ITB # 008/2017

Design and Build of 200 kW (2 X 100 kW) Chipota Falls Hydropower Station

China-Zambia South-South Cooperation on Renewable Energy Technology Transfer Project

Zambia

United Nations Development Programme

September, 2017

Empowered lives.
Resilient nations.

Invitation to Tender ref # 008/2017

Letter of Invitation to Tender

Date: 12 September 2017

Dear Sir/Madam,

The Government of The Republic of Zambia through the Ministry of Energy (MOE) is implementing a China Zambia South-South Cooperation on Renewable Energy Technology Transfer Project with support from the Royal Danish Government. The project was developed by MOE and China's Ministry of Science and Technology, and is being facilitated by United Nations Development Programme (UNDP). The project aims to support the access to electricity for rural communities in Zambia through the creation of an enabling environment to up-scale renewable energy technology deployment. This includes piloting the development of an off-grid mini hydropower station in a selected rural district in Zambia.

The United Nations Development Programme (UNDP) hereby invites bids from interested contractors for the Design, Supply, construction, Installation, Test and Commission a 200kW (2 X 100kW) Chipota Hydropower Station to be located in Chela Tambule village, Serenje District, Central Province, Zambia.

The main works consist of design and construction of a dam (Weir), penstock, power house, tailrace, and booster station. Specific details are as follows;

1. Dam with axis length (30m), height (3.5) and crest width of (1.5m). Design head of the power station is 45.38m
2. Powerhouse (masonry structure type and a light roof, with a length of 12m, width of 6.8m, height of 4.5m)
3. Two sets of stand-alone 100kW Turbo turbine generator units installed in the powerhouse, with a total installed capacity of 200kW
4. Booster station on the upstream side of the powerhouse (5m long and 5m wide)
5. Penstock (530m pipe length and 650mm main pipe inner diameter)
6. Switch yard with transformer rating of 250kVA

To enable interested bidders to submit a bid, please find attached the **Tender Dossier** with the following content:

Volume I. Instructions to bidders

Part 1 - Instruction to bidders (including bidder evaluation and qualification criteria)
Part 2 - Bid Data Sheet and Letter of tender
Part 3 – Form of Tender / Bid Security
Part 4 - Contractor qualification's data forms

Volume II. Contract Conditions

Part 1 General Contract Conditions
Part 2 Particular Contract Conditions
Part 3: Appendix to Tender, related to the General Conditions
Part 4: Forms

Volume III. Employer's requirements
Part 1: Required Technical Specifications
Part 2: Other Requirements
Part 3: Feasibility Study Report

Volume IV.
Part 1: Technical proposal
Part 2: Technical offer schedules
Part 3: Schedules of prices /pricing schedules

Interested bidders may obtain further information at the following email address: **sergio.valdine@undp.org with cc to dick.kampamba@undp.org**

Interested bidders **are encouraged to attend** (on their own cost and responsibility*) the site visit & Pre-bid meeting, which shall take place as per the following schedule:

**Interested bidders, if they want to travel to Zambia from abroad to attend the pre-bid meeting, should make their own travel arrangements and bear all the costs, including fares, accommodation and subsidence. In this regard, UNDP is not held liable for any claim of compensation, regardless of the reasons and type of occurrence, which may arise because of the site visit.*

Pre-bid meeting Date & Time and Location	Site visit arrangement and location
4 October 2017 @ 9:00 A.M. at location/venue : Board room, UNDP Offices, Alick Nkhata Road, Lusaka, Zambia Tel. number for direction to location : +260 211 386 200 / +260979577985 Email for inquiries: **sergio.valdini@undp.org**	Pre-bid meeting to be followed directly on same day by a site visit to the project location which is located at: Chipota Falls, Chela Tambule village, Serenje District, Central Province, Zambia. Address (Coordinates): Latitude 13°13' 4.8" S, and longitude 30°25' 52.24" E
Note: The bidder should be aware that if his representatives want to attend the site visit then they need to travel on the same day of pre-bid meeting, with UNDP staff, to the project site. Thus, bidder representatives are expected to arrange for themselves their accommodation at a nearby town (Serenje District) since it takes about 5 to 6 hours (one way time) to travel from UNDP office in Lusaka to the project location. According to UNDP Zambia office security instructions, no travel between cities is allowed after 6 P.M. Interested bidders can contact lloyd.ngo@undp.org for info on accommodation in the nearby town-Serenje District	

It is **strongly advised** that the Bidder or a representative of the Bidder visit the work site. Arrangements have been made for site visit to be held as per above schedule containing date, time and location. Bidders will be required to sign an attendance form. Any clarifications or changes to the bid solicitation resulting from the site visit will be included as an addendum to the bid solicitation and posted online at the designated website (the same link at which the complete bidding/ tender documents with addenda are available for download) :
http://procurement-notices.undp.org/view_notice.cfm?notice_id=40768

Before contract award, the successful bidder/tenderer should confirm in writing that he has visited and examined the project site and its surroundings, and obtained for himself, on his own responsibility, all information which may be necessary for preparing his/her tender/bid and entering into a contract (if awarded the contract).

Note: No more than three Representatives from each bidder to attend the pre-bid meeting and site visit on behalf of the bidder.

The pre-bid meeting minutes, and any further enquiries received on or before **10 October 2017** will be documented and posted on the designated UNDP website on **16 October 2017.** No inquiries will be accepted after **10 October 2017.**

Bids must be delivered to the following address on or before 2:00 P.M (Lusaka time) on 26 October 2017

United Nations Development Programme (UNDP)
United Nations House
Alick Nkhata Road, Longacres
Lusaka, Zambia
http://www.zm.undp.org/

Late bids shall be rejected.

Bids will be opened in the presence of Tenderers' Representatives, who chose to attend, at the address, date and time indicated in the Bid data sheet.

This letter is not to be construed in any way as an offer to contract with your firm.

UNDP looks forward to receiving your Bid and thanks you in advance for your interest in UNDP procurement opportunities.

Sincerely,

Sergio Valdini

Deputy Resident Representative
UNDP- Zambia

VOLUME I

Part 1 - Instruction to bidders (including bidder evaluation and qualification criteria)
Part 2 - Bid Data Sheet and Letter of tender
Part 3 – Form of Bid Security
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Part 1: INSTRUCTIONS TO BIDDERS

A. Introduction

1. GENERAL[1]

1.1 UNDP hereby solicits Bids as a response to this Invitation to Bid (ITB). Bidders must strictly adhere to all the requirements of this ITB. No changes, substitutions or other alterations to the rules and provisions stipulated in this ITB may be made or assumed unless it is instructed or approved in writing by UNDP in the form of Supplemental Information to the ITB.

1.2 Submission of a Bid shall be deemed as an acknowledgement by the Bidder that all obligations stipulated by this ITB will be met and, unless specified otherwise, the Bidder has read, understood and agreed to all the instructions in this ITB.

1.3 Any Bid submitted will be regarded as an offer by the Bidder and does not constitute or imply the acceptance of any Bid by UNDP. UNDP is under no obligation to award a contract to any Bidder as a result of this ITB.

1.4 UNDP implements a policy of zero tolerance on proscribed practices, including fraud, corruption, collusion, unethical practices, and obstruction. UNDP is committed to preventing, identifying and addressing all acts of fraud and corrupt practices against UNDP as well as third parties involved in UNDP activities. (See http://www.undp.org/about/transparencydocs/UNDP_Anti_Fraud_Policy_English_FINAL_june_2011.pdf and http://www.undp.org/content/undp/en/home/operations/procurement/procurement_protest/ for full description of the policies)

1.5 In responding to this ITB, UNDP requires all Bidders to conduct themselves in a professional, objective and impartial manner, and they must at all times hold UNDP's interests paramount. Bidders must strictly avoid conflicts with other assignments or their own interests, and act without consideration for future work. All Bidders found to have a conflict of interest shall be disqualified. Without limitation on the generality of the above, Bidders, and any of their affiliates, shall be considered to have a conflict of interest with one or more parties in this solicitation process, if they:

1.5.1 Are, or have been associated in the past, with a firm or any of its affiliates which have been engaged UNDP to provide services for the preparation of the design, Schedule of Requirements and Technical Specifications, cost analysis/estimation, and other documents to be used for the procurement of the goods and related services in this selection process;

1.5.2 Were involved in the preparation and/or design of the programme/project related to the goods and related services requested under this ITB; or

1.5.3 Are found to be in conflict for any other reason, as may be established by, or at the discretion of, UNDP.

In the event of any uncertainty in the interpretation of what is potentially a conflict of interest, Bidders must disclose the condition to UNDP and seek UNDP's confirmation on whether or not such conflict exists.

1.6 Similarly, the following must be disclosed in the Bid:

1.6.1 Bidders who are owners, part-owners, officers, directors, controlling shareholders, or key personnel who are family of UNDP staff involved in the procurement functions and/or the Government of the country or any Implementing Partner receiving the goods and related services under this ITB; and

[1] Whenever the words bid and bidder are mentioned these also mean tender and tenderer respectively

1.6.2 Others that could potentially lead to actual or perceived conflict of interest, collusion or unfair competition practices.

Failure of such disclosure may result in the rejection of the Bid.

1.7 The eligibility of Bidders that are wholly or partly owned by the Government shall be subject to UNDP's further evaluation and review of various factors such as being registered as an independent entity, the extent of Government ownership/share, receipt of subsidies, mandate, access to information in relation to this ITB, and others that may lead to undue advantage against other Bidders, and the eventual rejection of the Bid.

1.8 All Bidders must adhere to the UNDP Supplier Code of Conduct, which may be found at this link: http://web.ng.undp.org/procurement/undp-supplier-code-of-conduct.pdf

2. **Eligible Bidder**

2.1 Bidders should not be associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the UNDP to provide consulting services for the preparation of the design specifications, and other documents to be used for the procurement of works under this Invitation to Bids. Bidders shall be legally incorporated entities, or groups formed by such as joint ventures.

2.2 In the event that prequalification of potential bidders has been undertaken, only bids from pre-qualified bidders shall be considered for award of Contract.

2.3 If UNDP has not undertaken prequalification of potential bidders, all bidders shall include the information and documents specified in clause 9 of this Instruction to Bidders.

3. **Cost of Bid**: The Bidder shall bear all costs associated with the preparation and submission of the Bid, and the UNDP will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the solicitation.

B. Solicitation Documents

4. **Examination of Solicitation Documents**: The Bidder is expected to examine all corresponding instructions, forms, terms and specifications contained in the Solicitation Documents. Failure to comply with these documents will be at the Bidder's risk and may affect the evaluation of the Bid. The Solicitation Documents are those stated below and should be read in conjunction with any Addenda issued in accordance with Clause 6 below.

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5. **Clarification of Solicitation Documents**: A prospective Bidder requiring any clarification of the Solicitation Documents may notify UNDP in writing. The response will be made in writing to any request for clarification of the Solicitation Documents that it receives earlier than ten days prior to the Deadline for the Submission of Bids. Written copies of the response (including an explanation of the query but without identifying the source of inquiry) will be posted on the designated website shown in the bid data sheet. All communication connected with this Bid must be directed exclusively to the UNDP person identified as the contact person **in the BDS**.

6. **Amendments of Solicitation Documents**: No later than one week prior to the Deadline for Submission of Bids, the UNDP may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, amend the Solicitation Documents. All amendments will be posted on the designated website shown in the bid data sheet In order to afford prospective Bidders reasonable time in which to take the amendments into account in preparing their offers, the UNDP may, at its discretion, extend the Deadline for the Submission of Bids.

C. Preparation of Bids

7. **Language of the Bid**: The Bid prepared by the Bidder and all correspondence and documents relating to the Bid exchanged by the Bidder and the UNDP shall be written in the language indicated **in the BDS**.

8. **Documents Comprising the Bid**:
The Bidder or the Bidder's authorized agent shall sign the Bid as indicated on the Bid Submission Sheet of this ITB. The Bid must comprise the following documents:

(a) Letter of Tender in accordance to the Form provided in Section;
(b) Bid Security under clause 13 of Instructions to Bidders and in the form provided in Section 11.
(c) Technical information as may be required by the BDS;
(d) Qualification information in accordance with clause 9.1 of the Instructions to Bidders
(e) Technical proposal which should include, but not limited to :
e.1 preliminary design
e.2 description of the technology
e.3. description of construction method
e.4 procedures for carrying out tests on completion, including commissioning and trial operation
e.5 procedures for carrying out tests after completion
Training programme for operation staff
e.6. all other information, specifications and data called for in the instruction to tenderers
Forms can be found in volume IV part 1 which the bidder should be guided by in preparing the technical proposal

(f) Schedule of prices with price breakdowns ;
(g) Written Power of Attorney, authorizing the signatory of the bid to commit the bidder;
(h) Any additional information required to be completed and submitted by bidders as specified **in the BDS**.

Each continuation sheet or attachment shall bear the bidder's name and the person signing the bid must initial any erasures or other changes.

9. **Documents Establishing Bidder's Eligibility and Qualifications**:

9.1 If bidders have not been pre-qualified and post qualification has been selected to determine eligibility of bidders, then the Bidder shall furnish evidence of its qualification by submitting the following information and documents with their bids, unless otherwise stated **in the BDS**:

(a) Copies of original documents defining the constitution or legal status, place of registration, and principal place of business of the Bidder; written power of attorney of the signatory of the Bid to commit the Bidder;

(b) Total monetary value of construction works performed as specified in the BDS;

(c) Experience in works of a similar nature and size as specified in the BDS, and details of work under way or contractually committed; and clients who may be contacted for further information on those contracts;

(d) Major items of construction equipment proposed to carry out the Contract

(e) Qualifications and experience of key site management and technical personnel proposed for the Contract**;**

(f) Reports on the financial standing of the Bidder for the last two years as specified in the BDS. such as profit and loss statements and certified auditor's reports for the past two years;

(g) Evidence of adequacy of working capital for this Contract (access to line(s) of credit and availability of other financial resources) as specified in the BDS;

(h) Authority to seek references from the Bidder's bankers

(i) Information regarding any litigation, current or during the last five years, in which the Bidder was/is involved, the parties concerned, and the disputed amounts; and awards;

(j) Proposals for subcontracting components of the Works amounting to more than 10 percent of the Contract Price**..**

9.2 To qualify for award of the Contract, bidders shall meet the following **minimum qualifying criteria**:

a) An average annual financial amount of construction work over the period specified **in the BDS.**

b) Experience as prime contractor in the construction of at least the number of works of a nature and complexity equivalent to the Works over the period specified **in the BDS** (to comply with this requirement, works cited should be at least 70 percent complete);

c) Proposals for the timely acquisition (own, lease, hire, etc.) of the essential equipment listed **in the BDS**;

d) Minimum required key personal proposed for the supervision and management of this project as specified in the **BDS.**

e) Liquid assets and/or credit facilities, net of other contractual commitments and exclusive of any advance payments which may be made under the Contract, of no less than the amount specified **in the BDS.**

A consistent history of litigation or arbitration awards against the Applicant or any partner of a Joint Venture may result in disqualification.

10. **Documents Establishing Conformity of Equipment Incorporated into the Works**:

Where electrical and mechanical goods and equipment form part of the Works, the Bidder shall also furnish as part of its Bid, documents establishing the conformity to the Bidding Documents of all equipment and related services, which the Bidder proposes to supply under the contract.

The documentary evidence of conformity to the Bidding Documents may be in the form of literature, drawings, and data, and shall consist of:

(a) A detailed description of the essential technical and performance characteristics of the equipment;
(b) A list giving full particulars, including available sources and current prices of spare parts, special tools, etc, necessary for the proper and continuing functioning of the equipment for a period specified **in the BDS**, following commencement of the use of the equipment.

10.1 **Joint Venture, Consortium or Association**

If the Bidder is a group of legal entities that will form or have formed a joint venture, consortium or association at the time of the submission of the Bid, they shall confirm in their Bid that : (i) they have designated one party to act as a lead entity, duly vested with authority to legally bind the members of the joint venture jointly and severally, and this shall be duly evidenced by a duly notarized Agreement among the legal entities, which shall be submitted along with the Bid; and (ii) if they are awarded the contract, the contract shall be entered into, by and between UNDP and the designated lead entity, who shall be acting for and on behalf of all entities that comprise the joint venture.

After the bid has been submitted to UNDP, the lead entity identified to represent the joint venture shall not be altered without the prior written consent of UNDP. Furthermore, neither the lead entity nor the member entities of the joint venture can:

a) Submit another Bid, either in its own capacity; nor
b) As a lead entity or a member entity for another joint venture submitting another Bid.

The description of the organization of the joint venture/consortium/association must clearly define the expected role of each of the entity in the joint venture in delivering the requirements of the ITB, both in the bid and in the Joint Venture Agreement. All entities that comprise the joint venture shall be subject to the eligibility and qualification assessment by UNDP.

Where a joint venture is presenting its track record and experience in a similar undertaking as those required in the ITB, it should present such information in the following manner:

a) Those that were undertaken together by the joint venture; and

b) Those that were undertaken by the individual entities of the joint venture expected to be involved in the performance of the services defined in the ITB.

Previous contracts completed by individual experts working privately but who are permanently or were temporarily associated with any of the member firms cannot be claimed as the experience of the joint venture or those of its members, but should only be claimed by the individual experts themselves in their presentation of their individual credentials.

If the Bid of a joint venture is determined by UNDP as the most responsive Bid that offers the best value for money, UNDP shall award the contract to the joint venture, in the name of its designated lead entity, who shall sign the contract for and on behalf of all the member entities.

11. **Bid Currency/Bid Prices**: All prices must be quoted in the nominated currency **in the BDS**. The Bidder shall indicate on the appropriate Bills of Quantities (or Price Schedule Sheet as appropriate); the unit prices (where applicable) and total Bid Price of the goods and/or services/works it proposes to supply under the contract.

    UNDP is a tax-exempt entity. All Bids must be submitted net of any direct taxes or customs duties.

12. **Period of Validity of Bids**: Bids shall remain valid for a period after the date of Bid Submission as indicated **in the BDS**. A Bid valid for a shorter period may be rejected as non-responsive pursuant to clause 23 of Instructions to Bidders. In exceptional circumstances, the UNDP may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. Bidders granting the request will not be required nor permitted to modify their Bids.

13. **Bid Security**: The bidder shall furnish as part of its bid **either** a Bid Security as specified in the **BDS.**

    If a Bid Security is specified, then the following should be adhered to:
    (a) The Bidder may be requested to furnish at its own cost and expense, as part of its Bid, a Bid Security to the UNDP in the amount as indicated **in the BDS**.
    (b) The Bid Security is to be sealed in a separate envelope within the main sealed bid
    (c) The Bid Security is to protect the UNDP against the risk of the Bidder's conduct, which would warrant the security's forfeiture, pursuant to clause 13(h) below;
    (d) The Bid Security shall be denominated in **US Dollars** or in a freely convertible currency and shall be in the form of a bank guarantee, issued by a reputable bank, and in the form provided in these Solicitation Documents. Certified Bank Cheques could be accepted as well.
    (e) Any Bid not secured in accordance with clauses 13 a) and 13 d) above will be rejected by the UNDP as non-responsive.
    (f) Unsuccessful Bidder's Bid Security will be discharged or returned as promptly as possible but not later than thirty (30) days after the expiration of the period of Bid Validity prescribed by the UNDP pursuant to clause 12 of Instructions to Bidders;
    (g) The successful Bidder's Bid Security will be discharged or returned upon the Bidder signing the Contract, pursuant to clause 26 of Instructions to Bidders, and furnishing the Performance Security, pursuant to clause 27 of Instructions to Bidders;

    (h) The Bid Security may be forfeited:
        1. If a Bidder withdraws its offer during the period of the Bid Validity specified by the Bidder, in compliance with **BDS,** on the Bid Submission Form, or, refuses to accept the correction of errors in its Bid, or,
        2. In the case of a successful Bidder, if the Bidder fails:
            (i) To sign the Contract Order in accordance with clause 26 of Instructions to Bidders, or,

(ii) To furnish Performance Security in accordance with clause 27 of Instructions to Bidders.

D. Submission of Bids

14. **Format and Signing of Bid**: The Bidder shall prepare one **original and one Copy** Of the Bid, clearly marking each **"Original Bid"** and **"Copy of Bid"** as appropriate. In the event of any discrepancy between them, the original shall govern. The original and copies of the Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the contract. A Bid shall contain no interlineations, erasures, or overwriting except, as necessary to correct errors made by the Bidder, in which case the person or persons signing the bid shall initial such corrections.

15. **Sealing and Marking of Bids**:

15.1 The Bidder shall seal the original and the copy of the Bid in separate envelopes, duly marking the envelopes as "ORIGINAL" and "COPY". The envelopes shall then be sealed in an outer envelope.

15.2 The inner and outer envelopes shall:

(a) Be addressed to the UNDP at the address given **in the BDS** of these Solicitation Documents; and
(b) Make reference to the "subject" indicated in the Letter of Invitation of these Solicitation Documents, and a statement: "DO NOT OPEN BEFORE", to be completed with the time and the date specified **in the BDS** for Bid Opening pursuant to clause 16 of Instructions to Bidders.

15.3 The inner and outer envelopes shall also indicate the name and address of the Bidder to enable the Bid to be returned unopened in case it is declared "late".

15.4 If the outer envelope is not sealed and marked as required by clause 15.2 of Instructions to Bidders, the UNDP will assume no responsibility for the Bid's misplacement or premature opening.

15.5 The Bid Security is to be sealed in a separate envelope within the main sealed bid.

16. **Deadline for Submission of Bids/Late Bids:**

16.1 Bids must be delivered to the office on or before the date and time specified in the Letter of Invitation of these Solicitation Documents.

16.2 The UNDP may, at its discretion, extend this deadline for the submission of the bids by amending the Bidding Documents in accordance with clause 6 of Instructions to Bidders, in which case all rights and obligations of the UNDP and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

16.3 Any Bid received by the UNDP after the Deadline for Submission of Bids will be rejected and returned unopened to the Bidder.

16.4 If no Bid is to be submitted (in case of a direct invitation), the documents should not be returned to UNDP unless so requested. Written advice should be sent to UNDP with reasons for not submitting a bid and as to whether future invitations for the type of Works covered by this request are desired. Failure to comply with the above may result in removal of the name of such recipient from the list for similar type of works covered by this ITB.

17. **Modification and Withdrawal of Bids:** The Bidders may withdraw its bid after submission, provided that written notice of the withdrawal is received by UNDP prior to the deadline for submission. No Bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of Bid Validity.

E. Opening and Evaluation of Bids

18. **Opening of Bids**:

18.1 The UNDP will open all bids in the presence of Bidders' Representatives who choose to attend, at the time, on the date, and at the place specified **in the BDS**, of this Solicitation Document. Bidders' Representatives shall carry a letter authorizing the holder to attend the bids opening session on behalf of the bidder. The bidders' Representatives who are present shall sign a register evidencing their attendance.

18.2 The bidders' names, bid modifications or withdrawals, bid prices, discounts, and the presence or absence of requisite bid security and such other details as the UNDP, at its discretion, may consider appropriate, will be announced at the opening. No bid shall be rejected at bid opening, except for late bids, which shall be returned unopened to the Bidder pursuant to clause 16.3 of Instructions to Bidders.

18.3 Bids (and modifications sent pursuant to clause 17 of Instructions to Bidders) that are not opened and read out at Bid Opening shall not be considered further for evaluation, irrespective of the circumstances. Withdrawn Bids will be returned unopened to the Bidders.

18.4 UNDP will prepare minutes of the Bid Opening.

19. **Clarification of Bids**: To assist in the examination, evaluation and comparison of Bids the procuring entity of UNDP may at its discretion ask the Bidder for clarification of its Bid. The request for clarification and the response shall be in writing and no change in price or substance of the Bid shall be sought, offered or permitted.

20. **Preliminary Examination**:

20.1 Prior to the detailed evaluation, the UNDP will determine the substantial responsiveness of each Bid to the Invitation to Bid (ITB). A substantially responsive Bid is one, which conforms to all the terms and conditions of the ITB without material deviations.

20.2 The UNDP will examine the bids to determine whether they are complete, whether any computational errors have been made, whether the documents have been properly signed, and whether the bids are generally in order as specified **in the BDS**.

20.3 Arithmetical errors will be rectified on the following basis: If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If the Bidder does not accept the correction of errors, its Bid will be rejected. If there is a discrepancy between words and figures the amount in words will prevail.

20.4 A Bid determined as not substantially responsive will be rejected by the UNDP and may not subsequently be made responsive by the Bidder by correction of the non-conformity. UNDP shall use the criteria as detailed **in the BDS** to establish responsiveness.

21 **Conversion to Single Currency**: To facilitate evaluation and comparison, the Purchaser will convert all Bid Prices expressed in the amounts in various currencies in which the Bid Prices are payable to US dollars at the official UN exchange rate on the last day for Submission of Bids.

22 **Evaluation of Bids**: UNDP will evaluate and compare the bids, which have been determined to be substantially responsive pursuant to clause 20 of Instructions to Bidders. Determination of compliance with the Solicitation Documents is based on the content of the Bid itself without recourse to extrinsic evidence.

The evaluation will take into account the criteria stipulated in in the BDS.

F. Award of Contract

23 **Award Criteria**: **The UNDP will Issue the Contract to the technically responsive Bidder who has offered the lowest price and has also met the qualification criteria.** The UNDP reserves the right to accept or reject any Bid, to annul the solicitation process and reject all Bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder(s) or any obligation to provide information on the grounds for the UNDP's action.

24 **UNDP's Right to Vary Requirements at Time of Award**: The UNDP reserves the right at the time of making the award of contract to increase or decrease items in the Bills of Quantity, if possible, without any change in unit price or other terms and conditions, by the amount indicated **in the BDS**. This shall only be done in a manner that does not affect the overall completion of the Works

25 **Notification of Award**: Prior to the expiration of the period of Bid Validity, the UNDP will send the successful Bidder the Contract. The Contract may only be accepted by the Contractor signing and returning an Acknowledgement copy of the Contract. Such acceptance shall affect a contract between the parties under which the rights and obligations of the parties shall be governed solely by the terms and conditions of this Contract.

26 **Signing of the Contract**: Within 14 days of receipt of the Contract, the successful Bidder shall sign, date and return it to the UNDP.

27 **Performance Security**: The successful Bidder shall provide the Performance Security, in the form of "Performance Security" provided for in these Solicitation Documents, within 7 days of receipt of the letter of Intent from UNDP, and before signing the resulted contract as issued by the UNDP

Failure of the successful Bidder to comply with the requirement of clause 26 or clause 27 of Instructions to Bidders shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security, in which event the UNDP may make the award to the next lowest evaluated Bidder or call for new Bids.

G. Ethics clauses

Any attempt by a candidate or Tenderer to obtain confidential information, enter into unlawful agreements with competitors or influence the committee or the Contracting Authority during the process

of examining, clarifying, evaluating and comparing tenders will lead to the rejection of his candidacy or tender and may result in administrative penalties.

Without the Contracting Authority's prior written authorization, the Contractor and his staff or any other company with which the Contractor is associated or linked may not, even on an ancillary or subcontracting basis, supply other services, carry out works or supply equipment for the project. This prohibition also applies to any other programmes or projects that could, owing to the nature of the contract, give rise to a conflict of interest on the part of the Contractor.

When putting forward a candidacy or tender, the candidate or Tenderer must declare that he is affected by no potential conflict of interest, and that he has no equivalent relation in that respect with other Tenderers or parties involved in the project. Should such a situation arise during execution of the contract, the Contractor must immediately inform the Contracting Authority.

The Contractor must at all times act impartially and as a faithful adviser in accordance with the code of conduct of his profession. He must refrain from making public statements about the project or services without the Contracting Authority's prior approval. He may not commit the Contracting Authority in any way without its prior written consent.

For the duration of the contract, the Contractor and his staff must respect human rights and undertake not to offend the political, cultural and religious mores of the beneficiary state.

The Contractor may accept no payment connected with the contract other than that provided for therein. The Contractor and his staff must not exercise any activity or receive any advantage inconsistent with their obligations to the Contracting Authority.

The Contractor and his staff are obliged to maintain professional secrecy for the entire duration of the contract and after its completion. All reports and documents drawn up or received by the Contractor are confidential.

The contract governs the Parties' use of all reports and documents drawn up, received or presented by them during the execution of the contract.

The Contractor shall refrain from any relationship likely to compromise his independence or that of his staff. If the Contractor ceases to be independent, the Contracting Authority may, regardless of injury, terminate the contract without further notice and without the Contractor having any claim to compensation.

The UNDP reserves the right to suspend or cancel project financing if corrupt practices of any kind are discovered at any stage of the award process and if the Contracting Authority fails to take all appropriate measures to remedy the situation. For the purposes of this provision, "corrupt practices" are the offer of a bribe, gift, gratuity or commission to any person as an inducement or reward for performing or refraining from any act relating to the award of a contract or implementation of a contract already concluded with the Contracting Authority.

All tenders will be rejected or contracts terminated if it emerges that the award or execution of a contract has given rise to unusual commercial expenses. Such unusual commercial expenses are commissions not mentioned in the main contract or not stemming from a properly concluded contract referring to the main contract, commissions not paid in return for any actual and legitimate service, commissions remitted to a tax haven, commissions paid to a recipient who is not clearly identified or commissions paid to a company which has every appearance of being a front company.

28 **Vendor Protest**: Our vendor protest procedure is intended to afford an opportunity to appeal to persons or firms not awarded a purchase order or contract in a competitive procurement process. **It is not available to non-responsive or non-timely proposers/bidders or when all proposals/bids are rejected. In the event that** you believe you have not been fairly treated, you can find detailed

information about vendor protest procedures in the following link: http://www.undp.org/procurement/protest.shtml.

H. Other Requirements:

29 **Time for Completion:** The Time for Completion is specified **in the BDS**. The completion of the Works shall be in accordance with the terms of the resulting Contract as may be issued by UNDP.

30 **Material, Labour and Facilities:** No material, labour or facilities will be furnished by UNDP or its clients unless specified in the ITB.

31 **Site Visit:** The Bidder, at the Bidder's own responsibility and risk, is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense. If UNDP has arranged a formal Site Visit as part of this ITB, this shall be stated **in the BDS**.

I. Payment:

32 **Time of Payment:** Unless otherwise indicated in the Special Terms and Conditions of this ITB, UNDP will normally effect payment within 40 days after receipt of a commercial invoice, certification of site works (if applicable) and other supporting documents.

33 **Letter of Credit:** UNDP does not accept Letter of Credit terms.

