point seatbelts at all times and make sure passengers do so except for passengers in buses where only lap belts are available, or in public transport in which seatbelts are not available.
 - (iv) do not use a mobile phone, pager or similar mobile device (whether hands-free or not) while driving.
 - (A) CONTRACTOR may only use a mobile phone in a vehicle where permitted by APPLICABLE LAW:
 - (I) in case of emergency, personal safety or security situations;
 - (II) as part of convoy management;
 - (III) inside a plant (in safe areas and at safe speeds) when needed to maintain safe management of equipment or processes during an emergency or time sensitive operation; or
 - (IV) as a navigation device.

- (v) will not allow unauthorised passengers in the vehicle;
 - (vi) visually inspect the vehicle for roadworthiness every day before use, including tyres and windscreen (windshield);
 - (A) perform a complete walk-around of heavy goods vehicles to check for HAZARDS before each trip.
 - (vii) will drive with lights on during daytime, except where prohibited by APPLICABLE LAW;
 - (viii) use vehicles equipped with:
 - (A) three-point seatbelts and head restraints; and
 - (B) anti-lock braking systems (ABS), vehicle side impact protection, and airbags for driver and front seat passenger for COMPANY owned, contracted or leased light vehicles
- (b) CONTRACTOR will periodically question and review the number of journeys with the intent to eliminate journeys and lower the risk by applying the following hierarchy of controls:
- (i) eliminate the journey;
 - (ii) change to a lower risk transportation mode (air, rail, marine);
 - (iii) apply vehicle controls; and
 - (iv) apply administrative and procedural controls that guide driver and passenger behaviour, including driver competence requirements and journey management.
- (c) CONTRACTOR will provide an annual online defensive driving course for all CONTRACTOR PERSONNEL who are not employed primarily to drive vehicles and drive on public roads in the performance of the SCOPE. CONTRACTOR will also provide an accredited defensive driving course and manage competence for drivers who:
- (i) drive more than 7,500 km per year or 4660 miles per year on COMPANY business on public roads;
 - (ii) drive in road safety high risk countries, as identified by COMPANY; or
 - (iii) are employed primarily to drive vehicles.
- (d) CONTRACTOR will at least annually engage CONTRACTOR PERSONNEL who drive in the performance of the SCOPE, to discuss CONTRACTOR PERSONNEL's approach to Journey Management Assessments (JMAs) and driving activities and will maintain records of such engagements. A JMA, for purposes of this article, is a mental risk assessment required prior to every road trip covering fitness to drive, vehicle condition, the route and road conditions.
- (e) CONTRACTOR will not allow driving for more than 10 consecutive hours, any combination of work related activities and driving for more than 14 hours or any combination of work related activities and driving for more than 12 hours in road safety high risk countries;
- (f) CONTRACTOR will not allow the use of motorbikes or other motorised devices with two or three wheels, all-terrain vehicles (ATVs) or quads in the performance of SCOPE.

- (g) CONTRACTOR will maintain and equip COMPANY GROUP owned, contracted or leased vehicles so that they are:
 - (i) fit for purpose based on an assessment of usage; and
 - (ii) kept in safe working order in line with manufacturers' specifications and APPLICABLE LAWS.
 - (iii) CONTRACTOR will document the maintenance work performed pursuant to the preceding paragraph.
- (h) CONTRACTOR will, in line with HSSE STANDARDS and where installed in COMPANY GROUP owned, contracted or leased vehicles and allowed by APPLICABLE LAWS, use data from an in vehicle monitoring system as a monitoring method to:
 - (i) analyse and improve road transport planning and safety performance;
 - (ii) provide regular, formal feedback to drivers; and
 - (iii) apply consequence management that includes recognition for compliance and sanction for non-compliance.
- (i) CONTRACTOR will, for transport operations in road safety high risk countries:
 - (i) perform a risk assessment of COMPANY GROUP and CONTRACTOR GROUP vehicle use to justify not installing in vehicle monitoring systems; and
 - (ii) submit the Risk Assessment to the COMPANY Principal Technical Expert for road safety for approval.
- (j) CONTRACTOR will ensure that light vehicles used in the performance of the SCOPE:
 - (i) score a five star safety rating in new car assessment program tests in the region where the vehicle is purchased; or
 - (ii) meet comparable internationally recognised standards approved by the COMPANY Principal Technical Expert for road safety.
- (k) CONTRACTOR will provide vehicles with elevated rear lights and brake lights for use off-road or on gravel or dirt roads.

19 Maritime

NOT USED.

20 Air

[Drafting Note:** Refer to the intranet page for Air Transport and if necessary consult a Subject Matter Expert to establish fit for purpose requirements for your contract.]

21 Water in the Environment

- (a) CONTRACTOR will manage the risk of water availability and of discharges to the environment.
- (b) If required by COMPANY, CONTRACTOR will comply with COMPANY Water Management Action Plan of the HSSE STANDARDS.
- (c) CONTRACTOR will reduce the risk of discharges to the aquatic environment and aquifers to ALARP.
- (d) CONTRACTOR must:
 - (i) reduce to ALARP the amount of produced water and process water discharges through selection of processes or by maximising reuse or recycling;
 - (ii) design and install equipment and/or implement COMPANY's procedures to reduce the impact of discharges to the environment;
 - (iii) inspect and maintain wastewater facilities;
 - (iv) establish disposal routes for all wastewater;
 - (v) discharge water only to a receiving aquatic environment or aquifer that is physically, chemically and biologically compatible; and
 - (vi) if applicable, do not discharge oil-based muds or synthetic based muds to surface waters.

22 Security

22.1 General Security

CONTRACTOR shall manage and safeguard COMPANY sensitive information, whether written, electronic or oral, in accordance with COMPANY policy as well as applicable laws.

It is the CONTRACTOR's responsibility to cooperate with COMPANY in identifying security threats, exposures and implications for the WORK execution, and to cooperate with COMPANY to develop appropriate controls to manage them through all phases of the WORK.

CONTRACTOR PERSONNEL shall comply with all facility rules, regulations and directions. Where special entry requirements and/or credentials issued by a government authority are required, CONTRACTOR is responsible for obtaining them without cost to COMPANY.

CONTRACTOR PERSONNEL shall be required to undergo successful background screening prior to assignment to premises, jobsites or projects. The term "premises" is used in its broadest sense and includes as a minimum, all jobsites, projects and property owned, leased, operated or otherwise under the control of COMPANY .

22.2 Security Plans

Security operations shall be conducted in full compliance with national legal requirements, international standards and in accordance with the Voluntary Principles on Security and Human Rights (VPSHRs).

CONTRACTOR shall demonstrate to COMPANY that they have an effective security management process and plan in place. The plan must be approved by COMPANY prior to CONTRACTOR mobilization /activation.

The plan should be integrated with any relevant strategy documents and site and activity security plans, and meets any responses and times specified in COMPANY security plans. Priority should be given to reduce probability, but consequence reducing measures shall be defined in case of failing controls. Risks shall be reduced to a level which is As Low As Reasonably Practicable (ALARP).

CONTRACTOR shall demonstrate that documented systems are in place to ensure that early warning notification of detected threats is passed expeditiously to both security operations and the business.

CONTRACTOR shall demonstrate that CONTRACTOR PERSONNEL are appropriately briefed, trained and prepared for deployment to, and operation in the appropriate country.

CONTRACTOR shall be responsible for the travel security of CONTRACTOR PERSONNEL travelling to their normal place of work, for international staffs when arriving and departing for leave rotations, and when travelling on business visits.

Requirement of Security Plan

CONTRACTOR shall produce a robust Security Plan that covers all aspects of its operations in the execution of the project.

In addition to above, the CONTRACTOR shall perform all duties in accordance with the CONTRACT - Security Plan. The COMPANY security team shall monitor CONTRACTOR's compliance with the Project security plans and procedures.

Site Security Plan/Requirements

CONTRACTOR shall be responsible for all external security personnel deployed by it to site.

However, COMPANY shall approve the type of security personnel for use at project WORKSITES before any negotiation with the security forces to be so used. The CONTRACTOR shall inform COMPANY in writing through the Project Manager of their security requirements, based on the scope and duration of the job.

CONTRACTOR shall, in collaboration with COMPANY, identify the type of security personnel suitable for their services. The duties of the security personnel shall be clearly defined and understood by them before any engagement.

Special consideration shall be given to the protection of life and property (both COMPANY and CONTRACTOR's PERSONNEL) at the camp accommodation.

There shall be single point responsibility for managing all segments of security on site. All CONTRACTOR's security personnel shall report to an overall field commander who reports to COMPANY security focal point in the field.

Finally, CONTRACTOR must ensure that all obligations on security personnel deployed by them to the various sites are cleared before final disengagement at site after construction.

22.3 Security Policy And Company Requirements

CONTRACTOR will be required to provide its Security Policies, which must be in consonance with COMPANY's Security Policy. COMPANY Security Department will closely monitor the application of these policies.

The CONTRACTOR is required to be conversant with and comply with the following COMPANY policies and procedures:

- COMPANY GROUP Security Standards (Appendix VII);
- COMPANY's 'Guidelines on The Use of Force' (Appendix VIII);
-

This Scope of Work ;

The CONTRACTOR shall also be conversant with and comply with the 'Rules for Guidance in the Use of Firearms by the Police' as contained in NPF Force Order 237.

The CONTRACTOR shall ensure that all CONTRACTOR and any SUBCONTRACTOR PERSONNEL abide by the security policy and other guidelines and instructions that may be issued from time to time by COMPANY in connection with the performance of the CONTRACT.

22.4 Contractor Responsibilities

CONTRACTOR's role in security management shall include as a minimum, the following:

- a. Secure fencing and static plus patrol security beats at all its WORKSITES and Construction Camps.
- b. Patrol and escort of its personnel and assets including its SUBCONTRACTORS, at various bases, WORKSITES and on transit.
- c. CONTRACTOR shall have full understanding of the security scenario in the project areas with proper assessment of risks peculiar to the areas of operation and take appropriate measures to control such risks/threats to As Low As Reasonably Possible (ALARP).
- d. Provision of appropriate physical protection measures, including the installation and supervision of a perimeter fence at WORK SITES to prevent unauthorized access to the WORKSITE.
- e. Provision of security personnel (via the Nigerian Police) to guard, patrol, and respond to incidents, including static surveillance services.
- f. Provision of adequate illumination to aid patrols,
- g. Control of access into and out of all WORKSITES and accommodation areas. CONTRACTOR shall implement Access Control and Intruder Detection System from the construction phase until completion of the permanent fencing as stated in scope of work. Initial administration of these systems shall be by the CONTRACTOR until hand-over of the systems and facility to COMPANY.
- h. Implementation of a Journey management system that will conform with the provisions of COMPANY guidelines.
- i. Security contingency planning and emergency response, in the event of any security incidents that require such responses, e.g. full-scale evacuation, kidnap, extortion, or during civil unrest.
- j. Conducting Security emergency response drills twice in a year per site.
- k. Organizing Security Workshops (three (3) times per year) and other security awareness programmes (every week) for its staff to ensure they have the right level and constantly updated awareness about security conditions in the area.
- l. Prosecution of crime committed in WORKSITES or against CONTRACTOR's PERSONNEL at any time during the WORK.

- m. Provision of Personal Protection Equipment (PPE) for all security personnel working in any of its WORKSITES.
- n. CONTRACTOR shall take full responsibility for the security of life and properties in all the WORK SITES during Project Execution.

22.5 Sub-Contractor's Responsibility

The CONTRACTOR shall ensure that the security systems of its SUBCONTRACTORS are in line with its own and that they fully satisfy COMPANY's requirements.

The CONTRACTOR shall inform COMPANY of the names of the SUBCONTRACTOR to be engaged to provide security services and obtain COMPANY's written approval prior to their engagement.

The CONTRACTOR is required to report all security incidents to COMPANY both in verbal and written form. Verbal reports are to be given immediately and written reports to follow within 24 hours of the incident in the format prescribed by COMPANY.

22.6 Use of Local Security Personnel

The CONTRACTOR shall use personnel from the local community where the WORK is to be executed for security duties such as barrier/gate services, etc.

22.7 Security Handover on Project Completion

CONTRACTOR's Security Plan shall clearly state how it will implement a gradual and agreed handover from the CONTRACTOR's Security personnel guarding the WORKSITES to the COMPANY Security Organisation on WORK completion.

23 Waste

- (a) CONTRACTOR will assess the risks associated with waste before the start of new activities and incorporate controls into the design, procedures and working practices to prevent or reduce waste generation.
- (b) CONTRACTOR will identify opportunities to reuse waste for the same or alternative applications, including in other industries, or return unused materials to suppliers.
- (c) CONTRACTOR will identify recycling and recovery opportunities for waste.
- (d) CONTRACTOR will monitor waste activities and identify, characterise, classify, segregate and store waste according to APPLICABLE LAWS.
- (e) CONTRACTOR will transport and dispose of waste according to the following requirements:
 - (i) verify that trans-national movement of waste meets the requirements of the Basel Convention;
 - (ii) verify that all other transport of waste meets internationally recognised standards;
 - (iii) identify a CONTRACTOR subject matter expert for waste disposal.

- (iv) when disposing of waste use, where appropriate, government-approved disposal sites, methods, and contractors;
 - (v) when disposing of hazardous waste, maintain segregation from other waste, use disposal sites that also meet internationally recognised standards and review with the CONTRACTOR subject matter expert for waste disposal the assessment of hazardous waste disposal sites against internationally recognised standards; and
 - (vi) conduct land farming only after considering the risks of leaching or build-up of hazardous substances, and implement appropriate mitigation measures to manage the risks.
- (f) CONTRACTOR will retain waste tracking records for periods defined by APPLICABLE LAWS.

24 Soil and Groundwater

- (a) CONTRACTOR must maintain controls of the HSSE STANDARDS to reduce the risk of soil or water contamination to ALARP.
- (b) CONTRACTOR must:
 - (i) install equipment or implement procedures of the HSSE STANDARDS to minimise the risk of leaks and spills;
 - (ii) implement leak detection and containment systems;
 - (iii) adhere to procedures of the HSSE STANDARDS to maintain, inspect and test containment and leak detection equipment; and
 - (iv) adhere to spill and leak response plans of the HSSE STANDARDS.

25 Ozone Depleting Substances

- (a) CONTRACTOR will identify ozone depleting substances and maintain an inventory until they are eliminated.
- (b) CONTRACTOR will do the following until Halons (the substances listed in Annex A, Group II, of the Montreal Protocol), Hard CFCs (the substances listed in Annex A, Group I, and Annex B, Group I, of the Montreal Protocol) and Hydrochlorofluorocarbons, are eliminated:
 - (i) remove ozone depleting substances from non-sealed systems;
 - (ii) provide controls to prevent loss of ozone depleting substances;
 - (iii) provide controls for recovery and destruction of ozone depleting substances; and
 - (iv) do not transfer ozone depleting substances to third parties for re-use. Where permitted by APPLICABLE LAWS, in-company transfers and transfer to halon banks are permitted.
- (c) CONTRACTOR will make people aware of any equipment that contains ozone depleting substances and the controls required before they perform work that could release these substances.

- (d) CONTRACTOR will apply PERMIT TO WORK requirements to control work on, or disposal of, equipment that contains ozone depleting substance in line with the requirements above.

26 Biodiversity

CONTRACTOR will adhere to the actions and mitigation measures related to biodiversity and ecosystem services as stated in COMPANY's Biodiversity Action Plan of the HSSE STANDARDS.

27 Fitness to Work

- (a) CONTRACTOR will identify all job tasks requiring evaluation of fitness to work, including evaluations for the following job tasks:
 - (i) aircraft refuelling;
 - (ii) catering, preparing, or handling unwrapped foods ready for consumption;
 - (iii) expatriate assignments including long and short term international assignments and international commuter assignments;
 - (iv) fire-fighting and rescue team member work;
 - (v) frequent business travel;
 - (vi) crane operator work;
 - (vii) professional driver work;
 - (viii) remote location work; and
 - (ix) use of respiratory protection that requires a tight seal to protect the user.
- (b) CONTRACTOR will review the health risk assessment, and documented demonstration of ALARP to identify any other job tasks that require fitness to work evaluation.
- (c) CONTRACTOR will, with human resources professionals, define and apply a process to manage CONTRACTOR PERSONNEL who have been determined to be unfit for a required task.
 - (i) CONTRACTOR will include, and provide employees with access to an appeal process associated with fitness to work.
 - (ii) CONTRACTOR will, where permitted by APPLICABLE LAWS, include a requirement that CONTRACTOR PERSONNEL advise their supervisor or health professional designated by CONTRACTOR of a change in their physical or psychological capacity for work.
- (d) CONTRACTOR will verify that CONTRACTOR PERSONNEL identified by this provision as having fitness for work requirements complete fitness to work evaluations.
 - (i) CONTRACTOR will designate CONTRACTOR PERSONNEL having fitness for work requirements unfit for the task until the fitness to work evaluations are completed and that person is deemed fit.