34 **Advance Payment:** It is not the normal policy of UNDP to approve advance payments, unless specifically stated in the payment terms.

35 **Currency of Payment:** Payment will be made in the currency in which the Contract is issued.

Part 2: BID DATA SHEET (BDS)

The following data for the design, works and supply of goods and related services shall complement, supplement, or amend the provisions in the Instruction to Bidders. In the case of a conflict between the Instruction to Bidders and the Data Sheet, the provisions in the Data Sheet shall prevail**.**

Relevant clause(s) of Instruction to Bidders and Cross Ref. to Instructions	**Specific data (Instructions / Requirements) complementing, supplementing, or amending instructions to Bidders**
Project Title:	**CHIPOTA FALLS MINI HYDROPOWER**
Title of Goods/Services/Work Required:	**Design, Supply, construction, Installation, Test and Commission a 200kW (2 X 100kW) Chipota Hydropower Station**
Country: Beneficiary:	Republic of ZAMBIA Zambian Ministry of Energy
Clarifications (clause 5)	Via Email: **sergio.valdini@undp.org** Deadline for submitting requests for clarifications/ questions: Manner of Disseminating Supplemental Information to the ITB and responses/clarifications to queries ☒ Direct communication to prospective Bidders by email ☒ Direct communication to prospective Bidders by Posting on the website **http://procurement-notices.undp.org/view_notice.cfm?notice_id=40768**
Language of the Bid: (clause 7)	English
Minimum Qualifying Criteria (Clauses 9.1 & 9.2) ***Qualification Criteria and Requirements*** A successful Bidder shall comply with all of the requirements (pass/fail criteria) listed here	All items/documents under this clause are required to be submitted by the bidders: (a) Valid Company Registration Certificate from the country of origin; (b) Minimum average annual construction turnover of **USD 500,000** equivalent, calculated as total certified payments received for contracts in progress or completed, over **the last seven (7) years** (c) Minimum Experience in construction contracts in the role of contractor, subcontractor, or construction management contractor for at least **five (5)** years prior to the bid submission deadline. (d) Minimum **no. of similar projects** undertaken over the **past 7 years**: Experience as a **prime contractor** in the construction* of **at least one hydropower (or closely related technically) project** of a size, nature and complexity equivalent or above (to the subject Works over the last seven (7) years. To comply with this requirement, works cited should be at least 70 percent complete. Certificates of Completion for the completed projects or employer/client progress reports for the ongoing ones shall be provided by the bidder (e) The Bidder shall demonstrate, by a bank statement(s) from its bank(s), that

Relevant clause(s) of Instruction to Bidders and Cross Ref. to Instructions	Specific data (Instructions / Requirements) complementing, supplementing, or amending instructions to Bidders
	the Bidder has available or has access to liquid assets, lines of credit or other financial means sufficient to meet the construction cash flow for an amount not less than **USD 250,000** as demonstrated by the sum of available cash, unused cash credit and unused credit letter Proof via an official bank credit letter (An Official letter from bidder's bank certifying the actual approved credit facilities ceiling and balances of all active accounts within the bank) shall be provided. (f) Audited Financial Reports for the latest (2 years) Submission of audited balance sheets in English or if not required by the law of the Applicant's country, other financial statements in English acceptable to the UNDP, for the last **two (2)** years to demonstrate (a) the current soundness of the applicant's financial position and its prospective long term profitability (g) UNDP will check the financial accounts to compute the quick ratio (QR). Quick ratio tests the company's financial strength and liquidity by calculating a company's liquid assets in proportion to its liabilities. **If QR is less than 1**; UNDP shall verify financial capacity of the bidder and had the authority to seek references from concerned parties & banks on the bidder' financial standing. UNDP had the right to reject any bid if submitted by a contractor whom investigation leads to a result that he is not financially capable and/or had serious financial problems. (h) Information regarding any **litigation**, current or during the last five years, in which the Bidder was/is involved, the parties concerned, and the disputed amounts and awards thereof; **(i) Equipment** **Equipment Capabilities** The Bidder should own or have assured access to (through hire, lease, purchase agreement) or other means, the following key items of equipment in full working order, and must demonstrate that, based on known commitments, they will be available for use, together with an explanation of the proposal. **Minimum Equipment Type and Characteristics** Pneumatic drill Down-the-hole drill Air compressor Water pump Backhoe Crawler bulldozer Truck crane

Relevant clause(s) of Instruction to Bidders and Cross Ref. to Instructions	Specific data (Instructions / Requirements) complementing, supplementing, or amending instructions to Bidders
	Excavator Concrete mixer Diesel generator Lithotripter Sand producing system Transport hopper Any other equipment that may be necessary for these works should be listed
Minimum required key personal (Clause 9.2.d)	**Qualified personnel, with proven experience, proposed for this project as per following minimum requirements :** The Bidder must demonstrate that it will have the personnel for the key positions that meet, but not limited to, the following requirements: completed and authenticated copies of CVs and certificates of proposed staff demonstrating years of experience and qualifications. The proposed organisation structure for the project implementation team should be attached. **1. Project Manager** The Project Manager with at least Ten (10) years' relevant experience in works of an equivalent nature, complexity and volume, including no less than five years as Manager on a hydro power plant development project with a minimum of a Master's Degree in Engineering. **2. Structural/Civil Engineer** At least seven (7) years of specific experience with an in-depth knowledge in hydro power plant engineering including balance of plant equipment with associated civil works with a minimum of Bachelor's degree in Civil Engineering. **3. Hydrologist** At least seven (7) years of specific experience with an in-depth knowledge in hydrological modelling and design for water retaining infrastructure with a minimum of a Bachelor's degree in Water Engineering, Hydrology or Equivalent. **4. Geotechnical Engineer** At least eight (8) years of specific experience with an in-depth knowledge in geotechnical engineering associated with hydropower plants with a minimum of Master's Degree in Geotechnical Engineering or equivalent **5. Electrical Engineer** At least ten (10) years of specific experience with an in-depth knowledge in hydropower engineering including balance of plant equipment with associated electrical, communications, protection, control and instrumentation auxiliary systems with a minimum of bachelor's degree in Electrical Power Engineering or equivalent.

Relevant clause(s) of Instruction to Bidders and Cross Ref. to Instructions	Specific data (Instructions / Requirements) complementing, supplementing, or amending instructions to Bidders
	6. Mechanical Engineer At least ten (10) years of specific experience with an in-depth knowledge in hydropower engineering including balance of plant equipment with associated hydro mechanical, mechanical and electromechanical systems with a minimum of bachelor's degree in Mechanical Engineering or equivalent. **7. Surveyor** The Surveyor should be in possession of a Bachelor's Degree in Geomatic/Surveying Engineering with five (5) years' experience in topographic survey and modelling. **8. Occupational Health, Safety and Environmental Specialist** At least ten (10) years of specific experience in hydro power and electricity utility industry safety and environmental regulations and practices with a minimum of Bachelor's degree in Occupational Health, Safety and Environment, Environmental Management or equivalent. Copies of "confirmation of availability" and CVs should be added to demonstrate that each specialist or engineer is qualified and ready to perform in his/her relevant area of competency. The key personnel proposed should possess sufficient qualifications and experience both in the design and implementation (managing & supervising works on site).In this regard, additional staff should be proposed as and to the extent needed. Please refer to Form 11 of part 4 regarding the criteria that will be used when evaluating the contractor proposal –design part. The above listed key personnel are subject to UNDP Approval. Note: The owner(s) and/or General Managers of the contracting firm are **not allowed** to fill in any of the above listed key positions, unless a written approval is granted for that purpose by UNDP. **Note:** Bidders shall take into account all the costs associated with hiring and assigning all the staff/personnel mentioned herein/above for/on the project according to what is required. CVs for all proposed staff must be submitted. Failure of the potential selected contractor to propose suitable and qualified personnel/staff, including the Conservation Expert, will lead to rejection of his/her bid and render his/her offer technically not acceptable.
Required Documents that must be Submitted to Establish Qualification of Bidders	☒ Company Profile, which should <u>not</u> exceed fifteen (15) pages, including printed brochures and product catalogues relevant to the goods/services being procured ☒ CVs/Resumes for key personal proposed for this project, as per minimum

Relevant clause(s) of Instruction to Bidders and Cross Ref. to Instructions	**Specific data (Instructions / Requirements) complementing, supplementing, or amending instructions to Bidders**
Required Documents that must be Submitted to Establish Qualification of Bidders (In "Certified True Copy" form only)	stated above; ☒ Members of the Governing Board and their Designations duly certified by the Corporate Secretary, or its equivalent document if Bidder is not a corporation ☒ List of Shareholders and Other Entities Financially Interested in the Firm owning 5% or more of the stocks and other interests, or its equivalent if Bidder is not a corporation ☒ Tax Registration/Payment Certificate issued by the Internal Revenue Authority evidencing that the Bidder is updated with its tax payment obligations, or Certificate of Tax exemption, if any such privilege is enjoyed by the Bidder ☒ Certificate of Registration of the business, including Articles of Incorporation, or equivalent document if Bidder is not a corporation ☒ Trade name registration papers, if applicable ☒ Official Letter of Appointment as local representative, if Bidder is submitting a Bid in behalf of an entity located outside the country ☒ Quality Certificate (e.g., ISO, etc.) and/or other similar certificates, accreditations, awards and citations received by the Bidder, if any ☒Environmental Compliance Certificates, Accreditations, Markings/Labels, and other evidences of the Bidder's practices which contributes to the ecological sustainability and reduction of adverse environmental impact (e.g., use of non-toxic substances, recycled raw materials, energy-efficient equipment, reduced carbon emission, etc.), either in its business practices or in the goods it manufactures ☒ Plan and details of manufacturing capacity, if Bidder is a manufacturer of the goods to be supplied ☒ Certification or authorization to act as Agent in behalf of the Manufacturer, or Power of Attorney, if bidder is not a manufacturer ☒ Latest Audited Financial Statement (Income Statement and Balance Sheet) including Auditor's Report for the past *2 years* ☒ Statement of Satisfactory Performance from the Top *3* Clients in terms of Contract Value the past *7 years* ☒ List of Bank References (Name of Bank, Location, Contact Person and Contact Details) ☒ All information regarding any past and current litigation during the last five (5) years, in which the bidder is involved, indicating the parties concerned, the subject of the litigation, the amounts involved, and the final resolution if already concluded.
Documents Comprising the Bid (clause 8): Structure of the Technical Bid and List of Documents to be Submitted	(a) Letter of Tender in accordance to the Form provided in Section; (b) Bid Security under clause 13 of Instructions to Bidders and in the form provided in Section 11. (c) Technical information as may be required by the BDS; (d) Qualification information in accordance with clause 9.1 of the Instructions to Bidders (e) Technical proposal which should include, but not limited to : e.1 preliminary design e.2 description of the technology e.3. description of construction method

Relevant clause(s) of Instruction to Bidders and Cross Ref. to Instructions	**Specific data (Instructions / Requirements) complementing, supplementing, or amending instructions to Bidders**
	e.4 procedures for carrying out tests on completion, including commissioning and trial operation e.5 procedures for carrying out tests after completion Training programme for operation staff e.6. all other information, specifications and data called for in the instruction to tenderers **Forms can be found in volume IV part 1 which the bidder should be guided by in preparing the technical proposal** (f) Documents other than those issued as part of the tender dossier which the tenderer must include with his tender include: - Drawings and calculations - Technical descriptions/specifications - Proposals for management - Designers - Subcontractors and suppliers - Proposals for site establishment/facilities - Programme for design and construction - Payment plan/ cash flow forecast - Proposed methods of construction, with resources - Proposed environmental protection measures - Health and safety and environmental protection plan - Quality management and control - Pricing document (g) Filled-in and completed Technical offer schedules (h) Schedule of prices with price breakdowns ; (i) Written Power of Attorney, authorizing the signatory of the bid to commit the bidder; (j) Any additional information required to be completed and submitted by bidders as specified **in the BDS**.
Subcontracting percentage/ceiling restriction	**Maximum percentage of the contract value, which may be subcontracted, is limited to 30% of contract value.** **Up to three Subcontractors are permitted to be assigned on the project**
Subcontracting (clause 9.1 (j)	Where the contractor is proposing to subcontract in excess of 10% of the total value of the contract, the following details should be submitted by the contractor in the bid submission: - work item number to be subcontracted - Value to be subcontracted - Name of subcontractor(s) Additional information may be requested by UNDP to verify the technical and administrative capacity of the subcontractor(s) to undertake the works. UNDP reserves the right to accept or reject proposed subcontractors based on their qualifications.

Relevant clause(s) of Instruction to Bidders and Cross Ref. to Instructions	**Specific data (Instructions / Requirements) complementing, supplementing, or amending instructions to Bidders**
Equipment (clause 10)	For all equipment included in the employer requirements, reliable local agent should be operable in the local market and should provide letter of guarantee for the availability of spare parts and after sale service for minimum ten (10) years following installation, commissioning and acceptance of equipment by UNDP Engineer. Warranty should be provided for a minimum of 24 months following installation, commissioning and acceptance of any equipment and/or systems by UNDP Engineer. Any manufacturer's names, trade names, brand names or catalogue numbers used in the specifications are for the purpose of describing and establishing general performance and quality levels. Such references are not intended to be restrictive. Bids are invited on these and comparable brands or products provided the quality of the proposed products meet or exceed the quality of the specifications listed for any item.
Bid and Contract Currency (clause 11)	Bids should be priced in **United States Dollars (USD)** currency Any resulting contract will be in the USD currency
Period of Bid Validity commencing on the submission date (clause 12)	**120 days**
Bid security: (clause 13)	The following form should be completed and provided with the bid submission: **Bid security / via bank guarantee in the amount of USD 25,000** Form: the bid security of a joint venture must be in the name of the leader Acceptable forms of Bid Security [2] ☒ Bank Guarantee (Template can be found in part 3 - volume I.) or Any Bank-issued Check / Cashier's Check / Certified Check
Sealed Bids to be received at / Bids to be marked: (clause 15)	From: Contractor Name, address and telephone number. United Nations Development Programme (UNDP) United Nations House Alick Nkhata Road, Longacres Lusaka, Zambia Att. Deputy Country Director **[Ref No. 008/2017- Design and Build of 200 kW (2 X 100 kW) Chipota Hydropower Station]: Sealed envelope NOT to be opened before 2:30 p.m. on 26 October 2017**

[2] *Surety bonds or other instruments issued by non-bank Financial Institutions are least preferred by UNDP. Unless stated otherwise, they shall be considered unacceptable to UNDP.*

Relevant clause(s) of Instruction to Bidders and Cross Ref. to Instructions	**Specific data (Instructions / Requirements) complementing, supplementing, or amending instructions to Bidders**
UNDP may undertake any or all of the listed Post qualification Actions	☒ Verification of accuracy, correctness and authenticity of the information provided by the bidder on the legal, technical and financial documents submitted; ☒ Validation of extent of compliance to the ITB requirements and evaluation criteria based on what has so far been found by the evaluation team; ☒ Inquiry and reference checking with Government entities with jurisdiction on the bidder, or any other entity that may have done business with the bidder; ☒ Inquiry and reference checking with other previous clients on the quality of performance on ongoing or previous contracts completed; ☒ Physical inspection of the bidder's plant, factory, branches or other places where business transpires, with or without notice to the bidder; ☒ Testing and sampling of completed goods and works similar to the requirements of UNDP, where available
No. of copies of Bid that must be submitted	Original: one (1) Copies: one (1), in addition to **one soft copy on CD/DVD or usb stick to include among other requirements the technical offer, the financial proposal, and the eligibility and qualification documents.** Submissions must be identical and include all required documents. In the event of any discrepancies the "original proposal" submitted in hard copy shall govern.
Bid submission address	United Nations Development Programme (UNDP) United Nations House Alick Nkhata Road, Longacres Lusaka, Zambia Att. Deputy Country Director
Deadline of Bid Submission	Date and Time : Lusaka Time October 19, 2017 2:00 AM
Manner of Submitting Bid	☒ Courier/Hand Delivery Electronic submission of Bid is not allowed
Opening of Bids: (clause 18) Date, time and venue for opening of Bid	Bids will be opened in the presence of Bidders' Representatives, who choose to attend, half an hour past the closing time, on **26 October 2017**, at the following address: United Nations Development Programme (UNDP) United Nations House Alick Nkhata Road, Longacres Lusaka, Zambia Bidders' Representatives (No more than three Representatives from each bidder) shall carry a letter authorizing the holder to attend the bids opening session on behalf of the bidder
Evaluation method to be used in selecting the most responsive Bid	☒ Non-Discretionary "Pass/Fail" Criteria on the Technical Requirements; and ☒ Lowest price offer of technically qualified/responsive Bid

Relevant clause(s) of Instruction to Bidders and Cross Ref. to Instructions	**Specific data (Instructions / Requirements) complementing, supplementing, or amending instructions to Bidders**
UNDP will award the contract to:	☒ One Bidder only
Criteria for the Award and Evaluation of Bid	**<u>Award Criteria</u>** ☒ Non-discretionary "Pass" or "Fail" rating on the detailed contents of the Schedule of Requirements and Technical Specifications ☒ Compliance on the following qualification requirements : **<u>Bid Evaluation Criteria</u>** ☒ Compliance with Special and General Conditions specified by the Solicitation Documents. (Letter of tender form) ☒ Minimum no. of years of experience in construction contracts : *[5 years];* ☒ Minimum annual turnover of *[0.5 M]* for the past *[7 years];* ☒ Current ratio of not less than 1.0 *[modify if a higher number is required]*; ☒ Net Working Capital of *[USD 250 000]* ☒ Minimum no. of similar projects undertaken over the past 7 years *[1];* ☒ Full compliance of Bid to the Technical Requirements; ☒ Compliance with requirements relating to technical design features or the product's ability to satisfy functional requirements. ☒ Compliance with pricing conditions set in the ITB. ☒ Quality Inspection and Testing Certificates for the goods to be supplied; ☒ After-sales service including maintenance of at least *[2 years];* ☒ Lowest Operating Costs Evidenced by a Table of Consumables, Rate of Consumption, and Unit Price; ☒ Warranty on parts and services for a minimum period of *[2 years];* ☒ User's Training for a minimum of 10 persons to be conducted at Chipota Falls Mini hydro site for a minimum period of 20 days as detailed in 1.26.1 of section 1 of volume III; ☒ Maximum percentage of supply/work that will be sub-contracted *[30%];* ☒ Acceptability of the Transportation/Delivery Schedule; ☒ Demonstrated ability to honor important responsibilities and liabilities allocated to Contractors in this ITB (e.g. performance guarantees, warranties, insurance coverage, etc). ☒ Appropriateness of the Implementation Timetable to Project Schedule; ☒ Adequacy of the proposed work plan: The Bidder's approach in responding to the SOW and employer requirements by presenting work plan including a time schedule for all activities during the design & construction period and present clear work plan ☒ Qualification of the Team Leader to directly coordinate with UNDP*; Project manager – please refer to Minimum required key personal (Clause 9.2.d)* ☒ Qualification of all other personnel to be assigned to the contract *[specify details] Rest of staff – please refer to Minimum required key personal (Clause 9.2.d)* ☒ Local knowledge: Proven experience of organization and involved personnel in working in the same Province.

Relevant clause(s) of Instruction to Bidders and Cross Ref. to Instructions	**Specific data (Instructions / Requirements) complementing, supplementing, or amending instructions to Bidders**
Right to Vary Requirements (clause 24)	UNDP's Right to Vary Requirements at the time of making the award or during implementation of the contract: In the event of approved by the UNDP Engineer, variations in the quantities specified in the "employer requirements", the readjustment in the price will be calculated based on the unit price of the bid and no other adjustment is permitted even if variations exceed twenty five percent (25%) of the originally estimated quantities.
Time for Completion (clause 28)	**18 Calendar months** from the date of notice to proceed /commence which will be issued by the UNDP Engineer after contract signature.
Pre-bid meeting & Site Visit (clause 30)	Address: Mulembo River, Chela Tambule Village, Serenje District, Central Province Zambia Coordinates: Latitude 13°13' 4.8" S, and longitude 30°25' 52.24" E. Pre Bid conference Time: **9:00 A.M.** Date: **4 October 2017** Venue: Board room, UNDP Offices, Alick Nkhata Road, Lusaka, ZambiaTel. number for direction to location : +260 211 386 200 / +260979577985 Email for inquiries: sergio.valdini@undp.org The UNDP focal point for the arrangement is: Project Manager Address: UNDP Telephone: +260977894374 E-mail: lloyd.ngo@undp.org Pre-bid meeting to be followed directly on same day by a site visit to the project location which is located at: Chipota Falls, Chela Tambule village, Serenje District, Central Province, Zambia. Address (Coordinates): Latitude 13°13' 4.8" S, and longitude 30°25' 52.24" E Please refer to the Letter of Invitation to Tender for more details on the site visit. **The bidder/tenderer should visit and examine the site and its surroundings, and must obtain for himself on his own responsibility all information which may be necessary for preparing the tender/bid and entering into a contract.**

Relevant clause(s) of Instruction to Bidders and Cross Ref. to Instructions	**Specific data (Instructions / Requirements) complementing, supplementing, or amending instructions to Bidders**
Alternative & Partial Bids: Conditions for Submitting Bid for Parts or sub-parts of the Total Requirements or Alternative Bid	Alternative & Partial bids are not acceptable or allowed
Advanced Payment upon signing of contract	☒ Allowed up as stated in the payment terms in volume IV[3] ☐ Not allowed
Payment terms	**Please refer to volume IV – part 3 of the tender documents for details on the Payment terms**
Liquidated Damages	☐ Will not be imposed ☒ Will be imposed under the following conditions: Percentage of contract price per day of delay: 0.05% Max. amount of delay :10% of contract value Next course of action : Contract termination
Performance Security	☒ Required Amount :10% of the contract price Form: see in volume II Conditions: 10% of the contract price will remain Valid for the whole contract period plus two months Performance bond amount to be reduced to 5% of final contract value to cover the 2 years defects liability period (remaining 5% amount to serve as a maintenance bank guarantee)
Third party reference checks	Third party reference checks from credit rating and reporting agencies If asked by UNDP, the Successful Bidder shall fully cooperate with a given credit rating and reporting agency, for purpose of obtaining reports on the company's production facilities, financial and management status.
Key Performance Indicators	Towards successful monitoring of Design and Build project performance by the awarded contractor, Nine (9) Key Performance Indicators were identified for measuring performance of this Design and Build project. The Nine (9) most important indicators to be used for this D&B project are (in order of importance) (1) Health and Safety (2) Quality of Work (3)Cost per Unit (4) Job Cost Reporting (5) Rework/ Quality of Work (6) Time Performance (7) Motivation (8) Resource Management and (9) environmental stewardship. UNDP will use these as basis for monitoring of this Design and Build project performance by contractor.

[3] *the Bidder must submit an Advanced Payment Security in the same amount as the advanced payment, using the form and contents of the document in volume II*

LETTER OF TENDER

[The Tenderer must prepare the Letter of Tender on stationery with its letterhead clearly showing the Tenderer's complete name and address]

Name of contract:

To: United Nations Development program

Submitted by[4]

Leader	*[name]*	*[legal address]*
Partner 2	*[name]*	*[legal address]*
Partner 3	*[name]*	*[legal address]*
…….		

In response to the Invitation to Bid for the above contract,
We, the undersigned, declare that:

We have examined in full the content of Tender Dossier including the Instruction to Bidders, the Conditions of Contract, Employer's Requirements, Schedule of Prices and Information prepared by Employer, accompanied by the Addenda No_____ (if any) and Tenderers' queries and the clarifications by the Contracting Authority for the above contract. We have examined, understood and checked these documents and have ascertained that they contain no errors or other defects.

We accordingly offer to design, execute and complete the Works and remedy any defects therein, in conformity with this Tender which includes all these documents and the enclosed Proposal, for the lump sum of:

…….. USD (in figures)

…….. USD (in words)

Our Tender shall be valid for a period of 120 days from the date fixed for the Tender submission deadline in accordance with the Tender Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

We acknowledge that the Appendix forms part of this Letter of Tender.

If our Tender is accepted, we commit to obtain a Performance security in accordance with the Tender Document, commence the Works as soon as is reasonably practicable after the Commencement Date, and complete the Works in accordance with the above-named documents within the Time for Completion.

Our firm, including any subcontractors or suppliers for any part of the Contract, have nationalities from eligible countries;

We, including any subcontractors or suppliers for any part of the contract are not in any of the situations excluding us from participating in contract;

[4] Add/delete additional line for members of consortium as appropriate. Note that Subcontractor is not considered to be a member for the purposes of this tender procedure. If this tender is being submitted by an individual tenderer, the name of the tenderer should be entered as "Leader", other lines should be deleted

We are not participating, as a Tenderer or as a subcontractor, in more than one Tender in this Tendering process;

Our firm, its affiliates or subsidiaries and the Subcontractors or Suppliers or affiliates of the Subcontractors or Suppliers, for any part of the contract, have not been declared ineligible under the laws of the Republic of Zambia or official regulations or by an act of compliance with a decision of the United Nations Security Council;

We agree to abide by the ethics clauses in Section G in the Instructions to Tenderers/Bidders and, in particular, have no potential conflict of interests or any equivalent relation in that respect with other candidates or other parties in the tender procedure at the time of the submission of this application. We have no interest of any nature whatsoever in any other tender in this procedure.

We will inform the Contracting Authority immediately if there is any change in the above circumstances at any stage during the implementation of the contract. We also fully recognize and accept that any inaccurate or incomplete information deliberately provided in this bid may result in our exclusion from this and other contracts funded by the United Nations Development Programme.

We understand that this Tender, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed;

We understand that you are not bound to accept the lowest evaluated Tender or any other Tender that you may receive; and

If awarded the contract, the person named below shall act as Contractor's Representative:

Name	
Organization	
Telephone	
Fax	
E-mail	

Name:

In the capacity of:

Signed:

Duly authorized to sign the Tender for and on behalf of:

Date:

Our tender include the following annexes:[5]

[5] Number all attached documents and provide their titles

Part 3: FORM FOR BID SECURITY

(This must be finalized using the official letterhead of the Issuing Bank. Except for indicated fields, no changes may be made in this template.)

To: UNDP
[Insert contact information as provided in Data Sheet]

WHEREAS [*name and address of Contractor*] (hereinafter called "the Bidder") has submitted a Bid to UNDP dated Click here to enter a date. , to deliver goods and execute works and related services for *[indicate ITB title]* (hereinafter called "the Bid"):

AND WHEREAS it has been stipulated by you that the Bidder shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security in the event that the Bidder:

a) Fails to sign the Contract after UNDP has awarded it;
b) Withdraws its Bid after the date of the opening of the Bid;
c) Fails to comply with UNDP's variation of requirement, as per instructions to bidders -Section 24; or
d) Fails to furnish Performance Security, insurances, or other documents that UNDP may require as a condition to rendering the contract effective.

AND WHEREAS we have agreed to give the Bidder such this Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Bidder, up to a total of [*amount of guarantee*] [*in words and numbers*], such sum being payable in the types and proportions of currencies in which the Price Bid is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of *[amount of guarantee as aforesaid*] without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

This guarantee shall be valid until 30 days after the date of validity of the bids.

SIGNATURE AND SEAL OF THE GUARANTOR BANK

Date .....

Name of Bank .....

Address .....

Part 4 - Contractor qualification's data forms

Note: these forms are intended to streamline collection of data from bidders. Bidders may use their own forms if it contains the required data.

Form 1: Bidder Information Sheet *(to be printed on company letterhead, signed, dated and stamped)*

No	Subject	Explanation	
1	Legal Name		
2	Country of Registration		
3	Year of Registration		
4	Role (if Bidderis a JV)	☒ Lead Member with a share of ...%	☒ Member with a share of …%
5	Legal address in the country of registration	Address: Tel: Fax:	
6	Authorized Representative Information	Name: Title: Address: Tel: Fax: Email:	

Name
Title
Date
Signature

Form 2 *(applies to Joint Ventures only, to be printed on company letterhead, signed, dated and stamped)*

JOINT VENTURE DECLARATION

No: UNDP-***

We have entered into a private joint venture in order to submit joint BID ********** tendered by United Nations Development Programme (UNDP) and perform the work after concluding the contract if we are awarded the contract. If we are awarded the contract, the joint venture agreement shall be notarized and submitted to the Contracting Entity before the contract is concluded. Lead (pilot) partner of our joint venture shall be ……[indicate name of the lead partner]…… until the completion of work.

If we are awarded the contract as a result of the joint tender that we submit, we hereby declare, accept and guarantee that the contract shall be signed by all partners and our partner indicated as the lead (pilot) partner shall have the full power to act for and on behalf of our joint venture in respect of all issues concerning the contract, and that each of us shall be jointly and successively liable for performing the works and commitments within the subject and scope of the contract that will be concluded as well as fulfilling the obligations arising from the contract and undertaken by our joint venture, and that we shall not leave the private joint venture that we have established, otherwise **UNDP** shall be authorized to terminate the contract and register the performance bond as revenue, and that all communications and notifications to the lead (pilot) company shall be deemed to be made to our joint venture, the lead (pilot) partner and the remaining partners of the joint venture shall undertake all obligations and liabilities of the work including the performance bond in the events of death, bankruptcy, heavy disease, detention or imprisonment to the extent to limit the freedom or dissolution of any of the partners in the joint venture except for the lead (pilot) partner before the subject work is completed.

No	**Name of the Partner in the JV**	**Percentage Share***
1		
2		
3		

	Lead Partner	**Partner**	**Partner**
Name			
Date			
Signature			
Stamp			

* Lead partner's share cannot be less than 51%
Share of the remaining partner(s) shall not be less than 20%

Form 3: History of Non-performing Contracts *(to be printed on company letterhead, signed, dated and stamped)*

Applicant's Legal Name _____ Date __/__/

_____ Page __ of __

Non-performing Contracts:				
☒	Contract non-performance did not occur during the last 5 years (2006 and onwards)			
☒	Contract non-performance occurred during the last 5 years (2006 and onwards)			
	Year	Outcome as % of Total Assets	Contract Identification	Total Contract Value (USD, Equivalent)
			Contract Identification: *Name of Employer:* *Address of Employer:* *Matter in dispute:*	

Litigation History				
☒	No litigation history			
☒	Litigation history			
	Year	Outcome as % of Total Assets	Contract Identification	Total Contract Value (USD, Equivalent)
			Contract Identification: *Name of Employer:* *Address of Employer:* *Matter in dispute:*	
			Contract Identification: *Name of Employer:* *Address of Employer:* *Matter in dispute:*	

Form 4: Financial Situation (to be printed on company letterhead, signed, dated and stamped)

Applicant's Legal Name _____ Date __/__/

_____ Page __ of __

Financial information in US$ equivalent				
Information from Balance Sheet				
	2008	**2009**	**2010**	**Average**
Total Assets (TA)				
Total Liabilities (TL)				
TA/TL Ratio				
Net Worth (NW)				
Current Assets (CA)				
Current Liabilities (CL)				
CA/CL Ratio				
Information from Income Statement				
Total Revenue (TR)				
Profits Before Taxes (PBT)				

Vendors shall submit the copies of financial statements (statement of financial position, including all related notes, and statement of financial performance) for the years required above complying with the following conditions:

* Must reflect the financial situation of the Applicant
* Historical financial statements must be audited by a certified accountant
* Historical financial statements must be complete, including all notes to the financial statements
* Historical financial statements must correspond to accounting periods already completed and audited

Name
Title
Date
Signature

Form 5: Summary Sheet: Current Contract Commitments / Works in Progress

Bidders should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

Name of contract	Client	Value of outstanding work (current US$ equivalent)	Estimated 'completion date
1.			
2.			

Form 6: Financial Resources (to be printed on company letterhead, signed, dated and stamped and accompanied by the bank's statement or bank's letter of intention or commitment to provide or the credit either financial lease)

Cash and Credit position as of submission date (in USD equivalent)				
Bank	Available Cash	Unused		
		Cash Credit	Credit Letter	
Total				
	A	**B**	**C**	**A+B+C**

Name
Title
Date
Signature

Form 7: Average Annual Construction Turnover (to be printed on company letterhead, signed, dated and stamped)

Applicant's Legal Name _____ Date __/__/__

_____ Page __ of __

Annual Construction Turnover				
	Amount*	**Currency**	**Conversion Rate**	**USD Equivalent**
2012				
2013				
2014				
2015				
2016				
Average				

The information above complies with the following conditions:

* Annual Construction Turnover is calculated as total certified payments received for work in progress or completed. *Attach copies of progress payments or work completion certificates.*

Form 8: Similar Construction Experience (to be printed on company letterhead, signed, dated and stamped)

Applicant's Legal Name _____ Date __/__/2011

_____ Page __ of __

Replicate the following table and enumerate accordingly for each similar construction work experience.

Ref No: …	**Project title**				
Award Date (MM/YYYY)	**Completion Date (MM/YYYY)**	**Role in Contract (contractor OR sub-contractor)**	**Total Contract Amount (USD)**	**Proportion of the total contract amount carried out by the Bidder(%)**	**Employer**
Detailed description of project			**Type of services provided**		

The information above complies with the following conditions:

* References include works completed in 2010 and onwards
* Substantiated by the attached certified copies of work completion certificates and progress payments.
* Role as "contractor" or "sub-contractor".
* Similar work experience is the infrastructure-related construction works on water, dams, pipeline, and hydropower structures.

Form 9.

Information about key-experts of the Bidder

No	Expert's position	Name and Surname	Education (name of school, specialization, Certificate's Nr.)	Professional experience	Special experience in relevant projects

Name
Title
Date
Signature

Form 10.

CURRICULUM VITAE

Proposed Position in the Project:

Surname:
Name:
Date of birth:
Education:

Institution	Degree(s) or Diploma(s) obtained:

Language skills (Indicate competence on a scale of 1 to 5 (1 - excellent; 5 – basic))**:**

Language	Reading	Speaking	Writing

Membership of professional bodies:

Other skills:

Present position:

Key qualifications:

Work experience :

Date	
Location	
Company	
Position	
Date	
Location	
Company	
Position	
Date	
Location	
Company	
Position	
Date	
Location	
Company	
Position	
Date	
Location	
Company	
Position	

Professional experience:

Date	
Company	
Location	
Position	
Client	
Project	
Date	
Company	
Location Position	
Client	
Project	

Publications:

Other information:

I, the undersigned, hereby certify that the above-mentioned correctly reflects my experience and qualifications.

Name, Surname	
Signature	
Date	

Form 11.
Information about Design Works Subcontractor *

Name of the company, Reg.No, address, contact person	Scope of Subcontract Works %	Brief description of Subcontract Works

*For each nominated Subcontractors the Bidderhas to submit the duly signed Letter of Agreement expressing the intention to perform the specified scope of subcontract services if the Contact is granted of to the Bidder

Design subcontractor, in case proposed by the bidder, would need to possess the expertise as per the minimum set in the BDS (except for the project manager and Occupational Health, Safety and Environmental Specialist, who should be assigned and employed by the prime contractor).

The key personnel proposed should possess sufficient qualifications and experience both in the design and implementation (managing & supervising works on site).In this regard, additional staff should be proposed as and to the extent needed.

Seven criteria that will be used when evaluating the contractor proposal –design part"
(a) Professional competence;
(b) Managerial ability;
(c) Availability of resources;
(d) Impartiality;
(e) Fairness of fee structure;
(f) Professional integrity; and
(g) Quality assurance system.

Proposed Subcontractors for Major Items of Plant and Installation Services

Bidder to insert technical proposal for Subcontractors.
The following Subcontractors and/or manufacturers are proposed for carrying out the item of the facilities indicated. Bidders are free to propose more than one for each item

Major Items of Plant and Installation Services	Proposed Subcontractors/Manufacturers	Nationality

Name
Title
Date
Signature

Form 12.

Information about Applicant's technical resources

A. List of software

No	Name of software	License No, date and No of license agreement,	Owner of Software, user's rights for license (Applicant's ownership, subcontractor's ownership or other)

B. List of construction technical equipment/machinery
(loaders, cranes, excavators and other machinery to be used by Bidderfor performance of planned construction works)

№ п/п	Name of equipments	Manufacturer	Date of production	Technical parameters	Ownership (Applicant's ownership, subcontractor's ownership or other)

Name
Title
Date
Signature

Contractor's Equipment

Bidder to insert technical proposal for Contractor's Equipment and complete Form

The Bidder shall provide adequate information to demonstrate clearly that it has the capability to meet the requirements for the key Contractor's equipment listed in Section III, Evaluation and Qualification Criteria, clause 2.6. A separate Form shall be prepared for each item of equipment listed, or for alternative equipment proposed by the Bidder.

Item of equipment		
Equipment information	Name of manufacturer	Model and power rating
	Capacity	Year of manufacture
Current status	Current location	

	Details of current commitments
Source	Indicate source of the equipment ☐ Owned ☐ Rented ☐ Leased ☐ Specially manufactured

Omit the following information for equipment owned by the Bidder.

Owner	Name of owner	
	Address of owner	
	Telephone	Contact name and title
	Fax	Telex
Agreements	Details of rental / lease / manufacture agreements specific to the project	

Manufacturer's Authorisation

Date: _____
ITB No.: _____

To: _____

WHEREAS

We _____, who are official manufacturers of _____, having factories at _____, do hereby authorise _____ to submit a bid the purpose of which is to provide the following goods, manufactured by us _____, and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with the relevant requirements of this tender, with respect to the goods offered by the above firm.

Signed: _____

Name: _____

Title:_____

Duly authorised to sign this Authorisation on behalf of: _____

Dated on _____ day of _____, _____

Volume II

Part 1 General Contract Conditions
Part 2 Particular Contract Conditions
Part 3: Appendix to Tender, related to the General Conditions
Part 4: Forms

Part 1

General Contract Conditions

The General Conditions of Contract for this Tender are "Conditions of Contract for Plant and Design-Build for electrical and mechanical and for building and engineering works, designed by the Contractor, edition 1999 published by the Fédération Internationale des Ingénieurs-Conseils (FIDIC)

These Conditions are subject to the variations and additions set out in Part 2: Particular Contract Conditions.

Copies of the FIDIC Conditions of Contract can be obtained from:

FIDIC – International Federation of Consulting Engineers

World Trade Center II - Geneva Airport

29 route de Prés-Bois

CH-1215 Geneva

Switzerland

P. O. Box 311

General P +41-22-799-49-00

F +41-22-799-49-01

E fidic@fidic.org

http://fidic.org/

The Bidder shall submit with his tender a copy of this page as well as the complete Part 2, Particular Conditions, duly initialed by the person authorized to sign on behalf of the Tenderer.

Part 2
Particular Contract Conditions

These Particular Conditions modify, amplify and/or supplement the General Conditions govern-ing the Contract. Unless the Particular Conditions provide otherwise, those General Conditions remain fully applicable. The numbering of the Clauses of the Particular Conditions is not consecutive but follows the numbering of the Clauses of the General Conditions.

Important note: The Engineer in the contract conditions means the UNDP assigned Project technical committee (names and roles will be shared with the successful bidder right after contract signature)

Clause No	Clause amendments and additions
1	**General Provisions**
1.1. Definitions	
1.1.1. Contract	
1.1.1.5.	*delete* "the document entitled Employer's Requirements" *and substitute with* "the documents entitled Employer's Requirements (Volume III of Tender Documents)
1.1.2. Parties and Persons	
1.1.2.11	*add new Sub-Clause 1.1.2.11:* "**Beneficiaries**" means the Organizations named as such in the Bid Data sheet.
1.1.4. Money and Payments	
1.1.4.6.	*Substitute Sub-Clause 1.1.4.6. with* "**Foreign Currency**" means USD "
1.1.4.8.	*Substitute Sub-Clause 1.1.4.8. with* "**Local Currency**" means Kwacha "
1.2. Interpretation	
	In Sub-Clause 1.2, after sub-paragraph (d), insert the following paragraph: "(e) Wherever these Conditions require the Contractor to indemnify the Employer from any matter, the Contractor shall also indemnify the Engineer from the same matter".
1.5. Priority of Documents	
	Delete Sub-Clause 1.5. and substitute: "The documents forming the Contract are to be taken as mutually explanatory of one another. If an ambiguity or discrepancy is found, the priority shall be such as may be accorded by the governing law. The Engineer has authority to issue any instruction which he considers necessary to resolve an ambiguity or discrepancy"
1.6. Contract Agreement	

	Delete "annexed to the Particular Conditions" *and substitute with* "included to Tender Documents (Volume II)"
1.10. Employer's Use of Contractor's Documents	
	Substitute **"Employer"** *with* **„Employer and Beneficiaries"**
1.11. Contractor's Use of Employer's Documents	
	Substitute the first paragraph with : "As between the Parties, the Employer shall retain the copyright…and other documents made by (or on behalf of) the Employer, including all maps, drawings, photo-graphs, mosaics, plans, reports, recommendations, estimates, documents and all other data compiled or received by the Contractor under the Contract. Such maps, drawings, etc, compiled or received by the Contractor shall be delivered only to the duly authorized representative of the Employer on completion of the Works. The Contractor may, at his Cost, copy, use, and obtain communication of these documents for the purposes of the Contract." *Substitute the second paragraph with :* "They shall not, without the Employer's *written* consent, be copied used or communicated to a third party by the Contractor."
1.12. Confidential Details	
	Add the following paragraph to Sub-Clause 1.12. "The Contractor shall treat the details of the Contract as private and confidential, except to the extent necessary to carry out obligations under it or to comply with applicable Laws. The Contractor shall not publish, permit to be published, or disclose any particulars of the Works in any trade or technical paper or elsewhere without the previous agreement of the Employer"
1.13 Compliance with Laws	
	(a) *Substitute* "any other permissions described in the Employer's Requirements as having been (or being) obtained by the Employer" *with* "any other permissions described in the Employer's Requirements as having been (or being) obtained by the Employer or Beneficiaries"; (b) *Substitute* "and hold the Employer harmless against and from the consequences of any failure to do so" *with* "and hold the Employer and Beneficiaries harmless against and from the consequences of any failure to do so"
1.15. Electronic Formats	
	Add new Sub-Clause 1.15: "1.15 All notices and documents required to be submitted by the Contractor shall also be submitted electronically in formats that can be read by: Microsoft Word 2013 (or later version) – for text developed by the Contractor Adobe Reader 10 (or later version) for documents developed by third parties AutoCAD version 2005 (or later version) – for drawings Microsoft Project 2013 (or later version) – for planning Microsoft Excel 2013 (or later version) – for numerical information".

1.16 Legal Relationships	
	Add new Sub-Clause 1.16: "1.16 The Contractor and the sub-contractor(s), if any, shall have the status of an independent contractor vis-à-vis the Employer. The Contract Documents shall not be construed to create any contractual relationship of any kind between the Engineer and the Contractor, but the Engineer shall, in the exercise of his duties and powers under the Contract, be entitled to performance by the Contractor of its obligations, and to enforcement thereof. Nothing contained in the Contract Documents shall create any contractual relationship between the Employer or the Engineer and any sub-contractor(s) of the Contractor."
1.17. Records and Accounts	
	Add new Sub-Clause 1.17: "The Contractor shall maintain accurate and systematic records and accounts in respect of the work performed under this Contract. The Contractor shall furnish, compile or make available at all times to the UNDP any records or information, oral or written, which the UNDP may reasonably request in respect of the Works or the Contractor's performance thereof. The Contractor shall allow the UNDP or its authorized agents to inspect and audit such records or information upon reasonable notice."
1.18. Audits and investigations	
	Add new Sub-Clause 1.18: "Each invoice paid by UNDP shall be subject to a post-payment audit by auditors, whether internal or external, of UNDP or the authorized agents of the UNDP at any time during the term of the Contract and for a period of three (3) years following the expiration or prior termination of the Contract. The UNDP shall be entitled to a refund from the Contractor for any amounts shown by such audits to have been paid by the UNDP other than in accordance with the terms and conditions of the Contract. Should the audit determine that any funds paid by UNDP have not been used as per contract clauses, the company shall reimburse such funds forthwith. Where the company fails to reimburse such funds, UNDP reserves the right to seek recovery and/or to take any other action as it deems necessary. The Contractor acknowledges and agrees that, at anytime, UNDP may conduct investigations relating to any aspect of the Contract, the obligations performed under the Contract, and the operations of the Contractor generally. The right of UNDP to conduct an investigation and the Contractor's obligation to com-ply with such an investigation shall not lapse upon expiration or prior termination of the Contract. The Contractor shall provide its full and timely cooperation with any such inspections, post-payment audits or investigations. Such cooperation shall include, but shall not be limited to, the Contractor's obligation to make avail-able its personnel and any documentation for such purposes and to grant to UNDP access to the Contractor's premises. The Contractor shall require its agents, including, but not limited to, the Contractor's attorneys, accountants or other advisers, to reasonably cooperate with any inspections, post-payment audits or investigations carried out by UNDP hereunder."
2 The Employer	
2.1. Right of Access to the Site	

	Add the text after the first paragraph "The Contractor shall gain the approval of the Employer for time schedule for geodesic, hydro-geologic and topographic investigations and other operations on the project area" *In Sub-Clause 2.1 delete (b) which states:* "payment of any such Cost plus reasonable profit, which shall be included in the Con-tract Price."
2.2. Permits, Licenses or Approvals	
	In *Sub-Clause* 2.2, beginning of first line, after "The Employer", add: "and/or the Beneficiaries." Add at the end of the *Sub-clause* : "It is the sole responsibility of the Contractor to obtain, in due time, all other necessary permissions, licenses or approvals from the related authorities for construction and operation than the above mentioned (i), (ii) and (iii). Delay in obtaining these permissions, licenses or approvals shall not entitle the Contractor neither to an extension of time, nor to any additional payment."
3. The Engineer	
3.1. Engineer's Duties and Authority	
	At the end of Sub-Clause 3.1, add: "The Engineer shall obtain the specific approval of the Employer before taking action under the following Sub-Clauses of these Conditions: **(**a) Sub-Clause 3.5: agreeing or determining any matter, which will increase the Accepted Contract Amount; (b) Sub-Clause 4.4(b): giving consent to a subcontractor for a subcontract for which a different subcontractor is named in the Contract; (d) Sub-Clause 8.4: agreeing or determining an extension of the Time for Completion; e) Clause 13: instructing a Variation which is expected to increase the Contract Price or in any substantial way change the scope, character or quality of the Works and in particular any instruction concerning the use of the provisional sums. Notwithstanding the obligation, as set out above, to obtain approval, if, in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the Works or of adjoining property, he may, without relieving the Contractor of any of his duties and responsibilities under the Contract, instruct the Contractor to execute all such work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Contractor shall forthwith comply, despite the absence of approval of the Employer, with any such instruction of the Engineer. The Engineer is required to continuously monitor the Contractor's compliance with the proposed and approved Safety Methodology, and he shall ensure certification of compliance."
3.6. Progress Meetings	

	Add new Sub-Clause 3.6: "The Engineer and the Contractor's Representative shall meet at times scheduled by the Engineer on a monthly basis to discuss the status of the Contractor's performance of the Contract. Such monthly Progress Meetings shall be attended by the Contractor's Representative and other relevant Contractor's personnel. The Engineer or the Contractor's Representative may require the other to attend a progress meeting in order to review the arrangements for future work. The Engineer and the Contractor's Representative may invite others to attend. The Engineer shall arrange and keep records of such management meetings. The Engineer and the Contractor's Representative shall sign such minutes. The Engineer shall supply copies of the records to those attending the meeting and to the Beneficiaries and the Employer. In the records, responsibilities for any actions to be taken shall be in accordance with the Contract. The agenda for such meetings shall cover a review of progress attained, a review of schedules and plans for future activities, the status of staffing, engineering, safety, equipment, material supply, payments, current and anticipated difficulties, interface with other Contractors, claims for extras, and other pertinent topics. The Progress Report produced by the Contractor under Sub-Clause 4.21 [Progress Reports] for the previous month shall be approved (or otherwise) by the Engineer during such meetings. Before mobilization of the Site, the regular progress meetings shall be held on a monthly basis at the Contractor's office, the Engineer's office, and/or on the Site. Further meetings will be held if needed. The time and place of these meetings shall be mutually agreed taking into consideration the subject to be discussed. In the event that the Contractor fails to send his representative(s) to any meeting at which his presence has been requested, all decisions shall be taken as if the Con-tractor had been present and agreed on subsequent actions and orders"
4 The Contractor	
4.1. Contractor's General Obligations	
	Insert after the first paragraph the following text: "The Contractor shall carry out and be responsible for the design of all Temporary Works. Drawings submitted to the Engineer for approval shall be submitted in sufficient time to afford the Engineer adequate opportunity to examine, check and call for any necessary modification by the Contractor before approval is given. No examination by the Engineer of any drawings submitted by the Contractor nor the approval expressed by the Engineer thereto shall relieve the Contractor of any liability imposed by any provisions of the Contract, or of his responsibilities under the Contract." *At the end of the last paragraph in Sub-Clause 4.1, add:* "The Contractor shall neither seek nor accept instructions from any authority external to the Employer, the Engineer or their authorized representatives in connection with the performance of his services under this Contract. The Contractor shall refrain from any action which may adversely affect the Employer and shall fulfill his commitments with the fullest regard for the interest of the Employer."
4.2. Performance security	
	Add final paragraph as follows: "Whenever the Engineer determines an addition to the Contract Price amounting to more than ten (10%) percent of the Accepted Contract Amount, the Contractor, upon the Engineer's written request, shall promptly increase the value of the performance security by an equal percentage. The Performance Security of a Joint Venture or Consortium shall specify the name of the Joint Venture or Consortium."

4.4. Subcontractors	
	Add new sub-paragraph (d): "(d) The subcontracted part of the Works shall not exceed the percentage as stated in the Appendix to Tender." *Add new sub-paragraph (e):* "(e) The acceptance or approval of the Employer of the any Subcontractor pursuant to (a) or (b) above shall not relieve the Contractor of any of his obligations under the Contract, and the terms of any subcontract shall be subject to and be in conformity with the provisions of the Contract."
4.6. Co-operation	
	Substitute Sub-paragraph (a) with "the Employer's and Beneficiaries' Personnel" *Substitute Sub-paragraph (b) with* "any other contractors employed by the Employer and Beneficiaries, and" *Add Sub-paragraph (d)* "the personnel of a contractor who is employed to carry out the environmental impact assessment *In last paragraph, first line, after "Employer" add:* "or the Beneficiaries"
4.7. Setting out	
	In Sub-Clause 4.7, replace the 1st paragraph with: "The Contractor shall be responsible for the true and proper setting out of the Works in relation to original points, lines and levels of reference given by the Engineer in writing and for the correctness of the position, levels, dimensions and alignment of all parts of the Works and for the provision of all necessary instruments, appliances and labor in connection therewith. If, at any time during the progress of the Works, any error shall appear or arise in the position, levels, dimensions or alignment of any part of the Works, the Contractor, on being required so to do by the Engineer, shall at his own cost, rectify such error to the satisfaction of the Engineer." *In Sub-Clause 4.7, delete everything after the 1st paragraph."*
4.8. Safety procedures	
	In Sub-Clause 4.8, add the following sub-paragraphs at the end of the Sub-clause: "(f) comply with all safety regulations and systems made and operated by the Beneficiaries. Safety issues shall be on the agenda of all site meetings and plans shall be jointly agreed between the Engineer and the Contractor's Representative for minimizing the risk of unsafe events and working practices in forthcoming work. (g) comply with all applicable current rules, regulations and specifications, with respect to all measures, operations and administrative steps required for the full protection and safeguarding of the environment."
4.9. Quality Assurance	
	In Sub-Clause 4.9, add after the last paragraph: "The Quality Assurance system shall: (a) ensure that all materials and plant delivered to site are traceable as compliant with a recognized international standard for the material or plant, (b) include procedures for checking compliance and filing of compliance certificates, and (c) include an electronic and paper filing system for storing all certificates and delivery dates."
4.14. Avoidance of Interference	
	Add sub-paragraph (c): "(c) the Beneficiaries' or any other local body's supplies and services on the Site" *Substitute* "hold the Employer harmless" *with* "hold the Employer and Beneficiaries harmless"
4.19. Electricity, Water and Gas	

	In the last sentence of Sub-Clause 4.19, delete full stop and after „Employer" add: "or the Beneficiaries, according to the provider of the services."
4.21. Progress Reports	
	Substitute the 1st sentence of the 1st paragraph with: "Monthly progress reports shall be prepared by the Contractor in English and submitted to the Engineer in 3 paper copies and electronically." *At the end of the sub-clause add:* In compliance with national regulations the Contractor shall keep Works performance registry with daily records on the following as minimum: (a) works performed on the day of recording; (b) number of persons employed on site (c) quality of materials applied (d) methods of works performance (e) equipment in use (f) weather conditions (g) noncompliance and deviations from the accepted detail design drawings (h) comments and observations of supervising parties (i) acceptance works or part of the works (j) incidents, problems, critical circumstances having an effect of works performance The Contractor shall keep up to date a complete set of "as-built" records and drawings of the Works as executed, showing the exact locations, size and details of the Works as executed. These records and as-built drawings shall be kept on the Site and shall be made available to the Engineer whenever requested. Whenever a section of the works has been completed as-built drawings shall be submitted to the Engineer for approval. Completed sections can only be considered for payment if as-built drawings of the section have been submitted to the Engineer before or together with the subsequent application for Interim Payment Certificate. The Contractor shall maintain and keep up to date all official records and reports required according to local requirements."
4.23. Contractor's Operations on Site	
	Add at the end of Sub-Clause 4.23: "No important operation of any kind, especially cutting through or closing existing roads, water conduits or public utilities shall be carried out without the written consent of the Engineer. The Contractor shall apply to the Engineer in writing for such con-sent, at least 14 days prior to the proposed start of such operation. He shall include with the application full details of the operation, the programme, the major items of plant to be employed and enclose copies of all necessary permits obtained in accordance with Sub-Clause 1.13. All temporary traffic and footway variations shall be made in accordance with local requirements and shall include all necessary temporary signposting and signals."
4.24. Fossils	
	In Sub-Clause 4.24, 2nd paragraph, delete (b), which states: "payment of any such Cost, which shall be included in the Contract Price."
4.25. Existing Services	

	Add new Sub-Clause 4.25: "The Contractor shall acquaint himself by whatever means necessary with the position of all existing roads and services of any kind including drains, telephone, electricity lines and poles, water pipes, sewers and the like, before any excavation or other work likely to affect the existing services is commenced. The Contractor will be liable for all damage to roads and services of any kind caused by him or his Sub-contractors in the execution of the Works. He shall make good any such damage at his own expense and to the complete satisfaction of the Engineer as soon as possible, and in any event within the Time for Completion. The Contractor shall make all necessary arrangements with the relevant local bodies and owners for the removal and reinstatement of all services as agreed with or instructed by the Engineer. The Contractor will pay the cost of these works."
4.26. Compliance with national regulations	
	Add new Sub-Clause 4.26: "The Contractor shall give all notices and pay all fees and charges required to be given or paid by any national or State Statutes, Ordinances, Laws, Regulations or By-laws, or any local or other duly constituted authority in relation to the execution of the Works or of any Temporary Works and by the Rules and Regulations of all public bodies and companies whose property or rights are affected or may be affected in any way by the Works or any Temporary Works. The Contractor shall conform in all respects with any such Statutes, Ordinances, Laws, Regulations, By-laws or requirements of any such local or other authority which may be applicable to the Works and shall keep the Employer indemnified against all penalties and liabilities of every kind for breach of any such Statutes, Ordinances, Laws, Regulations, By-laws or requirements."
4.27. Photographs and Advertising	
	Add new Sub-Clause 27: "The Contractor shall not publish any photographs of the Works or allow the Works to be used in any form of advertising whatsoever without the prior written approval from the Employer."
5 Design	
	5.1.*Add final paragraph:* "Employer's outline design drawings attached in Volume III shall be considered as a requirement for the Contractor. All the modifications in master plans shall be approved by the Employer."
5.6.As-Built Documents	
	In the last sentence of the first paragraph of Sub-Clause 5.6, after "two copies" insert: "each copy in English", *in the first sentence of the third paragraph of Sub-Clause 5.6, after "Employer's Requirements" insert:* "each copy in English", *and add new fourth sub-paragraph to Sub-Clause 5.6 as follows:* "In addition, an electronic version of the above documents shall be provided to the Engineer."
6 Staff and Labour	
6.1. Engagement of Staff and Labour	
	Add at the end of Sub-Clause 6.1: "The Contractor is encouraged, to the extent practicable and reasonable, to employ appropriately qualified and experienced local staff and labour."
6.3. Persons in the Service of Employer	

	At the end of Sub-Clause 6.3, insert: "or the Beneficiaries' or Engineer's personnel."
6.6. Facilities for Staff and Labour	
	At the end of Sub-Clause 6.3, insert: "or Engineer's personnel."
6.7. Health and Safety plan	
	At the beginning of Sub-Clause 6.7 insert: Within 21 days after the Commencement Date, the Contractor shall submit a document entitled "Works safety plan" giving a detailed description of his proposed methods to ensure health, safety and environmental aspects of the Works during all stages of construction and commissioning. Works safety plan shall be presented in sufficient detail to ensure that there can be no ambiguity in its interpretation at a later date. The Plan shall be subject to the approval of the Engineer, who will not allow any work on Site to proceed until such time as it has been fully and formally approved. Approval of the Plan shall not relieve the Contractor of any of his responsibilities with regard to safety".
6.8.Contractor's Superintendence	
	Under Sub-Clause 6.8, add as 3rd paragraph: "A reasonable proportion of the Contractor's superintending staff shall have a working knowledge of English, Zambian languages or the Contractor shall have a sufficient number of competent interpreters available on Site during all working hours, to ensure the proper transmission of instructions and information".
6.10. Records of Contractor's Personnel and Equipment	
	At end of the clause add: "The Engineer may request weekly or daily submission of the above-mentioned details if the nature of the work or Contractor's submissions means such reporting is necessary to achieve accurate records."
6.11. Disorderly Conduct	
	Add as separate paragraphs at the end of Sub-Clause 6.11: "With respect to the Contractor, Sub-contractors and all their respective employees: (a) The Contractor shall not allow the bringing, selling or consumption of alcoholic drinks or drugs on Site; (b) The Contractor shall not allow the bringing, selling or illegal carrying of weapons and ammunition on Site; The Contractor shall bear any additional cost and expenses (taxes, duties, penalties, insurance, overtime, etc.) arising as a consequence of contravention of this Clause by the Contractor's personnel."
6.12. Festivals and Religious Customs	
	Add new Sub-Clause 6.12 "In dealing with his staff and labour, the Contractor shall respect the local recognized festivals, days of rest and religious or other customs."
6.13. Employment of Foreign Personnel and Labour	
	Add new Sub-Clause 6.13 **"**The Contractor may import any personnel who are necessary for the execution of the Works. The Contractor must ensure that local rules are followed concerning residence and work."
6.14 Repatriation of Personnel and Labour	

	Add new Sub-Clause 6.14 "The Contractor shall be responsible for the return to the place they were recruited or their domicile of such persons, as he recruited and employed for the purposes of or in connection with the Contract; and he shall maintain such persons, as are to be re-turned, in a suitable manner until they shall have left the Site or, in case of persons who are not nationals of or have been recruited outside the areas, shall have left the areas."
6.15. Measures against Insect and Pest Nuisance	
	Add new Sub-Clause 6.15 "The Contractor shall at all times take necessary precautions to protect all staff and labour employed on the Site from insect nuisance, rats and other pests and reduce the dangers to health and the general nuisance by the same."
6.16. Epidemics	
	Add new Sub-Clause 6.16 "In the event of outbreak of illness of an epidemic nature, the Contractor shall comply with and carry out such regulating orders and requirements as may be made by the relevant local bodies or the local medical or sanitary bodies for the purpose of dealing with and overcoming the same."
6.17. Burial of the Dead	
	Add new Sub-Clause 6.17 "The Contractor shall make the necessary arrangements for the transport, to any place as required for burial, of any of his expatriate employees or members of their families who may die in the areas. The Contractor shall also be responsible, to the extent required by local regulations, for making any arrangement with regard to burial of any of his local employees who may die while engaged upon the Works."
6.18 Rates of Wages and Conditions of Labour	
	Add new Sub-Clause 6.18 "The Contractor shall pay rates of wages and observe conditions of labour not less favourable than those established for the trade or industry where the work is carried out. In the absence of any rates of wages or conditions of labour so established, the Contractor shall pay rates of wages and observe conditions of labour which are not less favourable than the general level of wages and conditions observed by other employers whose general circumstances in the trade or industry in which the Con-tractor is engaged are similar."
6.19. Supply of Water	
	Add new Sub-Clause 6.19 "The Contractor shall, so far as is reasonably practicable, considering the local conditions, provide on the Site an adequate supply of drinking and other water for the use of his staff and labour".
6.20. Child Labour	
	Add new Sub-Clause 6.20 "The Contractor represents and warrants that neither it, nor any of its suppliers is engaged in any practice inconsistent with the rights set forth in the Convention on the Rights of the Child, including Article 32 thereof, which, inter alia, requires that a child shall be protected from performing any work that is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical mental, spiritual, moral or social development. Any breach of this representation and warranty shall entitle UNDP to terminate this Contract immediately upon notice to the Contractor, at no cost to UNDP."
7.Plant, Materials and Workmanship	
7.4. Testing	