- (e) CONTRACTOR will identify any CONTRACTOR PERSONNEL who may not be fit for work and only assign work to CONTRACTOR PERSONNEL who are fit for the work.
 - (i) CONTRACTOR will refer CONTRACTOR PERSONNEL to a health professional designated by CONTRACTOR when there is a concern about the individual's fitness to work, or before any CONTRACTOR PERSONNEL returns to work following an injury or illness that could affect fitness for work.
- (f) CONTRACTOR will review any work restrictions provided by the health professional and subsequently approve changes in work assignment or return to work of any CONTRACTOR PERSONNEL.
- (g) CONTRACTOR will establish protocols and set criteria for evaluations for fitness to work.
- (h) CONTRACTOR will maintain a process for CONTRACTOR PERSONNEL to appeal against the results of the fitness to work evaluation.

28 Fatigue Risk Management

- (a) CONTRACTOR will identify and record any HSSE critical positions where one or more of the situations covered below occur or may occur
 - (i) a planned shift length, excluding overtime and handovers, greater than 12 hours within a 24-hour period;
 - (ii) overtime resulting in working hours exceeding 12 hours more than once per month;
 - (iii) overtime or call-outs resulting in more than 16 working hours in one calendar day;
 - (iv) shift work or call-outs at any time between 22:00 and 06:00, including shifts that start during or extend into this period;
 - (v) day-to-day changes to shift start times that are a change of more than three hours;
 - (vi) more than 28 days of consecutive work without at least 24 hours of continuous time-off.
- (b) CONTRACTOR will establish and maintain a fatigue risk management plan for HSSE critical positions identified under this provision.
- (c) CONTRACTOR will provide fatigue risk management awareness training for supervisors who are in roles that apply the fatigue risk management plan.
- (d) CONTRACTOR will include consideration of the potential contribution of the risk of fatigue when investigating significant and HIGH POTENTIAL INCIDENTS, as applicable.
- (e) CONTRACTOR will make individuals in identified HSSE critical positions aware of the risks of fatigue associated with lack of time off for sleep.

29 Alcohol and Drugs

- (a) CONTRACTOR will establish an alcohol and drugs policy that includes:
 - (i) standards of behaviour required by COMPANY;
 - (ii) awareness training;
 - (iii) rehabilitation;
 - (iv) testing; and
 - (v) disciplinary measures.
- (b) CONTRACTOR will establish and maintain procedures to implement the alcohol and drugs policy.
- (c) CONTRACTOR will establish and maintain procedures for alcohol and drugs that include:
 - (i) design of alcohol and drugs testing;
 - (ii) treatment and rehabilitation programme; and
 - (iii) reintegration of employees into the workplace.
- (d) CONTRACTOR will implement the alcohol and drugs policy and procedures.

30 Working at Height

- (a) CONTRACTOR will determine if the work can be done in a way that better controls the risk of a fall by applying the following hierarchy of controls:
 - (i) eliminate the work at height;
 - (ii) work from a permanent work platform with guardrails and toe boards;
 - (iii) work from a temporary work platform (scaffold) or mobile work platform with guardrails, and assess the HAZARDS of installing, operating or maintaining the work platform when deciding whether it is reasonably practicable; and
 - (iv) use personal fall-protection equipment (this includes industrial rope access techniques).
- (b) CONTRACTOR will ensure CONTRACTOR PERSONNEL:
 - (i) inspect, maintain or repair fall protection equipment;
 - (ii) inspect, maintain or repair ladders;
 - (iii) use fall protection equipment;
 - (iv) construct, , or inspect temporary work platforms; and
 - (v) perform work using rope access techniques and equipment.
- (c) Before using chain or rope ladders, CONTRACTOR will verify that all other means of accessing the WORKSITE have been discounted as not reasonably practicable. CONTRACTOR will ensure that chain and rope ladders will only be used with an inertia fall arrestor.

- (d) CONTRACTOR authorised person who inspects fall protection equipment and ladders is responsible for conducting periodic inspections in line with manufacturers' recommendations. Fall protection equipment and ladders that fail inspection will not be used.
- (e) CONTRACTOR PERSONNEL who gain access to and work at height are required to:
 - (i) Visually inspect fall protection equipment and ladders before each use.
 - (ii) Wear personal fall protection equipment and be tied off at all times while moving to and from the work at height, moving at height, and moving at height within 6 feet or 1.8 metres of a flat roof or platform edge without a guardrail, or moving at height on any pitched roof regardless of proximity to the edge.
 - (A) Verify that anchor points meet Internationally Recognised Standards or APPLICABLE LAWS, as appropriate, before starting work.
 - (B) Use a fit-for-purpose harness and lanyard to tie off personal fall protection equipment to an acceptable anchor point.
 - (C) Climbing up and down ladders less than 20 feet or 6.1 metres is allowed without the use of personal fall protection equipment.
 - (iii) Use three points of contact when climbing up and down ladders.
 - (iv) Use a ladder climbing safety device when climbing up or down uncaged ladders when these are 20 feet or 6.1 metres or longer.
- (f) CONTRACTOR will build, operate, inspect, and maintain scaffolds, or use mobile work platforms, and equipment for lifting people (e.g. winches, basket transfer equipment) in line with internationally recognised standards, i.e.:
 - (i) whenever reasonably practicable, build ladders within the structure of multilevel scaffolds to minimise the potential fall distance;
 - (ii) when it is not reasonably practicable to build a ladder within the scaffold, and the potential fall distance is greater than 20 feet or 6.1 meters, use a ladder-climbing device such as an inertia reel fall arrestor;
 - (iii) tie off as required per accepted practices for work at height, equipment design, or manufacturer recommendations.
- (g) CONTRACTOR PERSONNEL who plan or are involved in emergency response will determine the method(s) used to rescue people who have fallen, are suspended in a harness and could develop suspension trauma.

APPENDIX 1A – COMPANY HSSE&SP POLICY

SHELL COMMITMENT AND POLICY ON HEALTH, SECURITY, SAFETY, THE ENVIRONMENT AND SOCIAL PERFORMANCE

COMMITMENT

In Shell we are all committed to:

- Pursue the goal of no harm to people;
- Protect the environment;
- Use material and energy efficiently to provide our products and services;
- Respect our neighbours and contribute to the societies in which we operate;
- Develop energy resources, products and services consistent with these aims;
- Publicly report on our performance;
- Play a leading role in promoting best practice in our industries;
- Manage HSSE & SP matters as any other critical business activity; and
- Promote a culture in which all Shell employees share this commitment.

In this way we aim to have an HSSE & SP performance we can be proud of, to earn the confidence of customers, shareholders and society at large, to be a good neighbour and to contribute to sustainable development.

POLICY

Every Shell Company:

- Has a systematic approach to HSSE & SP management designed to ensure compliance with the law and to achieve continuous performance improvement;
- Sets targets for improvement and measures, appraises and reports performance;
- Requires contractors to manage HSSE & SP in line with this policy;
- Requires joint ventures under its operational control to apply this policy, and uses its influence to promote it in its other ventures;
- Engages effectively with neighbours and impacted communities; and
- Includes HSSE & SP performance in the appraisal of staff and rewards accordingly.



Ben van Beurden
Chief Executive Officer



Peter Costello
VP, Nigeria & Gabon



Bayo Ojulari
Managing Director, SNEPCo

Originally published in March 1997 and updated by the Executive Committee December 2009.

General Disclaimer: The companies in which Royal Dutch Shell plc directly and indirectly owns investments are separate entities. In this Policy the expression "Shell" is sometimes used for convenience where references are made to companies within the Shell group or to the group in general. Likewise, the words "we", "us" and "our" are also used to refer to Shell companies in general or those who work for them. These expressions are also used where no useful purpose is served by identifying specific companies.



APPENDIX 1B – COMPANY LIFE-SAVING RULES

1: Work with a valid work permit where required



2: Conduct gas tests when required



3: Verify isolation before work begins and use the specified life protecting equipment



4: Obtain authorisation before entering a confined space

5: Obtain authorisation before overriding or disabling safety critical equipment



6: Protect yourself against a fall when working at height

7: Do not walk under a suspended load



8: Do not smoke outside designated areas

9: No alcohol or drugs while working or driving



10. While driving, do not use your phone and do not exceed speed limits

11. Wear your seat belt



12: Follow prescribed Journey Management Plan

Note: Commuting, alcohol in social settings and smoking in office environments are out of scope

**If You Choose To Break Any of the Life Saving Rules
You Have Also Chosen Not To Work For Shell.**

Appendix 1C
Certificate for Bidders

This Certificate is given by [name] _____

Title/Position _____] of _____ [Bidder
] (the _____)

“Bidder”) pursuant to the Bid for Contract No. _____ submitted by Bidder to THE SHELL PETROLEUM DEVELOPMENT COMPANY OF NIGERIA LIMITED

Capitalised terms used in this Certificate, if not defined in this Certificate, have the meaning set forth in the Contract.

Bidder acknowledges that:

- (a) It has been informed that Shell companies insist on honesty, integrity and fairness in all aspects of their business and expect the same in their relationships with all those with whom they do business. The direct or indirect offer, payment, soliciting and acceptance of bribes in any form are unacceptable practices for Shell companies. It has received a copy of the Shell General Business Principles and Shell Code of Conduct (or alternatively has taken notice of them on the public web site at www.shell.com/sgbp and www.shell.com/codeofconduct/).
- (b) From the date of submission of its Bid for the Contract, [Bidder] has adhered, and shall continue to adhere, to Shell General Business Principles when doing business with [Shell company]; in the event that [Bidder], if successful, supplies staff who work on behalf of [Shell company] or represent [Shell company], [Bidder] also confirms that such staff will behave in a manner that is consistent with the Shell Code of Conduct.
- (c) Bidder confirms that either (i) none of its owners, directors, employees or associates who will benefit from or take part in the execution or performance of the Contract is a Government Official or (ii) the names, and respective roles and responsibilities, of any person who is an owner, director, employee or associate of Bidder, who will benefit from or take part in the execution or performance of the Contract and who is also a Government Official are disclosed on an attachment to this Certificate.

For purposes of this Certificate, “Government Official” means any:

- official or employee of any government, or any agency, ministry, department of a government (at any level)
- any person acting in an official capacity regardless of rank or position
- official or employee of a company wholly or partially controlled by a government (for example, a state owned Oil Company)
- political party and any official of a political party
- candidate for political office
- officer or employee of a public international organisation, such as the United Nations or the World Bank
- immediate family member (meaning a spouse, dependent child, or household member) of any of the foregoing.

BIDDER confirms that, if awarded the Contract, BIDDER will promptly notify the Company if and when any of the above statements are no longer true and of any changes required to the information provided by BIDDER in relation to this certificate during the effective period of the Contract.

on behalf of CONTRACTOR

Date

SECTION VIII - ADMINISTRATIVE INSTRUCTIONS

ARTICLE 1 - INTRODUCTION

This Part of the CONTRACT describes the procedures that shall be employed by the COMPANY and CONTRACTOR in their respective administration responsibilities. CONTRACTOR shall ensure that where detailed requirements are not comprehensively set out in this section of the CONTRACT, such requirements shall be developed in time to efficiently and effectively carry out the Work.

ARTICLE 2 - ORGANISATION

2.1 **SHELL**

Mail address:

Telephone number:

Fax number:

SHELL AUTHORISED REPRESENTATIVE shall be:

Name:

Ref. Indicator:

Title:

Location:

Telephone:

SHELL AUTHORISED DEPUTY REPRESENTATIVE shall be:

Name:

Ref. Indicator:

Title:

Location:

Telephone:

SHELL hereby notifies the CONTRACTOR that its AUTHORISED REPRESENTATIVE shall be empowered to handle day-to-day administration of the CONTRACT (including issuance of PURCHASE ORDERS and Supervise the CONTRACTOR, and is also empowered to delegate his duties to the Authorised Deputy Representative, if necessary.

2.2 CONTRACTOR

The CONTRACTOR Representative is He may be contacted at and on telephone line and the CONTRACTOR notifies SHELL that its Representative shall be empowered to ensure that all jobs are carried out effectively.

ARTICLE 3 - COMMUNICATION

3.1 Correspondence in General

Correspondence shall be in English and shall be by letter or telex in that order of preference.

3.2 Correspondence by Letter

All correspondence shall bear the following headings: Date, CONTRACT reference number, CONTRACT title, CONTRACTOR name.

If more than one subject or item is dealt with, then each subject or item shall be referenced (A), (B), etc. as appropriate.

All correspondence shall indicate to whom copies have been sent.

3.3 Correspondence by Telex or Fax

A standard format using the following headings, shall be used for all telexed correspondence: From:, To:, Attention:, Copy for:, Telex/Fax reference number and date:, CONTRACT number:, CONTRACT title:, Confidentiality Classification:, Subject:, Urgency:, Contents of Telex/Fax:.....

If more than one subject or item is dealt with, then each subject or item shall be referenced (A), (B), etc. as appropriate.

3.4 Meetings

If required by the COMPANY, the CONTRACTOR shall prepare minutes of any meetings held in connection with the performance of the CONTRACT. The CONTRACTOR shall submit proposed minutes to the COMPANY for confirmation. If appropriate, the COMPANY shall acknowledge the agreed minutes as being a true record of the meeting in question.

Minutes shall carry the following information on the front pages; Date of issue; Sheet number and total number of sheets: (e.g. sheet 2 of 3); Circulation list; CONTRACT reference number; Name of CONTRACTOR; Subject; Venue and Date of meeting; Personnel in attendance:

3.5 Change in Addresses

Both the COMPANY and the CONTRACTOR shall have the right to change their correspondence addresses by notice in writing to the other party. All notices shall be effective when received.

ARTICLE 4 - NIGERIAN CONTENT REPORTING AND MEASUREMENT GUIDELINES

Nigerian Content shall be measured in line with the definition in the Article titled THE CONTRACTOR'S NIGERIAN CONTENT OBLIGATIONS in Section II - General Conditions of Agreement, subdivided into Labour, Materials, Equipment and Services. Each element shall be measured and reported separately for each project using the attached reporting template which is subject to change by the Nigerian Content Development Monitoring Board.

4.1 **Labour (Manpower costs)**

Monitoring of manpower costs shall be by value and rates. Man-hour rates for all level of personnel on the project (both expatriates and Nigerians), manpower distribution, organisational charts showing the Project management team, company management profile and supervisory personnel at all levels shall be provided.

The average rates admissible as Nigerian content man-hour rate shall be calculated by dividing the stated percentage as a fixed factor of the gross man-hours worked by each category of personnel, whether Nigerian or Foreign.

All gross payments (inclusive of salaries, allowances, tax, etc.) to Nigerian citizens employed in the direct performance and indirect support of the WORK and for the period of the WORK, shall be deemed to be 100% Nigerian Content.

All expenses reimbursements or payments (exclusive of salary, allowances, tax, etc. but inclusive of hotel bills, transport allowances e.t.c. expended in-country) made on behalf of non- Nigerian citizens employed in the direct performance and indirect support of the WORK and for the period of the WORK, shall be deemed to be 20% of the hourly rate of such employees and as such, only that proportion of the hourly rate shall be included in the determination of Nigerian Content.

For comparative and statistical purposes, the payments shall be split between payments to Managerial/Professional staff and Artisan/Junior staff.

In recognition of the need to incur costs in executing the training and development programmes in the Nigerian Content development plan, all personnel costs related to training, capability development and transfer of technology programmes for Nigerian manpower on training in-country shall be regarded as 100% Nigerian content. Where training is carried out abroad, **20%** of related personnel costs shall be taken as Nigerian Content.

No foreign costs like base salaries of expatriates should be considered as part of the Nigerian content component, however expenses of the expatriate in-country can be considered as Nigerian Content.

The base salaries of Nigerians who work with project team outside the country are to be calculated as Nigerian Content, while the living expenses abroad are not Nigerian Content.

4.2 Materials (related to goods & services provided).

This covers materials procured for use either as a direct input in fabrication, construction, installation and commissioning or indirectly such as software etc.

Where the product is manufactured in Nigeria using Nigerian raw materials, then the Nigerian content is 100% of the cost.

In all other instances where the product or its components are not of Nigerian origin, then the Nigerian content is simply the added value to the product by Nigerians (working in a company registered and domiciled in Nigeria) in the course of assembly, product finishing and delivery.

For consistency and ease of calculation in cases where the value added cannot be easily and objectively determined, this shall be regarded as the price of the product as charged to the COMPANY less the foreign elements of the costs made up of:

- Cost of importing raw materials including Insurance & Freight;
- Import duties plus other clearing costs such as taxes & levies (NPA, ECOWAS fund, etc.)
- Any other costs incurred in the course of importation.

For items purchased from the Nigerian market where the determination of the above costs will be laborious and time consuming, the following percentages for Nigerian Content shall be assumed¹:

Description	% Nigerian Content
Imported (sourced directly from foreign company)	0
Imported (but sourced through local company)	5
Assembly done in Nigeria	20
Manufacturing done in Nigeria with over 60% of input materials being imported or less than 40% local input materials	40
Manufacturing done in Nigeria with over 60% of the input materials being local materials	100

Also, please note that where services are procured through a local sub-contractor, a mark-up of 5% on sub-contracted services would be awarded as Nigerian content.

4.3 Capital Assets/Equipment

A prime objective of Nigerian Content development is to encourage increased investment in manufacturing & fabrication facilities.

This item refers to costs incurred in the acquisition/development of capital assets and infrastructure in Nigeria as it relates to the delivery/execution of a project, the provision of a service or the manufacture of components for direct input into a project.