	In Sub-Clause 7.4, 5th paragraph, delete (b), which states: "payment of any such Cost plus reasonable profit, which shall be included in the Contract Price."
8. Commencement, Delays and Supervision	
8.3. Programme	
	Add to the end of the last paragraph: "The revised programme shall be submitted within 21 days from the date of the Engineer's notice."
8.4. Extension of Time for Completion	
	Replace Sub-Clause 8.4 with: "If, subject to the provisions of the Contract, the Engineer orders alterations or additions in the Works in accordance with Clause 13 hereof, or if circumstances constituting force majeure as defined in the Contract have occurred, the Contractor shall be entitled to apply for an extension of the time for completion of the Works specified in the Contract. The Employer shall, upon such application, determine the period of any such extension of time; provided that in the case of alterations or additions in the Works, the application for such an extension must be made before the alterations or additions in the Works are undertaken by the Contractor."
8.8. Suspension of Work	
	In Sub-Clause 8.8, insert at the end of the first paragraph: "The Contractor shall use all reasonable endeavours to minimize and mitigate all costs associated with any such suspension. Unless otherwise instructed by the Engineer, the Contractor shall, during any suspension affecting the progress of the Works, maintain the Contractor's personnel and Contractor's Equipment on or near the Site ready to proceed with the Works upon receipt of further instructions from the Engineer."
8.10. Payment for Plant and Materials in Event of Suspension	
	In Sub-Clause 8.10, in sub-paragraph (b), after "the Contractor", insert: "has presented satisfactory evidence that the Plant and/or Materials are fully owned by the Contractor and are not subject to any retention of title and"
10. Employer's taking over	
10.2. Taking Over of Parts of the Works	
	In Sub-Clause 10.2, 2nd paragraph, line 1, delete: "The Employer shall not" *and replace with:* "Neither the Employer nor the Beneficiaries shall" *In 2nd paragraph, delete:* "However, if the Employer does use any part of the Works before the Taking-Over Certificate is issued:" *and replace with:* "However, if the Employer or the Beneficiaries does use any part of the Works, other than in the circumstances described above, before the Taking-Over Certificate is issued:"
10.3. Interference with Tests on Completion	
	In Sub-Clause 10.3, in the first sentence, after "for which the Employer" insert: "or the Beneficiaries".
11. Defects Liability	
11.7. Right of Access	
	In Sub-Clause 11.7, 3rd line, after "Employer's", add: "and/or Beneficiaries'".
12. Test after Completion	
12.1. Procedure for Tests after Completion	
	Delete the second sentence of the first paragraph and replace by the following: "The Contractor shall:"
12.2. Delayed Tests	

	In Sub-Clause 12.2, in the first sentence, after "the Employer" insert: "or the Beneficiaries".
12.3. Retesting	
	In the third line of the second paragraph of Sub-Clause 12.3, after "the Employer" insert: "or the Beneficiaries". *In the last line of the second paragraph of Sub-Clause 12.3, delete full stop and after „Employer" insert:* "or the Beneficiaries."
12.4. Failure to Pass Tests after Completion	
	Delete the final sentence of the first paragraph and replace by the following: "Then the Contractor shall be deemed to have fulfilled his obligations with respect to these Tests after Completion." *After "Section," on the second line of the second paragraph, delete all words to the word before "time" on the seventh line and insert the following:* "the Contractor shall be liable to carry out the adjustments or modifications and to satisfy this test at a" *Delete the last sentence of the second paragraph* *Delete the third and fourth paragraphs in their entirety."*
13. Variations and adjustments	
13.1. Right to Vary	
	Add at the end of the Sub-Clause the following: "Variations which represent substantial changes can, however, only be made by means of a formal addendum to the contract. The following types of changes shall be regarded as substantial: (a) Changes with technical impact that may affect the competition conditions which were in place at the time when the contract was awarded (e.g. substantial changes in design elements which were part of the technical solution in a design-build contract; technical specifications in a construction contract; minimum standards for materials; etc.), (b) Changes with financial impact that lead to an increase in the total contract price such that it is not longer covered by the Accepted Contract Amount, (c) Changes to the legal form or the contractual essence, such as changes to the conditions of contract, the contract agreement, the appendix to tender or other such parts of the contract."
13.2. Value Engineering	
	Value Engineering *In Sub-Clause 13.2, first paragraph, after each occurrence of "the Employer", insert:* "and/or the Beneficiaries".
13.7. Adjustments for Changes in Legislation	
	This sub-clause shall be deleted in its entirety
13.8 Adjustments for Changes in Cost	
This sub-clause shall be deleted in its entirety	
14 Contract Price and Payment	
14.1.The contract Price	

	Add two new sentences to the end of 14.1(b) as follows: "The Contractor shall also be responsible for the payment of all charges and taxes in respect of income, all in accordance with and subject to the provisions of the income tax laws and regulations in force and all amendments thereto. It is the Contractor's responsibility to make all necessary inquires in this respect and he shall be deemed to have satisfied himself regarding the application of all relevant tax laws."
14.2. Advance Payment	
	Substitute the 1st paragraph with: "The Employer may make an advance payment, as an interest-free loan for pre-financing the investigations, design and mobilization and other operations connected with the execution of the Contract, within 56 days after the Contractor submits a guarantee in accordance with this Sub-Clause. The total advance payment which shall not exceed 20% of the Accepted Amount. Advance payment is done by one installment." *Delete the 2nd paragraph* *Substitute the first sentence in the 3d paragraph with:* "The Employer shall make an advance payment after receiving (i) the Performance Security in accordance with Sub-Clause 4.2 [Performance Security] and (ii) a Bank guarantee in amounts and currencies equal to the advance payment. This guarantee shall be issued by an entity and from within a country (or other jurisdiction) approved by the Employer, and shall be in the form annexed to the Particular Conditions or in another form approved by the Employer." *In fourth paragraph, second/third lines, delete:* ", but its amount may be progressively reduced by the amount repaid by the Contractor as indicated in the Payment Certificates".
14.3. Application for Interim Payment Certificates	
	In the 2nd paragraph (b) and (e) are deleted and the other are consequently renumbered.
14.4. Schedule of Payments	
	Substitute the 1st sentence of the 1st paragraph with: "The Contract includes a Schedule of Payments specifying the installments in which the Contract Price will be paid:" *Substitute sub-paragraph (c) with:* "if actual progress is found to be less than that on which the Schedule of Payments was based, then the Engineer may proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine revised installments, which shall take account of the extent to which progress is less than that on which the installments were previously based" *Delete the last paragraph*
14.5. Plant and Materials intended for the Works	
	This Sub-Clause shall not apply.
14.7. Payment	

	Delete the Sub-Clause in its entirety and replace with the following: "Payments shall be made in USD currency. Payments due by the Employer shall be made to the bank account mentioned on the financial identification form completed by the Contractor. The same form, annexed to the payment request, must be used to report changes of bank account. Sums due shall be paid within no more than 56 calendar days from the date on which an admissible payment request is registered by the competent service of the Employer. The date of payment shall be the date on which the Employer‟s account is debited. The payment request shall not be admissible if one or more essential re-quirements are not met. The 56-day period may be suspended by notifying the Contractor that the payment request cannot be fulfilled because the sum is not due, because appropriate substan-tiating documents have not been provided or because there is evidence that the ex-penditure might not be eligible. In the latter case, an inspection may be carried out on the spot for the purpose of further checks. The Contractor shall provide clarifications, modifications or further information within 30 days of being asked to do so. The pay-ment period shall continue to run from the date on which a properly drawn-up pay-ment request is registered." *The Employer shall pay to the Contractor:* (a) the first instalment of the advance payment within 45 days after Employer re-ceives the documents in accordance with Sub-Clause 4.2 *[Performance Security]* and Sub-Clause 14.2 *[Advance Payment]*, whichever is later, and in line with the provisions of this Sub-Clause, second and third paragraphs above; (b) the amount certified in each interim Payment Certificate (passed for payment), within no more than 45 calendar days from the date on which the Engineer‟s Certifi-cate is received by the Employer, and in line with the provisions of this Sub-Clause, second and third paragraphs above; (c) the amount certified in the Final Payment Certificate within 45 days after the Employer receives this Payment Certificate.
14.15. Currencies of Payments	
Delete Sub-Clause 14.15 and substitute with: "The currency of the Contract shall be the USD and all payments made in accordance with the Contract shall be in USD."	
14.16. Repayment	
Add new Sub-Clause 14.16: "The Contractor undertakes to repay any amounts paid in excess of the final amount due to the Employer within 45 days of receiving a request to do so. Amounts to be repaid to the Employer may be offset against amounts of any kind due to the Contractor. This shall not affect the Parties' right to agree on payment in installments. Bank charges incurred by the repayment of amounts due to the Employer shall be borne entirely by the Contractor."	
15. Termination by Employer	
15.2	**Suspension by Employer**

	Add new sub-Clause 15.2, and renumber existing clauses accordingly. "Suspension by Employer The UNDP may by written notice to the Contractor suspend for a specified period, in whole or in part, payments to the Contractor and/or the Contractor's obligation to continue to perform the Works under this Contract, if in the UNDP' sole discretion: (a) any conditions arise which interfere, or threaten to interfere with the successful execution of the Works or the accomplishment of the purpose thereof, or (b) the Contractor shall have failed, in whole or in part, to perform any of the terms and conditions of this Contract. After suspension under sub-paragraph (a) above, the Contractor shall be entitled to reimbursement by the UNDP of such costs as shall have been duly incurred in accordance with this Contract prior to the commencement of the period of such suspension. The term of this Contract may be extended by the UNDP for a period equal to any period of suspension, taking into account any special conditions which may cause the additional time for completion of the Works to be different from the period of suspension." *In the second paragraph after new sub-paragraph (g), at the end of the first sentence, add:* "However, in the case of sub-paragraphs (e), (f) or (g), the Employer may by notice terminate the Contract immediately."
15.3. Termination by Employer	
	Formerly 15.2 *After sub-paragraph (f)(ii) insert new sub-paragraph:* "g) in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for, or in executing, the Contract. For the purpose of this sub-paragraph: - "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value to influence the action of a public official, or the threatening of injury to person, property or reputation, in connection with the procurement process or in con-tract execution in order to obtain or retain business or other improper advantage in the conduct of business; and - "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the client, and includes collusive practices among tenderers (prior to or after Tender submission) designed to establish Tender prices at artificial, non-competitive levels and to deprive the client of the benefits of free and open competition." *In the first paragraph after new sub-paragraph (g), at the end of the first sentence, add:* "or, in the judgment of the Employer, has engaged in corrupt or fraudulent practices in competing for or in executing the Contract, as described in sub-paragraph (g)". *Before third paragraph add:* Employer shall be entitled to terminate the contract if the project donor fails to transfer contribution to UNDP as specified in the Letter of Agreement signed between UNDP and the project donor
16. Suspension and Termination by Contractor	
16.1.	**Contractor's Entitlement to Suspend Work**

	Sub-Clauses 16.1. through 16.4 inclusive shall be deleted in their entirety and re-placed with the following: "In the case of any alleged breach by the UNDP of the Contract or in any other situation which the Contractor reasonably considers to entitle him to terminate his performance of the Contract, the Contractor shall promptly give written notice to the UNDP detailing the nature and the circumstances of the breach or other situation. Upon acknowledgement in writing by the UNDP of the existence of such breach and the UNDP' inability to remedy it, or upon failure of the UNDP to respond to such notice within twenty (20) days of receipt thereof, the Contractor shall be entitled to terminate this Contract by giving 30 days written notice thereof. In the event of disagreement between the Parties as to the existence of such breach or other situation referred to above, the matter shall be resolved in accordance with Clause 20 of these Particular Conditions. Upon termination of this Contract under this Clause the provisions of sub-paragraph (b) of the second paragraph of Sub-Clause 15.5 shall apply. "
17.Risk and Responsibility	
17.1. Indemnities	
	In Sub-Clause 17.1, 1st paragraph, first line: after "the Employer, the Employer's Personnel" insert: "and the Beneficiaries and the Beneficiaries" Personnel," *In sub-Clause 17.1(a)*, change "negligence, willful act or breach" to "gross negligence or willful misconduct". *In sub-Clause 17.1(b) (ii)*, change "negligence, willful act or breach of the Contract" to "acts or omissions of".
17.3.Employer's Risks	
In Sub-Clause 17.3, sub-paragraphs (f) and (g) are deleted.	
17.5. Intellectual and Industrial Property Rights	
	The second, third (comprising sub-paragraphs (a) and (b)), fourth and fifth paragraphs are deleted, and replaced with the following: **"**The Contractor shall hold harmless and fully indemnify the Employer from and against all claims and proceedings for or on account of infringement of any patent rights, design trademark or name or other protected rights in respect of any Plant, equipment, machine, work or material used for or in connection with the Works or Temporary Works and from and against all claims, demands proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto, except where such infringement results from compliance with the design or [Specification provided by the Employer's Requirements".
17.6. Limitation of Liability	
	In Sub-Clause 17.6, delete 2nd paragraph in its entirety and replace with: "The total liability of the Contractor to the Employer, under or in connection with the Contract other than under Sub-Clause 4.19 [*Electricity, Water and Gas],* Sub-Clause 4.20 [*Employer's Equipment and Free-Issue Material]*, Sub-Clause 8.7 [*Delay Dam-ages],* Sub-Clause 17.1 [*Indemnities]* and Sub-Clause 17.5 [*Intellectual and Industrial Property Rights]*, shall not exceed the sum stated in the Particular Conditions or (or if a sum is not so stated) the Accepted Contract Amount. In Sub-Clause 17.6, the sum referred in the sentence before last shall be the Accepted Contract Amount."
17.7. Contractor's conduct in respect to existing facilities	

	Add as new Sub-Clause 17.7 as follows: "The Contractor shall take full responsibility for the care of those parts of the existing facilities mentioned in the Employer's Requirements from the date of occupation by the Contractor until the date of hand-over to the Employer (where hand-over occurs after the date stated in any relevant Taking-Over Certificate). If any loss or damage hap-pens to any of those parts of the existing facilities while the Contractor is responsible for their care, from any cause not listed in Sub-Clause 17.3 *[Employer's Risks]* or for which the Employer is liable under the Contract, the Contractor shall rectify the loss or damage at the Contractor's risk and cost."
18.Insurance	
18.1 General Requirements for Insurances	
	Substitute 1st paragraph with: "For purposes of this Clause, "insuring Party" shall refer to the Contractor. *Delete the following phrase in 2nd paragraph:* "Whenever the Contractor is the insuring Party" D*elete 3rd paragraph*. Delete „relevant" from the 1st sentence 6th paragraph:
18.2. Insurance for Works and Contractor's Equipment	
	In Sub-Clause 18.2, 4th paragraph, sub-paragraph (d), after "Employer" insert: "or the Beneficiaries" *Add the following paragraph:* "It shall be the responsibility of the Contractor to notify the insurance company of any change in the nature, extent or programme for the execution of the Works and to en-sure adequacy of the insurance coverage at all times during the period of the Contract." Delete the fifth paragraph of Sub-Clause 18.2 starting "If, more than one year after _____".
18.3. Insurance against Injury to Persons and Damage to Property	
	In Sub-Clause 18.3, insert at the end of the first paragraph: "Insurance shall include cover against liability to third parties arising from accidents in the areas involving vehicles supplied by the Contractor and used by the Employer, the Beneficiaries, the Contractor or the Engineer under the Contract". *In 3rd paragraph, sub-paragraph (c), after "Employer's" insert:* "and the Beneficiaries" *In 3 paragraph, sub-paragraph (d)(i), after "Employer's" insert:* "and/or the Beneficiaries""
18.4. Insurance for Contractor's Personnel	
	At the end of the Sub-Clause, add: "The minimum amount for insurances is as stated in the Appendix and employer requirements"
18.5. Insurance for Design	
Add new Sub-Clause 18.5 as follows: The contractor shall effect a professional indemnity insurance, which shall cover the risk of professional negligence in the design of the works. This insurance shall be for a limit of not less than **two times the contract price.** The contractor shall use his best endeavors to maintain the professional indemnity insurance in full force and effect until the end of the defects notification period of two years. The contractor undertakes to notify the Employer of any difficulty in extending, renewing or reinstating the insurance.	

18.6. Remedy on Contractor's Failure to Insure	
	Add new Sub-Clause 18.6 as follows: "If the Contractor shall fail to effect and keep in force any of the insurances referred to in this Clauses 18, or any other insurance which he may be required to effect under the terms of the Contract, the Employer may in any such case effect and keep in force any such insurance and pay such premium as may be necessary for that purpose and from time to time deduct the amount so paid by the Employer as aforesaid from any monies due or which may become due to the Contractor, or recover the same as a debt due from the Contractor."
19. Force Majeure	
	*Clause 19 (Sub-Clauses 19.1 – 19.7) are replaced in their entirety with the following***:** "Force majeure as used herein means Acts of God, war (whether declared or not), invasion, revolution, insurrection or other acts or events of a similar nature or force. In the event of and as soon as possible after the occurrence of any cause constituting force majeure, the Contractor shall give notice and full particulars in writing to the UNDP and to the Engineer of such force majeure if the Contractor is thereby rendered unable, wholly or in part, to perform its obligations and meet its responsibilities under this Contract. Subject to acceptance by the UNDP of the existence of such force majeure, which acceptance shall not be unreasonably withheld, the following provisions shall apply: (a) The obligations and responsibilities of the Contractor under this Contract shall be suspended to the extent of his inability to perform them and for as long as such inability continues. During such suspension and in respect of work suspended, the Contractor shall be reimbursed by the UNDP substantiated costs of maintenance of the Contractor's equipment and of per diem of the Contractor's permanent personnel rendered idle by such suspension; (b) The Contractor shall within fifteen (15) days of the notice to the UNDP of the occurrence of the force majeure submit a statement to the UNDP of estimated costs referred to in sub-paragraph (a) above during the period of suspension followed by a complete statement of actual expenditures within thirty (30) days after the end of the suspension; (c) The term of this Contract shall be extended for a period equal to the period of suspension taking however into account any special condition which may cause the additional time for completion of the Works to be different from the period of suspension; (d) If the Contractor is rendered permanently unable, wholly or in part, by reason of force majeure, to perform his obligations and meet his responsibilities under the Contract, the UNDP shall have the right to terminate the Contract on the same terms and conditions as provided for in Clause 15 of these General Conditions, except that the period of notice shall be seven (7) days instead of fourteen (14) days, and (e) For the purpose of the preceding sub-paragraph, the UNDP may consider the Contractor permanently unable to perform in case of any suspension period of more than ninety (90) days."
20. Claims, Disputes and Arbitration	

	Sub-clauses 20.1 to 20.8, including the Appendix "General Conditions of Dispute Adjudication Agreement" are deleted and replaced with the following: **"Settlement of Disputes** In the case of any claim, controversy or dispute arising out of, or in connection with this Contract or any breach thereof, the following procedure for resolution of such claim, controversy or dispute shall apply. **1 Notification** The aggrieved party shall immediately notify the other party in writing of the nature of the alleged claim, controversy or dispute, not later than seven (7) days from awareness of the existence thereof. **2 Consultation** On receipt of the notification provided above, the representatives of the Parties shall start consultations with a view to reaching an amicable resolution of the claim, controversy or dispute without causing interruption of the Works. **3 Conciliation** Where the representatives of the Parties are unable to reach such an amicable settlement, either party may request the submission of the matter to conciliation in accordance with the UNCITRAL Rules of Conciliation then obtaining. **4 Arbitration** Any claim, controversy or dispute which is not settled as provided under clauses 1 through 3 above shall be referred to arbitration in accordance with the UN-CITRAL Arbitration Rules then obtaining. The Parties shall be bound by the arbitration award rendered in accordance with such arbitration as the final adjudication of such controversy or claim."
21. Ethics clauses	
Add a new Clause 21 "Ethics Clauses" and Sub-Clauses as follows:	
21.1. Inclusion into subcontracts	
	"This Clause "Ethics clauses" in its underwritten version shall be included by the Contractor, *mutatis mutandis*, in all subcontracts he enters into under this Contract."
21.2. Conflict of Interest	
	"Without the Employer's prior written authorization, the Contractor and his staff or any other company with which the Contractor is associated or linked shall not, even on an ancillary or subcontracting basis, perform other services, carry out works or supply equipment for the project of which the Works form a part. This prohibition also applies to any other programmes or projects that could, owing to the nature of the contract, give rise to a conflict of interest on the part of the Contractor."
21.3.Code of Conduct	
	"The Contractor shall at all times act honourably and impartially and as a faithful adviser in accordance with the code of conduct of his profession. He shall refrain from making public statements about the Works without the Employer's prior approval. He may not commit the Employer in any way without its prior written consent."
21.4. Human Rights	
	"For the duration of the contract, the Contractor and his staff must respect human rights and undertake not to violate the political, cultural and religious mores of the communities in the areas."
21.5. No Other Payments	
	"The Contractor shall not accept any payment connected with the Contract other than that provided for therein. The Contractor and his staff shall not exercise any activity or receive any advantage inconsistent with their obligations to the Employer."
21.6.Independence	

	The Contractor shall refrain from any relationship likely to compromise his independence or that of his staff. If the Contractor ceases to be independent, the Employer may, regardless of injury, terminate the contract without further notice and without the Contractor having any claim to compensation."
21.7.Corrupt or Fraud Practices	
	"Any offer, payment, consideration, benefit or conduct of any kind, which constitute illegal, corrupt, or fraudulent practices, whether directly or indirectly, as an inducement or reward in relation to the tendering, award and execution of the Contract, shall constitute a breach of the Contract.
21.8. Officials Not to Benefit	
	"The Contractor warrants that no official of the Employer has been or shall be admit-ted by the Contractor to any direct or indirect benefit arising from this Contract or the award thereof. The Contractor agrees that breach of this provision is a breach of an essential term of the Contract.
21.9. Unusual Commercial Expenses	
	"The Contract will be terminated if it emerges that the award or execution of the con-tract has given rise to unusual commercial expenses. For the purposes of this Clause 22, „unusual commercial expenses" are commissions not mentioned in the Contract or not stemming from a properly concluded contract relating to the Contract, commissions not paid in return for any actual and legitimate service, commissions remitted to a tax haven, commissions paid to a recipient who is not clearly identified or commissions paid to a company which has every appearance of being a front company."
21.10. Special Requirements	
	"The Contractor should be aware of the political, diplomatic and legal context prevailing in Cyprus and abstain from contacts of a political nature. Should issues relating to the specific political, legal and diplomatic context arise in the implementation of this contract, the Contractor should inform the Employer. The Contractor should ensure confidentiality with no disclosure of the issue to third parties. The Contractor shall ensure that, during the implementation of this Contract the rights of natural and legal persons, including the rights to possessions and property shall be respected."
22. Administrative penalties	
	Add new Clause 22, "Administrative penalties", as follows: *"*Without prejudice to the application of penalties laid down in the contract, a Contractor who has been guilty of making false declarations, has made substantial errors or committed irregularities and fraud, or has been found in serious breach of its contractual obligations, may be excluded from all contracts and grants financed by the United Nations Development Programme budget for a maximum of five years from the time when the infringement is established, as confirmed after an adversarial procedure with the Contractor. The Contractor may present his arguments against this penalty within 30 days of notification of the penalty by registered letter with acknowledgement of receipt or any equivalent means. In the absence of any reaction on the part of the Contractor, or of withdrawal of the penalty by the United Nations Development Programme within 30 days of receipt of the Contractor's arguments against it, the decision imposing the penalty shall become enforceable. That period may be in-creased to ten years in the event of a repeat offence within five years of the first infringement."
23. Terrorism	

	Add new Clause 23, "Terrorism", as follows: "The Contractor agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received under this Contract are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Commit-tee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm. This provision must be included in all sub-contracts or sub-agreements entered into under this Contract."
24. Security	
	Add new Clause 24, "Security", as follows: The responsibility for the safety and security of the Contractor and its personnel and property, and of UNDP"s property in the Contractor's custody, rests with the Contractor. The Contractor shall: (a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the services are being provided; (b) assume all risks and liabilities related to the Contractor's security, and the full implementation of the security plan (3) UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this contract. Notwithstanding the foregoing, the Contractor shall remain solely responsible for the security of its personnel and for UNDP"s property in its custody as set forth in (1), above
25. Mines	
	Add new Clause 25, "Mines", as follows: The Contractor represents and warrants that neither it nor any of its suppliers is actively and directly engaged in patent activities, development, assembly, production, trade or manufacture of mines or in such activities in respect of components primarily utilized in the manufacture of Mines. The term "Mines" means those devices defined in Article 2, Paragraphs 1, 4 and 5 of Protocol II annexed to the Convention on Prohibitions and Restrictions on the Use of Certain Conventional Weapons Which May Be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects of 1980.
26. Use of Name, Emblem or Official Seal of UNDP or the United Nations	
	*Add new Clause 26, "*Use of Name, Emblem or Official Seal of UNDP or the United Nations*", as follows:* "The Contractor shall not use the name, emblem or official seal of any UN Organizations, for any purpose. The Contractor shall not advertise or otherwise make public that it is performing services to UN Organization without specific permission of the UN Organization in each instance."
27. Privileges and Immunities	
	Add new Clause 27, "Privileges and Immunities" as follows: Nothing in or relating to this Contract shall be deemed a waiver of any of the privileges and immunities of the United Nations of which the UNDP is an integral part.

Part 3: Appendix to Tender, related to the General Conditions

Item	Sub-Clause	Data
Employer's name and address…….	1.1.2.2 & 1.3 Employers name and address	United Nations Development Programme/ (UNDP UN House, Alick Nkhata Road, Longacres, Lusaka, Zambia
Contractor's name and address……	1.1.2.3. & 1.3 Employers name and address	…… …… ……
Engineer's name and address……..	1.1.2.4. & 1.3 Employers name and address	The UNDP assigned Engineering consulting firm: to be me made known/communicated officially to the successful bidder at pre-award stage.
Beneficiaries' names	1.1.2.11	Zambian Ministry of Energy
Time for Completion of the Works…	1.1.3.3 Time for Completion of the Works	18 months
Defects Notification Period……	1.1.3.7 Defects Notification Period is	Two years
Electronic transmissions systems for communications shall be as follows:	1.3 :	Original documents sent by mail or courier. Colored PDF copies of documents incorporating signature of authorized persons transmitted by email to the UNDP Programme Manager : Email: lloyd.ngo@undp.org
Governing law	1.4 Law and language	General principles of international commercial law
Ruling language……..	1.4 Law and language	English
Language for communications…….	1.4 Law and language	English
Time for access to the Site is 14 days after Commencement Date.	2.1 Right of Access to the Site	Handing Over the Plant Site

Item	Sub-Clause	Data
Amount of Performance Security…..	4.2 Performance Security	10% of the Contract Amount, in the currencies and proportions in which the Contract Price is payable
Period of notifying unforeseeable errors, faults and defects in the Employers requirements	5.1General design obligations	28 days
Normal working hours…….	6.5 Working hours	8:00 to 16:00, 5 days a week (Monday to Friday)
Delay damages for the Works……	8.7 Delay damages& 14.15(b) Currencies of Payment	0.05% of the final Contract Price per day. The Currency of the Contract Price and Payment is USD
Maximum amount of delay damages…	8.7 Delay damages	10% of the final Contract Price.
Adjustments for Changes in Cost	13.8 Adjustments for Changes in Cost	Refer to clause 13.8 of the Particular Conditions (Clause 13.8 not applicable)
Total advance payment……..	14.2 Advance Payment	20 % of the Accepted Contract Amount
Number and timing of instalments……	14.2 Advance Payment	One installment payable 45 days after receipt by the Employer of Performance Security, Advance payment guarantee and due invoice.
Start repayment of advance payment…	14.2(a) Advance Payment	When payments are 10% of the Accepted Contract Amount less Provisional Sums
Repayment amortisation of advance payment…….	14.2(b) Advance Payment	20%
Percentage of retention	14.3(c)	10%
Limit of Retention Money	14.3(c)	10% of the Contract amount
Minimum amount of Interim Payment Certificates	14.6 Issue of Interim Payment Certificates	in accordance to Schedule of payments which shall be mutually agreed upon during the pre-award meeting with the successful bidder
Currency/currencies of payment…….	14.15 Currencies of Payment	United States Dollar (USD)
Periods for submission of insurance: (a) evidence of insurance…… (b) relevant policies……..	18.1General Requirements for Insurances	 14 days 14 days The contractor shouldn't start the works

Item	Sub-Clause	Data
		on site without having first issued the proper insurance policies subject to UNDP approval
Minimum amount of third party insurance……..	18.3 Insurance against Injury to Persons and Damage to Property	USD 500,000 for any claim/occurrence, number of claims/occurrences unlimited
Minimum amount of insurance **for Contractor's Personnel** ……..	**18.4 . Insurance for Contractor's Personnel**	In accordance with the statutory requirements applicable in the country where the Facilities or any part thereof is executed.

Part 4 – Forms

FORM FOR PERFORMANCE SECURITY[1]

(This must be finalized using the official letterhead of the Issuing Bank. Except for indicated fields, no changes may be made in this template.)

To: UNDP
[Insert contact information as provided in Data Sheet]

WHEREAS [*name and address of Contractor*] (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. Click to enter dated Click to enter , to deliver the goods and execute works and related services Click here to enter text. (hereinafter called "the Contract"):

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract:

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of [*amount of guarantee*] [*in words and numbers*], such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of *[amount of guarantee as aforesaid*] without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

This guarantee shall be valid until a date 30 days from the date of issue by UNDP of a certificate of satisfactory performance and full completion of services and works by the Contractor.

SIGNATURE AND SEAL OF THE GUARANTOR BANK

Date .....

Name of Bank .....

Address .....