The goal is to recognise the contribution of the Asset/Equipment to Nigerian Content in monetary terms. This will be the total cost of the Asset/Equipment less the taxes and import duties paid² subject to the next paragraph.

As Capital assets by their nature are of a permanent nature and expected to have a useful life of several years the following guide is applicable:

100% of the cost where the useful life of the Capital Asset is less than the contract duration or the asset has a zero or negligible realisable value at the end of the contract.

In all other cases i.e. where the asset life is longer than the contract duration, the value to be considered for each contract shall be apportioned on the basis of the time spent on the contract multiplied by the cost spread over the useful life of the asset –

$(\text{cost} / \text{asset life (months)} \times \text{number of months spent on contract})$

Where an equipment is leased, the Nigerian content will depend on the category of the owner/ lessor companies weighted as follows: Wholly Indigenous - 100%; Majority Nigerian Shareholding Company - 75%; Alliance or Joint Venture between an Indigenous & a foreign company - 50%; Majority Foreign Shareholding Company - 25% and; Foreign Company - 5%.

4.4 Services/Contracts (Including Sub Contracting)

All services rendered in Nigeria by Nigerians funded in Naira shall be deemed 100% Nigerian Content.

For sub-contracts, Sub-Contractors shall be expected to provide information at the same level of detail as the Main Contractor (which shall include details of Nigerian content in labour, materials, equipment and sub services) and the total Nigerian content value shall then be included here.

Statutory payments made to Nigerian governmental organizations for permits, licences and levies in order to execute the contract shall not be taken as Nigerian content.

² This is for consistency with the method used for materials and the overall guideline that taxes & duties are expressly excluded from the computation of Nigerian content.

4.5 Reporting

Measurements shall be reported by means of Nigerian Content Monitoring Form attached as Appendices V.1. CONTRACTOR shall include a preliminary Nigerian Content Plan in the Technical Tender package. The plan shall be finalized with the COMPANY before contract is awarded and a copy submitted to COMPANY.

The Plan shall be reviewed and agreed during the Kick-Off meeting and shall form part of the elements of the Quarterly Business Performance Review (BPR).

After contract award, the CONTRACTOR shall be required to submit monthly reports, which shall also include details of deviations from the agreed Nigerian Content Plan to the Shell Authorised Representative. The CONTRACTOR shall notify the COMPANY in writing where deviations from the agreed Nigerian Content Plan are observed.

At the end of the contract, the CONTRACTOR shall submit a final Nigerian Content report to the Shell Authorised Representative, which shall be evaluated to rank CONTRACTOR's performance as either below target, threshold, on target or above target.

The COMPANY shall officially recognize CONTRACTORS that consistently perform above target and where specific contractors consistently default, the COMPANY shall flag this and penalized in accordance with the provisions of the CONTRACT.

CONTRACTOR's must familiarise themselves and comply with reporting requirements in the Nigerian Oil & Gas Industry Content Development Act

ARTICLE 5 – WORK PROCEDURE

- 5.1 Prior to commencement of WORK under the CONTRACT, the COMPANY shall issue to the CONTRACTOR, one or more Purchase Order(s) (PO(s)) covering the WORK to be carried out. The PO shall state, among other things, the Value of the WORK, the duration, the PO Number, the COMPANY Contact Person and any other necessary details as may be relevant to the WORK.
- 5.2 On completion of WORK stated under a PO, the COMPANY shall issue to the CONTRACTOR a Work Completion Certificate (WCC). The WCC shall state the PO number, Service Entry Number for the WORK and the actual value of the WORK carried out by the CONTRACTOR. The CONTRACTOR shall thereafter raise an invoice which corresponds to the value on the WCC, attach the invoice to the WCC and

submit to the SHELL Vendor Services Centre in either Warri or Port Harcourt Main Offices for payment in accordance with the payment terms of the CONTRACT.

- 5.3 The total PO Value shall mean the maximum anticipated value of WORK to be executed under the PO for the duration stated on the PO. Notwithstanding the stated total PO Value, the parties expressly acknowledge that the CONTRACTOR is not entitled to the total PO value unless the WORK executed and reflected in the Work Completion Certificate(s) (WCC) aggregate to that value. The total payments due to the CONTRACTOR shall always be limited to the value of WORK carried out and reflected on the WCC.

ARTICLE 6 - VARIATION TO THE WORK

6.1 Introduction

This article sets out the procedures for issuing Variations to the WORK in accordance with Section II Articles of Agreement, article headed VARIATION.

6.2 Request for Variation

To request an estimate for a proposed VARIATION to the WORK, the COMPANY shall issue a formal request in writing to CONTRACTOR. This information shall form an integral part of the proposed VARIATION for which an estimate is requested.

6.3 Documentation

The CONTRACTOR shall submit supporting documents showing the elements of the prices and details of the changes to the WORK programme, if any, incorporating the proposed VARIATION.

6.4 Approval of Variation

Should the COMPANY wish to proceed with the proposed VARIATION, it shall instruct the CONTRACTOR in writing to perform the VARIATION using the CONTRACT Variation Form. The form shall detail the effects of the VARIATION and shall be signed in two originals, one to be retained by the COMPANY and one by the CONTRACTOR.

ARTICLE 7 - REPORTING

7.1 General

The CONTRACTOR shall keep the COMPANY informed on the progress of the WORK and on deviations from the WORK programme and trends and events likely to affect the performance of the WORK and shall promptly provide such reports.

7.2 The CONTRACTOR shall ensure that he submits all the reports as may be specified during the contract start-up meeting to satisfy the requirements of effective Contract Management.

7.3 **Reporting Procedure**

The CONTRACTOR shall provide reports as detailed in the CONTRACT.

ARTICLE 8 - EMERGENCY PROCEDURE GUIDE

In the event of an emergency, the CONTRACTOR shall comply with the latest version of the Emergency Procedure Guide of THE COMPANY. It is the responsibility of the CONTRACTOR to ensure that he has such a copy. Copies of this guide may be obtained from the COMPANY Project Engineer.

ARTICLE 9 - INCIDENT REPORTING PROCEDURE

9.1 **Incident Reporting**

Pursuant to the provisions of the CONTRACT, the CONTRACTOR shall complete the Incident Report Form in full and hand over to the COMPANY Representative in the event of:

- (a) any loss of, or damage to, or theft of the CONTRACTOR's property or the property of the COMPANY or any other property involved in the WORK,
- (b) any personal injury to Personnel of the CONTRACTOR or sub-contractors,
- (c) any injury to any Third Party,
- (d) any automotive incident,
- (e) a near miss incident.

A specimen copy of the Incident Report Form may be obtained from the COMPANY Representative.

9.2 Insurance Claims

In the event of any incident giving rise to an insurance claim, the CONTRACTOR shall, within seven (7) days of the incident, prepare a detailed report of the incident and deliver to the COMPANY Representative.

ARTICLE 10 - SUBCONTRACTING PROCEDURE

10.1 Subcontract Document

The CONTRACTOR shall submit to the COMPANY two copies of any proposed Subcontract prior to issuing any Tender, together with a CONTRACT plan. The CONTRACTOR shall allow a period of ten days for the COMPANY to review the proposed Subcontract Tender.

10.2 Rei-mbursable Subcontracts

Where the cost of the Subcontract is to be reimbursed separately by the COMPANY the Subcontract shall be subject to competitive tendering with at least three tenderers.

10.3 Notification to CONTRACTOR

THE COMPANY shall within the ten days specified in Article 10.1 above either notify the CONTRACTOR to proceed with the Tenders or submit written comments to the CONTRACTOR concerning the form of the Subcontract Tender, the choice of the subcontractor, the part of the WORK to be covered by the sub-contract or the cost of the proposed sub-contract. The latter shall only apply where the COMPANY is required to separately reimburse the sub-contractor.

ARTICLE 11 - INSURANCE CERTIFICATES

11.1 Requirements

Within fifteen working days of CONTRACT signature, the CONTRACTOR shall supply THE COMPANY with evidence that all the insurance requirements set out in Articles 31 of this CONTRACT, have been obtained.

11.2 **Renewable Insurances**

In the event that any of the insurances are renewable during the term of the CONTRACT, the CONTRACTOR shall provide the COMPANY, no later than fifteen working days after expiry of the insurances, with evidence of renewal of such insurances.

ARTICLE 12 - PLANNING

The CONTRACTOR shall be fully responsible for all detailed planning and scheduling necessary to ensure the WORK is completed in accordance with the CONTRACT. The CONTRACTOR's planning and scheduling shall encompass all phases of the WORK, including those performed by its SUBCONTRACTORS.

ARTICLE 13 - DOCUMENTATION AND DOCUMENT CONTROL

13.1 The CONTRACTOR shall be responsible for providing and maintaining all documentation required for the performance of the WORK, as well as documentation to be provided for the COMPANY in accordance with the CONTRACT.

13.2 No later than two (2) months after the EFFECTIVE DATE OF COMMENCEMENT OF THE CONTRACT, the CONTRACTOR shall submit to THE COMPANY a list of all drawings (except shop drawings, if any) and documents it proposes to create during the course of the WORK.

13.3 Within fourteen (14) days of receipt of the list described in Clause 15.2 above, the COMPANY shall return it to the CONTRACTOR notated to show which documents

- (a) The COMPANY shall approve (e.g. welding specifications and the like),
- (b) The COMPANY shall comment on,
- (c) Area for information only and,
- (d) The COMPANY does not need to see.

ARTICLE 14 - HANDOVER

14.1 When the CONTRACTOR considers that it has completed all work required to enable HANDOVER of the PERMANENT WORK or part of the PERMANENT WORK to take place, the CONTRACTOR shall request the COMPANY to issue a HANDOVER Certificate. If the COMPANY agrees that part or all of the PERMANENT WORK has been completed, it shall

issue the requested HANOVER Certificate. Alternatively the COMPANY shall inform the CONTRACTOR of any deficiencies.

- 14.2 In the event that the CONTRACTOR fails to achieve HANOVER by a SCHEDULED HANOVER DATE and the COMPANY requires use of the PERMANENT WORK or part of the PERMANENT WORK on or after the SCHEDULED HANOVER DATE, then the COMPANY shall issue a HANOVER Certificate to the CONTRACTOR. The COMPANY shall detail on the Certificate that part of the WORK scheduled to be complete but which is not complete.
- 14.3 A pro forma of the HANOVER Certificate to be used when administering HANOVER is attached as Appendix 4.

ARTICLE 15- COMPLETION AND CONTRACT CLOSURE PROCEDURE

15.1 Completion

Following completion of the WORK under a PURCHASE ORDER and in accordance with the provisions of the CONTRACT, the CONTRACTOR shall issue to the COMPANY a Notification of Completion. The COMPANY shall thereupon issue to CONTRACTOR a Work Completion Certificate (WCC). A specimen copy of the Notification of Completion and the Work Completion Certificate may be obtained from the COMPANY REPRESENTATIVE.

15.2 CONTRACT Closure Certificate

15.2.1 Within ninety DAYS of issue of the last WCC under the CONTRACT, the COMPANY shall issue to the CONTRACTOR a CONTRACT Closure Certificate in duplicate.

For WORKS where the provision of the Article headed 'Defects Correction' in the Articles of Agreement is applicable, the calculation of the ninety DAYS period shall become effective from the expiration date of such Defects Correction Period or, in cases where defects are corrected, from the expiration of the Defects Correction Period for such corrected defects.

15.2.2 If there are monies due from the COMPANY to the CONTRACTOR, in accordance with the CONTRACT, the CONTRACTOR shall submit to the COMPANY within 30 days of receiving the last WCC, an invoice for the monies due, referring to the WCC. The COMPANY shall within forty-five DAYS of receipt of such invoice pay to CONTRACTOR the final amount of monies due.

- 15.2.3 If there are no monies due to the CONTRACTOR or if there are monies due, when these are paid, then the CONTRACTOR shall sign a copy of the CONTRACT Closure Certificate and return it to.
- 15.2.4 When the COMPANY has received from the CONTRACTOR a copy of the CONTRACT Closure Certificate signed by the CONTRACTOR and the COMPANY is satisfied that all monies due under the CONTRACT have been settled, then the COMPANY shall close and archive the account for the applicable CONTRACT.

APPENDIX V.1 – NIGERIAN CONTENT MONITORING FORM TEMPLATE

* This form should be filled by all contractors or sub-contractors.

NIGERIA CONTENT SPEND MONITORING SHEET

CLIENT NAME: _____ DATE OF AWARD: _____
 CONTRACTOR NAME : _____ TYPE OF CONTRACT _____
 CONTRACT TITLE: _____ STATUS THROUGH: _____
 CATEGORY OF CONTRACT: _____ REPORT DATE: _____
 TOTAL CONTRACT VALUE: _____
 CONTRACT REFERENCE NUMBER: _____

Man power/Labour	Total(No. of personnel)	Total Monthly Earning			Total Monthly NC Earning			NC (100% of cost)
		Naira	\$	F\$	Naira	\$	F\$	
Managerial								
Foreign								
Nigerian								
Professional/Skilled								
Foreign								
Nigerian								
Unskilled								
Foreign								
Nigerian								
Total Labour Costs								

Materials Procured/Equipment	Total Monthly Cost			Monthly Nigerian spend			NC (100% of cost)
	Naira	\$	F\$	Naira	\$	F\$	
Total Service Charge							

Sub Contracted Services	Total Monthly Contract Cost			Monthly Nigerian spend			NC (100% of cost)
	Naira	\$	F\$	Naira	\$	F\$	
Total Service Charge							

Summary	Total Monthly Spend			Monthly Nigerian spend			NC (100% of cost)
	Naira	\$	F\$	Naira	\$	F\$	
Total Costs							

Signed by: _____ Name _____ Contractor _____ Name _____ Contract Holder _____ Name _____ Category Manager _____
 Company Stamp _____

APPENDIX V. 3 - CERTIFICATE OF MILESTONE COMPLETION

SHELL<Insert corporate entity name>

Project:

CONTRACTOR:

CONTRACT No:

CONTRACT Title:

Location:

MILESTONE No. :

CERTIFICATE OF MILESTONE COMPLETION

In respect of the above numbered MILESTONE, SHELL hereby issues to the CONTRACTOR this Certificate of MILESTONE Completion.

(On receipt of this Certificate the CONTRACTOR shall invoice SHELL for the amount due in accordance with Section III - SCHEDULE OF PRICES for completion of the above numbered MILESTONE, specified on the attached MILESTONE Summary Sheet.) ***Note: Delete if not applicable***

This Certificate does not relieve the CONTRACTOR of any of its obligations to SHELL under the CONTRACT, nor does it affect any statutory or common-law rights held by SHELL or the CONTRACTOR.

For SHELL

By:

Name:

Title: SHELL REPRESENTATIVE

Date: _____

APPENDIX V .4 - HANDOVER CERTIFICATE

SHELL.....<Insert corporate entity name>.....



Project:	
CONTRACTOR:	
CONTRACT No:	
CONTRACT Title:	
HANDOVER CERTIFICATE	
<p>In respect of the <Insert 'PERMANENT WORK' or some clearly defined part of it>, SHELL hereby issues to the CONTRACTOR this HANDOVER Certificate.</p> <p>This Certificate does not relieve the CONTRACTOR of any obligations to SHELL under the CONTRACT nor does it affect any statutory or other legal rights held by SHELL or the CONTRACTOR.</p> <p>Capitalised words and phrases in this Certificate shall have the meanings ascribed to them in the CONTRACT.</p>	
<p>For SHELL</p> <p>By: Name</p> <p>Date of Signature:</p>	

APPENDIX V.5 – NOTIFICATION OF COMPLETION

SHELL.....<Insert corporate entity name>.....

Project : _____

CONTRACTOR : _____

CONTRACT No : _____

CONTRACT Title : _____

NOTIFICATION OF COMPLETION

The CONTRACTOR hereby notifies SHELL that it considers its obligations under the CONTRACT to be fulfilled and requests that SHELL issue a Certificate of Completion

For CONTRACTOR

BY:

(Name and Title)

DATE:

APPENDIX V.6 – CERTIFICATE OF COMPLETION

SHELL.....<Insert corporate entity name>.....

Project : _____

CONTRACT No : _____

CONTRACT Title : _____

CONTRACTOR : _____

CERTIFICATE OF COMPLETION

In respect of the above CONTRACT, SHELL hereby issues to the CONTRACTOR this Certification of Completion

On receipt of this Certificate the CONTRACTOR shall invoice Shell for release of the first portion of the retention monies in accordance with Section II – ARTICLES OF AGREEMENT, the Article headed TERMS OF PAYMENT

This certificate does not relieve the CONTRACTOR of any continuing obligation to SHELL under the CONTRACT, nor does it affect any statutory or common-law rights held by SHELL.