[1] *If the RFP requires the submission of a Performance Security, which shall be made a condition to the signing and effectivity of the contract, the Performance Security that the Bidder's Bank will issue shall use the contents of this template*

Form for Advanced Payment Guarantee[2]

To: UNDP,

We [Bank name] have been informed that the United Nations Development Programme (hereinafter called "the UNDP") concluded on date _____ a contract [*contract title and No.*] with [*Name of the company*] hereinafter referred to as "the Contractor" whom has its headquarter in _____ at a total price of _____ USD (USD _____), to execute [*Insert title of contract and brief description of works*].

Whereas it has been stipulated in the Contract that the Contractor shall furnish the UNDP with a Bank guarantee by a recognized Bank for the sum specified thereinafter as security for compliance with his obligations in accordance with the Contract,

Whereas we have agreed to give the UNDP such a Bank Guarantee

And according to this contract, UNDP is required to make an advance payment to the Contractor of _____ USD being ___ % of the total price.

Now therefore, this being stated, we, [*BANK NAME*] [*BANK BRANCH*], irrespective of the validity and the legal effect of the above mentioned contract and waiving all rights of objection and defense arising therefrom, hereby irrevocably affirm we are the Guarantor and responsible to you, and on behalf of the Contractor undertake to pay you, upon your first written demand and without cavil or argument any sum or sums within the limits of [*INSERT AMOUNT OF GUARANTEE IN FIGURES AND IN WORDS*] as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.
We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract Documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall remain in full effect from the date of the advance payment under the Contract until UNDP recovers full payment of the same amount from the Contractor.

This guarantee is revocable only with the written consent of the UNDP.
The Parties hereby agree on the terms of this bank's guarantee letter.
SIGNATURE AND SEAL: _____
Name of Bank/ Financial
Institution:_____
Addressee: _____
Date: _____

[2]. *The Contractor's Bank must issue the Guarantee using the contents of this template.*

Contract agreement form.
Copy of the FIDIC form of contract agreement is shown below for easy reference

CONTRACT AGREEMENT

This Agreement made the _____ day of _____ 20 _____

Between _____ of _____ (hereinafter called "the Employer") of the one part, and _____ of _____ (hereinafter called "the Contractor") of the other part

Whereas the Employer desires that the Works known as _____ should be executed by the Contractor, and has accepted a Tender by the Contractor for the execution and completion of these Works and the remedying of any defects therein,

The Employer and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Agreement:

   (a) The Letter of Acceptance dated _____

   (b) The Letter of Tender dated _____

   (c) The Addenda nos. _____

   (d) The Conditions of Contract

   (e) The Employer's Requirements

   (f) The completed Schedules, and

   (g) The Contractor's Proposal.

3. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to design, execute and complete the Works and remedy any defects therein, in conformity with the provisions of the Contract.

4. The Employer hereby covenants to pay the Contractor, in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price at the times and in the manner prescribed by the Contract.

In Witness whereof the parties hereto have caused this Agreement to be executed the day and year first before written in accordance with their respective laws.

SIGNED by: _____	SIGNED by: _____
for and on behalf of the Employer in the presence of	for and on behalf of the Contractor in the presence of
Witness: _____	Witness: _____
Name: _____	Name: _____
Address: _____	Address: _____
Date: _____	Date: _____

v

Volume III

Employer's requirements

Part 1: Required Technical Specifications

Part 2: Other Requirements

Part 3: Feasibility Study Report

Part 1: Required Technical Specifications

Section 28: **Technical Specifications –AC Auxiliary Power System**

Section 29: **Technical Specifications – DC Systems and Uninterruptible Power Supplies**

Section 30: **Technical Specifications – Cabling**

Section 31: **Technical Specifications – Lighting and Small Power**

Section 32: **Technical Specifications – Earthing and Lightning Protection**

Section 33: **Technical Specifications –Communication Equipment**

Section 34: **Technical Specifications –Telephone Equipment**

Section 35: **Outline Design Drawings**

The 35 sections listed above are attached to this Volume III:

Sections 1-34 in one PDF attachment named: "Volume III-Employer's requirements-Part 1"

Section 35 in one PDF attachment named:" Volume III-Part 1-Section 35 Outline Design Drawings"

Part 2: Other Requirements

1. **Utilities for Construction Purposes & Contractor's Office Facilities**:

1.1 Supply of water, electricity, diesel fuel, communications means, etc, throughout the construction period, all for the use of construction, testing, and commissioning of the Works, shall be the sole responsibility of the Contractor and at his own expense, including all the arrangements for further distribution of the same.
1.2 The connection fees for all such utilities, including the meters, shall be borne also by the Contractor.
1.3 The Contractor shall provide and maintain on the site sheds, offices, rest accommodations, sanitary blocks, and any other temporary works of any kind needed for the well-being of the Contractor's and his sub-contractors' staff and workers.

1.4 Temporary Site Office
The contractor should supply and install prefabricated temporary site office as per the drawings provided with required facilities including ceiling, electricity, water, air conditioning & telephone, toilet, wash basin, kitchenette facilities for the use of the Engineer's Representative in accordance with the plans prepared by the engineer. Engineer's **Site office constructed by the contractor is a property of the employer & shall not be removed from the site on completion of the Works & shall be suitable for the use until end of _____ works.**
The contractor shall Maintain and clean it during the implementation of the project.

1.5 Meeting Office
Provision of furniture and office requisites for the use of the Engineer's Representative. The furniture and office requisites provided shall be property of the employer and it shall not be taken back by the contractor after completion of the contract.

Allow for removal of rubbish and debris cleaning and clearing up site on completion, leaving all in good order in handing over.

1.6 Project Team Office
Find and rent in the area of the project a four rooms apartment to accommodate spaces for the staff of the project during the execution duration. The rate shall including for water and electricity meters and main panels, office furniture in all rooms, equipped kitchenette, telephone lines(to be defined by UNDP)

Note: After completion of the project, site offices shall remain owned by the contractor and under his responsibility to remove them out of project site.

1.7 Temporary installations during implementation
All these facilities implemented before the start of project works and be at the expenses of the contractor. In case of any delaying by the contractor in establishing of such buildings or any part thereof and removal of thereof, the Engineer's Representative and Employer have a right to establish the remainder and removal thereof at the end of the project and reduce the amounts disbursed from the account of the contractor without any objection to the action or cost.

2. **Time schedule**

A "Time Schedule" for the completion of the Works, in the form of Microsoft Project software, shall be submitted within two weeks from the date of signing the Agreement. The said schedule is for the completion of the entire scope of work. However, the Contractor should coordinate his time schedule with all other schedules running on site to ensure coherence in progress of all inter-related work activities on site. The schedule, once ratified, should be strictly adhered to. The period of completion defined in the

schedule should include the time required for mobilization as well as testing, rectifications if any, retesting, and completion in all respect to the satisfaction of the Engineer-in-Charge.

3. **Quality Assurance - Materials and Workmanship**

3.1 The contractor shall carry out and complete the work in every respect in accordance with the contract and shall ensure that the work conforms strictly to the drawings, specifications, instructions of the Engineer In Charge.

3.2 The Engineer in Charge may issue, from time to time, further drawings, detailed instructions/ directions in writing to the contractor. All such drawings, instructions/directions shall be consistent with the contract documents and should be reasonably inferable there from, along with clarifications/ explanations thereof, if necessary.

3.3 For Quality Assurances of all the Civil Engineering Works the norms/ guidelines laid down by the company herein and elsewhere will form part of the contract for the purpose of quality of works.

3.4 The contractor shall be responsible for correct and complete execution of the work in a workman like manner with the materials as per specification which shall be subject to the approval of UNDP.

3.5 All works under execution in pursuance of the contract shall be open to inspection and supervision by the Engineer In Charge or by his authorized representative or any other official of higher rank and the contractor shall allow the same.

3.6 All materials to be provided by the contractor shall be in conformity with the specifications/schedule of work as per the contract and the contractor shall furnish proof,
if so required by the Engineer In Charge to his satisfaction that the materials do so comply.

3.7 The contractor shall immediately after the award of work draw up a schedule giving dates for submission of samples as required or necessary as per the specification for approval of Engineer In Charge who shall approve, if found acceptable, promptly so that there is no delay in the progress of the work of the contractor or of the work of any of the sub-contractor.

3.8 On receipt of samples as per schedule, the Engineer In Charge shall arrange to examine/test with reasonable promptness ensuring conformity of the samples with the required specification and complying with the requirements as per contract documents keeping in view that the work shall be in accordance with the samples approved by him.

3.9 The contractor shall not start bringing materials at the site unless the respective samples are approved.

3.10 Materials con-forming to approved samples shall only be brought to site.

3.11 Samples are to be supplied by the contractor at his own cost.

3.12 The cost involved in tests shall be borne by the contractor. If any test is ordered by the Engineer In Charge which is to be carried out by any independent person or agency at any place other than the site even then the cost of materials and testing charge etc. shall be borne by the contractor. If the test shows that the materials are not in accordance with the specifications, the said materials shall not be used in the work and removed from the site at contractors cost.

3.13 UNDP, through the Engineer In Charge, shall have full powers to reject any materials or work due to a defect therein for not conforming to the required specification, or for materials not being of the required

quality and standard or for reasons of poor workmanship or for not being in accordance with the sample approved by him. The contractor shall forthwith remedy the defect/replace the materials at his expense and no further work shall be done pending such rectification/replacement of materials, if so instructed by the Engineer in Charge.

3.14 In case of default on the part of the contractor, the Engineer In Charge shall be at liberty to procure the proper materials for replacement and/or to carry out the rectifications in any manner considered advisable under the circumstances and the entire cost & delay for such procurement/rectification shall be borne by the contractor.

3.15 The Engineer In Charge shall be entitled to have tests carried out for any materials, according to the standard practice followed for such tests, other than those for which satisfactory proof has already been furnished by the contractor who shall provide at his expense all formalities which the Engineer In Charge may require for that purpose.

3.16 The cost of any other tests, if so required by the Engineer In Charge, shall be borne by the contractor only, if the test shows the workmanship or materials not to be in accordance with the provision of the contract or the instruction of Engineer In Charge.

4. **Access to the works**:

The Engineer-in-charge and any person authorized by UNDP and Ministry of Energy shall at all times have access to the works and to all workshops and places where work is being prepared or from where materials, manufactured articles are being obtained for the works and the contractor shall forward every assistance in or in obtaining the right to such access.

5. **Inspection of works:**

5.1 No work shall be covered up or put out of view without the approval of the Engineer-in-charge or the Engineer-in-charge's representative or any other officer nominated by UNDP for the purpose to examine and measure any work which is about to be covered up or put out of view and to examine foundations before permanent work is placed thereon.

5.2 The contractor shall give due notice to the Engineer-in-charge's representative whenever any such work or foundations is ready or about to be ready for examination and the Engineer-in-charge's representative shall, without unreasonable delay, unless he considers it unnecessary and advises the contractor accordingly, attend for the purpose of examining and measuring such work or foundations.

5.3 The contractor shall uncover any part or parts of the works or making openings in or through the same as the Engineer In Charge may from time to time direct and shall reinstate and make good such part or parts to the satisfaction of Engineer-in-charge.

5.4 If any such part or parts have been covered up or put out of view after compliance with the requirement of sub-clause above and are found to be executed in accordance with the contract, the expenses of uncovering, making openings in or through and making good the same shall be borne by the Employer, but in any other cases all costs shall be borne by the contractor.

6. **Removal of Improper Work and Materials:**

6.1 The Engineer-in-charge shall during the progress of the works have power to order in writing from time to time, the removal from the site, of any materials which in the opinion of Engineer- in-charge, are not in accordance with the contract/ work order/approved sample.

6.2 In case of default on the part of the contractor in carrying out such order, the Engineer in –charge shall be entitled to employ and pay other agency to carry out the same and all expenses consequent thereon shall be recoverable from the contractor or may be deducted from any amount due or which may become due to the contractor.

7. **Devaluation of Work** :

In lieu of rejecting work done or materials supplied not in conformity with the contract/work order/approved samples , the Engineer-in-charge or any other officer nominated by UNDP for the purpose may allow such work or materials to remain, provided the Engineer In Charge/ the officer nominated by UNDP is satisfied with the quality of any materials, or the strength and structural safety of the work, and in that case shall make such deduction for the difference in value, as in his opinion may be reasonable.

8. **Final Inspection of Work**:

The Engineer-in-charge and any other officer nominated by UNDP for the purpose shall make final inspection of all work included in the contract/work order, or any portion thereof, or any completed structure forming part of the work of the contract, as soon as practicable after notification by the contractor that the work is completed and ready for acceptance. If the work is not acceptable to the Engineer-in- charge at the time of such inspection, he shall inform the contractor in writing as to the particular defects to be remedied before final acceptance can be made.

9. **Defects appearing after acceptance**:

Any defects which may appear within the defect liability period and arising, in the opinion of the Engineer-in- charge, from lack of conformance with the drawings and specifications, shall, if so required by the Engineer – in charge in writing, be remedied by the contractor at his own cost within the time stipulated by the Engineer-in- charge. If the contractor fails to comply, the Engineer-in-charge may employ other persons to remedy the defects and recover the cost thereof from the dues of the contractor.

10. **Storage of Materials**:

10.1 Materials shall be so stored as to ensure the preservation of the quality and fitness for the work. When considered necessary by the Engineer-in-charge, they shall be placed on wooden platforms or other hard, clean surfaces and not directly on the ground.

10.2 Materials shall be placed under cover when so directed and the contractor shall erect and maintain at his own cost temporary weather-proof sheds at the work site for the purpose.

10.3 Stored materials shall be so located as to facilitate prompt inspection. All stored materials shall be inspected at the time of use in the work, even though they may have been inspected and approved before being placed in storage or during storage.

10.4 Warehouses
The contractor shall establish stores and warehouses to store all the building materials, especially cement and ensure the conditions necessary for the protection of stored materials from damage caused by exposure to influences.

10.5 Temporary Fence
Supply & installation of temporary fence, approximately 220 m long x 2 m high, comprising

of standard 0.05cm thick Zn Alum corrugated sheets of approved colour fixed to a vertical hollow pipe at 180mm centres, and GI end caps at each vertical member, including all necessary special and painting as specified. The fence is to be left permanently to be used in the stage 2 of the Works. Rate shall include excavation, backfilling & like as shown on the drawings & specifications.

The contractor has to obtain the approval of UNDP authorized officer for any works to be executed as described in the contract.

Dismantle and remove from site the existing steel sheets enclosure around the parcel limits.

11. **Defective Materials**:

11.1 All materials not conforming to the requirements of the specifications shall be considered as defective, and all such materials, whether in place or not shall be rejected.

11.2 They shall be removed immediately by the contractor at his expenses and replaced with acceptable material.

11.3 No rejected material, the defects of which have been subsequently corrected, shall be used on the work until approval in writing has been given by the Engineer In Charge.

11.4 The Engineer-in-charge shall have authority to remove and replace defective material and recover the cost of removal and replacement from the contractor.

11.5 Further all such defective material lying at site not removed and replaced within 30 days after issue of notice by the Engineer-in-charge, if the Engineer-in-charge so decides, shall dispose off such material in any manner without any further written notice to the contractor.

12 Health and safety plans

12.1 Health and safety schedule for the works shall be submitted within two weeks from the date of the Agreement for approval.

12.2 During the Mobilization period

12.2.1 The contractor should supply medicine cabinet and first aid kit with valid items during the whole period of construction.

12.2.2The contractor should provide hard hats, safety jackets and special boots for the
use of workers, subcontractors and supervision team, with different colors for the supervision team. It is the contractor's responsibility to enforce everybody wearing these items during their presence in the construction site.

12.2.3 The contractor should erect a safe metallic scaffolding to cover all the building facades for the full height during the period of implementation
18.3 The construction safety plan should be in harmony with work plan

12.3.1 The safety plan should describe how each activity in the work plan will be carried out safely.

12.3.2 All activities related to safety and health risks will be at contractor's own expense.

12.4 UNDP has the right to impose a penalty of US$ 100 for each recorded violate by the engineer in charge. The total penalties amounts will be deducted from due interim payments.

12.5

Upon contract award, the contractor should provide, as part of his contractual commitments, a detailed Safety, Health & Welfare plan, being part of the overall program of works, subject to the UNDP' Engineer approval. Contractor to bear all the costs associated with implementation of the said Safety, Health & Welfare plan.
The above mentioned Safety, Health & Welfare plan shall be based on the following Safety manuals

Safety and Health in Construction: An ILO code of practice
Safety, health and welfare on construction sites: A training manual

Both of the above documents are available for download from the following ILO WebPages:
http://www.ilo.org/safework/info/standards-and-instruments/codes/WCMS_107826/lang--en/index.htm
(**Safety and Health in Construction: An ILO code of practice)**
http://www.ilo.org/safework/info/instr/WCMS_110237/lang--en/index.htm
(**Safety, health and welfare on construction sites: A training manual)**

The above mentioned Safety manuals shall be an integral part of the tender and contract documents and the contractor is obligated to fully comply with the guidelines and instructions contained in the said manuals, all to the satisfaction of the UNDP Engineer.
Important: The contractor shall implement fully the applicable Safety measures contained in the approved Safety plan during mobilization stage before actual work starts.

13 Contractor's Super Attendance

The contractor should recruit the following staff at his own expense during the whole period of construction works:

1. **Project Manager**
   The Project Manager with at least Ten (10) years' relevant experience in works of an equivalent nature, complexity and volume, including no less than five years as Manager on a hydro power plant development project with a minimum of a Master's Degree in Engineering.

2. **Structural/Civil Engineer**
   At least seven (7) years of specific experience with an in-depth knowledge in hydro power plant engineering including balance of plant equipment with associated civil works with a minimum of Bachelor's degree in Civil Engineering.

3. **Hydrologist**
   At least seven (7) years of specific experience with an in-depth knowledge in hydrological modelling and design for water retaining infrastructure with a minimum of a Bachelor's degree in Water Engineering, Hydrology or Equivalent.

4. **Geotechnical Engineer**
   At least eight (8) years of specific experience with an in-depth knowledge in geotechnical engineering associated with hydropower plants with a minimum of Master's Degree in Geotechnical Engineering or equivalent

5. **Electrical Engineer**

At least ten (10) years of specific experience with an in-depth knowledge in hydropower engineering including balance of plant equipment with associated electrical, communications, protection, control and instrumentation auxiliary systems with a minimum of bachelor's degree in Electrical Power Engineering or equivalent.

6. **Mechanical Engineer**

   At least ten (10) years of specific experience with an in-depth knowledge in hydropower engineering including balance of plant equipment with associated hydro mechanical, mechanical and electromechanical systems with a minimum of bachelor's degree in Mechanical Engineering or equivalent.

7. **Surveyor**

   The Surveyor should be in possession of a Bachelor's Degree in Geomatic/Surveying Engineering with five (5) years' experience in topographic survey and modelling.

8. **Occupational Health, Safety and Environmental Specialist**

   At least ten (10) years of specific experience in hydro power and electricity utility industry safety and environmental regulations and practices with a minimum of Bachelor's degree in Occupational Health, Safety and Environment, Environmental Management or equivalent.

9. A janitor
10. A guard

14 Assistance to the Engineer's Representative

a) The Contractor shall give such assistance and supply such labor as may be required by the Engineer in connection with the contract when required.
b) Such labour to be hired and employed by the Contractor, but shall operate and perform their duties under the direction of the Engineer's Representative.

15 PROJECT SIGN BOARDS:

a) The contractor has to supply and install two project sign boards. they will be made up of painted steel sheet 200cmX350cm including painted steel pipes 3" in diameter to hold the sign and fixed in place by concrete footings 50 cm x50 cm x50 cm before the start-up of work activities. All information and logos that have to be included on the board will be handed by the engineer during the mobilization period.
b) The contractor will supply and fix Italian Carara marble sign 120cm x 100cm x 3cm. All information and logos that have to be included on the board will be handed by the engineer before the partially handing over of the project.

16 OFFICES FOR THE ENGINEER'S REPRESENTATIVE

a) The Contractor shall provide suitable site offices for the use of the Engineer and his assistants, throughout the period of construction. The site offices shall be constructed in a location approved by the Engineer during the mobilization period. The offices shall be of fixed or mobile type and shall have walls, ceiling and partitions lined with "Masonite" boards or similar material. All rooms shall have glazed windows complete with fly screens. Adequate fitted hardware, electrical switches, sockets, lighting, and plumbing fittings, sanitary ware etc., shall be provided as necessary for the different areas of the office.
b) Any delaying in furnishing the offices during mobilization period; will result in cutting off 200 $ per each delayed day from the contractor's dues.
c) The contractor shall prepare all needed access roads to and through the site on his own expenses and according to instruction of Engineer.

d) The site offices shall be equipped, serviced and maintained in a clean, weather proof and sanitary condition.
e) The electrical installation shall provide for simultaneous use of all electrical appliances.
f) The main office must be equipped with Air Condition at least 12000 BTU.
g) The Contractor shall arrange for a temporary power supply to the offices and provide and maintain adequate standby diesel generator. All electricity bills shall be paid by the Contractor.
h) The Contractor may either arrange for a temporary main water supply or alternatively provide tanker water supply.
i) Throughout the duration of the Contract, the Contractor shall ensure an uninterrupted supply of water and electricity to the offices.
j) The offices shall be completed and all the equipment provided by the commencement of the permanent works.
k) The Contractor shall be responsible for the security of the office building and its contents at all times, cover all the operation and maintenance costs for the equipment provided and shall employ watchmen for this purpose.
l) The office building shall become the property of the Contractor after the completion of the works.
m) All offices furniture shall remain the property of the Contractor and will be returned to the contractor after the completion of the works.

SCHEDULE OF THE ENGINEER'S OFFICES

1. Setting up and furnishing of the site-offices is the sole responsibility of the awarded contractor and at his own expenses. The office for the UNDP engineers shall be of a minimum 24 square meters size and shall include the following: The requirements of the site offices on this contract are as follows:

Room No	Description	Size Requirement
1 2 3	Engineer office # Engineer office # Sample Room	3.5m x 3.5 m 3.5 m x 3.5 m 3.0m x3.0 m
4	Meeting room	4.0 m x 3 m
4	Toilet with all supplies	1.5 m x 2 m
5	Small kitchenette with all necessary tools and supplies	2 m x 1.5 m

In addition to :
Adequate split unit A/C (hot and cold)
Full-time office attendant

SCHEDULE OF Furniture

The furniture required under this contract for the site offices indicated in the schedule of offices shall be to the Engineer's approval and are as follows (after the project handing over, all assets to be the property of the contractor):

Item	Description	Quantity
A	Desk with two locking drawers and with side drawers	4
B	Office Chairs	14
C	Meeting table 2.0x3.0m	1
	bookshelf 200x80x30cm with lockable bottom shelves	2
D	Samples cupboard	1

17. OFFICES OF THE CONTRACTOR

The form and dimensions that is appropriate with the contractor's requirements. The offices shall be installed / built before starting of work on the project.

Goods component - Related Services

Bidders are requested to take note of the following additional requirements, conditions, and related services pertaining to the fulfillment of the requirements:

Delivery Term [INCOTERMS 2010] *(Pls. link this to price schedule)*	☐ FCA ☐ CPT ☐ CIP ☒ **DAP** ☐ Other *Click here to specify*	
Exact Address of Delivery / Installation Location	Same as site visit address stated in the bid data sheet of Volume I	
Mode of Transport Preferred	☒ AIR	☒ LAND (for items already available in the local market)
	☒ SEA	☐ OTHER *[pls. specify]*
UNDP Preferred Freight Forwarder, if any[1]	N/A	
Distribution of shipping documents *(if using freight forwarder)*	UNDP/PAPP	
Delivery Date	As per work plan submitted at start of the contract	
Customs, if needed, clearing shall be done by:	☒ UNDP ☒ Supplier ☒ Freight Forwarder	
Ex-factory / Pre-shipment inspection	The Contractor shall facilitate the visit by Employer's Personnel who will witness the inspections and tests. The actual inspections and tests to be witnessed shall be decided during the course of the works; however for the purpose of planning these activities, the Contractor shall assume 1.Three (3) inspection visits to the manufacturers' works for five (5) persons, and 2.Three (3) factory acceptance visits for five (5) persons. For Tender purposes duration for inspections shall be taken as seven (7) days while factory acceptance tests shall be taken as seven (7) days for each participant. UNDP shall be responsible for all costs associated with the visits by the Employer's and beneficiary Personnel including: (a) All travel, including return economy class airfares, from Zambia to the various manufacturers' works. (b) Per diem at current prevailing rate Systematic factory and on-site test methods for all equipment shall be developed and described by the Contractor to the	

[1] *A factor of the Incoterms stipulated in the ITB. The use of a UNDP preferred courier may be considered for purposes of ensuring forwarder's familiarity with procedures and processing of documentary requirements applicable to UNDP when clearing with customs authority of the country of destination.*

	satisfaction of the Employer prior to commencement of testing and inspection.
Inspection upon delivery	Equipment to be inspected by UNDP Engineer & Beneficiary technical staff on delivery
Installation Requirements	Equipment to be fully installed (as per the manufacturer's specifications and instructions) and be fully operational. The winning supplier must install the equipment and test it on his/her own cost and responsibility
Testing Requirements	Testing, Adjusting and Balancing to be done by the contractor technical specialized staff to meet the manufacturers specifications and instructions Certified standards and certification of operating to meet manufacturers specification and instructions
Scope of Training on Operation and Maintenance	Training of beneficiary staff to operate and to perform routine maintenance of equipment.
Commissioning	Equipment to be fully commissioned by technical specialized staff of the supplier and to be fully operational. Full commissioning procedure to be fully implemented as per manufacturer's specification and instructions The contractor should ensure the manufacturer's full commissioning procedure to be fully implemented. Complete commissioning report should be prepared and approved by the manufacturer agent.
Technical Support Requirements	Focal point /designated staff to be provided by contractor to the beneficiary/operators for two years/ On-call service as required; Response to equipment maintenance needs within 24 hours
Conditions for Release of Payment	☒ Inspection upon arrival at destination ☒ successful Installation ☒ successful Testing ☒ satisfactory Training on Operation and Maintenance ☒ Written Acceptance of Goods based on full compliance with ITB requirements ☒ receipt of manufacturer' warrantee
After-sale services required	☒ Warranty on Parts and Labor for minimum period of 2 years ☒ Technical Support ☒ Provision of Service Unit when pulled out for maintenance/ repair
All documentations, including catalogs, instructions and operating manuals, shall be in this language	☒ English

Part 3: Feasibility Study Report

(Attached to this Volume III in one PDF attachment named "Feasibility study report of CHIPOTA FALLS Hydropower Station")

Volume IV.

Part 1: Technical proposal

Part 2: Technical offer schedules and Functional Guarantees

Part 3: Schedules of prices / pricing schedules

Part 1- Technical proposal

Technical Proposal (specifically for the project) to be provided by the bidder covering the following components :

- Site Organisation
- Method Statement
- Mobilisation Schedule
- Construction Schedule
- Plant
- Contractor's Equipment
- Personnel
- Proposed Subcontractors for Major Items of Plant and Installation Services
- Health and Safety Plan
- Quality Assurance Plan
- Environmental Management Plan

Checklist of documents to be submitted with technical proposals

- **Drawings and calculations**
- **Technical descriptions/specifications**
- **Proposals for management**
- **Designers**
- **Details of key staff who would be employed on the contract.**
- **Subcontractors and suppliers**
- **List of proposed major subcontractors, together with details of those parts of the works which the tenderer would propose to subcontract.**
- **Proposals for site establishment/facilities**
- **Programme for design and construction**
- **Payment plan/ cash flow forecast**
- **Proposed methods of construction, with resources**
- **Proposed environmental protection measures**
- **Health and safety and environmental protection plan**
- **Quality management and control**
- **Tender programme for execution of the works.**
- **Proposal for accommodation of the contractor's employees.**
- **Projected build-up of labour on the site, both local and foreign.**
- **Contractor's estimate of the electrical power requirements on the site.**
- **Method statements.**
- **List of contractor's equipment proposed.**

Form 1.1. Understanding of scope of works

The Tenderer shall provide his understanding of the scope of works, complexity of works, goals and objectives of the project in general and design and build contract in particular

Signature of Tenderer's authorized person _____
Name, surname, position_____
Date_____

Stamp

Form 1.2. Methodology and Organization

The Tenderer shall provide general description of the arrangements and construction method statement which the Tenderer intends to adopt for the execution of the Works. The Tenderer's arrangements and method statement should demonstrate their adequacy for satisfactory execution of the Works in conformity with the Tender Documents. The Tenderer shall provide its design and construction proposal.
The Tenderer shall provide details relating to the sources of the key materials (structural steel, reinforced concrete, steel reinforcement, wood, cement etc), estimated transportation distances for the materials.
The Tenderer shall describe in details the equipment he is proposed to install: manufacturers, country of origin and model/type/size, number, materials of equipments, nominal/rated power and other information must be stated completely.

If the Tenderer's Proposal includes further devices that are not listed or not specified in the Employer's Requirements, the Tenderer shall state the main characteristics for any such device.
The tenderer shall prepare a list of the proposed equipment and materials that will be further described as the schedule requires, using the following template.
The Tenderer shall provide information about potential suppliers of equipment in accordance to specification in Employer Requirements Volume III. The Tenderer may include additional information about equipment and materials (Manufacturer's brochures) as attachment.

Signature of Tenderer's authorized person _____
Name, surname, position_____
Date_____

Stamp

Form 1.3. Work Schedules

The Tenderer shall provide information and schedules showing the way in which the Tenderer intends to carry out the Works including the anticipated timing of each stage of the performance of the Contract including but not limited to:

a) Investigation and design works;
b) mobilization of the Contractor's Plant and Equipment;
c) execution of each key construction activity including anticipated construction rates and estimated timing for commencement and completion;
d) critical milestones

Signature of Tenderer's authorized person _____
Name, surname, position_____
Date_____

Stamp

Form 1.4. Budget allocation / payment schedule

The Tenderer shall provide its proposed payment schedule.

Signature of Tenderer's authorized person _____
Name, surname, position_____
Date_____

Stamp

Form 1.5. Organization Chart of the Works

The Organization Chart of Works shall show the position and the relations to each-other of the Employer, the Contractor, the Engineer, with details for each member of Joint Venture/Consortium (if applicable), Sub-contractors, the Project Manager, and the other key personnel participating in the completion of the Works with their position and names.

Signature of Tenderer's authorized person _____
Name, surname, position_____
Date_____

Stamp

Form 1.6
Key personnel
(To satisfy the minimum requirements shown in the bid data sheet of volume I, and to the extent necessary as the bidder considers appropriate and required for the project)

Position	Name, surname	Age	Education	Years of experience in construction	Experience in major works relevant /similar to the Tender requirement

Signature of Tenderer's authorized person _____
Name, surname, position_____
Date_____

Stamp

FORM 1.7
Equipment to be used
(To satisfy the minimum requirements shown in the bid data sheet of volume I, and to the extent necessary as the bidder considers appropriate and required for the project)

(loaders, cranes, excavators and other machinery to be used by Tenderer for performance of planned construction works. Note: please do not provide information on all equipment possessed by the company, but only planned for utilization for needs of this particular contract)

№ п/п	Name of equipments	Manufacturer	Date of production	Technical parameters	Ownership (Applicant's ownership, subcontractor's ownership or other)

Signature of Tenderer's authorized person _____
Name, surname, position_____
Date_____

Stamp

Form 1.8
Information on Sub-Contracting

Name of the company, Reg.No, address, contact person	Scope of Subcontract Works %	Brief description of planned Subcontract Works

Attach signed pre-agreement(s) with the above - listed subcontractor(s) that are planned to provide more than 10% of the works.

Signature of Tenderer's authorized person _____
Name, surname, position_____
Date_____

Stamp

Form 1.9
Health and Safety Plan

The contractor should provide a Safety, Health & Welfare plan, being part of the overall program of works. The above mentioned Safety, Health & Welfare plan shall be based on the following Safety manuals and other applicable international safety guidelines

Safety and Health in Construction: An ILO code of practice
Safety, health and welfare on construction sites: A training manual
Both of the above documents are available online **at the ILO website: http://www.ilo.org**

http://www.ilo.org/safework/info/standards-and-instruments/codes/WCMS_107826/lang--en/index.htm (**Safety and Health in Construction: An ILO code of practice)**

http://www.ilo.org/safework/info/instr/WCMS_110237/lang--en/index.htm (**Safety, health and welfare on construction sites: A training manual)**

Form 1.10

- **Quality Assurance Plan**

Refer to Part 2 of the other requirements contained in volume III

Form 1.11

Environmental management plan (EMP)

In order to address potential environmental impacts associated with the construction of the Works as outlined in the Tender Document, the Tenderer shall with his Contractor's Proposal submit an EMP. The EMP may include, but should not necessary be limited, to the following:

(a) **Minimize Equipment Impacts** related to the use of heavy machinery in relation to human health and the general environment. This includes minimizing potential damage on the vegetation to the local existing infrastructure and private properties, noise emissions, traffic impacts, dust and accidental spills of combustibles which may lead to the contamination of potable water;

(b) **Quarries and Borrow Pits**, the Tenderer shall describe from where he will extract the materials and which measures he will take in order to minimize the environmental impact, during and after the construction period.

(c) **Materials Storage**, the Tenderer shall describe all the measures which he will take in order to minimize the environmental impact from the materials temporary storage area.

(d) And any required measures as per the required specifications and the acceptable and applicable international standards in this regard

Signature of Tenderer's authorized person _____
Name, surname, position_____
Date_____

Stamp

FORM 1.12
Further information

Under this form the Tenderer should provide:
Comments on any ambiguities in the Employer's Requirements, if applicable.
Further information the Tenderer may deem useful.

Signature of Tenderer's authorized person _____
Name, surname, position_____
Date_____

Stamp

Part 2: Technical offer schedule

Facilities /Components

Bidder to insert technical proposal for the components/facilities and complete Form FUNC and schedules below.

Preamble

The Bidder shall enter and provide with his Tender the Technical Particulars detailed in the following Schedules, for Facilities to be provided under the Contract. The particulars so entered shall be binding on the Contractor and shall not be departed from without the specific approval of the UNDP Project Manager and Project technical committee, but shall not limit the responsibility of the Contractor to provide components conforming to the requirements of the Specifications. Where the information to be provided is such that it cannot be entered in the Schedule then the Schedule shall contain a reference to the information which shall be provided separately.

Page

Schedule 1: Penstock			
Item No.	**Description**	**Unit**	**Bidder technical Offer**
	General		
1.1	Standards and design codes utilized – in accordance with Clause 13.1.1	BS EN	
1.2	General arrangement drawings (to be attached)		
1.3	Place of manufacture/rolling		
1.4	Place of fabrication, inspection and testing		
1.5	Place of factory inspection and testing		
1.6	Steel grade	BS EN	
1.7	Corrosion thickness allowance	mm	
1.8	Rugosity values used in determining head losses	mm	
	Penstock Shell–Section 1[1]		
1.9	Start chainage	m	
1.10	Finish chainage	m	
1.11	Design discharge	m^3/s	
1.12	Design Pressure	N/m^2	
1.13	Steel minimum yield strength	N/mm^2	
1.14	Internal diameter	mm	
1.15	Steel thickness	mm	
	Dismantling Joints		
1.16	Locations		
1.17	Type		
1.18	Number	nr	
	Supports (i.e. anchor blocks)		
1.19	Type		
1.20	Number	nr	

Schedule 2: Hydro Mechanical Equipment			
Item No.	**Description**	**Unit**	**BIDDERS OFFER**
	Weir Environmental Flow outlet		
2.1	Type of outlet		
2.2	Number of flow outlets	each	
2.3	Manufacturer		
2.4	Type, reference (datasheets and brochures to be attached)	DIN	
2.5	Diameter	mm	
2.6	Flow at max head	m^3/s	
2.7	Flow at min head	m^3/s	
2.8	Material		
	Weir sand flashing sluice Gate		

[1] Details of further sections of penstock to be added as necessary.

Schedule 2: Hydro Mechanical Equipment			
Item No.	**Description**	**Unit**	**BIDDERS OFFER**
	(Bottom outlet)		
2.9	Type of gate		
2.10	Manufacturer		
2.11	Type, reference (datasheets and brochures to be attached)	DN	
2.12	Place of manufacture, inspection and testing		
2.13	Overall height of gate – *provisional*	mm	
2.14	Overall width of gate	mm	
2.15	Gate leaf thickness of gate	mm	
2.16	Normal operating water level	m	
2.17	Minimum operating water level	m	
2.18	Maximum water level	m	
2.19	Discharge at maximum operating head	m^3/s	
2.20	Discharge at minimum operating head	m^3/s	
2.21	Material gate body		
2.22	Material gate leaf		
2.23	Type of sealing system		
2.24	Material sealing faces		
2.25	Material sliding faces		
	Penstock Intake Trash Screen		
2.26	Number of screen panels	Set	
2.27	Manufacturer		
2.28	Type, reference (datasheets and brochures to be attached)		
2.29	Overall height each screen panel	m	
2.30	Overall width each screen panel	m	
2.31	Levels of trash screen panels:		
a.	- Top	m	
b.	- Bottom	m	
2.32	Maximum design flow velocity through screens	m/s	
2.33	Slope of screens		
2.34	Bar centres	mm	
2.35	Section of bars	mm×mm	
2.36	Approx. weight of panel	kg	
2.37	Loading conditions:		
2.38	Design impact load	tonnes	
2.39	Method of bar removal		
	Penstock Intake Manual Trash Rake		
2.40	length	m	

Schedule 2: Hydro Mechanical Equipment			
Item No.	**Description**	**Unit**	**BIDDERS OFFER**
2.41	width	m	
2.42	max rake depth of operation.	m	
2.43	Material of construction		
2.44	Special features:		
	Penstock Intake Gate		
2.45	Type of gate		
2.46	Manufacturer		
2.47	Type, reference (datasheets and brochures to be attached)		
2.48	Max leakage rate of gate at max working pressure	litres/hr	
2.49	Overall weight of complete gate	kg	
2.50	Weight of gate leaf	kg	
2.51	Weight of gate body	kg	
2.52	Overall height of gate	mm	
2.53	Overall width of gate	mm	
2.54	Overall thickness of gate	mm	
2.55	Design head	m	
2.56	Maximum operating head	m	
2.57	Minimum operating head	m	
2.58	Material of gate leaf		
2.59	Type of sealing system		
2.60	Material of sealing faces		
2.61	Material of sliding faces		
2.62	Max leakage rate of gate at max working head	litres/hr	
2.63	Levels of trash screen panels:		
a. -	- top	m	
b.	- bottom	m	
2.64	Normal flow velocity through screens	m/s	
2.65	Slope of screens		
2.66	Bar centres	mm	

Schedule 3: Inlet Valves			
Item No.	**Description**	**Unit**	**Bidders Offer**
	Inlet Valves		
3.1	Manufacturer		
3.2	Manufacturer's General Arrangement drawing number (to be attached)		
3.3	Manufacturer of castings		

Schedule 3: Inlet Valves			
Item No.	**Description**	**Unit**	**Bidders Offer**
3.4	Type of valve		
3.5	Test pressure	N/mm^2	
3.6	Bore	mm	
3.7	Valve opening time	s	
3.8	Valve closing time	s	
3.9	Type of service seal		
3.10	Hardness of service seal		
3.11	Type of maintenance seal		
3.12	Hardness of maintenance seal		
3.13	Maximum leakage through closed valve with service seal under maximum static head	litres/hr	
3.14	Maximum leakage through closed valve with maintenance seal under maximum static head	litres/hr	
3.15	Method of operation		
	Inlet Valve Body		
3.16	Type of construction		
3.17	Material		
3.18	Design pressure	N/mm^2	
3.19	Basis of design – code or standard		
3.20	Number of sections and location of joints		
	Inlet Valve Dismantling Joint		
3.21	Type		
3.22	Construction		
3.23	Material		
3.24	Material of make-up pipe connecting to manifold		
	By-pass Valve		
3.25	Type of by-pass valve		
3.26	Bore of by-pass valve	mm	
3.27	Method of operation of by-pass valve		
3.28	Proposed by-pass capacity	litres/s	
	Inlet Valve Actuation		
3.29	Torque required to close valve:		
	- normal operation	Nm	
	- emergency at turbine runaway	Nm	

Schedule 4: Turbines and Governors			
Item No.	**Description**	**Unit**	**Bidders Offer**

Schedule 4: Turbines and Governors			
Item No.	**Description**	**Unit**	**Bidders Offer**
	General		
4.1	General arrangement drawings (to be attached)		
4.2	Turbine type		
4.3	Turbine hill charts together with efficiency curves and operating limits (to be attached)		
4.4	Standards and design codes utilised		
4.5	Manufacturer		
4.6	Place of manufacture, inspection and testing		
4.7	**Turbine data**		
4.8	Turbine rated net head	m	
4.9	Maximum continuous rated output of the turbine unit under the rated net head at rated voltage and power factor	kW	
4.10	Discharge of turbine corresponding to the above condition	m^3/s	
4.11	Minimum continuous rated output of the turbine unit under the rated net head at rated voltage and power factor	kW	
4.12	Discharge of turbine corresponding to the above condition	m^3/s	
4.13	Turbine efficiency at rated net head and 100% of maximum output		
4.14	Turbine efficiency at rated net head and 75% of maximum output	%	
4.15	Turbine efficiency at rated net head and 50% of maximum output	%	
4.16	Turbine efficiency at rated net head and 25% of maximum output	%	
4.17	Lowest factor of safety of any part of turbine, calculated at yield stress, when running at the maximum runaway speed		
4.18	Synchronous speed	rpm	
4.19	Flywheel effect of turbine rotating parts (GD^2)	kgm^2	
4.20	Turbine runner diameter	m	
4.21	Turbine centre line elevation		
4.22	Weight of rotating parts of turbine, including runner and shaft	tonnes	
	Runner		
4.23	Exterior diameter	mm	
4.24	Number of runner buckets/cups	mm	
4.25	Material of runner		
4.26	Direction of rotation		
	Turbine Shaft		

Schedule 4: Turbines and Governors			
Item No.	**Description**	**Unit**	**Bidders Offer**
4.27	Manufacturer - shaft forging, heat treatment, machining		
4.28	Material		
4.29	Diameter	mm	
4.30	Maximum design stress	N/mm^2	
	Shaft Seals		
4.31	Type of shaft seals		
4.32	Manufacturer		
	Hydraulic Governor		
4.33	Type of manufacturer of governor		
4.34	Method of speed/frequency detection		
4.35	Speed/frequency range of adjustment	%	
4.36	Permanent speed/load droop range of adjustment	%	
4.37	Range of load limiting device	%	
4.38	Dead band or governing system inaccuracy	%	
	Governor Pumping Set		
4.39	Type of pump		
4.40	Normal operating oil pressure	N/mm^2	
4.41	Maximum oil pressure	N/mm^2	
4.42	Normal minimum oil pressure	N/mm^2	
4.43	Oil pressure at which standby pump starts	N/mm^2	
4.44	Oil pressure at which it is proposed to initiate emergency shutdown	N/mm^2	
4.45	Number of strokes of injector servomotors, hydraulic receiver capable of delivering in emergency condition and hydraulic pumps are not running.		
4.46	Capacity of each oil pump	litres/s	
4.47	Total quantity of oil in system	litres	
4.48	Capacity of air compressor, free air	m^3/min	
4.49	Capacity of air pressure vessel	m^3	
	Speed sensing and overspeed protection		
4.50	Make and type of probes		
4.51	Full data sheet for probes		
4.52	Number of probes provided for:		
	a. Auto-sequencer		

Schedule 4: Turbines and Governors			
Item No.	**Description**	**Unit**	**Bidders Offer**
	b. Tachometers		
	c. Overspeed protection		
4.53	Full description of overspeed protection equipment		

Schedule 5: Power House Hoist			
Item No.	**Description**	**Unit**	**Bidders Offer**
	General		
5.1	Standards and design codes utilised	BS	
5.2	Manufacturer		
5.3	Place of manufacture, inspection and testing		
5.4	Class and type hoist: reference datasheets and brochures to be attached		
5.5	Maximum deflection of bridge with max load	mm	
5.6	Span (between rail centres)	m	
5.7	Overall length over end carriage buffers	m	
5.8	Max. overall width	m	
5.9	Max. height above hoist rail	m	
5.10	Max. depth below hoist rail	m	
5.11	Elevation top of hoist rail		
5.12	Main hoist & hook safe working load (SWL)	tonnes	
5.13	Type of control		
	Weights		
5.14	Total weight of hoist in working condition (excluding load)	tonnes	
5.15	Weight of heaviest single piece	tonnes	
5.16	Name of heaviest single piece		

Schedule 6: Cooling Water System			
Item No.	**Description**	**Unit**	**Bidders Offer**
	General		
6.1	Total quantity of cooling water required for each turbine generator unit	litres/s	
6.2	Schematic and general arrangement drawings (to be attached)		
6.3	Diameter of cooling water supply pipework	mm	
6.4	Standards and design codes utilised		

Schedule 6: Cooling Water System			
Item No.	**Description**	**Unit**	**Bidders Offer**
	Hydro Cyclone Separator		
6.5	Manufacturer		
6.6	Place of manufacture, inspection and testing		
6.7	Type reference (datasheets and brochures to be attached)		
6.8	Number of hydro cyclone separators units		
6.9	Max. flow rate	litres/s	
6.10	Max. duty flow rate	litres/s	
6.11	Pressure drop across cyclone at duty flow rate	m	
6.12	Filtration at duty flow rate	microns	
6.13	Hydro cyclone separator body max design pressure	bar	
6.14	Hydro cyclone separator body material		
	Oil-Water Heat Exchangers		
	Manufacturer		
	Type		
	Operating pressure		
	Water flow		
	Oil flow		
	Water inlet temperature		
	Water outlet temperature		
	Material of tube bank		

Schedule7: Drainage System			
Item No.	**Description**	**Unit**	**Bidders Offer**
	Pumps		
6.15	Manufacturer		
6.16	Place of manufacture, inspection and testing		
6.17	Type reference (datasheets and brochures to be attached)		
6.18	Number of pumps per Unit		
6.19	Speed	rpm	
6.20	Capacity of each pump	litres/s	
6.21	Max head of each pump	m	
6.22	Duty head of each pump	m	
6.23	Max. power required by pump at rated duty	kW	
6.24	Number of check valves		
6.25	Number of isolating gate valves		
6.26	Drainage control panel		
6.27	Float switches		
6.28	Discharge pipe material and diameter		

Schedule 8: Air Condition (AC) Systems			
Item No.	**Description**	**Unit**	**Bidders Offer**
	POWERHOUSE AC PLANT		
	Powerhouse Main Extract Fans		
7.1	Manufacturer		
7.2	Place of manufacture, inspection and testing		
7.3	Type reference (datasheets and brochures to be attached)		
7.4	Number of fans		
7.5	Normal duty capacity	m^3/s	
7.6	Normal duty static pressure	N/m^2	
7.7	Normal duty speed	rpm	
7.8	Normal duty motor power	kW	
	Battery Room Extract Fans		
7.9	Manufacturer		
7.10	Place of manufacture, inspection and testing		
7.11	Type reference (datasheets and brochures to be attached)		
7.12	Number of fans		
7.13	Duty capacity	m^3/s	
7.14	Duty static pressure	N/m^2	
7.15	Duty speed	rpm	
7.16	Motor duty power	kW	
	Toilets Extract Fans		
7.17	Manufacturer		
7.18	Place of manufacture, inspection and testing		

Schedule 8: Air Condition (AC) Systems			
Item No.	**Description**	**Unit**	**Bidders Offer**
7.19	Type reference (datasheets and brochures to be attached)		
7.20	Number fans		
7.21	Duty capacity	m^3/s	
7.22	Duty static pressure	N/m^2	
7.23	Duty speed	rpm	
7.24	Motor duty power	kW	
	Powerhouse/Control Room Air Conditioning Units		
7.25	Standards and design codes utilised		
7.26	Manufacturer		
7.27	Place of manufacture, inspection and testing		
7.28	Type reference (datasheets and brochures to be attached)		
7.29	Number units		
7.30	Max cooling capacity	kW	
7.31	Refrigerant type		
7.32	Compressor type		
7.33	Evaporator type		
7.34	Condenser type		
7.35	Unit max electrical power	kW	
	Management house (Except Stores & Main Workshop) Air Conditioning Units		
7.36	Standards and design codes utilised		
7.37	Manufacturer		
7.38	Place of manufacture, inspection and testing		
7.39	Type reference (datasheets and brochures to be attached)		
7.40	Number units		
7.41	Max cooling capacity	kW	
7.42	Refrigerant type		
7.43	Compressor type		
7.44	Evaporator type		
7.45	Condenser type		
7.46	Unit max electrical power	kW	
	Maintainance Workshop Extract Fans		
7.47	Manufacturer		
7.48	Place of manufacture, inspection and testing		
7.49	Type reference (datasheets and brochures to be attached)		
7.50	Number fans		
7.51	Duty capacity	m^3/s	
7.52	Duty static pressure	N/m^2	
7.53	Duty speed	rpm	

Schedule 8: Air Condition (AC) Systems			
Item No.	**Description**	**Unit**	**Bidders Offer**
7.54	Motor duty power		
	Warehouse Extract Fans		
7.55	Manufacturer		
7.56	Place of manufacture, inspection and testing		
7.57	Type reference (datasheets and brochures to be attached)		
7.58	Number fans		
7.59	Duty capacity	m^3/s	
7.60	Duty static pressure	N/m^2	
7.61	Duty speed	rpm	
7.62	Motor duty power		

Schedule 9: Maintenance Workshop & Equipment			
Item No.	**Description**	**Unit**	**Bidders Offer**
	MECHANICAL WORKSHOP EQUIPMENT		
	Bench Drill		
8.1	Standards and design codes utilised		
8.2	Manufacturer		
8.3	Place of manufacture, inspection and testing		
8.4	Type, reference (datasheets and brochures to be attached)		
8.5	Max drill capacity (mild steel)	mm	
8.6	Overall length of machine	mm	
8.7	Overall width of machine	mm	
8.8	Total weight	kg	
8.9	Power requirement	kW	
	Mobile Electric Arc Welding Equipment		
8.10	Standards and design codes utilised		
8.11	Manufacturer		
8.12	Place of manufacture, inspection and testing		
8.13	Type, reference (datasheets and brochures to be attached)		
8.14	Number of sets		
8.15	Capacity	amps	
8.16	Overall height of machine	mm	
8.17	Overall width & depth of machine	mm×mm	
8.18	Total weight	kg	
8.19	Power requirement	kW	
	Oxy-Acetylene Welding and Cutting Equipment		
8.20	Standards and design codes utilised		
8.21	Manufacturer		
8.22	Place of manufacture, inspection and testing		
8.23	Type, reference (datasheets and brochures to be attached)		
8.24	Number of sets		
8.25	Oxygen bottles type & capacity		
8.26	Acetylene bottles type & capacity	s	
8.27	Overall height of trolley	mm	
8.28	Overall width & depth of trolley	mm×mm	
8.29	Total weight with full gas bottles	kg	
	Mobile Compressed Air Unit		
8.30	Schematic and general arrangement drawings (to be attached)		
8.31	Standards and design codes utilised		
8.32	Manufacturer		
8.33	Place of manufacture, inspection and testing		

Schedule 9: Maintenance Workshop & Equipment			
Item No.	**Description**	**Unit**	**Bidders Offer**
8.34	Type reference (datasheets and brochures to be attached)		
8.35	Operating pressure	bar	
8.36	Rated capacity free air delivery	m^3/min	
8.37	Max. power at rated duty	kW	
8.38	Receiver volume	m^3	
8.39	Maximum receiver pressure	bar	
8.40	Distribution pipe work size and material	mm	
	Hydraulic Jacks		
8.41	Standards and design codes utilised		
8.42	Manufacturer		
8.43	Place of manufacture, inspection and testing		
8.44	Type, reference (datasheets and brochures to be attached)		
8.45	Numbers: large & small		
8.46	Max capacity: large & small	t	
8.47	Max travel: large & small	mm	
8.48	Overall height: large & small	mm	
8.49	Total weight: large & small	kg	
	Hand Operated Chain Blocks		
8.50	Standards and design codes utilised		
8.51	Manufacturer		
8.52	Place of manufacture, inspection and testing		
8.53	Type, reference (datasheets and brochures to be attached)		
8.54	Number		
8.55	Max SWL capacity:	t	
8.56	Max Liftl	mm	
8.57	Total weight:	kg	
	Miscellaneous Workshop Equipment		
8.58	Manufacturers		
8.59	Types, reference (datasheets and brochures to be attached)		
8.60	Standards design codes		
	ELECTRICAL TEST EQUIPMENT		
	Digital Insulation Resistance Tester		
8.61	Manufacturer		
8.62	Type reference (datasheets and brochures to be attached)		
8.63	Rated voltage selection	kV	
8.64	Rated resistance	MΩ	
8.65	**Secondary Current Injection & Relay Test Kit**		
8.66	Manufacturer		
8.67	Type reference (datasheets and brochures to be		

Schedule 9: Maintenance Workshop & Equipment			
Item No.	**Description**	**Unit**	**Bidders Offer**
	attached)		
	Desktop/Laptop Computer		
8.68	Manufacturer		
8.69	Type reference (datasheets and brochures to be attached)		
8.70	Processor type and speed	GHz	
8.71	RAM	MB	
8.72	CDRW drive		
8.73	Hard disk capacity	GB	
8.74	Display type and size		
8.75	Display resolution		
8.76	Graphics RAM	MB	
	Digital Earth Tester		
8.77	Manufacturer		
8.78	Type reference (datasheets and brochures to be attached)		
8.79	Earth Resistance Ranges	kΩ	
8.80	Accuracy	%	
8.81	Display type		
a	**Multi tester (Multimeter)**		
8.82	Manufacturer		
8.83	Type reference (datasheets and brochures to be attached)		
8.84	Accuracy		
	Digital Contact Resistance Test set		
8.85	Manufacturer		
8.86	Type reference (datasheets and brochures to be attached)		
8.87	Resistance Ranges	μΩ	
8.88	Accuracy	%	
8.89	Display type		

Schedule 10: Fire Detection and Protection			
Item No.	**Description**	**Unit**	**Bidders Offer**
	FIRE DETECTION		
9.1	Schematic and general arrangement drawings (to be attached)		
9.2	Standards and design codes utilized – (e.g. National Fire Protection Association, NFPA 851 latest edition)	NFPA	
9.3	Number of zones		
	Heat Detectors		
9.4	Manufacturer		
9.5	Type reference (datasheets and brochures to be attached)		
9.6	Number		
	Smoke Detectors		
9.7	Manufacturer		
9.8	Type reference (datasheets and brochures to be attached)		
9.9	Number		
a	**Ionisation Detectors**		
9.10	Manufacturer		
9.11	Type reference (datasheets and brochures to be attached)		
9.12	Number		
	Sounders		
9.13	Manufacturer		
9.14	Type reference (datasheets and brochures to be attached)		
9.15	Number		
	FIRE PROTECTION HANDHELD EXTINGUISHERS		
9.16	General layout /arrangement drawings (to be attached)		
9.17	Standards and design codes utilised		
9.18	Number of zones		
	CO_2 Extinguishers		
9.19	Number		
9.20	Capacity	kg	
9.21	Location		
	Foam Extinguishers		
9.22	Number		
9.23	Capacity	kg	
9.24	Location		
9.25	**Water Extinguishers**		
9.26	Number		

Schedule 10: Fire Detection and Protection			
Item No.	**Description**	**Unit**	**Bidders Offer**
9.27	Capacity	kg	
9.28	Location		
9.29	**Dry Powder Extinguishers**		
9.30	Number		
9.31	Capacity	kg	
9.32	Location		

Schedule 11: Generator and Associated Equipment			
Item No.	**Description**	**Unit**	**Bidders Offer**
	GENERATOR		
10.1	Generator type		
10.2	Manufacturer		
10.3	Manufacturer's designation (machine code)		
10.4	Number of phases		
10.5	Rating and performance standard (e.g. IEC 60034)	IEC	
10.6	Degree of protection provided by the enclosure (IP code)		
10.7	Thermal classification		
10.8	Maximum continuous rating	MW	
10.9	Maximum continuous rating	MVA	
10.10	Normal minimum continuous generating capacity		
10.11	Rated voltage	kV	
10.12	Rated frequency	Hz	
10.13	Rated current	Amps	
10.14	Rated speed (for tender)	rpm	
10.15	Maximum runaway speed	rpm	
10.16	Maximum instantaneous speed	rpm	
10.17	Rated field voltage	V	
10.18	Rated field current	Amps	
10.19	Rated power factor (leading)	pf	
10.20	Rated power factor (lagging)	pf	
10.21	Maximum ambient temperature	°C	
10.22	Maximum water coolant temperature	°C	
10.23	Generator flywheel effect (minimum) (GD^2) – combined turbine-generator	Kgm^2	
10.24	Method of generator neutral earthing		

Schedule 11: Generator and Associated Equipment			
Item No.	**Description**	**Unit**	**Bidders Offer**
	Synchronous Machine Quantities		
10.25	Direct-axis synchronous reactance X_d	p.u.	
10.26	Short-circuit ratio K_c	p.u.	
10.27	Quadrature-axis synchronous reactance X_q	p.u.	
10.28	Direct-axis transient reactance X'_d	p.u.	
10.29	Direct-axis subtransient reactance X''_d	p.u.	
10.30	Quadrature-axis subtransient reactance X''_q	p.u.	
10.31	Negative-sequence reactance X_2	p.u.	
10.32	Zero-sequence reactance X_0	p.u.	
10.33	Potier reactance X_p	p.u.	
10.34	Direct-axis transient open-circuit time constant τ'_{do}	s	
10.35	Direct-axis transient short-circuit time constant τ'_d	s	
10.36	Direct-axis subtransient short-circuit time constant τ''_d	s	
10.37	Armature short-circuit time constant τ'_a	s	
10.38	Acceleration time τ'_j	s	
10.39	Stored energy constant H	s	
	Efficiency and Losses (at maximum continuous output, at rated pf and voltage)		
10.40	Total losses (including bearing losses)	kW	
10.41	Efficiency at maximum continuous output, rated power factor	%	
10.42	No Load Losses		
	(a) Iron Loss	kW	
	(b) Friction Losses,	kW	
	(c) Windage Loss	kW	
10.43	Load Losses:		
	(a) Stator copper loss at 75°C	kW	
	(b) Field winding copper loss at 75°C	kW	
	(c) Eddy current loss	kW	
	(d) Excitation supply losses	kW	
	(e) Miscellaneous losses	kW	
	Maximum Temperatures and Temperature Rise		
10.44	Maximum temperature rise of stator windings	°C	

Schedule 11: Generator and Associated Equipment			
Item No.	**Description**	**Unit**	**Bidders Offer**
10.45	Maximum temperature rise of rotor windings	°C	
10.46	Maximum air outlet temperature (before water cooler)	°C	
10.47	Temperature sensor/indicator		
	STATOR CORE		
10.48	Number of parts (i.e. continuously stacked core without joints)	No.	
10.49	Core inside diameter	mm	
10.50	Core outside diameter	mm	
10.51	Core length	mm	
10.52	Number of slots	No.	
10.53	Core lamination plate thickness	mm	
10.54	Core flux density	Tesla	
10.55	Core lamination loss at above flux density	Watts/kg	
10.56	Lamination insulation material		
10.57	Thickness of core lamination insulation	mm	
	STATOR WINDING		
10.58	Conductors per slot	No.	
10.59	Parallel paths per phase	No.	
10.60	Cross-sectional area of conductor	mm^2	
10.61	Current density in conductor	A/mm^2	
10.62	Winding resistance per phase (75°C)	Ω	
10.63	Winding capacitance to earth, per phase	µF	
10.64	Manufacturer's name of winding insulation system		
10.65	Insulation material on end-windings		
	ROTOR		
10.66	Rotor rim diameter	mm	
10.67	Rotor diameter	mm	
10.68	Air gap at centre of pole	mm	
10.69	Number of poles	No.	
10.70	Method of fixing pole to rim		
10.71	Number of turns per pole	No.	
10.72	Dimensions of rotor winding conductor (width x length)	mm	
10.73	Winding resistance at 75°C	Ω	
10.74	Number of damping winding bars per pole	No.	
10.75	Cross-sectional area of each damper bar	mm^2	