FOR: SHELL

BY: _____

SHELL REPRESENTATIVE

Date of Signature: _____

COMPLETION DATE: _____

SECTION IX – QUALITY MANAGEMENT

TABLE OF CONTENTS

<u>PART 1 – GENERAL QUALITY CONDITIONS</u>	<u>360380</u>
<u>1.0 DEFINITIONS</u>	<u>360380</u>
<u>2.0 QUALITY STANDARDS</u>	<u>361381</u>
<u>3.0 QUALITY MANAGEMENT SYSTEM REQUIREMENTS</u>	<u>361381</u>
<u>4.0 QUALITY PLAN</u>	<u>363383</u>
<u>5.0 QUALITY MANAGEMENT OF SUBCONTRACTORS</u>	<u>368387</u>
<u>6.0 INSPECTION AND TEST PLANS</u>	<u>369389</u>
<u>7.0 AUDITS BY CONTRACTOR and COMPANY</u>	<u>373392</u>
<u>8.0 QUALITY DOCUMENTS TO BE DELIVERED</u>	<u>374394</u>
<u>ATTACHMENT 1 - SUMMARY TABLE OF DOCUMENT TO BE DELIVERED</u>	<u>376396</u>
<u>APPENDIX A - EQUIPMENT CRITICALITY & INTERVENTION ASSESSMENT PROCEDURE</u>	<u>379399</u>
<u>APPENDIX B – TYPICAL QUALITY KPIs</u>	<u>380400</u>
<u>PART 2 - LOCAL AND SCOPE SPECIFIC QUALITY CONDITIONS</u>	<u>382402</u>

INTRODUCTION

This Section IX – QUALITY MANAGEMENT of the CONTRACT is divided into the following Parts:

PART 1 – GENERAL QUALITY CONDITIONS

This section defines the COMPANY General Quality standards to be followed during the performance of the SCOPE to satisfy the COMPANY requirements for the systematic management of Quality.

PART 2 – LOCAL AND SCOPE SPECIFIC QUALITY CONDITIONS

This section defines any relevant Local Quality and/or SCOPE Specific Quality standards, if any,

PART 1 – GENERAL QUALITY CONDITIONS

1.0 DEFINITIONS

INSPECTION AND TEST PLAN (ITP) shall mean a document detailing the systematic approach including processes and procedures of inspecting and testing specified materials, equipment, software, systems, and components thereof. Such process and procedures include but is not limited to visual inspection, dimension inspection, welding inspection, function test, factory acceptance test, and all other types of inspections and testing required to ensure compliance with the requirements of the CONTRACT.

OBSERVATION shall mean a statement of fact made and substantiated by objective evidence.

QUALITY ASSURANCE shall mean an independent review and/or audit (including demonstration of QUALITY CONTROL) of all planned and systematic activities implemented within the CONTRACTOR'S QUALITY PLAN to provide adequate confidence that the CONTRACTOR and/or SUBCONTRACTORS will fulfil the requirements of the CONTRACT.

QUALITY CONTROL shall mean CONTRACTOR'S operational techniques, processes and activities that are undertaken to ensure compliance with all requirements set forth in the CONTRACT.

QUALITY MANAGEMENT SYSTEMS (QMS) shall mean CONTRACTOR'S organizational structure, processes, procedures and resources required to implement quality planning, quality control, quality assurance and quality improvement activities necessary to achieve CONTRACTOR'S corporate quality policies and objectives.

QUALITY PLAN shall mean a document developed by CONTRACTOR specifying procedures, processes, resources and sequence of activities that will be implemented to ensure that the all requirements set forth in the CONTRACT are fulfilled and are in compliance therewith.

QUALITY STANDARD(S) shall mean, as referred to individually or collectively, quality policies, standards, codes and procedures applicable to the performance of the SCOPE and PERMANENT WORK under the CONTRACT.

QUALITY VERIFICATION shall mean activities carried out by COMPANY and/or a third party on behalf of COMPANY, to ensure that the all materials, equipment and/or services being provided to COMPANY by the supplier/contractor meets all agreed requirements and specifications set forth in the CONTRACT and that they fulfil their intended purpose. Such activities may include but not be limited to; review of procedures, plans, codes, drawings and other documentation as well as walkthrough of facilities, examination of supplier's equipment, and inspection and testing of materials, equipment and services produced.

Other capitalised words as used herein shall have the meaning as set forth in Section II – DEFINITIONS AND INTERPRETATION.

2.0 QUALITY STANDARDS

As a minimum, the following listed documents will apply and are incorporated herein by reference for the purposes of this CONTRACT. In addition, CONTRACTOR will prepare a controlled document listing all applicable QUALITY STANDARDS for the SCOPE and PERMANENT WORK for review and approval by COMPANY within 30 days from SIGNATURE DATE.

ISO 9000: Quality Management Systems – Fundamentals and Vocabulary

ISO 9001: Quality Management Systems – Requirements

ISO 9004: Managing for the Sustained Success of an Organization - A Quality Management Approach

The proposed use of QUALITY STANDARDS that have not been publicly recognised by reputable international standards organisation as equivalent to those specified in this Section IX – QUALITY MANAGEMENT, will be submitted as exceptions to the CONTRACT for evaluation and approval in writing by COMPANY REPRESENTATIVE before their implementation.

CONTRACTOR will keep up to date with revisions to the national QUALITY STANDARDS (or the equivalent international QUALITY STANDARDS) as referenced to, and cited in, this SECTION IX – QUALITY MANAGEMENT as being applicable to the SCOPE and PERMANENT WORK.

All QUALITY STANDARDS referred to in this SECTION IX – QUALITY MANAGEMENT refers to the QUALITY STANDARDS as revised from time to time. CONTRACTOR will maintain a master set of relevant and applicable QUALITY STANDARDS and make such available at WORKSITES and for COMPANY'S review when required.

3.0 QUALITY MANAGEMENT SYSTEM REQUIREMENTS

CONTRACTOR will:

Submit its QUALITY MANAGEMENT SYSTEM Manual and associated processes and procedures to COMPANY in electronic format for review, if requested by COMPANY.

Use a formalised QUALITY MANAGEMENT SYSTEM (QMS) to control and assure that the SCOPE and PERMANENT WORK is free of DEFECTS and/or non-conformities. The QMS will comply with ISO 9001 or recognised equivalent, e.g. ISO TS 29001 or API Q1: “Petroleum, petrochemical and natural gas industries – Sector-specific quality management systems – Requirements for product and service supply organizations”.

Provide evidence to COMPANY that CONTRACTOR'S QMS has been certified to ISO 9001 or country equivalent as appropriate to the SCOPE and PERMANENT WORK, organisation and location. The certification body will be recognised by an accreditation body that is a member of the International Accreditation Forum. Should CONTRACTOR'S QMS not be certified to ISO 9001 or country equivalent, CONTRACTOR shall submit its QMS Manual to COMPANY for review and written approval. Such review and approval may entail an audit of CONTRACTOR'S QMS as set forth in Article 7.2(c) herein.

Ensure that the QMS contains a description of key processes and procedures including but not limited to:

Quality Objectives

Quality Planning

Quality Control

Quality Assurance

Quality Reporting

Roles and Responsibilities of Quality personnel in lead roles;

Authorities of KEY PERSONNEL; and

Identification of work methods that are mandatory from those provided for guidance, such as statements of recognised industrial practice.

Ensure that the QMS is integrated with its other management systems and does not give rise to conflict or duplication.

Communicate commitment to Quality to CONTRACTOR PERSONNEL and all other parties involved in the SCOPE through the publication and communication of the Quality Policy, Quality Objectives and the QUALITY PLAN.

Provide evidence that CONTRACTOR maintains a system that clearly records on an on-going basis, Lessons Learned from all work performed by CONTRACTOR. If after review of existing Lessons Learned, such records do not pertain directly to the SCOPE in a significant way, CONTRACTOR will convene a Lessons Learned workshop/meeting with COMPANY participation within sixty (60) days of the SIGNATURE DATE to review and develop potential Lessons Learned. The status of identified Lessons Learned will form part of the Monthly Project Management Report as set forth in Section VII – Administration Instructions.

Have formal procedures to report and rectify DEFECTS and/or other non-conformities, including DEFECTS and/or non-conformities in SUBCONTRACTS which are identified within the SCOPE and/or PERMANENT WORK. See Article 4.1(a)(vi)(2)(c) herein for further requirements regarding NCRs and OBSERVATIONS.

Have a procedure that protects the SCOPE and PERMANENT WORK against use and incorporation of substandard or counterfeit MATERIALS or any other MATERIALS that do not meet the requirements of the CONTRACT. CONTRACTOR will not utilise or allow SUBCONTRACTORS to utilise MATERIALS that are substandard, counterfeit or that do not meet the requirements of the CONTRACT. Substandard or counterfeit MATERIALS and/or SCOPE shall be considered a DEFECT as set forth in Section IIIA – SPECIAL TERMS AND CONDITIONS. CONTRACTOR GROUP shall use only new MATERIALS of good quality that meet the requirements set forth in the CONTRACT.

Review its QMS and related processes on a periodic basis to determine their effectiveness, suitability and improvements needed. The results (specifically highlighting those areas that need further improvement) should be presented to the COMPANY and shall be contained in the Monthly Project Management Report as set forth in Section VII – Administration Instructions.

Review methods may include auditing, health checks, quality surveillance, inspection, and testing. Reviews shall focus both internally within the CONTRACTOR organization and externally within SUBCONTRACTORS. Resulting review data should provide information on:

Customer satisfaction and/or dissatisfaction

Conformance to customer and quality requirements

Cost of quality, including monitoring of failure, lost time and repair costs

Process or product non-conformities and their trends

Root Cause Analysis or corrective actions results

Lesson Learned process or project reviews

Subcontractor and vendor performance

Use formalised processes in order to effect continuous improvement of service and product delivery. Acceptable techniques are defined in ISO 9004.

COMPANY will or retains the right to:

Review CONTRACTOR'S QUALITY MANAGEMENT SYSTEM Manual including associated processes and procedures in accordance with Article 3.1 (a) above and make changes for the purposes of SCOPE hereunder. Such changes to be set forth the QUALITY PLAN as further described in Article 4.0 herein.

Receive evidence of CONTRACTOR'S certification to ISO 9001 or country equivalent in accordance with Article 3.1(c).

Review CONTRACTOR'S QMS and approve in writing when such QMS is not accredited by ISO 9001 or country equivalent in accordance with Article 3.1(c).

Participate in the Lessons Learned Workshop as provided for under Article 3.1 (g) above.

4.0 QUALITY PLAN

CONTRACTOR will:

- a) Develop and implement a QUALITY PLAN for the SCOPE that fully describes how the Quality Objectives will be managed for the duration of the SCOPE including those of CONTRACTOR and SUBCONTRACTORS. The QUALITY PLAN will be submitted no later than (30) working days after the SIGNATURE DATE to COMPANY for written approval by COMPANY REPRESENTATIVE. ISO 10005 should be used as guidance. Such QUALITY PLAN will contain and/or address as a minimum, the following:
 - i. An organization chart that reflects the reporting relationship between those persons who are responsible for ensuring that CONTRACTOR'S Quality Policies and Quality Objectives are achieved, those who are responsible for producing the SCOPE, and those who are responsible for all quality activities related to the SCOPE, WORKSITES and other departments. The chart will also indicate whether CONTRACTOR KEY PERSONNEL are assigned full or part time to the CONTRACT;

- ii. For those persons identified as being responsible for the quality of the SCOPE, identify their roles and responsibilities, their associated authorities, as well as who will be considered KEY PERSONNEL. The Curricula Vitea of persons identified as KEY PERSONNEL and other CONTRACTOR PERSONNEL responsible for the quality of the SCOPE will be submitted to COMPANY REPRESENTATIVE for written approval. The Curricula Vitea of KEY PERSONNEL should be agreed at CONTRACT AWARD. Others who are responsible for the quality of the SCOPE, such Curricula Vitea should be submitted with 30 days of SIGNATURE DATE and be subject to the agreement and approval of COMPANY in writing. Such CONTRACTOR PERSONNEL shall be suitably competent, fully conversant with, and experienced in the aspects of the SCOPE for which they are employed to perform, including training requirements. Qualification procedures and records should be maintained for the following quality roles, as applicable:
 - 1. Quality Managers/Leads
 - 2. Quality Engineers
 - 3. Inspectors
 - 4. Non-Destructive Examination (NDE) technicians
 - 5. Dimensional Control Coordinators/Lead(s)
 - 6. Lead Auditors and Auditors
- iii. Identify any element of such QUALITY PLAN used to control the SCOPE that prevails over CONTRACTOR'S QMS.
- iv. Identify items required from this SECTION IX – QUALITY MANAGEMENT that are not addressed in CONTRACTOR'S QMS.
- v. Provide an equipment and material criticality procedure that sets out the quality intervention levels for the SCOPE. This should include how COMPANY or CONTRACTOR identified Critical Items, Parts or Systems for safety, reliability or which may require third party certification will be managed. Classification of critical items as well as intervention levels and mitigation plans will be developed by CONTRACTOR and reviewed with COMPANY. Such classification of critical items, intervention levels and mitigation plans shall be approved by COMPANY REPRESENTATIVE in writing prior to award of the associated SUBCONTRACT(S). This includes activities at SUBCONTRACTORS facilities, if applicable. COMPANY'S Equipment Criticality Intervention Assessment Procedure (ECIA) is attached hereto as Appendix A for reference.
- vi. Provide procedures necessary to execute and control the SCOPE including but not limited to:
 - 1. QUALITY CONTROL and QUALITY ASSURANCE of Engineering, Procurement, Construction Management, Construction and Commissioning activities, as appropriate, including technical reviews, peer reviews, corrective actions and approval processes.
 - 2. Control of DEFECTS and/or non-conformities and corrective actions procedure(s) that includes the following:

- a. CONTRACTOR'S Procedure will describe how to categorize DEFECTS and other non-conformities according to importance and the corresponding urgency. The procedure will also include how CONTRACTOR will take appropriate corrective action to bring the item into conformance with the technical specification, by replacing or repairing the item using a procedure approved by COMPANY in writing. Such procedure should not only describe the corrective actions to be taken but also measures to determine the root cause of such non-conformity and mitigation plans to eliminate the potential reoccurrence of such non-conformity. In cases where CONTRACTOR feels accepting the item "as is" or after "repair" would be the appropriate action, COMPANY REPRESENTATIVE'S written approval must be obtained prior to continuing with or repairing the item.
 - b. Dates for completion of corrective actions as set out above to be agreed by the COMPANY REPRESENTATIVE and approved in writing.
 - c. CONTRACTOR shall issue to COMPANY within 72 hours of discovery, both in written form and electronic, a Non-Conformance Report for any and all deviations from a requirement and/or technical specification as well as any OBSERVATIONS. CONTRACTOR'S Non-Conformance Reporting (NCR) Procedure should address CONTRACTOR and COMPANY generated NCRs and OBSERVATIONS.
 - d. In the event of identification of a material DEFECT or non-conformance, CONTRACTOR shall develop a specific corrective action plan within 7 days. This plan shall include the correction activities to be taken including of timing of such activities and whether or not a detailed Root Cause Analysis is required. The corrective action plan will be reviewed and either accepted, rejected or modified by COMPANY. In the event that the corrective plan deems a Root Cause Analysis be carried out, CONTRACTOR shall do so with the conclusion of same being reviewed and agreed by COMPANY. COMPANY at its election may participate in such Root Cause Analysis.
 - e. DEFECTS, non-conformities and OBSERVATIONS will be reported and included in Monthly Project Management Report as set forth in Section VII- Administration Instructions.
 - f. Procedures to assess and evaluate whether a DEFECT or other non-conformity is an isolated occurrence or is a systemic issue in SCOPE.
3. Processes and procedures to ensure requirements of traceability of MATERIALS.
4. Management of Change procedure.
5. Establish procedures for packing, protection and preservation of in-process and finished products, including COMPANY PROVIDED ITEMS, that protects the MATERIALS from damage, the environment, or any other change in which such MATERIALS, including COMPANY PROVIDED ITEMS, would be rendered defective or non-conforming and which complies with the manufacturers' requirements. The packing and preservation procedures will be submitted to COMPANY for review and approval not later than thirty (30) days prior to receipt of MATERIALS.

- vii. Procedures for a formal inventory control and inventory records system which protects MATERIALS, including COMPANY PROVIDED ITEMS, from loss and misuse. Inventory records should address logging, date issued, quantity used, quantity in stock, and description. Such inventory control and inventory records procedures will be submitted to COMPANY for review and approval not later than thirty (30) after SIGNATURE DATE.
- viii. Specify the QUALITY CONTROL and QUALITY ASSURANCE exercised over any SUBCONTRACTOR. See Article 5.0 – QUALITY MANAGEMENT OF SUBCONTRACTORS herein.
- ix. A plan to identify and achieve the timely acquisition of all regulatory certifications necessary to meet the CONTRACT certification requirements.
- x. Defined procedure of how CONTRACTOR will manage and mitigate Risk of Repeated Failures identified by both CONTRACTOR and COMPANY. An analysis of commissioning and start-up lessons learned by COMPANY from a large number of projects have shown that failures experienced during such commissioning and start-up activities could be grouped into a limited number of quality risk areas (listed below). Such risk areas are to be managed and tracked by a suite of key performance indicators (“KPIs”). See Appendix B attached hereto for examples. Management of risk and performance in these quality risk areas are viewed as crucial to successful start-up. Such KPIs’, identified risks and risk mitigation plans will cover the SCOPE and PERMANENT WORK and be submitted to COMPANY REPRESENTATIVE for review and written approval within 30 days of SIGNATURE DATE. COMPANY will work with CONTRACTOR and their SUBCONTRACTORS to identify which risk areas and KPIs should be added to the QUALITY PLAN and INSPECTION AND TEST PLANS where appropriate. The CONTRACTOR will also include Leading Indicators (“LIs”) that give warning that final KPI values are on or off target. The LIs will be used throughout all phases of the project and across all identified quality risk areas. Identified KPIs and LI’s will be reported monthly as part of the Monthly Project Management Report pursuant to Article 3.2 in Section VII – Administration Instructions.

The potential risk areas that will be managed via KPIs AND LIs are:

Risk of Repeated Failure Areas and Description

Quality Risk Area	Brief Scope
Tightness	The leak free operation of all components
Cleanliness	The absence of all debris from piping, assemblies, and componentry
Preservation	All activities necessary to maintain the integrity of the MATERIALS to the requirements and standards set forth in the CONTRACT.
Integrity	Components and system functioning as designed for each engineering discipline (examples include

	Process, Static Equipment, Rotating Equipment, Instrumentation, Electrical, Civil, etc...)
Operability/ Maintainability	Requirements required to safely perform all operational and maintenance activities during execution and operational life of the system with ease and speed and without unscheduled downtime
HSE in Transition	Transition's from one HSE system to another (Combined worksites, commissioning and start-up)
Novelty	First time or limited history in applying the technology, working methods or conditions, and/or procedures
Complexity	Complex systems such as multi-plexed subsea control systems
Testing	A structured approach in overall test plan development
Logistics	Movement of required materials and delivery of services as required by the scope.
Interface Management	Management of timely communications and coordination of activities between all parties associated with the project/scope.
Competency and Experience	Ensuring adequate competency and experience base for personnel
Information	The timely availability of information necessary to safely commission, start-up, operate and maintain the asset

Note: COMPANY may define other Risk of Repeated Failures as required by the Project.

- xi. If applicable, a Welder Evaluation Procedure which will describe the method for recording individual welder and welding operator repair rates and unacceptable welder audits thus identifying where the welder or welding operator has been found to be welding outside the required parameters of the applicable Welding Procedure Specification. It will provide criteria for retaining, re-qualifying, or removing welders from the project.
 - xii. Documentation and document management requirements as set forth in Article 7.0 herein.
- b) Submit any and all deviations or revisions to the approved QUALITY PLAN to COMPANY REPRESENTATIVE for review and written approval prior to implementation such deviation and/or revision.

COMPANY will or retains the right to:

- a) Review and either approve, reject or modify the QUALITY PLAN as required in Article 4.1 (a) herein.
- b) Review and either reject or approve KEY PERSONNEL as set forth in Article 4.1 (a)(ii) herein.
- c) Review and either approve, reject or modify CONTRACTOR'S equipment and criticality procedures along with its associated classification of critical items, intervention levels and mitigation plans as set forth in 4.1 (a)(v) herein.
- d) Review and either approve, reject or modify CONTRACTOR'S recommendation regarding corrective action as set forth in Article 4.1 (a)(vi)(2)(a) herein including CONTRACTOR'S recommendation to use "as-is" or "repair" non-conforming MATERIAL or non-conforming procedure.
- e) Review and either approve, reject or modify CONTRACTOR'S dates for completion of corrective actions as set forth in Article 4.1 (a)(vi)(2)(b) herein.
- f) Review and either approve, reject or modify CONTRACTOR'S corrective action plans and, if applicable, conclusions of the Root Cause Analysis carried out by CONTRACTOR in Article 4.1 (a)(vi)(2)(d).
- g) Participate in Root Cause Analysis as set forth Article 4.1 (a)(vi)(2)(d).
- h) Review and either approve, reject or modify the packing and preservation procedures as set forth in Article 4.1 (a)(vi)(5). Such procedures shall not be implemented prior to written approval by COMPANY.
- i) Review and either approve, reject or modify inventory control and inventory records system as set forth in 4.1 (a)(vii).
- j) Review and either approve, reject or modify identified risks, their associated mitigation plans and KPIs/LIs as set forth in Article 4.1 (a)(x) herein.
- k) Review and either approve, reject or modify any and all deviations and revisions to the approved QUALITY PLAN as set forth in Article 4.1 (b) herein.

5.0 QUALITY MANAGEMENT OF SUBCONTRACTORS

5.1 CONTRACTOR will:

- a. Ensure that each SUBCONTRACTOR operates an effective Quality Management System in accordance with the provisions of this SECTION IX – QUALITY MANAGEMENT. CONTRACTOR will at all times maintain records that demonstrate that each SUBCONTRACTOR operates an effective Quality Management System.
- b. Be responsible for controlling the quality of the work executed by SUBCONTRACTORS. CONTRACTOR'S procedures for managing the quality of SCOPE executed by SUBCONTRACTORS will be submitted to COMPANY as a part of the QUALITY PLAN as set forth in Article 4.0 – QUALITY PLAN above.
- c. Ensure that SUBCONTRACTORS utilize COMPANY'S Technically Accepted Manufacturers and Products (TAMAP) database and/or procedures when proposing potential

subcontractors. SUBCONTRACTORS and subcontractors of SUBCONTRACTORS are required to be qualified and approved in writing by COMPANY REPRESENTATIVE as set forth in the CONTRACT prior to such SUBCONTRACTOR or subcontractors being considered for utilization in the SCOPE and PERMANENT WORK.

d. Ensure that:

- i. Specifications, standards, regulations, directives and other acceptance criteria for procured equipment are documented as part of SUBCONTRACT;
- ii. A documented process is agreed between CONTRACTOR and SUBCONTRACTORS for requesting any deviations to any requirements;
- iii. Type and level of independent inspections are identified relevant to the specifications, standards, regulations, directives and criticality assessment applicable to each procured item;
- iv. Increased supervision is considered and agreed where COMPANY or CONTRACTOR identifies deficiencies in the SUBCONTRACTOR'S Quality Management System or performance of the SCOPE and PERMANENT WORK.

e. Ensure that CONTRACTOR'S QUALITY CONTROL procedures address:

- i. Evaluation and approval of SUBCONTRACTOR'S Quality Plans and Quality Control / Inspection and Testing Plans;
- ii. Activities listed on CONTRACTOR'S QUALITY PLAN/INSPECTION AND TEST PLANS that are conducted at SUBCONTRACTORS facilities will also be listed on the SUBCONTRACTORS Quality Plan/Inspection and Test Plans and contain the same level of COMPANY Witness/Hold/Monitor points.
- iii. Coordination of inspection and expediting activities related to SUBCONTRACTORS including progress reporting and resolution of non-conformities and OBSERVATIONS.

5.2 COMPANY will or retains the right to, based in criticality assessment:

- a) Approve all potential SUBCONTRACTORS and subcontractors of SUBCONTRACTORS as set forth in Article 5.1 (c) above.

6.0 INSPECTION AND TEST PLANS

CONTRACTOR will:

Submit an INSPECTION AND TEST PLAN for any and all MATERIALS for COMPANY REPRESENTATIVE'S review and written approval sixty (60) working days prior to any test or inspection activity commencing. These include chronological critical assembly or manufacturing operations or check points in addition to subassembly steps. The critical operations will include steps at CONTRACTOR'S and SUBCONTRACTOR'S facilities.

INSPECTION AND TEST PLANS from **SUBCONTRACTORS** will be reviewed by **CONTRACTOR** prior to submitting to **COMPANY** for review and approval. **INSPECTION AND TEST PLANS** can either comprise a single document or a series of specific documents.

Submit the following information listed for each activity on the ITP:

Reference data e.g. CONTRACT / purchase order number, description, scope;

A description of the activity;

Reference to any Safety Critical Equipment (SCE)

Associated codes, standards and/or other requirements for the activity/deliverable;

Inspection and test stages in chronological order;

The procedure to be used for controlling the activity or SCOPE and PERMANENT WORK;

Hold and witness points for COMPANY or their nominated representative, and regulatory authorities;

The verification points for relevant surveillance parties and verifying records to be produced;

The responsibilities for execution and authority for release;

Indication that activities/components associated with manufactured goods are subject to QUALITY VERIFICATION by COMPANY representative during the inspection and testing phase;

Acceptance or rejection criteria for the product delivered by CONTRACTOR or SUBCONTRACTOR, including reference documents with revision, status, and issue date; and

Identify documentation for the activity/deliverable

COMPANY will indicate which activities/components associated with manufactured goods are subject to QUALITY VERIFICATION to be carried out by COMPANY and/or a third party on behalf of COMPANY, during the inspection and testing phase.

Reference to service level agreements including, execution, checking and approval procedures will be made for activities where the output cannot be directly inspected.

Prepare and submit a list of MATERIALS that will be subjected to testing before acceptance by COMPANY. COMPANY may, at its sole option, require CONTRACTOR to augment this list with additional items. Positive Material Identification (PMI) testing may be required for critical components in manufacturing and welding processes of stainless steels and nickel alloys as an assurance activity beyond MTR records.

Submit Factory Acceptance Test Procedures and System Integration Test Procedures sixty (60) days prior to any test activity occurring for COMPANY'S review and written approval.

Project Test Schedule (if applicable)

Prepare and submit a separate Project Test Schedule (as part of INSPECTION AND TEST PLAN) that details the scope and timing of test activities for major and safety critical equipment (SCEs – reference Article 6.2 herein) and will include:

Positive Material Identification (PMI);
 Factory Acceptance Tests (FATs) and Factory Acceptance Test Procedures;
 System Integration Tests (SITs) and SIT Procedures;
 Component level pressure and functional testing;
 Testing of assembled components, installed systems and operational tests.

The Project Test Schedule will be updated periodically and resubmitted. COMPANY will indicate which tests are to be witnessed.

Description of Key Steps:

Hold Point (H)

A Hold Point is a critical step in manufacturing and testing where it is **essential** that COMPANY'S representative inspect the component/equipment in order to ascertain that the product for delivery complies with specified requirements.

Process activities designated as a Hold Point may not proceed unless a COMPANY'S representative is present or the Hold Point is formally waived and the waiver is confirmed in writing. Waiving of a Hold Point will be documented and the reason for the waiving stated.

COMPANY will be notified fourteen working days (or other time frame agreed by COMPANY) in advance of the activity. The activity may not proceed without COMPANY attendance or waiver as provided for herein.

Witness Point (W)

A Witness Point is a critical step in manufacturing and testing where it is **desirable** that COMPANY'S representative inspects the component/equipment in order to ascertain that the product for delivery complies with specified requirements.

COMPANY'S representative must be given notification of all process activities designated with Witness Point fourteen working days (or other time frame agreed by COMPANY) in advance of the activity. Once proper notification is given, the activity will precede according to the schedule regardless of COMPANY'S representative attendance.

Monitor Point (M)

A Monitor Point is a critical step in manufacturing and testing where it is **optional** that COMPANY'S representative inspects the component/equipment in order to ascertain that the product for delivery complies with specified requirements.

COMPANY will be notified three working days (or other time frame agreed by COMPANY) in advance of the activity. The activity may proceed with or without COMPANY attendance.

Approval Point (A)

An Approval Point is a critical step in design, procurement, and or fabrication and testing where it is **mandatory** that the COMPANY'S approve a document/qualification/ equipment/or activity. The COMPANY shall be notified at a duration specified in the contract in advance of the first occurrence of the activity or provided the document in a period of time specified by the contract. The activity may not proceed without the COMPANY'S.

Review Point (R)

A Review Point is a critical step in design, procurement, and or fabrication and testing where it is **desirable** that the COMPANY review the document/qualification/ equipment/or activity. The COMPANY shall be notified at a duration specified in the contract in advance of the first occurrence of the activity or provided the document in a period of time specified by the contract. The activity may proceed with or without the COMPANY'S comments or review.

ECIA/TECHNICAL INTEGRITY VERIFICATION

- 6.2 Technical Integrity Verification (TIV) is a COMPANY process that ensures technical integrity from concept thru design and construction and also maintains technical integrity after project handover to Operations. It includes COMPANY designation of critical components as Safety Critical Elements (SCEs). COMPANY Performance Standards describe the performance requirements of SCEs as well as how these requirements are to be verified. The performance standards include information CONTRACTOR will use in the creation of INSPECTION AND TEST PLANS. If SCOPE and/or PERMANENT WORK includes the design or procurement of any items designated as Safety Critical Elements, CONTRACTOR will submit the following for review and written approval by COMPANY REPRESENTATIVE:
 - a) Comprehensive List of CONTRACTOR furnished Safety Critical Elements as identified
 - b) Real limits of safe operation (not just normal operating range) for each SCE no later than sixty (60) days prior to purchasing such SCE;
 - c) Preservation and maintenance requirements including procedures, explicit pass/fail criteria and frequency no later than sixty (60) days prior to purchasing such SCE; and
 - d) Procedures specifying actions needed and frequency needed to preserve equipment safety when SCE is not fully functional no later than sixty (60) days prior to purchasing such SCE.
- 6.3 COMPANY role in regards to TIV is to support, facilitate, and provide resources during the development of the verification and assurance steps used to ensure the performance standards are met. Guidance will be provided via COMPANY Manual on SCE items. This consists of providing inspectors, templates, input to or review of test and inspection plans, and performing audits of the TIV process. CONTRACTOR will accommodate these processes in development of their plans and documents including, but not limited to,

Inspection and Test plans, equipment requirement/specification documents, preservation and maintenance requirements.

6.4 COMPANY will or retains the right to:

- a) Review and either approve, reject or modify the INSPECTION AND TEST PLANS as submitted in accordance with Article 6.1(a) and 6.1(b) herein.
- b) Identify which activities/components associated with manufactured goods are subject to QUALITY VERIFICATION to be carried out by COMPANY and/or a third party on behalf of COMPANY as provided for in Article 6.1 (c).
- c) Review and either approve, reject or modify the Factory Acceptance Test Procedures and System Integration Test Procedures as set forth in Article 6.1 (f).
- d) Indicate which tests are to be witnessed in accordance with Article 6.1 (g).
- e) Review and either approve, reject or modify the items to be provided under Article 6.2.

7.0 AUDITS BY CONTRACTOR and COMPANY

7.1 CONTRACTOR will:

Submit its Quality Audit Plan (including SUBCONTRACTOR audits) to COMPANY REPRESENTATIVE for approval in writing not later than thirty (30) days after the SIGNATURE DATE. The Quality Audit Plan shall include systematic/regular audits and project specific self-performed audits as well as SUBCONTRACTOR audits. Guidelines on the performance of quality audits are set out in ISO 19011. CONTRACTOR'S audit plan will list quality audit procedures and plans which include the scope and timing of quality audits planned by CONTRACTOR and its SUBCONTRACTORS. The audit plan will include but is not limited to:

Planned QMS (internal or external) audits

Internal compliance audits and reviews

External Third Party and Regulatory audits (as defined in the contract)

Independent technical design reviews (i.e. internal technical peer reviews)

Management readiness / status reviews

CONTRACTOR external audits and reviews (e.g. sub-contractors/ suppliers)

Notify COMPANY of all forthcoming audits not later than fourteen (14) days prior to the planned start date of each audit. The notification will confirm the audit or review date(s) / time(s), location, scope, auditor(s), auditee and terms of reference. COMPANY'S representatives may take part in CONTRACTOR'S audit as observers.

Ensure that the audits and reviews are undertaken by qualified and independent personnel who have no direct responsibility for the activity being audited. CONTRACTOR will also ensure that the audits and reviews are led or supervised by a Lead Auditor or Assessor who is appropriately qualified and preferably registered with a reputable professional organization and who has recent experience as a Lead Auditor / Assessor.

The results of any audit or surveillance, which has been performed by a third party or regulatory bodies having statutory rights of access for the purposes of verifying aspects of the SCOPE, will be notified to COMPANY REPRESENTATIVE and made available to COMPANY REPRESENTATIVE within seven (7) working days of receipt of the results.

CONTRACTOR will within such time as mutually agreed with COMPANY, implement agreed recommendations arising from the audits, reviews, health checks and/or QUALITY VERIFICATION. Such recommendations shall be presented to COMPANY for review and approval in writing prior to their implementation.

CONTRACTOR'S audits and reviews, including associated findings and actions will be documented in a report, which will be submitted to COMPANY in both hard copy and electronic format for information and review. A register of all audits and reviews conducted will be maintained on an on-going basis. A register of all findings, corrective and preventive actions will be maintained including status and closeout actions taken and will be available for COMPANY to review when requested.

COMPANY will or retains the right to:

Review and either approve, reject or modify the Quality Audit Plan as submitted in accordance with Article 7.1 (a) herein.

Review and either approve, reject or modify recommendations as submitted to Article 7.1 (e).

Assess the effectiveness of CONTRACTOR'S QMS by:

Performing CONTRACTOR and SUBCONTRACTOR quality audits;

Performing surveillance or reviews of documentation of quality audits;

At its election, participate in CONTRACTOR led quality audits or surveillance activities in accordance with the Project QUALITY PLAN and/or INSPECTION TEST PLAN.

COMPANY or its authorized representatives, will at all reasonable times, have unrestricted access to WORKSITES including but not limited to facilities, equipment, materials, personnel, systems and records (including native files) of CONTRACTOR and the SUBCONTRACTOR(S) to carry out activities for the purposes of QUALITY VERIFICATION(S).