Schedule 11: Generator and Associated Equipment			
Item No.	**Description**	**Unit**	**Bidders Offer**
10.76	Cross-sectional area of pole-to-pole connectors	mm^2	
	BEARINGS		
10.77	Thrust bearing location		
10.78	Thrust bearing type		
10.79	Number of thrust bearing pads	No.	
10.80	Guide bearing location		
10.81	Number of guide bearing pads	No.	
	ESTIMATED WEIGHTS OF GENERATOR PARTS		
10.82	Generator stator complete	kg	
10.83	Generator rotor and shaft	kg	
10.84	Heaviest lift by station crane	kg	
	STATIC EXCITATION EQUIPMENT		
10.85	Manufacturer		
10.86	Manufacturer's designation / type		
10.87	Rated voltage	V	
10.88	Rated current	A	
10.89	No-load voltage	V	
10.90	No-load current	A	
10.91	Ceiling voltage for 10 seconds	V	
10.92	Ceiling Current for 30 seconds	A	
10.93	Power system stabiliser		
	Excitation Transformer		
10.94	Manufacturer		
10.95	Transformer rating	kVA	
10.96	Transformer type		
10.97	No-load voltage ratio		
	Thyristor Cubicle(s)		
10.98	Number of thyristor cubicles	No.	
10.99	Total number of thyristors	No.	
10.100	Number of bridge arms	No.	
10.101	Number of thyristors in series per arm	No.	
10.102	Number of series strings in parallel	No.	
10.103	Thyristor equipment continuous current rating	A	
10.104	Thyristor equipment continuous voltage rating	V	
10.105	Thyristor equipment 5 second current rating	A	
10.106	Thyristor equipment maximum voltage rating	V	

Schedule 11: Generator and Associated Equipment			
Item No.	**Description**	**Unit**	**Bidders Offer**
10.107	Loss (heat) dissipated in each cubicle at MCR	kW	
10.108	Number of cooling fans per cubicle	No.	
10.109	Cooling air flow	m^3/s	
	Thyristors		
10.110	Thyristor recommended maximum case temperature	°C	
10.111	Thyristor case temperature at MCR	°C	
10.112	Thyristor current at MCR	A	
10.113	Thyristor voltage at MCR	V	
10.114	Current rating of H.R.C. fuses	A	
	Automatic Voltage Regulator		
10.115	Manufacturer		
10.116	Manufacturer's designation		
10.117	Type		
10.118	Maximum voltage rise immediately following a generator trip whilst generating at MCR at rated pf	%	

Schedule 12: Generator Circuit Breaker			
ITEM NO.	**DESCRIPTION**	**UNIT**	**BIDDERS OFFER**
	INSTRUMENT TRANSFORMER (CT & VT)		
11.1	Type		
11.2	Manufacturer		
11.3	Rated nominal voltage	kV, ms	
11.4	Rated steady state maximum voltage	kV, ms	
11.5	Rated continuous overvoltage	kV, ms	
11.6	Rated frequency	Hz	
11.7	Rated primary current	A, ms	
11.8	Rated secondary current	A, ms	
11.9	Rated transformation ratios		
11.10	Rated output	VA	
11.11	Number of secondary cores and windings		
11.12	Accuracy Class		
11.13	Accuracy limit factor		
11.14	Instrument security factor		
11.15	Short time current rating:		
	(a) Thermal	kA	
	(b) Dynamic	kA	
11.16	Rated lightning impulse withstand voltage	kV, peak	
11.17	Rated switching impulse withstand voltage	kV, peak	

Schedule 13: Excitation Transformer				
Item No.	**Description**	**Unit**	**Bidder's Offer**	
	EXCITATION TRANSFORMER			
13.1	Manufacturer's Name			
13.2	Manufacturer's Type Designation			
13.3	Specification to which the transformer shall comply			
13.4	Type of transformer			
13.5	Single or three-phase unit			
13.6	Frequency of supply	Hz		
13.7	Dry type			
13.8	Indoor or outdoor type			
13.9	Type of cooling			
13.10	Continuous maximum rating (at site)	MVA		
13.11	Rated Voltage – high voltage winding	kV		
13.12	Rated Voltage – low voltage winding	kV		
13.13	Highest voltage for equipment HV winding	kV		
13.14	Highest voltage for equipment LV winding	kV		
13.15	No. of transformers of this size	No.		
13.16	Method of system earthing for HV winding			
13.17	Method of system earthing for LV winding			
13.18	HV winding - rated lightning impulse withstand voltage	kV		
13.19	HV winding - rated short duration AC withstand voltage	kV		
13.20	LV winding - rated lightning impulse withstand voltage	kV		
13.21	LV winding - rated short duration AC withstand voltage	kV		
13.22	HV winding phase connection			
13.23	LV winding connection			
13.24	Vector Group			
13.25	Maximum flux density at nominal frequency, voltage and ratio.	T		
13.26	Auxiliary supply voltage			

Schedule 13: Excitation Transformer				
Item No.	**Description**	**Unit**	**Bidder's Offer**	
13.27	Impedance voltage at CMR, nominal ratio, 75°C			
13.28	Maximum winding hot spot temperature under site conditions	°C		
13.29	Maximum winding temperature rise	°C		
13.30	Maximum oil temperature under site conditions	°C		
13.31	Total losses at nominal ratio, 75°C	kW		
13.32	No load loss at nominal tap and frequency	kW		
13.33	Load loss at rated current, 75°C:			
13.34	Sound level	dB(A)		

Schedule 14: Power and Auxiliary Transformers				
Item No.	**Description**	**Unit**	**Power Transformer (Bidders Offer)**	**Auxiliary Transformer (Bidders Offer)**
	POWER TRANSFORMER			
13.35	Type of transformer			
13.36	Manufacturer's Name			
13.37	Specification to which the transformer shall comply			
13.38	Single or three-phase unit			
13.39	Frequency of supply	Hz		
13.40	Oil immersed type			
13.41	Indoor/Outdoor type			
13.42	Type of cooling			
13.43	Continuous maximum rating (at site)	kVA		
13.44	Rated Voltage – high voltage winding	kV		
13.45	Rated Voltage – low voltage winding	kV		
13.46	Highest voltage for equipment HV winding	kV		
13.47	Highest voltage for equipment LV winding	kV		
13.48	No. of transformers of this size	No.		
13.49	Method of system earthing for HV winding			
13.50	Method of system earthing for LV winding			

Schedule 14: Power and Auxiliary Transformers				
Item No.	**Description**	**Unit**	**Power Transformer (Bidders Offer)**	**Auxiliary Transformer (Bidders Offer)**
13.51	HV winding - rated lightning impulse withstand voltage	kV		
13.52	HV winding - rated short duration AC withstand voltage	kV		
13.53	LV winding - rated lightning impulse withstand voltage	kV		
13.54	LV winding - rated short duration AC withstand voltage	kV		
13.55	HV winding phase connection			
13.56	LV winding connection			
13.57	Vector Group			
13.58	Maximum flux density at nominal frequency, voltage and ratio.	T		
13.59	Auxiliary supply voltage			
13.60	Impedance voltage at CMR, nominal ratio, 75°C			
13.61	Maximum winding hot spot temperature under site conditions	°C		
13.62	Maximum winding temperature rise	°C		
13.63	Maximum oil temperature under site conditions	°C		
13.64	Maximum oil temperature rise	°C		
13.65	Total losses at nominal ratio, 75°C	kW		
13.66	No load loss at nominal tap and frequency	kW		
13.67	Load loss at rated current, 75°C:			
13.68	Sound level	dB(A)		
	Conservator			
13.69	Ventilation method			
13.70	Type of breather			
13.71	Oil level gauge fitted			
	Arcing Horns			
13.72	arcing horns provided			
	HV Line Bushings			
13.73	Creepage distance	mm		
13.74	Continuous current rating	A		
13.75	Short time current rating (1 sec)	A		
13.76	Short time current rating (3 sec)	A		

Schedule 14: Power and Auxiliary Transformers				
Item No.	**Description**	**Unit**	**Power Transformer (Bidders Offer)**	**Auxiliary Transformer (Bidders Offer)**
	HV Neutral Bushings			
13.77	Creepage distance	mm		
13.78	Continuous current rating	A		
13.79	Short time current rating (1 sec)	A		
13.80	Short time current rating (3 sec)	A		
	Buchholz Relay			
13.81	Manufacturer			
13.82	Number of alarm contacts			
13.83	Number of trip contacts			
	Winding temperature sensor/indicator			
13.84	Manufacturer			
13.85	Number of alarm contacts			
13.86	Number of trip contacts			
	Oil temperature sensor/indicator			
13.87	Manufacturer			
13.88	Number of alarm contacts			
13.89	Number of trip contacts			
	Transformer Tank			
13.90	Thickness of tank sides	mm		
13.91	Thickness of tank bottom	mm		
13.92	Tank size (l x w x h)	m		
	Core			
13.93	Type of insulation of laminations			
13.94	Type of insulation of core bolts			
	Winding			
13.95	Type of HV winding			
13.96	Type of LV winding			
13.97	Type of insulation of HV winding			
13.98	Type of insulation of LV winding			
	Oil			
13.99	Type of oil			
13.100	Total oil quantity (operating)	litres		
13.101	Transformer tank oil quantity	litres		
13.102	Conservator oil quantity	litres		
13.103	Tap changer compartment oil quantity	litres		
	Weights			
13.104	Weight of fully assembled transformer	kg		
13.105	Weight of oil in fully assembled transformer	kg		
13.106	Total weight of core and windings	kg		

Schedule 14: Power and Auxiliary Transformers				
Item No.	**Description**	**Unit**	**Power Transformer (Bidders Offer)**	**Auxiliary Transformer (Bidders Offer)**
13.107	Shipping weight of partially assembled transformer	kg		
13.108	Outline drawing number (drawing to be submitted with Bid)			
13.109	Transportation drawing number (drawing to be submitted with Bid)			
	Internal explosion protection fitted?			

Schedule 15: HV Switchyard Equipment			
Item No.	**Description**	**Unit**	**Bidders Offer**
	OUTDOOR CIRCUIT BREAKER		
15.1	Manufacturer		
15.2	Type reference (Manufacturer's designation)		
15.3	Interrupting medium		
15.4	Number of phases	No.	
15.5	Frequency	Hz	
15.6	Rated Voltage	kV	
15.7	Lighting impulse withstand voltage	kV	
15.8	Power frequency withstand voltage	kV	
15.9	Rated normal current	A	
15.10	Short-time withstand current		
	a) 1 second	kA	
	b) 3 seconds	kA	
15.11	Rated short-circuit breaking currents:		
	a) Three-phase symmetrical	kA	
	b) Three-phase asymmetrical	kA	
	c) DC component as percentage of (a)	%	
	d) Single phase	kA	
15.12	Testing Authority		
15.13	Test Certificate Report - references		
15.14	Short-circuit making current	kA	
15.15	Rated operating duty cycle		
15.16	Nominal overall diameter	mm	
15.17	First phase to clear factor		
15.18	Rated transient recovery voltage at 100%	kV	
15.19	Opening time (BS EN 62271/IEC 62271)	ms	
15.20	Closing time (BS EN 62271/IEC 62271)	ms	

Schedule 15: HV Switchyard Equipment			
Item No.	**Description**	**Unit**	**Bidders Offer**
15.21	Is any external series break incorporated in the breaker?		
15.22	Is any device used to limit transient recovery voltage?		
15.23	Method of closing		
15.24	Method of tripping		
15.25	Solenoid closing coil current	A	
15.26	Solenoid closing coil voltage	A	
15.27	Rated voltage for spring winding motor for closing	V	
15.28	Spring winding motor current (normal)	A	
15.29	Closing release coil current	A	
15.30	Closing release coil voltage	V	
15.31	Trip coil current	A	
15.32	Trip coil voltage	V	
15.33	Is the circuit-breaker trip free?		
15.34	Minimum clearance in air:		
	a) between phases	mm	
	b) phases to earth	mm	
	c) across interrupters	mm	
	d) live parts to ground level	mm	
15.35	Material of tank interrupter chamber		
15.36	Material of moving contact operating rod		
15.37	Material of contact surfaces		
15.38	Number of breaks per phase	No.	
15.39	Length of each break	mm	
15.40	Length of stroke	mm	
15.41	Weight of circuit-breaker unit complete	kg	
15.42	Maximum shock load imposed on floor or foundations when opening under fault conditions (state whether tension or compression) (per pole)	kg	
15.43	Period of time equipment has been in commercial operation	yrs	
15.44	Number of operations before interrupter maintenance required:		
	a) At rated short circuit current	No.	
	b) At full load current	No.	
	DISCONNECTORS AND EARTHING SWITCHES		
15.45	Manufacturer		
15.46	Type		
15.47	Type of contacts		
15.48	Material of contact surface		

Schedule 15: HV Switchyard Equipment			
Item No.	**Description**	**Unit**	**Bidders Offer**
15.49	Normal rated currents	A	
15.50	Air gap between poles of one phase	mm	
15.51	Type of operating mechanism		
15.52	Total weight of three-phase disconnector complete	kg	
15.53	Operating time	s	
15.54	Impulse withstand voltage:		
	a) To earth	kV	
	b) Across isolating distance	kV	
	CURRENT TRANSFORMERS		
15.55	Manufacturer		
15.56	Type designation		
15.57	Type of primary winding (e.g. bar, wound, etc.)		
15.58	Type of insulation		
15.59	Impulse withstand voltage	kV	
15.60	Power frequency withstand voltage	kV rms	
15.61	Continuous primary current overload capacity	%	
15.62	Ratio		
15.63	Class		
15.64	Burden	VA	
15.65	Circuit designation		
	VOLTAGE TRANSFORMERS		
15.66	Manufacturer		
15.67	Type designation		
15.68	Type of insulation		
15.69	Impulse withstand voltage	kV	
15.70	Power frequency withstand voltage	kV rms	
15.71	Are fuses fitted?		
	a) Primary winding		
	b) Secondary winding		
15.72	Ratio		
15.73	Class		
15.74	Burden	VA	
15.75	Circuit designation		
	SURGE ARRESTORS		
15.76	System highest voltage	kV	
15.77	Insulation levels of protected systems:		
	a) Switchgear	kV	
	b) Transformers c) Cables/Conductors	kV	
15.78	Manufacturer and Type No.		

Schedule 15: HV Switchyard Equipment			
Item No.	**Description**	**Unit**	**Bidders Offer**
15.79	Class of diverter to IEC.60099-4 (BS EN 60099-4):		
	a) Duty		
	b) Long duration discharge		
	c) Pressure relief class		
15.80	Rated voltage	kV rms	
15.81	Rated nominal discharge current	kA	
15.82	Number of separate units per arrester	No.	
15.83	Discharge residual voltage based on 8/20 µs wave at:		
	a) 5kA	kV peak	
	b) 10kA	kV peak	
	c) 20kA	kV peak	
15.84	Power frequency voltage capability for:		
	a) 1 sec	kV rms	
	b) 3 sec	kV rms	
	c) Continuous	kV rms	
15.85	Switching impulse residual voltage, 1000A	kV rms	
15.86	30/60 µs wave	kV	
15.87	Total height of arrester	mm	
15.88	Total weight of arrester	kg	
15.89	Type reference of surge monitor		
15.90	Minimum creepage distance:		
	a) Specified	mm	
	b) Guaranteed	mm	
	CONNECTIONS		
15.91	Manufacturer		
15.92	Material		
15.93	Overall diameter	mm	
15.94	Nominal section	mm^2	
15.95	Cross section and make up	mm^2	
15.96	Maximum rated current	A	
15.97	Maximum working tension of main connections	kN/m^2	
15.98	Resistance of conductors per 100 m at 30°C	Ω	
15.99	Tensile breaking stress of material	kN/mm^2	
15.100	Maximum permissible span length	m	
15.101	Maximum sag under own weight of maximum span	mm	
15.102	Protected creepage distance per unit	mm	
	INSULATOR STRINGS		
15.103	Manufacturer		

Schedule 15: HV Switchyard Equipment			
Item No.	**Description**	**Unit**	**Bidders Offer**
15.104	Insulator type and manufacturer's reference		
15.105	Number of units per string	No.	
15.106	Outside diameters of units	mm	
15.107	Distance between centres of units	mm	
15.108	Overall lengths of strings	mm	
15.109	Maximum working load per unit	kN	
15.110	Minimum failing load per unit	kN	
15.111	Minimum failing load (bending)	kN	
15.112	Electro-mechanical failing load	kN	
15.113	Mechanical failing load	kN	
15.114	Electrostatic capacitance of unit	pF	
15.115	Weight of complete string	kg	
15.116	50 Hz 1 minute withstand voltage of unit, dry	kV	
15.117	50 Hz 1 minute withstand voltage of unit, wet	kV	
15.118	Minimum 50 Hz puncture voltage	kV	
15.119	lightening impulse withstand voltage of string 1.2/50 µs wave	kV	
15.120	Minimum creepage distance per unit:		
	a) Specified, subject to acceptable shed profile	mm	
	b) Guaranteed	mm	
15.121	Protected creepage distance per unit	mm	
	INSULATORS		
15.122	Manufacturer		
15.123	IEC 60168 reference		
15.124	Function of insulator		
15.125	Rated service voltage	kV	
15.126	Principal insulating materials		
15.127	Overall length of insulator	mm	
15.128	Shed profile (drawing to be enclosed with Tender)	Drg.No.	
15.129	Weight of insulator complete with fittings	kg	
15.130	Electrostatic capacitance	pF	
15.131	Material of fittings		
15.132	Total creepage distance externally:		
	a) Specified, subject to acceptable shed profile	mm	
	b) Guaranteed	mm	
15.133	Protected creepage distance	mm	
15.134	Lightening impulse withstand voltage (1.2/50 µs wave)	kV	

Schedule 15: HV Switchyard Equipment			
Item No.	**Description**	**Unit**	**Bidders Offer**
15.135	Switching impulse withstand voltage wet	kV	

Schedule 16: Control and Monitoring System			
Item No.	**Description**	**Unit**	**Particulars**
	UNIT LOCAL CONTROL BOARD		
16.1	Manufacturer		
16.2	Manufacturer's general arrangement drawing number (drawing to be submitted with tender)	Drg. No.	
16.3	Manufacturer's schematic drawing number (drawing to be submitted with tender)	Drg. No.	
16.4	IP protection classification of the board		
16.5	Overall dimensions of board (l x w x h)	mm	
	SUBSTATION CONTROL BOARD		
16.6	Manufacturer		
16.7	Manufacturer's general arrangement drawing number (drawing to be submitted with tender)	Drg. No.	
16.8	Manufacturer's schematic drawing number (drawing to be submitted with tender)	Drg. No.	
16.9	IP protection classification of the board		
16.10	Overall dimensions of board (l x w x h)	mm	
	PLC		
16.11	PLC manufacturer		
16.12	Type reference		
16.13	Product description provided?		
16.14	Time of proven service	years	
16.15	Processor redundancy		
16.16	Power supply type		
16.17	Power supply redundancy		
16.18	I/O module type reference		
16.19	Estimated number of I/O points required	No.	
16.20	Number of I/O points provided	No.	
16.21	Number of I/O points capacity	No.	
16.22	Type of HMI		
16.23	Type of display		
16.24	Manufacturer of display		
16.25	Size of display (w x h)	mm	
16.26	Resolution of display		
16.27	Communications module type reference		
16.28	Estimated number of communications channels required	No.	
16.29	Number of communications channels provided	No.	
16.30	Communications channels capacity		
16.31	PLC software		
16.32	HMI software		
16.33	Time for a complete VDU display to be presented following an operator request	sec	
16.34	Time delay for analogue update following input signal change	sec	
16.35	Time delay for digital update following input	sec	

Schedule 16: Control and Monitoring System			
Item No.	**Description**	**Unit**	**Particulars**
	signal change		
16.36	Time delay for output command following an operator request	sec	
16.37	Time delay for alarm display following input signal change	sec	
16.38	Time delay for alarm display following multiple input signal change (i.e. system response dependent on system loading)	sec	
16.39	Processor MTBF		
16.40	Power supply MTBF		
16.41	I/O module MTBF		
16.42	Communications module MTBF		
16.43	HMI MTBF		
16.44	Complete system MTBF		
16.45	Instrument manufacturer		
16.46	Dimensions of panel (l x w x h)		
16.47	Protection class of panel (IP rating)		

Schedule 17: Protection and Metering Equipment			
Item No.	**Description**	**Unit**	**Particulars**
	PROTECTION EQUIPMENT		
	Unit Protection Panels		
17.1	Manufacturer		
17.2	Place of manufacture, inspection and testing		
17.3	Manufacturer's general arrangement drawing number (drawing to be submitted with tender)	Drg. No.	
17.4	Protection Class of panels (IP rating)		
17.5	Number of panels	No.	
17.6	Rear access required	Yes/No	
17.7	Dimensions of panel (l x w x h)	mm	
	Power and Auxiliary Transformer Protection Relays		
17.8	Manufacturer		
17.9	Place of manufacture, inspection and testing		
17.10	Ranges (datasheets and brochures to be submitted with tender)		
	Substation 11 kV Protection Panels		
17.11	Manufacturer		
17.12	Place of manufacture, inspection and testing		
17.13	Manufacturer's general arrangement drawing number (drawing to be submitted with tender)	Drg. No.	
17.14	Protection Class of panels (IP rating)		
17.15	Number of panels	No.	
17.16	Rear access required	Yes/No	
17.17	Dimensions of panel (l x w x h)	mm	
	METERING EQUIPMENT		
17.18	Manufacturer		
17.19	Place of manufacture, inspection and testing		
17.20	Manufacturer's general arrangement drawing number (drawing to be submitted with tender)		
17.21	Protection Class of panels (IP rating)		
17.22	Number of panels	No.	
17.23	Rear access required	Yes/No	
17.24	Dimensions of panel (l x w x h)	m	

Schedule 18: AC Auxiliary Power System			
Item No.	**Description**	**Unit**	**Bidders Offer**
	400 V SWITCHBOARDS		
18.1	Panel manufacturer		
18.2	Place of manufacture, inspection and testing		
18.3	Type reference (datasheets and brochures to be attached)		
18.4	Rated voltage	V	
18.5	Power frequency withstand	kV	
18.6	Lightening impulse withstand	kV	
18.7	Neutral earthing system		
18.8	Seismic acceleration withstand (h & v)	g	
18.9	Busbar continuous rating	A	
18.10	Ambient temperature for rating	°C	
18.11	Busbar insulation material		
18.12	Short time current withstand	kA, s	
18.13	Internal arc withstand 1 second	kA	
18.14	Internal arc withstand 0.15 second	kA	
18.15	Enclosure protection	IP	
18.16	Compartment protection	IP	
18.17	Height	m	
18.18	Rear access required	Yes/No	
	400V CIRCUIT BREAKERS		
18.19	Manufacturer		
18.20	Place of manufacture, inspection and testing		
18.21	Type reference (datasheets and brochures to be attached)		
18.22	Breaking capacity:		
	a) Symmetrical	kA rms	
	b) Asymmetrical	kA rms	
18.23	Making capacity	kA peak	
18.24	Short time current	kA	
18.25	Duration of short time current	s	
18.26	Method of arc extinction		

Schedule 19: DC Systems and UPS				
Item No.	**Description**	**Unit**	**110/220 V (Bidders Offer)**	**48 V (Bidders Offer)**
	CHARGERS			
19.1	Charger manufacturer			
19.2	Place of manufacture, inspection and testing			
19.3	Type reference (datasheets and brochures to be submitted with tender)			
19.4	Manufacturer's general arrangement drawing number (to be submitted with tender)	Drg. No.		
19.5	Number of units			
19.6	Seismic acceleration withstand (h & v)	g		
19.7	Rated A.C. voltage	V		
19.8	Rated D.C. voltage	V		
19.9	Type of cooling			
19.10	Rated input at full load	VA		
19.11	D.C. output of charger	kW		
19.12	Rated D.C. current at 40°C	A		
19.13	Current limitation	A		
19.14	Type of load voltage control			
19.15	Range of load voltage control	%		
19.16	Regulation	%		
19.17	Adjustable D.C. voltage for:			
	a) float charging	V/cell		
	b) boost charging	V/cell		
19.18	Ripple value	%		
19.19	Protection class of charger cubicle	IP		
	D.C. DISTRIBUTION PANELS			
19.20	Panel manufacturer			
19.21	Place of manufacture, inspection and testing			
19.22	Type reference (datasheets and brochures to be submitted with tender)			
19.23	Highest voltage for equipment	V		
19.24	Busbar rating at 40°C	A		
19.25	Fault withstand current (1s)	kA		
19.26	Protection class of distribution switchboard	IP		
	UNINTERRUPTIBLE POWER SUPPLY			
19.27	Manufacturer			
19.28	Rating	Ah		
19.29	Input current (110/220 Vd.c.)	A		
19.30	Output current (230 V a.c.)	A		
19.31	Power factor			
19.32	Dimensions (lxwxh)	m		

Schedule 19: DC Systems and UPS				
Item No.	**Description**	**Unit**	**110/220 V (Bidders Offer)**	**48 V (Bidders Offer)**
19.33	Weight	kg		
19.34	Static bypass switch?	Yes/No		
	AC DISTRIBUTION BOARD			
19.35	Busbar rating	A		
19.36	Dimensions (lxwxh)	mm		
19.37	Number of busbars and connection ways			
19.38	Current rating of outgoing ways	A		

Schedule 20: Cables			
Item No.	**Description**	**Unit**	**Bidders Offer**
	0.4 kV GENERATOR CABLE		
21.1	Manufacturer		
21.2	Place of manufacture, inspection and testing		
21.3	Type reference (provide data sheets)		
21.4	Voltage rating	kV	
21.5	Number of cores	No.	
21.6	Conductor material		
21.7	Conductor shape		
21.8	Insulation type		
21.9	Insulation screen type		
21.10	Metallic screen type		
21.11	Bedding sheath type		
21.12	Armouring type and material		
21.13	Oversheath type		
21.14	Sheath flame/smoke properties		
21.15	Fire resistance category		
21.16	For each size of cable to be provided indicate:		
21.17	Cross-sectional area of conductor	mm^2	
21.18	Minimum average thickness of insulation	mm	
21.19	Nominal overall diameter of cable	mm	
21.20	Maximum d.c. resistance (20°C)	μΩ/m	
21.21	Impedance at 50 Hz	μΩ/m	
21.22	Sustained current rating laid in ground	A	
21.23	Sustained current rating in air	A	
21.24	Short circuit current rating:		
	a) 1 sec	kA	
	b) 3sec	kA	
21.25	Minimum bending radius	mm	
	400V AUXILIARY POWER CABLES		
21.26	Manufacturer		
21.27	Place of manufacture		
21.28	Type reference		
21.29	Data-sheets provided	Yes/No	
	CONTROL & INSTRUMENTATION CABLES		
21.30	Manufacturer		
21.31	Place of manufacture		
21.32	Type reference		
21.33	Data-sheets provided	Yes/No	

Schedule 21: Lighting and Power outlets			
Item No.	**Description**	**Unit**	**Bidders Offer**
	Powerhouse High Bay Lighting		
22.1	Luminaire type		
22.2	Luminaire manufacturer		
22.3	Luminaire part reference no.		
22.4	Luminaire luminous flux	lm	
22.5	Luminaire wattage	W	
22.6	Brochure enclosed	Yes/No	
	General Lighting		
22.7	For each type of fitting:		
22.8	Luminaire type		
22.9	Luminaire manufacturer		
22.10	Luminaire part reference no.		
22.11	Luminaire luminous flux	lm	
22.12	Luminaire wattage	W	
22.13	Brochure enclosed	Yes/No	

Schedule 22: Earthing and Lightening Protection			
Item No.	**Description**	**Unit**	**Particulars**
	Earthing system		
23.1	Manufacturer		
23.2	Type of earthing rods		
23.3	– Diameter	mm	
23.4	– Length	m	
23.5	Type of connection to earth rod/grid		
23.6	Conductors laid in ground		
23.7	Solid copper conductor	mm^2	
23.8	Stranded copper conductor	mm^2	
23.9	– Stranding	No/mm ø	
23.10	Inspection pit		
23.11	Thermic welded joints		
23.12	Earth bar		
23.13	Maximum earthing resistance at any point of the grid	ohm	
	Lightening protection		
23.14	Manufacturer		
23.15	Type of earthing rods		
23.16	Lightning air terminal		
23.17	– number		
23.18	– type		
23.19	Cross section of down conductor	mm^2	
23.20	Material of down conductor		
23.21	Maximum earthing resistance if disconnected from	ohm	

Schedule 22: Earthing and Lightening Protection

Item No.	Description	Unit	Particulars
	general earthing grid		

Schedule 23: Paint & Surface Protection

The painting and protection system and the finish proposed for different materials and items of equipment shall be detailed. Information to be provided shall include the following:

- methods of preparation, application and inspection;
- sequences and intervals of all procedures;
- standards to which procedures or products conform;
- precautions and restrictions to be observed; and
- methods of protection of factory applied coatings during transport to Site.

ITEM NO.	DESCRIPTION	BIDDERS OFFER
	Structural Steelwork	
26.1	Internal	
26.2	External	
	Miscellaneous Steelwork	
26.3	Internal	
26.4	External	
	Large Diameter Pipework (Penstock) and Associated Embedments	
26.5	Internal	
26.6	External	
	Gates, Screens	
26.7	External	
	Mechanical Plant	
26.8	Internal	
26.9	External	
	Electrical Plant	
26.10	Internal	
26.11	External	
	Control Boards, Panel Boards and Cubicles	
26.12	Internal	
26.13	External	
	Pipework & Services	
26.14	Internal	
26.15	External	
	Timber	
26.16	Internal	
26.17	External	
	Cementitious Surfaces	

Schedule 23: Paint & Surface Protection		
26.18	Concrete floor	
26.19	Concrete walls	
26.20	External Masonry/Render	
26.21	Internal Masonry/Render	
26.22	Plaster	

Functional Guarantees
Form FUNC

Schedule of Guarantees

These completed Schedule of Guarantees will be used to calculate any non-performance damages due under the Contract.

OVERALL STATION OUTPUT GUARANTEE

Overall Station performance shall be determined at the station total design flow rate of 0.68 m^3/s and as measured as electrical power output at the generator terminals.

Depending on the time of the year, the river flow may not be sufficient to carry out tests during commissioning at the maximum output. Under such conditions, it will be necessary to **perform tests after completion** in accordance with General Conditions of Contract Clause 12.

In order to determine the sufficiency of the Facilities for taking over, the tests under low river flow conditions shall meet the guaranteed values provided by the Bidder in the Schedule 1 table below. Outputs for river flows between the indicated river flows shall be taken pro rata. Tests on completion shall not be carried out when the flow is less than minimum flow as per manufactures' recommendation.