COMPANY, or its authorized representatives, for the purpose of QUALITY VERIFICATION will have no restrictions to take pictures or make video of WORKSITES including facilities, equipment, materials, personnel and records of CONTRACTOR and the SUBCONTRACTOR(S). Electronic copies of such pictures and/or video may be provided to the corresponding CONTRACTOR'S or SUBCONTRACTOR(S), if they so request.

8.0 QUALITY DOCUMENTS TO BE DELIVERED

8.1 Document to be delivered by CONTRACTOR including Review/Approval and the Due Date of such documents are included herein as Attachment 1 – Summary Table of Quality Documents to be Delivered. Such documents to be submitted in the form and format as set forth in Section VII – Administration or as otherwise requested by COMPANY.

Design/Equipment Data Book/s

Contents will be agreed to by COMPANY in writing. Databooks are due at the time of delivery but in any event prior to final milestone payment date per Section IV – SCHEDULE OF PRICING.

8.3 CONTRACTOR will:

Maintain a system that clearly shows the records to be produced, submitted or handed over in order to comply with the CONTRACT and that an appropriate document control system is in place, which includes a document register.

Maintain, and make available to COMPANY as required during the execution of the SCOPE and PERMANENT WORK, records that provide objective evidence that CONTRACTOR'S QMS including the Quality Management Systems of SUBCONTRACTORS, involved in the SCOPE and PERMANENT WORK have been effective and that the product and or service complies with the specified requirements.

Provide all Certificates of Origin and Material Test Reports within thirty (30) days prior to the shipment of any MATERIALS.

Provide COMPANY with a copy of any and all Non-Conformance Reports and OBSERVATIONS as set out in Article 4.1(a)(vi)(2)(c) herein in both written and electronic form. The electronic format in which an NCR and/or OBSERVATIONS are to be provided to COMPANY shall be agreed by CONTRACTOR and COMPANY.

Maintain Quality Records validating compliance with Equipment Specifications, Manufacture, Assembly and Test will be retained for a minimum period of five (5) years from date of equipment delivery to COMPANY.

Inform COMPANY prior to disposal of these Quality Records.

8.0 Project Close Out Report or Meeting

In relation to completion of the SCOPE and PERMANENT WORK, CONTRACTOR will:

Upon completion of the SCOPE and PERMANENT WORK, supply a report or at COMPANY'S request host a meeting highlighting those areas where improvements in business performance may be mutually realized in future similar work or projects.

Issue COMPANY furnished equipment status and final disposition.

COMPANY will:

Review and either approve, reject or modify the contents of the documentation as provided under Article 8.2 herein.

Review and either approve, reject or modify the electronic format in which an NCR and/or OBSERVATIONS are to be provided to COMPANY.

ATTACHMENT 1 - SUMMARY TABLE OF DOCUMENT TO BE DELIVERED

The following is a non-exhaustive list of quality documents to be delivered by the CONTRACTOR together with due dates and including the COMPANY'S requirements to review or approve the documents in writing.

Article	Description	COMPANY ACTION Review/Approve	Date
2.0	Control document listing for all SCOPE and PERMANENT WORK.	Review & Approve	Within 30 days of SIGNATURE DATE
2.0	QUALITY STANDARDS that have not been publicly recognised by reputable international standards organisation.	Approval	Prior to implementation
3.1(a)	CONTRACTOR'S QUALITY MANAGEMENT SYSTEM Manual	Review	Upon request by COMPANY
3.1(c)	Evidence that CONTRACTOR'S QMS has been certified to ISO 9001 or equivalent.	Review	Upon request by COMPANY
3.1(c)	CONTRACTOR'S QMS has NOT been certified to ISO 9001 or equivalent.	Review & Approve QMS Manual	Upon request by COMPANY
3.1(g)	Evidence that Lesson Learned are captured on an ongoing basis.	Review	Within 60 days of SIGNATURE DATE
4.1(a)	QUALITY PLAN	Review & Approve	Within 30 days of SIGNATURE DATE
4.1(a)(i)	Organization Chart	Review	Within 30 days of SIGNATURE DATE
4.1(a)(ii)	Curricula Vitea for KEY PERSONNEL.	Review & Approve	SIGNATURE DATE

4.1(a)(ii)	Curricula Vitea for persons responsible for the quality of SCOPE, identifying their roles and responsibilities and authorities.	Review & Approve	Within 30 days of SIGNATURE DATE
4.1(a)(v)	Equipment and materials criticality procedure and classifications	Review & Approve	Prior to award of pertinent SUBCONTRACT
4.1(a)(vi)(2)(a)	Categorization and corrective action procedures	Review & Approve	As and when required
4.1(a)(vi)(2)(b)	Completion dates for corrective actions	Review & Approve	As and when required
4.1(a)(vi)(2)(c)	Non-Conformance Report	Review	Within 72 hours of discovery of such Non-Conformance.
4.1(a)(vi)(2)(d)	Corrective actions and conclusions of Root Cause Analysis	Review & Approve	As and when required
4.1(a)(vi)(5)	Packing, Protection and Preservation Procedures	Review & Approval	30 days prior to the receipt of MATERIALS
4.1(a)(vii)	Inventory Control and Inventory Records Procedures	Review & Approval	Within 30 days of SIGNATURE DATE
4.1(a)(x)	Key Performance Indicators (KPIs) associated with focused quality risk areas	Review & Approve	Within 30 days of SIGNATURE DATE
4.1(a)(xi)	If applicable, a Welder Evaluation Procedure	Review & Approve	As and when required
4.1(b)	Deviations to the approved QUALITY PLAN	Review & Approve	As and when required
5.1(c)	Subcontractors of SUBCONTRACTORS	Review & Approve	As and when required

6.1(a)	INSPECTION AND TEST PLAN	Review & Approve	60 days prior to any test and/or inspection activity commencing on the correlating ITP.
6.1(e)	List of MATERIALS that will be subject to testing	Review & Approve	As and when required
6.1(f)	Factory Acceptance Test Procedures and System Integration Test Procedures	Review & Approve	60 days prior to any test and/or inspection activity commencing on the correlating ITP.
6.1(g)	Project Test Schedule	Review	As and when required
6.2(a)	List of CONTRACTOR furnished Safety Critical Elements	Review & Approve	As and when required
6.2(b)	Real limits of safe operations for each Safety Critical Element	Review & Approve	60 days prior to purchase of such Safety Critical Equipment
6.2(c)	Preservation and maintenance requirements including procedures, explicit pass/fail criteria and frequency	Review & Approve	60 days prior to purchase of such Safety Critical Equipment
6.2(d)	Procedures specifying actions needed and frequency needed to preserve equipment safety when SCE is not fully functional	Review & Approve	60 days prior to purchase of such Safety Critical Equipment
7.1(a)	Quality Audit Plan	Review & Approve	Within 30 days of SIGNATURE DATE
8.3(c)	Certificates of Origin and Material Test Reports	Review	30 days prior to the shipment of any MATERIALS

APPENDIX A - EQUIPMENT CRITICALITY & INTERVENTION ASSESSMENT PROCEDURE

ECIA Procedure

APPENDIX B – TYPICAL QUALITY KPIs

	Quality Indicator	Measure Note: Assume a meaningful population size.	Threshold	Review Freq	Report Format
KPI 01 – QMS Effectiveness	Audits and reviews.	Performed/Planned Highlight those re-scheduled	> 90 %	Quarterly	Statistic/ Trend
	Closure of audit findings	<u>No. cleared in month × 100</u> No. req. by due in the month*	> 90 %	Quarterly	Statistic/ Trend
	Quality Resources	<u>No. of resources × 100</u> No. of planned Confirm establishment positions	> 90 %	Quarterly	Statistic/ Trend
	Lessons Learned and Flaws Mitigated	<u>No. mitigated learnings/Flaws × 100</u> Total No. flagged for mitigation	> 90 %	Monthly	Statistic/ Trend
KPI 02 – Quality in Design	HAZOP actions outstanding	<u>No. outstanding × 100</u> No. raised Highlight by type (e.g., HAZOP / HAZID)	> 90 %	Monthly	Statistic/ Trend
	Holds outstanding	<u>No. design issues/queries closed in month × 100</u> Total number raised	> 90 %	Monthly	Statistic/ Trend
	No. Design Changes and/or Deviations resulting in changes to design basis	<u>No. design changes and/or deviations resulting in changes to design basis</u>		Monthly	Statistic/ Trend
	Design deliverables	<u>No. of document delivered late × 100</u> No. required by schedule	< 5 %	Monthly	Statistic/ Trend
	Compliance to Technical Assurance Plan	No. of documents approved by approval authority x 100 <u>Total No. of documents approved</u>	> 98 %	Monthly	Statistic/ Trend
KPI 03 – Quality in Supply Chain	Closure of Supply Chain NCRs	<u>No. closed in month × 100</u> No. req. by due date*	> 90 %	Monthly	Statistic/ Trend
	Holds outstanding	<u>No. interface issues/queries closed in month × 100</u> Total No. outstanding	> 90 %	Monthly	Statistic/ Trend
	Vendor ITP witness and hold points	<u>No. of witness & hold points missed × 100</u> No. of witness & hold points scheduled	< 5 %	Monthly	Statistic/ Trend
	Vendor Quality Records & Data outstanding	<u>No. of documents delivered late × 100</u> No required by schedule	< 5 %	Monthly	Statistic/ Trend

Quality Indicator	Measure Note: Assume a meaningful population size.	Threshold	Review Freq	Report Format
Equipment Delivered with NCRs (MANDATORY KPI)	<u>Equipment that passed inspection from the Contractor or Subcontractor and/or COMPANY that is delivered to the next stage with a Non-conformance.</u>	< 5 %	Monthly	Statistic/Trend
KPI 04 – Quality in Fabrication, Construction & Installation	Quality and/or commissioning incidents / issues that result in either a \$1mln USD+ cost impact or a potential schedule impact greater than one week lost production(MANDATORY KPI)	>1	Monthly	Number
	> Include any flaw, error, non-conformance that could have been prevented > Includes any stage of manufacturing, fabrication, testing, and/or commissioning and start-up			
	Contractor/Subcontractor Inspection resourcing	Inspectors/planned (by discipline)	> 90 %	Monthly
	ITP witness and hold points	<u>No. of witness & hold points missed × 100</u> No. of witness & hold points scheduled	< 5 %	Monthly
	Site Queries	<u>No. cleared in month × 100</u> Total No. outstanding	> 90 %	Monthly
	NCRs	No. open/No. raised Open > 30 days > 60 days > 90 days	< 10 %	Monthly
	No. Repeat NCRs	No. Repeated NCRs in month/ Total No. NCRs	<10%	Monthly
	No. Quality Observations (near-miss/defect prevention)	No. Quality Observations (near-miss/defect prevention) in month	N/A	Monthly
	Weld repair rate For 100% NDE specifically to RT (or PAUT)	<u>No of welds rejected in week × 100</u> Total No of welds in week	< 3% for RT < 5% for PAUT	Weekly
	Hand-over documentation	<u>No. of documents delivered × 100</u> No required By Contractor/if required	> 95 %	Monthly

(A) Note: *Cumulative figure and shall include those not closed by the due date in the previous month.

PART 2 - LOCAL AND SCOPE SPECIFIC QUALITY CONDITIONS**1.0 GENERAL**

1.1 PART 2 – Local Quality and/or SCOPE Specific Quality standards, if any, that are in addition to the requirements set forth in Part 1 – GENERAL QUALITY CONDITIONS herein that are to be complied with during the performance of the SCOPE.

- a) A listing of Local and/or SCOPE Specific Quality requirements will be developed and agreed by CONTRACTOR and COMPANY.
- b) Should there be a contradiction between the Quality Requirements in this Part 2 and those of Part 1, then the more stringent will prevail to the extent that they are not in conflict with the APPLICABLE LAWS.

SECTION X – TECHNICAL INFORMATION

INDEX

<u>ARTICLE 1.0 - Project Specifications, Standards, and Drawings</u>	<u>385311</u>
<u>ARTICLE 2.0 - SHELL Group Specifications and Standards</u>	<u>386312</u>
<u>2.1 - Shell DEPs (Design and Engineering Practices)</u>	<u>386312</u>
<u>2.2 - Electrical Standard and Procedures</u>	<u>386312</u>
<u>2.3 - SPDC Standard Construction Specifications</u>	<u>386312</u>

ARTICLE 1.0 - Project Specifications, Standards, and Drawings

This section contains in electronic format, all the relevant detailed engineering deliverables; philosophies, specifications, study reports, drawings and applicable SHELL documents/standards.

The description of the document types/numbers are as follows:

1.1 – UZU AND CPF UPGRADE PROJECT

Basic Design and Engineering Package UZU-SEDO-GEN-AA7739-00001 attached as an Addendum to this Section VII.



UZU-SEDO-GEN-AA7
739-00001_Rev R01 -

ARTICLE 2.0 - SHELL Group Specifications and Standards

2.1 - Shell DEPs (Design and Engineering Practices)

Document Number	Document Title
Shell DEPs	Shell DEPS – Latest Version

2.2 - Electrical Standard and Procedures

Document Number	Document Title
SPDC-ES/E/T/001	List of Approved Electrical Equipment Vendors.
SPDC-ES/E/M/004	General Specification for earthing and lightning protection.
SPDC HSE ref. 29	Electrical Safety Operational Procedure (ESOP).
QSP-FE-05-09	Hazardous Area Classification Practice.
QSP-FE-03-22	SAFOP manual.

2.3 - SPDC Standard Construction Specifications

TITLE	SECTION
SPDC Standard Construction Specifications	Standard Construction Specifications 1 to 36
SPDC-ES-I-T-006	SPDC Instrument, Control and Process Automation Philosophy - Chapter 12 - Installation & Interconnections

SECTION XI – FORMS

BANK GUARANTEE

[Drafting Note: This is an example only. The relevant bank may require any Guarantee to be on its own paper. Please contact Legal with any questions.]**

[On the headed notepaper of the Bank]

To: **[**insert name]**

[month], [**XX], 20[**XX]**

Dear Sirs,

Purchase Contract Bond No. [XXXX]**

[Drafting Note: insert CONTRACTOR details from the CONTRACT]** ("CONTRACTOR") has entered into an agreement (the "CONTRACT") with **[**insert Shell Company]** ("COMPANY") **[**month], [**XX], 20[**XX]**, for the procurement of certain goods or services.

The CONTRACT obligates CONTRACTOR to provide a bond in the amount of **[**USD \$____]**. **[**insert bank name]** Bank (the "BANK"), hereby agree irrevocably and unconditionally, on one or more occasions, and despite any objections from the CONTRACTOR, to pay immediately to you, or another person as you may direct, an amount you request not exceeding **[** USD \$____ in aggregate]**. The BANK will pay that amount immediately upon receipt of an original written demand from COMPANY certifying that in COMPANY's judgment CONTRACTOR has failed to perform the terms or conditions of the CONTRACT or that CONTRACTOR is insolvent.

This bond will be valid from **[**fill in date]** until **[**fill in date]**. When this bond has expired, it must be returned to the BANK for cancellation. The expiry of the bond will be without prejudice to any liability under this bond that arose prior to that date.

Any payment will be made in immediately available and freely transferable United States dollars without any withholding or deduction for any present or future taxes, levies, imposts, duties, charges, fees, set-off, counterclaims, deductions, or withholdings of any nature.

The BANK's obligations constitute direct, primary, irrevocable, and unconditional obligations. The BANK's obligations do not require any previous notice to or claim against CONTRACTOR and cannot be discharged or otherwise prejudiced or adversely affected by any alteration to the terms of the CONTRACT. The BANK's obligations under this bond will not be affected or discharged by: (a) COMPANY's waiver of CONTRACTOR's non-compliance with any term or condition under the CONTRACT; (b) by any other bond, security, or guarantee held by COMPANY for all or part of the CONTRACTOR's obligations under the CONTRACT; (c) by any invalidity or unenforceability of the CONTRACT; (d) by the insolvency, bankruptcy, winding-up, or reorganisation of CONTRACTOR; or (e) any dispute between CONTRACTOR and COMPANY in relation to the CONTRACT.

This bond is not personal to COMPANY and may be assigned by COMPANY to any person or entity, so long as COMPANY notifies the BANK in writing of the assignment.

This bond is not revocable by notice or otherwise and our liability under this bond cannot be impaired or discharged by any act or omission of CONTRACTOR under the CONTRACT.

Any notice under this bond will be deemed to be duly given when delivered (in the case of personal delivery) or 48 hours after being sent by prepaid registered post or recorded delivery (in the case of letter).

This bond is executed by us as our deed.

This bond will governed by and construed in accordance with the laws of **[**insert jurisdiction]**.

Signatures

THE COMMON SEAL OF **[**insert bank name]** BANK was affixed to this deed in the presence of:

Name:
Title:

Name:
Title:

PARENT COMPANY GUARANTEE

between

[**insert]

and

[**insert]

[**insert CMS#]

CONTENTS

- | | | |
|-----|---------------------------------------|---------------|
| 1. | INTERPRETATION | <u>392164</u> |
| 2. | GUARANTEE AND INDEMNITY | <u>392164</u> |
| 3. | NO RELEASE OF LIABILITY | <u>394166</u> |
| 4. | CONTINUING GUARANTEE | <u>394166</u> |
| 5. | DEALINGS WITH CONTRACTOR | <u>395167</u> |
| 6. | PAYMENT | <u>395167</u> |
| 7. | GUARANTOR NO COMPETITION WITH COMPANY | <u>395167</u> |
| 8. | NOTICES | <u>396168</u> |
| 9. | CONDITIONAL DISCHARGE | <u>396168</u> |
| 10. | GOVERNING LAW AND DISPUTE RESOLUTION | <u>397169</u> |
| 11. | ASSIGNMENT | <u>397169</u> |
| 12. | PROPERTY | <u>397169</u> |
| 13. | THIRD PARTY RIGHTS | <u>397169</u> |

THIS GUARANTEE IS MADE AS A DEED AND IS DATED [insert date]**

BETWEEN

[**SHELL],

whose registered office is at [**, (**), **] ("COMPANY"),

and

[**CONTRACTOR'S PARENT COMPANY OR AFFILIATE AS APPROPRIATE],

whose registered office is at [**, (**), **] ("GUARANTOR").

RECITALS

GUARANTOR, agreeing to provide security for performance of obligations of its AFFILIATE, provides the assurances in this GUARANTEE to COMPANY.

THE PARTIES AGREE AS FOLLOWS

DEFINITIONS AND INTERPRETATION

Capitalised terms used and not otherwise defined in this GUARANTEE have the meanings given to them in the CONTRACT.

CONTRACT	the [**complete name of the related agreement] dated [**date of agreement] identified by agreement number [**insert CMS#], including amendments.
CONTRACTOR	the party, together with COMPANY, to the CONTRACT.
GUARANTEE	this document and its related undertakings agreed between the parties.
OBLIGATIONS	all obligations, duties, undertakings, and covenants of CONTRACTOR under the CONTRACT, whether arising before, on, or after the date of this GUARANTEE, including any obligations of CONTRACTOR that may survive termination of the CONTRACT.

GUARANTEE AND INDEMNITY

Undertaking

GUARANTOR:

unconditionally and irrevocably guarantees to COMPANY that CONTRACTOR will perform and observe the OBLIGATIONS, and comply with the terms and conditions, of the CONTRACT in all respects as if GUARANTOR were the sole principal obligor and not merely GUARANTOR; and agrees to INDEMNIFY COMPANY GROUP for LIABILITIES in respect of any failure by CONTRACTOR to perform or comply with any OBLIGATION.

Limitation

In connection with the undertakings in the preceding sub-article, GUARANTOR is entitled to the benefit of any limitation or exclusion of liability that would be available to CONTRACTOR under the CONTRACT. However, this proviso does not apply where the failure to perform is due to the OBLIGATIONS being or becoming void, voidable, unenforceable, or illegal.

NO RELEASE OF LIABILITY

As between GUARANTOR and COMPANY (but without affecting any obligations of CONTRACTOR), GUARANTOR remains liable under this GUARANTEE as sole primary obligor and not merely as a surety.

The liability of the GUARANTOR is not discharged or affected by:

any time, indulgence, waiver, or consent given to CONTRACTOR or any other PERSON;

any amendment to or variation of SCOPE in the CONTRACT or to any security or other guarantee or indemnity;

the making or absence of any demand on CONTRACTOR or any other PERSON for payment;

the enforcement or absence of enforcement of CONTRACT or of any security, right of action, or other guarantee, or indemnity;

the release of any such security, right of action, guarantee, or indemnity

Any INSOLVENCY EVENT, liquidation, dissolution, amalgamation, reconstruction, or reorganisation of CONTRACTOR or any other PERSON;

the illegibility, invalidity, or unenforceability, or any defect in any provision of the CONTRACT or any of CONTRACTOR's OBLIGATIONS;

any failure, defect, or unenforceability of any OBLIGATION or any term or condition of the CONTRACT;

any disability or incapacity of CONTRACTOR;

the fraud of CONTRACTOR;

the non-existence of any matter which GUARANTOR considers a condition precedent (and if any such matter is considered to be a condition precedent, it is expressly waived);

the lack of authority of any director of CONTRACTOR or of any other PERSON acting or purporting to act on behalf of CONTRACTOR with the express or implied authority of CONTRACTOR; or

any other act, event, or omission which might operate to discharge, impair, or otherwise affect any of GUARANTOR'S obligations or liabilities under this GUARANTEE or any rights, remedies or powers conferred on COMPANY under the CONTRACT.

GUARANTOR waives any rights to require COMPANY, before proceeding against GUARANTOR, to pursue first any remedy which COMPANY may have against CONTRACTOR.

GUARANTOR covenants with COMPANY that if CONTRACTOR should go into liquidation, due to an INSOLVENCY EVENT or other reason, and the liquidators disclaim the CONTRACT, then the liability of the GUARANTOR under this GUARANTEE remains in full effect.

CONTINUING GUARANTEE

This GUARANTEE is a continuing security and is not discharged by the performance of any particular OBLIGATION and remains in full effect until all OBLIGATIONS are performed in full.

DEALINGS WITH CONTRACTOR

Before enforcing this GUARANTEE in respect of any OBLIGATION, COMPANY will demand performance by CONTRACTOR. But COMPANY is not obliged to seek to enforce any remedy it may have under the CONTRACT or at law, initiate any legal proceedings, obtain any judgment, or make or file any claim in the bankruptcy, dissolution, or winding up of CONTRACTOR (or equivalent proceedings in any other jurisdiction). COMPANY need not advise GUARANTOR of its dealings with CONTRACTOR nor of any failure by CONTRACTOR to perform any OBLIGATION or comply with any term or condition of the CONTRACT.

PAYMENT

All payments by GUARANTOR under this GUARANTEE must be made within ten days from receipt by GUARANTOR of COMPANY's demand in accordance with the instructions of COMPANY. Payments are subject to the same rights of set-off, and deductions for any TAXES set out in the CONTRACT.

If as a result of the different tax residencies or domiciles of GUARANTOR and CONTRACTOR, GUARANTOR is obliged by law to make any such deduction, the amount due from GUARANTOR will be increased to the extent necessary to ensure that, after the making of the deduction, COMPANY receives a net amount equal to the amount it would have received had no deduction been required to be made.

All payments must be made in the currency applicable to the CONTRACT. If any sum is paid by GUARANTOR in a currency other than that in which the OBLIGATIONS are payable, GUARANTOR agrees to INDEMNIFY COMPANY for all LIABILITIES arising from the conversion by COMPANY of the currency into the currency applicable to the CONTRACT.

GUARANTOR will bear any and all costs and expenses incurred by COMPANY in recovering any sums due from GUARANTOR under this GUARANTEE.

GUARANTOR NO COMPETITION WITH COMPANY

The following provision apply so long as any of the OBLIGATIONS remain outstanding:

Whether by payment of any sum due under this GUARANTEE or by any other means, GUARANTOR will not:

claim or recover by the institution of proceedings, the threat of proceedings, or otherwise such sum from CONTRACTOR;

claim any set-off or counterclaim against CONTRACTOR;

prove in competition with COMPANY in respect of any payment by GUARANTOR;

claim or have the benefit of any security which COMPANY holds or may hold for any money or LIABILITIES due from or incurred by CONTRACTOR to COMPANY, or hold any security from CONTRACTOR without the prior written consent of COMPANY.

If GUARANTOR holds any security in breach of this sub-article, or receives any sums from CONTRACTOR in respect of any payment of GUARANTOR under this GUARANTEE, GUARANTOR will hold the security or monies in trust for COMPANY so long as any sums are payable (contingently or otherwise) under this GUARANTEE.

NOTICES

Notices under the GUARANTEE must be made in the manner set out in the GENERAL TERMS AND CONDITIONS of the CONTRACT and delivered:

To SHELL:

[**include details]

To LEAD CONTRACTOR:

[**include details]

CONDITIONAL DISCHARGE

Any release, discharge, or settlement between GUARANTOR and COMPANY is conditional upon no security, disposition, or payment to COMPANY by CONTRACTOR or any other PERSON in respect of the OBLIGATIONS being void, set aside, or ordered to be refunded under APPLICABLE LAW in relation to bankruptcy, liquidation, or insolvency (or its equivalent in any relevant jurisdiction) or other reason. If any condition is not fulfilled, COMPANY is entitled to enforce this GUARANTEE and recover immediately any value or amount due as if the release, discharge, or settlement had not occurred and payment had not been made.

GOVERNING LAW AND DISPUTE RESOLUTION

This GUARANTEE and any dispute or claim arising out of or in connection with it, whether in tort, contract, under statute, or otherwise, including any question regarding its existence, validity, interpretation, breach, or termination will be construed in accordance with the laws governing the CONTRACT, and in all such respects, GUARANTOR irrevocably submits to the dispute resolution arrangement in the CONTRACT.

GUARANTOR agrees that any final and binding award rendered against CONTRACTOR resulting from the dispute resolution arrangement under the CONTRACT (or, if applicable another dispute resolution procedure followed by CONTRACTOR and COMPANY) is conclusive and binding on GUARANTOR for the purposes of determining its obligations under this GUARANTEE to the same extent that the award is binding on CONTRACTOR.

ASSIGNMENT

GUARANTOR will not assign, subcontract, or otherwise transfer any of its rights or obligations under this GUARANTEE without COMPANY's prior written consent.

PROPERTY

This GUARANTEE is the property of COMPANY, and COMPANY is under no obligation to return it to GUARANTOR at any time.

THIRD PARTY RIGHTS

Members of COMPANY GROUP who are not a party to the GUARANTEE, but who have benefits conferred on them by it, are entitled to enforce those benefits. Otherwise, no term of this GUARANTEE will be enforceable by any PERSON who is not a party to the GUARANTEE. The parties may amend or terminate the GUARANTEE without notice to or consent of any PERSON not a party, but conferred benefits, even if rights to enforce a benefit conferred by the GUARANTEE may be varied or extinguished.

Signatories

SIGNED AS A DEED:

For and on behalf of [insert full Shell name]**

For and on behalf of [insert full
GUARANTOR name]**

Name:
Position:

Name:
Position:

THIS DATA PROCESSING AGREEMENT IS MADE AND DATED [insert date]**

Page 397 of 407

Initial Company.....

Initial Contractor.....

INVITATION TO TENDER FOR EPC FOR GBARAN PHASE 3B - UZU WITH CPF UPGRADE- PKG 1 CPF
UPGRADE_CW361444

BETWEEN

[**SHELL – PLEASE UTILISE THE SAME SHELL ENTITY FROM THE CONTRACT]

whose registered office is at [**, (**), **] (“COMPANY”),

and

[**CONTRACTOR OR CONTRACTOR AFFILIATE AS APPROPRIATE],

whose registered office is at [**, (**), **] (“PROCESSOR”).

RECITALS

PROCESSOR, will perform SCOPE under the CONTRACT, which provides for the PROCESSING of PERSONAL DATA.

PROCESSOR agrees to comply with this DATA PROCESSING AGREEMENT in the performance of SCOPE under the CONTRACT.

COMPANY and PROCESSOR agree to be fully bound by this DATA PROCESSING AGREEMENT including any appendix to this DATA PROCESSING AGREEMENT

THE PARTIES AGREE AS FOLLOWS**12. DEFINITIONS AND INTERPRETATION**

In case of any conflicts or inconsistencies between this DATA PROCESSING AGREEMENT and CONTRACT, the provisions in this DATA PROCESSING AGREEMENT will prevail. Capitalised words and expressions have the following meanings when interpreting this DATA PROCESSING AGREEMENT:

AFFILIATE	in reference to a PERSON, any other PERSON that: (a) directly or indirectly controls or is controlled by the first PERSON; or (b) is directly or indirectly controlled by a PERSON that also directly or indirectly controls the first PERSON. A PERSON controls another PERSON if that first PERSON has the power to direct or cause the direction of the management of the other PERSON, whether directly or indirectly, through one or more intermediaries or otherwise, and whether by ownership of shares or other equity interests, the holding of voting rights or contractual rights, by being the general partner of a limited partnership, or otherwise. An AFFILIATE of COMPANY is also an AFFILIATE of Royal Dutch Shell plc.
ALTERNATIVE ADEQUATE LEVEL OF PROTECTION	Means PROCESSOR (or as appropriate SUB-PROCESSOR) has implemented or has had approved an appropriate safeguard as provided by Chapter V of Regulation (EU) 2016/679.
APPLICABLE DATA PROCESSOR LAW	DATA PROTECTION LAWS applicable to PROCESSOR in the PROCESSING of PERSONAL DATA, in particular REGULATION (EU) 2016/679 (GDPR).
APPLICABLE DATA PROTECTION LAW	all laws, rules, regulations, governmental requirements, codes as well as international, federal, state, provincial laws applicable to COMPANY when acting as a DATA CONTROLLER of PERSONAL DATA, in particular REGULATION (EU) 2016/679 (GDPR).

COMPANY GROUP	COMPANY and: (a) its co-venturers and joint ventures; (b) any AFFILIATE of COMPANY, its joint ventures, or its co-venturers; and (c) any director, officer, employee, or other individual working under the direct control and supervision of COMPANY, its joint ventures, or co-venturers, or the AFFILIATES of COMPANY, its joint ventures, or co-venturers.
CONTRACT	the [**complete name of the related agreement] dated [**date of agreement] identified by agreement number [**insert CMS#], including amendments and PURCHASE ORDERS.
DATA CONTROLLER	the PERSON that alone or jointly with others determines the purposes and means of the PROCESSING of PERSONAL DATA.
DATA PROCESSOR	the PERSON that PROCESSES PERSONAL DATA on behalf of a DATA CONTROLLER.
DATA PROCESSING AGREEMENT	This agreement incorporating any appendix to this agreement
DATA PROTECTION LAW	the laws of a country containing rules for the protection of individuals with regard to the PROCESSING of PERSONAL DATA including security requirements for and the free movement of such PERSONAL DATA.
DATA SECURITY BREACH	the unauthorized acquisition, access, use or DISCLOSURE of PERSONAL DATA.
DISCLOSURE	any form of DISCLOSURE of PERSONAL DATA to (including remote access by) an unauthorised PERSON.
EUROPEAN ECONOMIC AREA	all Member States of the European Union, Norway, Iceland, Liechtenstein, and, for purposes of this DATA PROCESSING AGREEMENT, Switzerland.
EU MODEL CONTRACT	the standard contractual clauses attached to the Commission Decision of 5 February 2010 on standard contractual clauses for the transfer of PERSONAL DATA to PROCESSORS established in third countries under Directive 95/46/EC of the European Parliament and of the Council (2010/87/EU), or any alternative standard contractual clauses as approved by the European Commission under Regulation (EU) 2016/679.
INDEMNIFY	release, save, indemnify, defend, and hold harmless.
INDIVIDUAL	any INDIVIDUAL whose PERSONAL DATA is PROCESSED by a PROCESSOR in the course of the performance of the CONTRACT.
LIABILITIES	liabilities for all claims, losses, damages, costs (including legal fees), and expenses.
NON-ADEQUATE COUNTRY	a country that is deemed not to provide an adequate level of protection for PERSONAL DATA within the meaning of Regulation (EU) 2016/679.
PERSON	(a) a natural person; or (b) a legal person, including any individual, partnership, limited partnership, firm, trust, body corporate, government, governmental body, agency, or instrumentality, or unincorporated venture.

PERSONAL DATA	any information relating to an identified or identifiable individual, unless otherwise defined under APPLICABLE LAWS related to the protection of individuals, the processing of such information, and security requirements for and the free movement of such information.
PERSONNEL	all employees, directors, contractors, sub-contractors, representatives, agents and/or the employees of such contractors, sub-contractors, representatives and agents.
PROCESSING	any operation that is performed on PERSONAL DATA, whether or not by automatic means, such as collection, recording, storage, organization, alteration, use, disclosure (including the granting of remote access), transmission or deletion of PERSONAL DATA.
PURCHASE ORDERS	a written order issued as permitted by the CONTRACT from COMPANY to CONTRACTOR to purchase or perform SCOPE.
REGULATION (EU) 2016/679 (GDPR)	the Regulation (EU) 2016/679 of the European Parliament and of the European Council on the protection of natural persons with regard to the processing of PERSONAL DATA and on the free movement of such data (General Data Protection Regulation) (GDPR).
SCOPE	all activities and obligations to be performed by or on behalf of PROCESSOR or its AFFILIATES under the CONTRACT.
SUB-PROCESSOR	PROCESSOR's SUBCONTRACTORS that PROCESS PERSONAL DATA.
THIRD PARTY	any PERSON other than the parties to the CONTRACT or their AFFILIATES.

13. INSTRUCTIONS

- (a) COMPANY instructs PROCESSOR to carry out PROCESSING as further specified in the CONTRACT. The details of the PROCESSING activities to be covered by this DATA PROCESSING AGREEMENT are set out at Appendix 3.
- (b) PROCESSING is carried out for the benefit of COMPANY GROUP, on behalf of whom each member of COMPANY GROUP will be entitled to enforce any and all of the provisions of this DATA PROCESSING AGREEMENT.
- (c) When carrying out PROCESSING, PROCESSOR will act only on the instructions of COMPANY GROUP and for the purposes authorized by COMPANY GROUP.

14. APPLICABLE LAW

- (a) When carrying out SCOPE under the CONTRACT, PROCESSOR will comply with APPLICABLE DATA PROTECTION LAW and APPLICABLE DATA PROCESSOR LAW.
- (b) PROCESSOR will deal promptly and appropriately with requests for assistance from COMPANY GROUP to ensure that PROCESSING of PERSONAL DATA complies with APPLICABLE DATA PROTECTION LAW and APPLICABLE DATA PROCESSOR LAW.
- (c) PROCESSOR will promptly notify COMPANY, and COMPANY will have the right to temporarily suspend PROCESSING until such time the PROCESSING is adjusted in such a manner that the non-compliance is remedied, if PROCESSOR: (i) determines that it or one of its SUB-PROCESSORS is unable for any reason to comply with its obligations under this DATA PROCESSING AGREEMENT and PROCESSOR or SUB-PROCESSOR cannot cure this inability to comply; or (ii) becomes aware of any circumstance or change in the APPLICABLE DATA PROCESSOR LAW, that is likely to have a substantial adverse effect on PROCESSOR'S ability to meet its obligations under this DATA PROCESSING AGREEMENT.

- (d) To the extent an adjustment under the preceding paragraph is not possible, COMPANY will have the right to terminate the relevant part of the PROCESSING carried out by or on behalf of PROCESSOR.
- (e) PROCESSOR (and if applicable any representative) will maintain a record of all processing activities carried out on behalf of COMPANY GROUP including:
 - (i) The name and contact details of the PROCESSOR and all SUB-PROCESSORS and, where applicable or required by APPLICABLE DATA PROCESSOR LAW, of the PROCESSOR's representative and data protection officer;
 - (ii) the type of PERSONAL DATA and the categories of processing carried out on behalf of COMPANY GROUP;
 - (iii) where applicable, any transfers of personal data to a third country including the identification of that third country and the documentation of suitable safeguards required by APPLICABLE DATA PROCESSOR LAW;
 - (iv) a general description of the technical and organisational security measures as required by this DATA PROCESSING AGREEMENT.

15. SECURITY

- (a) PROCESSOR's security measures to protect PERSONAL DATA will take into account the state of the art and the costs of the implementation and execution of the measures, and the risks involved in the PROCESSING and the nature of the PERSONAL DATA to be secured. The specific measures that PROCESSOR will take are specified in Appendix I to this DATA PROCESSING AGREEMENT, which will be revised from time to time by PROCESSOR and COMPANY if so required to reflect industry standards.

16. NON-DISCLOSURE AND CONFIDENTIALITY

- (a) PROCESSOR will keep PERSONAL DATA confidential and will not DISCLOSE PERSONAL DATA in any way to any THIRD PARTY without the prior written approval of COMPANY GROUP, except where: (i) DISCLOSURE is necessary for the performance of the PROCESSING; or (ii) subject to PROCESSOR's obligations related to inquiries and incidents in this DATA PROCESSING AGREEMENT, where PERSONAL DATA need to be DISCLOSED to a competent public authority to comply with a legal obligation.
- (b) PROCESSOR will keep a record of any DISCLOSURE that is made for a minimum period of six months, unless APPLICABLE DATA PROTECTION LAW provides otherwise. This record will include: (i) the names and addresses of the THIRD PARTIES to which PERSONAL DATA was DISCLOSED; (ii) a details description of the PERSONAL DATA which was DISCLOSED; and (iii) the date and time on which PERSONAL DATA was DISCLOSED.
- (c) PROCESSOR will provide its PERSONNEL with access to PERSONAL DATA only to the extent necessary to perform the PROCESSING. PROCESSOR will ensure that any PERSONNEL it authorizes to have access to PERSONAL DATA PROCESSED by or on behalf of PROCESSOR, will respect and maintain the confidentiality and security of such PERSONAL DATA.

17. AUDIT AND COMPLIANCE

- (a) Without prejudice to Clause 6(b) below, PROCESSOR shall at least once per annum provide a report confirming compliance with the requirements of this DATA PROCESSING AGREEMENT by providing COMPANY GROUP with either:
 - (i) a SOC II type 2 audit report;
 - (ii) a ISAE 3402 type 2 report; or

- (iii) a yearly attestation letter in a format agreed with COMPANY GROUP and signed by a senior executive entitled to represent PROCESSOR.

- (b) Further, PROCESSOR will make the facilities it uses for the PROCESSING of PERSONAL DATA available for an audit by COMPANY GROUP or a qualified independent assessor selected by COMPANY GROUP and provide all assistance required for such audit to enable COMPANY GROUP to ensure compliance with DATA PROTECTION LAWS. If the audit demonstrates that PROCESSOR or any of its SUB-PROCESSORS has breached any of its obligations under this DATA PROCESSING AGREEMENT, PROCESSOR will immediately cure such breach and must pay or reimburse COMPANY GROUP for its reasonable costs of the audit. Otherwise COMPANY GROUP will bear its own costs of such audit.

18. INSPECTION OR AUDITS BY PUBLIC AUTHORITIES

- (a) PROCESSOR will submit its relevant PROCESSING facilities to an inspection or audit relating to the PROCESSING by a competent public authority, if this is necessary to comply with a legal obligation. In the event of any such inspection or audit, each Party will provide all reasonable assistance to the other Party in responding to such inspection or audit. Should a competent public authority deem the PROCESSING of PERSONAL DATA unlawful, the Parties will take immediate action to ensure future compliance with APPLICABLE DATA PROTECTION LAW and APPLICABLE DATA PROCESSOR LAW.

19. INQUIRIES AND INCIDENTS

- (a) PROCESSOR will as soon as reasonably practicable and in any event within 72 hours, inform COMPANY if: (i) it or one of its SUB-PROCESSORS receives an inquiry, a subpoena or a request for inspection or audit from a competent public authority relating to the PROCESSING, unless PROCESSOR is prohibited by law from making such DISCLOSURE; (ii) it or one of its SUB-PROCESSORS intends to DISCLOSE PERSONAL DATA to any competent public authority; and (iii) such notice will be sent by e-mail to: Privacy-Office-SI@shell.com.
- (b) PROCESSOR will as soon as reasonably practicable and in any event within 24 hours, inform COMPANY if it or one of its SUB-PROCESSORS detects or reasonably suspects that a DATA SECURITY BREACH has occurred. Such notice will be logged by PROCESSOR on the Shell Global Helpline at <https://shell.alertline.eu/gcs/welcome>, which is available 24 hours a day, 365 days a year.
- (c) In case of a DATA SECURITY BREACH, PROCESSOR will take (or if appropriate will require its SUB-PROCESSOR to take) adequate remedial measures as soon as possible. Furthermore, PROCESSOR will promptly provide COMPANY with all relevant information as requested by COMPANY regarding the DATA SECURITY BREACH. PROCESSOR will fully cooperate with COMPANY to develop and execute a response plan to address the DATA SECURITY BREACH. PROCESSOR will at the request of COMPANY cooperate in appropriately communicating with and responding to the INDIVIDUALS involved.

20. COOPERATION REGARDING COMPLAINTS, REQUESTS AND INQUIRIES

- (a) PROCESSOR will deal promptly and appropriately with inquiries of COMPANY related to the PROCESSING of the PERSONAL DATA under the CONTRACT.
- (b) PROCESSOR will provide a copy of any PERSONAL DATA requested by COMPANY GROUP in the format and on the media reasonably requested by COMPANY GROUP and will assist COMPANY GROUP in the fulfilment of COMPANY's GROUP obligation to respond to requests for exercising the Individuals' rights such as the right of access, rectification, erasure, restriction of processing and data portability, as appropriate.
- (c) PROCESSOR will promptly inform COMPANY of any complaints, requests or inquiries received from Individuals, including requests to correct, delete or block PERSONAL DATA. PROCESSOR will not respond to the INDIVIDUAL directly unless specifically instructed by COMPANY GROUP save where PROCESSOR is required by law to respond, in which case it will respond within a reasonable period of time, and in any case as required by law. PROCESSOR will cooperate with COMPANY GROUP to address and resolve any such complaints, requests or inquiries. PROCESSOR will maintain in place procedures to enable compliance with such complaints, requests, or inquiries.

21. RETURN AND DESTRUCTION OF PERSONAL DATA

- (a) All PERSONAL DATA will be returned to COMPANY GROUP upon COMPANY GROUP's request. PROCESSOR will not retain PERSONAL DATA any longer than necessary for the purposes of performing its obligations under the CONTRACT.
- (b) Upon termination of the CONTRACT, PROCESSOR will return the PERSONAL DATA and copies thereof to COMPANY or will securely destroy such PERSONAL DATA, except to the extent the CONTRACT or APPLICABLE DATA PROCESSOR LAW provides otherwise. In that case, PROCESSOR will no longer PROCESS PERSONAL DATA, except to the extent required by the CONTRACT or APPLICABLE DATA PROCESSOR LAW. COMPANY may require PROCESSOR to, within 24 hours, confirm and warrant in writing that PROCESSOR has returned, deleted, or destroyed all copies of PERSONAL DATA. PROCESSOR will, at the request of COMPANY allow its PROCESSING facilities to be audited to verify that PROCESSOR has complied with its obligations under this Clause [21.10](#) (b).

22. TRANSFER

- (a) PROCESSOR will not transfer PERSONAL DATA to any NON-ADEQUATE COUNTRY or make such PERSONAL DATA accessible from any such NON-ADEQUATE COUNTRY without the prior written approval of COMPANY.
- (b) Where PERSONAL DATA is transferred or gathered from the EUROPEAN ECONOMIC AREA and PROCESSOR is based in a NON-ADEQUATE COUNTRY and no ALTERNATIVE ADEQUATE LEVEL OF PROTECTION applies to PROCESSOR, PROCESSOR and COMPANY will in addition to this DATA PROCESSING AGREEMENT enter into an EU MODEL CONTRACT. PROCESSOR and COMPANY will work together to apply for and obtain any permit, authorization or consent that may be required under APPLICABLE LAW. If PROCESSOR uses a SUB-PROCESSOR, PROCESSOR will enter into an agreement with the SUB-PROCESSOR in accordance with the EU MODEL CONTRACT. PROCESSOR will provide a copy of the agreement with the SUB-PROCESSOR to COMPANY, immediately upon request of COMPANY.
- (c) In case of breach of any of the foregoing warranties, COMPANY may terminate this DATA PROCESSING AGREEMENT or all or part of the CONTRACT with immediate effect.

23. SUB-PROCESSORS

- (a) PROCESSOR will not permit SUB-PROCESSORS to PROCESS PERSONAL DATA without the prior written consent of COMPANY. SUB-PROCESSORS listed in Appendix II of this Data Processing Agreement are approved for the areas of work specified. Any authorisation by COMPANY to use a SUB-PROCESSOR is on the condition that PROCESSOR remains fully liable to COMPANY for the SUB-PROCESSOR'S performance of the CONTRACT, as well as for any acts or omissions of the SUB-PROCESSOR in regard of its PROCESSING of PERSONAL DATA.
- (b) PROCESSOR will ensure that SUB-PROCESSORS will be contractually bound to the same obligations with respect to the PROCESSING of PERSONAL DATA as to which PROCESSOR is bound by this DATA PROCESSING AGREEMENT and the CONTRACT. Approved SUB PROCESSORS can co-sign this DATA PROCESSING AGREEMENT to meet this requirement.
- (c) Where PROCESSOR is located in the EUROPEAN ECONOMIC AREA and uses a SUB-PROCESSOR in a NON-ADEQUATE COUNTRY and no ALTERNATIVE ADEQUATE LEVEL OF PROTECTION applies to the SUB-PROCESSOR, PROCESSOR will procure that the SUB-PROCESSOR enters into an EU MODEL CONTRACT with COMPANY directly. COMPANY hereby gives PROCESSOR an instruction and a mandate to sign an EU MODEL CONTRACT with any such SUB-PROCESSORS in COMPANY'S name and on behalf of COMPANY.

24. EVALUATION OF THE PROCESSING ARRANGEMENTS

- (a) At the request of COMPANY, the parties will from time to time evaluate the PROCESSING of PERSONAL DATA by PROCESSOR. If COMPANY considers that changes are required in the PROCESSING of PERSONAL DATA by PROCESSOR in order to comply with APPLICABLE DATA PROTECTION LAW or APPLICABLE DATA PROCESSOR LAW, the parties will amend the CONTRACT and this DATA PROCESSING

AGREEMENT accordingly. PROCESSOR will immediately inform COMPANY of any circumstances which may be relevant in this respect, including: (i) material changes in the services provided by a SUB-PROCESSOR; or (ii) a take-over or merger of PROCESSOR or any of its SUB-PROCESSORS.

25. NOTICES

Notices and communications under this DATA PROCESSING AGREEMENT must be made in the manner set out in the CONTRACT.

26. GOVERNING LAW AND DISPUTE RESOLUTION

(a) Except to the extent PROCESSOR and COMPANY enter into an EU MODEL CONTRACT, this DATA PROCESSING AGREEMENT and any dispute or claim arising out of or in connection with it, whether in tort, contract, under statute, or otherwise, including any question regarding its existence, validity, interpretation, breach, or termination will be construed in accordance with the laws governing the CONTRACT, and in all such respects, PROCESSOR irrevocably submits to the dispute resolution arrangement in the CONTRACT.

27. THIRD PARTY RIGHTS

Members of COMPANY GROUP who are not a party to this DATA PROCESSING AGREEMENT, but who have benefits conferred on them by it, are entitled to enforce those benefits. Otherwise, no term of this DATA PROCESSING AGREEMENT will be enforceable by any PERSON who is not a party to the DATA PROCESSING AGREEMENT. The parties may amend or terminate the DATA PROCESSING AGREEMENT without notice to or consent of any PERSON not a party, but conferred benefits, even if rights to enforce a benefit conferred by the guarantee may be varied or extinguished.

Signatories

For and on behalf of [insert full Shell name]** **For and on behalf of [**insert full PROCESSOR name]**

Name:

Position:

Name:

Position:

**Appendix 1 –
TECHNICAL AND ORGANISATIONAL MEASURES**

1. TECHNICAL AND ORGANISATIONAL MEASURES

- (a) PROCESSING of PERSONAL DATA must take place on data processing systems for which technical and organizational measures for protecting PERSONAL DATA have been implemented. In this context, PROCESSOR assures COMPANY that it will take all measures required for the processing of the PERSONAL DATA on the data processing systems of PROCESSOR in accordance with the APPLICABLE DATA PROTECTION LAWS and requirements, provided that, having regard to the state of technological development and the cost of implementing any measures, the measures must ensure a level of security appropriate to the harm that might result from unauthorised or unlawful processing or accidental loss, destruction or damage and the nature of the PERSONAL DATA to be protected.
- (b) PROCESSOR will implement measures designed to:
 - (i) deny unauthorised persons access to data-processing equipment used for processing PERSONAL DATA (equipment access control);
 - (ii) prevent the unauthorised reading, copying, modification or removal of data media (data media control);
 - (iii) prevent the unauthorised input of PERSONAL DATA and the unauthorised inspection, modification or deletion of stored PERSONAL DATA (storage control);
 - (iv) prevent the use of automated data-processing systems by unauthorised persons using data communication equipment (user control);
 - (v) ensure that persons authorised to use an automated data-processing system only have access to the PERSONAL DATA covered by their access authorisation (data access control);
 - (vi) ensure that it is possible to verify and establish to which individuals PERSONAL DATA have been or may be transmitted or made available using data communication equipment (communication control);
 - (vii) ensure that it is subsequently possible to verify and establish which PERSONAL DATA have been put into automated data-processing systems and when and by whom the input was made (input control);
 - (viii) prevent the unauthorised reading, copying, modification or deletion of PERSONAL DATA during transfers of those data or during transportation of data media (transport control);
 - (ix) ensure that installed systems may, in case of interruption, be restored (recovery);
 - (x) ensure that the functions of the system perform, that the appearance of faults in the functions is reported (reliability) and that stored PERSONAL DATA cannot be corrupted by means of a malfunctioning of the system (integrity).
- (c) On request, PROCESSOR will provide COMPANY GROUP with a comprehensive, up-to-date data protection and security plan for the data processing under the terms of this DATA PROCESSING AGREEMENT.
- (d) No person will be appointed by PROCESSOR to process the PERSONAL DATA unless that person: (i) is competent and qualified to perform the specific tasks assigned to him PROCESSOR; (ii) has been authorized by PROCESSOR; and (iii) has been fully instructed by PROCESSOR in the procedures and statutory regulations relevant to the performance of the obligations of PROCESSOR under this DATA PROCESSING AGREEMENT, in particular the limited purpose of the data PROCESSING.
- (e) It is prohibited to make copies of any PERSONAL DATA transmitted by COMPANY to PROCESSOR, provided, however, that PROCESSOR may retain copies of PERSONAL DATA provided to it under a related contract in its servers for backup and archive purposes until the completion of the SCOPE under the CONTRACT.

Appendix 2 – LIST OF APPROVED SUB-PROCESSORS [NOT USED]

Appendix 3 (no EU model contract required) – Details of processing activities [NOT USED]