Schedule 1 - Overall Station Output Guarantee	
The Contractor guarantees that the maximum continuous output of the overall station shall not be less than the value stated below:	
Canal Intake Flow Rate – m^3/s	**Guaranteed Value - kW**
100% of design flow rate	…….. kW
85% of design flow rate	…….. kW
70% of design flow rate	…….. kW
60% of design flow rate	…….. kW
50% of design flow rate	…….. kW
Guaranteed maximum continuous output of the overall station, under the following conditions: (a) Output measured at the generator terminals (b) Rated Net head (c) Power factor 0.85 lagging (d) Voltage range 95 – 105% (e) Temperature rise not to exceed class B temperature rise according IEC 60034-1	
Note: The guaranteed output at canal intake flow rate of 0.68 m^3/s shall be not less than 200.0 kW	

Turbine Generator Unit Guarantees

Schedule 2 - Turbine Generator Unit Output Guarantee	
The Contractor guarantees that the continuous rating of the turbine generator units shall not be less than the value stated below::	
	Guaranteed Value
Guaranteed maximum continuous rating of the turbine generator units measured at the generator terminals, under the following conditions: (a) Rated Net head (b) Discharge 0.68 m^3/s (c) At rated power factor = 0.85 (d) Voltage range 95 – 105% (e) Temperature rise not to exceed class B temperature rise according IEC 60034-1 (f) Measured at the generator terminals. Note: The guaranteed output shall be not less than 200 kW.	……kW

Schedule 3 - Turbine & Generator Efficiency Guarantee	
The Contractor guarantees that the combined turbine and generator maximum efficiency shall not be less than the value stated below:	
	Guaranteed Value
Guaranteed maximum efficiency of the turbine and generator unit, under the following conditions: (a) Rated Net head (b) Generator outputs between 200 kW and the Guaranteed Value in Schedule 2 above (c) At rated power factor (d) Measured at the generator terminals. Note: • The guaranteed overall combined turbine and generator efficiency shall be not less than 90.0%. • The overall uncertainty of measurement shall not be greater than 2%. • Testing shall be conducted in accordance BS EN 60041.	……%

Schedule 4 - Turbine Speed and Pressure Rise Guarantee

The Contractor guarantees that the maximum speed and pressure rise of the turbine shall not exceed the values stated below:

	Guaranteed Value
Guaranteed turbine / generator maximum speed and pressure rise, under the following full load rejection conditions of:	
(a) Generator 1 output at the Guaranteed Value in Schedule 2 above	…….% (speed)
(b) Generator 2 output at the Guaranteed Value in Schedule 2 above	
(c) At rated net head	…….% (speed)
Note: The guaranteed values shall not exceed 45% for speed rise and 10% for pressure rise. Testing shall be conducted generally in accordance with BS EN 60041.	…….% (pressure)

Schedule 5 - Turbine Cavitation Guarantee

The Contractor guarantees that the loss of metal through cavitation for the turbine unit shall not exceed the values stated below:

	Guaranteed Value
Guaranteed maximum removal of metal from the blades in accordance with BS IEC 60609-2 (V_{max})	……cm^3
Guaranteed maximum depth of pitting of the blades in accordance with BS IEC 60609-2 (S_{max})	……cm
The above cavitation guarantees shall apply under the following conditions:	
(a) Time period for which the guarantees shall apply is 16,000 operation hours or two years' service whichever comes first.	
(b) The guarantee shall be valid provided the turbine shall have been operated for less than 10% of the operating hours at a turbine generator output of less than the 'Minimum continuous rated output of the turbine unit' as stated in Part 1, Section IV, Schedule 4, item 4.10	

POWER TRANSFORMER GUARANTEES

Schedule 6 - Power Transformer Output Guarantee	
The Contractor guarantees that the continuous rating of the power transformer shall not be less than the value stated below:	
	Guaranteed Value
Rated power	……kVA
Note: The rated kVA output shall be measured on the Transformer during the acceptance tests to be performed at the manufacturer's Works in the presence of the Project Manager.	
Note: The guaranteed output shall be not less than 250 kVA.	

Schedule 7 - Power Transformer Losses Guarantee	
The Contractor guarantees that the losses of the generator transformer shall not be greater than the values stated below:	
	Guaranteed Value
No load loss at rated voltage, ratio and frequency (excluding cooling plant losses)	……kW
Load loss at 75°C, nominal ratio and maximum continuous rating	……kW
The no-load losses and load losses shall be measured on the Transformer during the acceptance tests to be performed at the manufacturer's Works in the presence of the Employer.	

This information is declared to be correct by (Bidder's authorised representative)

Name…… Signature……

Position in the Firm…… Date……

Note: Any deviation on site from the minimum Functional Guaranteed values shall cause UNDP to impose liquidated damages (as non-performance damages) on the contractor (the deviation percentages and corresponding values of liquidated damages are shown below :

Failure in Guarantees and Liquidated Damages

3.1 OVERALL STATION OUTPUT GUARANTEE

Damages will be calculated for the overall station output taking into account the respective tolerances of accuracy. If the Facility fails to pass the test outputs by more than 3% below the guaranteed values then Liquidated Damages will not apply and the remedies as provided in Sub-Clause 28.2 of the Conditions of Contract will be exercised.

The Contract Price will be reduced by USD 25,000 for each 10kW of output below the required guaranteed output at the canal intake flow rate of 0.68 m^3/s. The figure above is based on the Employer's energy model at midrate tariff and discount value over the 50 year expected life of the station.

3.2 TURBINE GENERATOR UNIT GUARANTEES

3.2.2 Turbine and Generator Output Guarantee

Damages will be calculated for the turbine-generator unit, taking into account the respective tolerances for accuracy.

The Contract Price will be reduced by USD 25,000 for each full 10kW of output that the measured turbine-generator is less than the maximum guaranteed output. The figure above is based on the Employer's energy model at midrate tariff and discount value over the 50 year expected life of the station.

3.2.3 Turbine and Generator Efficiency Guarantee

Damages will be calculated for each of the turbine-generator units, taking into account the respective tolerances for accuracy.

The Contract Price will be reduced by USD 20,000 for each 0.05% that the measured turbine-generator unit efficiency (for any one unit) is less than the guaranteed output. The figure above is based on the Employer's energy model at midrate tariff and discount value over the 50 year expected life of the station.

3.2.4 Turbine and Generator Speed and Pressure Rise Guarantee

Liquidated Damages will not apply and the remedies as provided the relevant Conditions of Contract will be exercised.

3.3 TURBINE CAVITATION GUARANTEE

3.3.1 Turbine Cavitation Guarantee

Liquidated Damages will not apply and the remedies as provided the relevant Conditions of Contract will be exercised.

3.4 GENERATOR TRANSFORMER GUARANTEES

3.4.1 Generator Transformer Output Guarantee

Liquidated Damages will not apply and the remedies as provided the relevant Conditions of Contract will be exercised.

3.4.2 Generator Transformer Losses Guarantee

Damages will be calculated for the generator transformer losses, taking into account the respective tolerances for accuracy.

The Contract Price will be reduced by USD 25,000 for each full 10kW of output that the measured generator transformer loss is more than the maximum guaranteed output. The figure above is based on the Employer's energy model at mid rate tariff and discount value over the 50 year expected life of the station.

Part 3: Schedules of prices / pricing schedules

General Preamble

1.1. Schedules of Prices (hereinafter - S.O.P.) shall be considered in conjunction with the Instruction for bidders, General and Particular Conditions of the Contract, Employer's Requirements and other supplementary informative documents

1.2. All prices in the S.O.P. are fixed in US dollars.

1.3. All prices and sums shown in the Schedules confirm that the Offeror has read all documents and agrees with all the terms, obligations and demands mentioned in the Tender Documentation...

1.4 S.O.P. shall reflect the total sum of the terms of the Contract. The price for an item that the Contractor shows in the S.O.P.shall be the full price for completed work. The overall price shall not include any custom duties, import duties and VAT. Completed works shall include all expenses for detailed design, organization of construction plant and building process, preparation, equipment, labor, all materials and structures, additional work, use of machines , transport expenses, assembling of structures, maintenance, testing, insurance, preparation of the drawings and executive documentation, overheads, profit as well as all general risks, liabilities, obligations and full responsibility that follow the Terms of Contract and Employer's Requirements .

1.5. The rates and values of the components shown in the S.O.P. shall include all comprehensive work according to the requirements of work production technology, building codes, regulations of technical design works and other regulatory documents. This will insure long-term, proper and safe operation and maintenance of buildings and plant and shall be defined accordingly to the following:

• Demolition work (if any): shall include dismantling by mechanical and or manual means and removal from site the non-suitable structures and materials as directed by the Engineer-In-Charge.

• Earthwork: shall include excavation of foundation, trenches, pipeline trenches at the required width and depth by mechanical and or manual means, including dressing of sides and ramming of bottoms, soil compaction, work on the ground and backfilling, including stockpiling and disposal of surplus excavated earth.
• In-situ reinforced concrete work for foundations, footings, foundation walls, pit walls: shall include earthwork (if not marked in separate columns), formworks, in-situ concrete work, steel reinforcement, and all required waterproofing.

• In-situ reinforced concrete work for columns, beams, suspended floors, slabs, straight arches and other structural elements: shall include form work, in-situ concrete work, required necessary waterproofing, steel reinforcement, anti-corrosion treatment of reinforcement structures, assembly of all joints, connections and embedded elements and shall insure all necessary proper joint work of structures during maintenance of the building, taking into consideration any possible seismic affects.

• Masonry work: shall be executed in accordance with the requirements of technical design, appropriate standards, building codes, technology requirements etc.

• Staircases and Entrance Units: shall include installation of pre-cast or in-situ reinforced concrete stairs and landings, finishes to walls, treads, risers and landings, balustrades and finishes, as well as all necessary fastenings, claddings, stainless steel railings and adjoining retaining walls, handrails, façade canopies, as

well as all the necessary elements and accessories to insure the proper and safe maintenance of the facility.

• Heat-insulation: should include the arrangement of heat-insulating layer for the necessary required thickness according to heat engineering calculations, with complete sets of fastenings, fittings and joining elements.

• Metal Structures: shall include the delivery, assembling and welding of metal structures with all necessary joining elements, as well as the treatment for fireproof and rust-resistant compounds.
All work should be performed in accordance with building and technology standards and requirements.

• Installation of pre-fabricated structures: shall include all necessary sets of fastenings, fittings and joining elements.

• Roofing structures: shall include comprehensive installation of all necessary roof layers with required heat, hydro-insulation, and vapor sealing, preventive system for ice-covering, roofing materials. All work to be done in accordance with requirements for standards for building thermal physics. This work to include joining elements, all necessary elements of rainwater drainage system, snow guard and other functional and finishing elements.

• Installation of windows and doors: should include a complete assembly of windows, door and gate elements with all the required fasteners, joints, slopes, locks, fittings, All work to be completed with shutters, interior and external window sills, hardware, insect screens and built-in ventilation systems. If it is necessary, provide the cost of the automatic emergency window opening system. Windows, doors and doorways should have the necessary heat engineering requirements and also meet the requirements for heat and sound insulation.

Drywall work: shall include installation of steel stud and track for drywall framing system with soundproof filling. All to comply with standards for sound insulation, and all necessary set of fastenings, fittings and joining elements and required finishing.

• Floor structure: shall include comprehensive installation of all necessary layers for required thickness, with necessary heat, hydro and sound insulation, drainage channels, baseboards, etc.
• Interior finishing: shall be provided for all the walls, partitions, and ceiling and floor surfaces and shall include complete comprehensive set of technological processes, required for an appropriate type of finishing for certain premises and buildings.

• Facade finishing: shall include complete comprehensive set of technological processes, required by appropriate type of finishing, cladding and coating, as well as installation of all necessary facade structures, designs and accessories in order to provide long-lasting and safe maintenance of the building (This will include external fire stairs, canopy awnings, paving and other facade elements and structures).

• "Service equipment": shall include complete set of furniture and appropriate equipment for minimum number of workplaces, special equipment for recreational, household, service and administrative buildings and premises.

• Installation of engineering systems: shall include complete range of construction work, equipment and materials with all necessary connectors, mounting, fasteners, components, installation of a complete set of pipes, fittings, valves, measuring devices and the necessary functional and technical equipment. Each engineering system includes an automatic system for control, management and regulation. The offered price for engineering systems is indicated for the complete scope of work.

• Road pavement: shall include complete range of road structure installation including the excavation, and layered filling with technologically required layers for the necessary thickness as to the intended type of road pavement, including sub-base, road base surface courses, precast concrete curbs, etc and shall ensure their durable maintenance.

• External work: shall include installation of all necessary external engineering systems and networks.

• Price for the unit of Technological Equipment shall include value for delivery and transportation of the equipment onto the construction plant and its installation. It also will include verification, fastening, casing, and connection of all components and assemblies. The provider of "technological equipment" shall provide the equipment setup, it's launching, adjustment, and control pilot testing, and including monitoring of all communication and utility lines of intended premises and buildings.

• While determining the Value of Schedule items it will be required that the General Contractor will provide the monitoring of applied materials, products, structures and other building components. Contractors must provide control tests and analysis of incoming materials. All the specialized work relating to technological and special equipment shall be finished with its adjustment and control launch.

Mechanical plant
Mechanical plant and equipment which emits excessive noise, smoke, fumes, obnoxious gases etc., will not be allowed to be used in the site, without prior approval of the Engineer.

1.8. The rate or price should be given for every item. The price should be given for every item and the column "Sum" should be completed also.

1.9. Only the completed work submitted and then will be evaluated by the Contractor and checked by Engineer-in-Charge can submitted for request for payment.

1.10. Before starting work, Contractor shall coordinate work design documentation. Design documentation shall include, but not limited to, the following equivalent parts:
• Pre-project materials
• General and Particular Employer's Requirements
• Instructions of products and materials manufacturers
• Standards and guidelines
• Technical specifications
• Schedules of Prices (products and materials specifications)
• Design documents (including drawings) (subject to approval by UNDP)

1.11. General description of work or its graphic image can be submitted only as part of Design documentation and cannot be submitted again. Before entering rates and prices for each unit it's necessary to examine all the parts of design documentation.

1.12. The above information in the Preamble Document, the rates given in the S.O.P. are obligatory for all additional works.

1.13. The following units of measurement and abbreviations are used in the S.O.P.

• Lump Sum : LS
1.14. Abbreviation LS (Lump Sum Price) – standard identification of "Total price". "Total price" means the comprehensive price for the whole complete unit.

Price Schedule Form[2]

The Bidder is required to prepare the Price Schedule as indicated in the Instruction to Bidders.

The Price Schedule must provide a detailed cost breakdown of all goods, works and related services to be provided.

Any estimates for cost-reimbursable items, such as travel of experts and out-of-pocket expenses, should be included in the total quoted price (**i.e. the quoted total lump-sum price should be all-inclusive**).

The format shown on the following pages should be used in preparing the Price Schedule.

General

1. The Price Schedules are divided into separate Schedules as follows:

   Schedule No. 1: Plant and equipment (including Mandatory Spare Parts)

   Schedule No. 2: Detailed Design Services

   Schedule No. 3: Installation, construction and Other Services

   Schedule No. 4. Special Tools

   Grand Summary

   Schedule No. 5: Recommended Spare Parts (provisional)

2. The Schedules do not generally give a full description of the plant to be supplied and the services to be performed under each item. Bidders shall be deemed to have read the Employer's Requirements and other sections of the Bidding Documents and reviewed the Drawings to ascertain the full scope of the requirements included in each item prior to filling in the rates and prices. The entered rates and prices shall be deemed to cover the full scope as aforesaid, including overheads and profit.

3. If bidders are unclear or uncertain as to the scope of any item, they shall seek clarification in accordance with instructions to bidders prior to submitting their bid.

Pricing

4. Prices shall be filled in indelible ink, and any alterations necessary due to errors, etc., shall be initialled by the Bidder.

   Prices shall remain fixed and firm for the duration of the Contract.

5. Bid prices shall be quoted in the manner indicated and in the currencies specified in the Instructions to Bidders in the Bidding Document.

   For each item, bidders shall complete each appropriate column in the respective Schedules, giving the price breakdown as indicated in the Schedules.

   Prices given in the Schedules against each item shall be for the scope covered by that item as detailed in volume III (Employer's Requirements) or elsewhere in the Bidding Documents.

6. Payments will be made to the Contractor in USD currency.

[2] *No deletion or modification may be made in this form. Any such deletion or modification may lead to the rejection of the Bid.*

7. The Contractor shall provide the Employer with a breakdown of any composite or lump sum items included in the Schedules.

   In addition to the spares parts identified and included in the respective Technical Specifications, the Bidder shall recommend any additional spares parts that he may deem appropriate for the long term operation and maintenance of the Works. These recommended additional spares shall be taken up at the option of the Employer. The Bidder shall list and price each separate recommended additional spare part in Schedule 5 Recommended Spare Parts. The price of recommended spare parts identified and included in the respective Technical Specifications shall not be included in the Bid Price and shall be not be considered in the financial evaluation for determining the lowest bidder.

   The recommended additional spare parts should be made available upon demand, and in case required, for take up by the Employer and the price shall remain valid for a period of 24 months from the date of Bid submission.

Schedules of Rates and Prices

Schedule No. 1. Detailed Design Services

Item	Description	Unit	Quantity	Unit Price USD	Total Price USD
1.1	DETAILED Design Complete Contractor's Documents	LS	1		
	Refer to employer requirements (volume III) for details on the scope and criteria of detailed design needed				
	TOTAL (to be carried to Grand Summary)				

Total (in words):----------

Bidder Name: ----------

Bidder's authorized person Name & title: ----------

Authorized Signature and Co. Stamp: ----------

Date: ----------

Schedule No. 2. Plant/equipment and Mandatory Spare Parts

Item	Description	Code[1]	Unit	Quantity	Unit Price (USD)	Total price (USD)
				(1)	*(2)*	*(1) x (2)*
	Hydro-Mechanical Plant					
2.1	An overflow weir level sensors, bottom outlet gate together with all associated plant, embedded items and spares.		LS	1		
2.2	Intake Trash screens, intake gate, access platform, hoisting gantry,hand-railing and together with all associated plant, embedded items and spares.		LS	1		
2.3	Steel Penstock together with all associated plant, embedded items and spares.		LS	1		
	Mechanical & Electrical Plant					
2.4	Main inlet valves including hydraulic operating mechanism and all associated equipment together with spares.		LS	2		
2.5	Turbine and governor units including all associated auxiliary equipment together with spares.		LS	1		
2.6	Power house hoisting gantry including all associated equipment together with spares.		LS	1		
2.7	Powerhouse, management house, warehouse, auxiliary systems including all associated equipment, together with spares.		LS	1		
2.8	Maintenance Workshop, equipment, tools and spares.		LS	1		
2.9	Fire detection and fighting systems for the power house and sub-station including all associated equipment together with spares.		LS	1		
2.10	Generators including excitation and all associated auxiliary equipment together with spares		LS	2		
2.11	Generator transformer including all associated equipment together with spares (2 proposed).		LS	2		

Item	Description	Code[1]	Unit	Quantity	Unit Price (USD)	Total price (USD)
				(1)	*(2)*	*(1) x (2)*
2.12	HV switch yard equipment including 11 kV Vacuum outdoor circuit breaker (VCB), line disconnect switches, CTs, VTs, and surge arrestors, together with all associated fittings, fixtures, equipment and spares.		LS	1		
2.13	Automation control components including all associated fittings, fixtures, equipment and spares.		LS	1		
2.14	Station and HV switchyard protection relay system including all associated fittings, fixtures, equipment together with spares.		LS	1		
2.15	400 V switch boards including circuit breakers, MCB distribution and all associated equipment together with spares.		LS	1		
2.16	DC systems including power house and switchyard chargers, batteries and distribution boards, Uninterruptible Power Supply (UPS) for control system, together with all associate equipment and spares.		LS	1		
2.17	Cabling systems for the complete Works including all fixtures, fittings and spares.		LS	1		
2.18	Lighting and power outlet systems for the complete Works including all fixtures, fittings and spares.		LS	1		
2.19	Earthing and protection systems for the complete Works including all fixtures, fittings and spares.		LS	1		
2.20	Mobile phones and radios with spares		LS	1		
	TOTAL (to be carried to Grand Summary)					

Total (in words):----------

Bidder Name: ----------

Bidder's authorized person Name & title: ----------

Authorized Signature and Co. Stamp: ----------

Date: ----------

[1] Bidders shall enter a code representing the country of origin of all plant and equipment.

Schedule No. 3. Installation, civil works and Other Services

Item	Description	Unit	Quantity	Unit Price (USD)	Total price (USD)
			(1)	*(2)*	***(1) x (2)***
	Civil works				
3.1	Overflow weir & spillway structure, intake structure, including access and security lighting, fencing and landscaping.	LS	1		
3.2	Forebay Structure including access, security lighting and fencing and landscaping.	LS	1		
3.3	Steel penstock including, support structures, surface water drainage structures, security lighting, fencing, access walkways and landscaping.	LS	1		
3.4	Powerhouse and tailrace structures including all building works, building services, surface and foul water drainage and oil separation facilities.	LS	1		
3.5	Substation including all associated foundations, transformer bays, mechanical and electrical services, cable ducts, surfacing, surface water drainage, oil separation facilities, security lighting and fencing.	LS	1		
3.6	Power station environs including multi-facility building, guard house, all building works, building services, potable water treatment facilities, surface and foul water drainage structures, access roads, signage, security lighting and fencing and landscaping.	LS	1		
3.7	Power station main access road including surface water drainage structures and landscaping.	LS	1		
3.8	Access roads to link all components of the new scheme including surface water drainage structures and landscaping.	LS	1		

Item	Description	Unit	Quantity	Unit Price (USD)	Total price (USD)
			(1)	*(2)*	***(1) x (2)***
3.9	Powerhouse, workshop, management house, staff house, warehouse including all associated equipment/furnishing, building services, water supply and treatment system, sewage disposal system, access roads, external lighting and landscaping.	LS	1		
	Hydro-Mechanical Plant				
3.10	Intake gate, trash screens, gantry hoist, access platforms, level sensors hand-railing together with all associated plant and embedded items.	LS	1		
3.11	Penstock including together with all associated plant, embedded items.	LS	1		
	Mechanical & Electrical Plant				
3.12	Intake valves including hydraulic operating mechanism and all associated equipment.	LS	2		
3.13	Turbine and governor units including all associated auxiliary equipment.	LS	2		
3.14	Generator including excitation and all associated auxiliary equipment.	LS	2		
3.15	Generator transformer including all associated equipment.	LS	1		
3.16	Powerhouse hoist including all associated equipment.	LS	1		
3.17	Drainage system including pumps valves and all associated pipe work and equipment.	LS	1		
3.18	Maintenance Workshop equipment and tools.	LS	1		
3.19	Fire detection and fighting systems including all associated equipment.	LS	1		
3.20	HV switch yard equipment including 11 kV vacuum outdoor circuit breaker (VCB), line disconnect switches, CTs, VTs, and surge arrestors, together with all associated fittings, fixtures,	LS	1		

Item	Description	Unit	Quantity	Unit Price (USD)	Total price (USD)
			(1)	*(2)*	***(1) x (2)***
	equipment.				
3.21	Automation control components, control desk including all associated fittings, fixtures, equipment.	LS	1		
3.22	Station protection relay system including all associated fittings, fixtures, equipment.	LS	1		
3.23	400 V switch board including circuit breakers, MCB distribution and all associated equipment.	LS	1		
3.24	DC systems including power house and switchyard chargers, UPS, batteries and distribution boards together with all associate equipment.	LS	1		
3.25	Cabling systems for the complete Works including all fixtures and fittings.	LS	1		
3.26	Lighting and power systems outlets for the complete Works including all fixtures and fittings.	LS	1		
3.27	Earthing systems for the complete Works including all fixtures, fittings.	LS	1		
3.28	Mobiles and radios equipment.	LS	1		
3.29	HV substation control & monitoring system including all associated fittings, fixtures, equipment.	LS	1		
3.30	Station protection relay system including all associated fittings, fixtures, equipment.	LS	1		
	Training and Factory Acceptance Tests				
3.31	Training of Employer's/beneficiary Personnel in the following key areas - Detailed design - Procurement and logistics - Civil construction - Equipment installation - Quality control and monitoring	LS	1		

Item	Description	Unit	Quantity	Unit Price (USD)	Total price (USD)
			(1)	*(2)*	***(1) x (2)***
	- Commissioning and testing - Operation and maintenance As required in the bid data sheet in volume I				
	Others **Please specify if applicable**	LS	1		
				TOTAL (to be carried to Grand Summary)	

Total (in words):----------

Bidder Name: ----------

Bidder's authorized person Name & title: ----------

Authorized Signature and Co. Stamp: ----------

Date: ----------

Schedule No. 4. Special Tools

Item	Description	Code[1]	Unit	Quantity	Unit Price USD	Total Price USD
4.1	**Special Tools**					
	Refer to the relevant technical specifications in the tender documents for scope of requirements		LS	1 package		
		TOTAL (to be carried to Grand Summary)				

Total (in words):----------

Bidder Name: ----------

Bidder's authorized person Name & title: ----------

Authorized Signature and Co. Stamp: ----------

Date: ----------

Grand Summary

Item	Description	Total Price USD
1	Total Schedule No. 1. Detailed Design Services	
2	Total Schedule No. 2. Plant, and Mandatory Spare Parts	
3	Total Schedule No.3. Installation, civil works and Other Services	
4	Total Schedule No. 4. Special Tools	
	Grand Total (USD) – Excluding Value Added Tax (VAT) - Excluding taxes and duties	

Grand Total (in words):----------

Bidder Name: ----------

Bidder's authorized person Name & title: ----------

Authorized Signature and Co. Stamp: ----------

Date: ----------

Schedule No. 5. Recommended Spare Parts
(not part of the total bid price)

Item	Description	Code[1]	Unit	Qty.	Unit Price[1]	Total Price[1]
5.1	Bidder to list details and prices of other Recommended Additional Spare Parts below:		LS	1		
					TOTAL	

Total (in words):----------

Bidder Name: ----------

Bidder's authorized person Name & title: ----------

Authorized Signature and Co. Stamp: ----------

Date: ----------

Operating and Maintenance Costs

Since the operating and maintenance costs of the facilities being procured form a major part of the life cycle cost of the facilities, these costs will be evaluated according to the principles given hereafter, including the cost of spare parts for the initial period of operation stated below and based on prices furnished by each Bidder in Price Schedule No. 1, as well as on past experience of the Employer or other Employers similarly placed.

The operating and maintenance costs factors for calculation of the life cycle cost are:

(i) Number of years for life cycle: 50 years

(ii) Operating costs and,

(iii) Maintenance costs, including the cost of spare parts for the initial 10 years period of operation,

iv) a rate of 8% (eight per cent) to be used to discount to present value all annual future costs calculated under (ii) and (iii) above for the period specified in (i).

Maintenance, asset disposal, training, cost of upgrades, energy consumption, resources used in manufacture and cost of duplicate service during installation are all examples of costs that could be evaluated. **If the UNDP evaluation panel finds out that the proposed equipment/plant has unreasonably high Operating and Maintenance Costs, then UNDP reserves the right to ask the bidder, whose offer is being evaluated, to propose an alternate plant/equipment with reasonable and acceptable Operating and Maintenance Costs, but without changing his bid price. The UNDP assigned project technical committee will ensure selecting plant/equipment which proves to be the lowest in total cost of ownership. In this regard, UNDP reserves the right to reject any proposals if the rsepctive bidder fails or declines to propose alternate plant/equipment with reasonable and acceptable Operating and Maintenance Costs (with reference to the applicable Standards & Norms).**

Price Breakdown by Cost Component:
The Bidders are requested to provide the price breakdown for the above given prices for each deliverable (LS). UNDP shall use the price breakdown for the price reasonability assessment purposes as well as the calculation of price in the event that both parties have agreed for additional set of goods, works and/or related services.
Personnel (professional staff) cost
Labor cost
Materials cost
Equipment cost
Overhead
Profit
Other expenses
The bidder can include the cost components he deems necessary for proper showing of his price structure.

Terms and Procedures of Payment

The Employer shall pay the Contractor in the following manner and at the following times, on the basis of the Price Breakdown given in the section on Price Schedules. Payments will be made in the currencies quoted by the Bidder. Applications for payment in respect of part deliveries may be made by the Contractor as work proceeds.

TERMS OF PAYMENT

Schedule No. 1. Detailed Design.

In respect of design services the payments shall be made as follows:

i. Advance payment at 15% of the design costs
ii. Submission of basic design - 15%
iii. Submission of detailed design - (70%)

Schedule No. 2. Plant and Equipment Supplied

In respect of plant and equipment supplied, the following payments shall be made:

Fifteen percent (15%) of the total DAP (exclusive of domestic taxes) amount as an advance payment against receipt of invoice and an irrevocable advance payment security for the equivalent amount made out in favor of the Employer.

Seventy-five percent (75%) of the total or pro rata DAP (exclusive of domestic taxes) amount upon *Incoterm* "DAP," upon delivery to Site within forty-five (45) days after receipt of invoice.

Five percent (5%) of the total or pro rata DAP (exclusive of domestic taxes) amount upon issue of the Completion Certificate, within forty-five (45) days after receipt of invoice.

Five percent (5%) of the total or pro rata DAP (exclusive of domestic taxes) amount upon issue of the Operational & final Acceptance Certificate, within forty-five (45) days after receipt of invoice.

Schedule No.3____ Installation, civil works and Other Services

In respect of installation& civil works services, the following payments shall be made:

Fifteen percent (15%) of the total installation & civil works services amount as an advance payment against receipt of invoice, and an irrevocable advance payment security for the equivalent amount made out in favor of the Employer. The advance payment security may be reduced in proportion to the value of work performed by the Contractor as evidenced by the invoices for installation services.

Seventy-five percent (75%) of the measured value of work performed by the Contractor, as identified in the said Program of Performance, during the preceding month, as evidenced by the Employer's authorization of the Contractor's application, will be made monthly within forty-five (45) days after receipt of invoice.

Five percent (5%) of the total or pro rata value Installation & civil works services performed by the Contractor as evidenced by the Employer's authorization of the Contractor's monthly applications, upon issue of the Completion Certificate, within forty-five (45) days after receipt of invoice.

Five percent (5%) of the total or pro rata value of Installation & civil works performed by the Contractor as evidenced by the Employer's authorization of the Contractor's monthly applications, upon issue of the Operational & final Acceptance Certificate, within forty-five (45) days after receipt of invoice.

Schedule No. 4. Special Tools.

In respect of special tools, the following payments shall be made:

Fifteen percent (15%) of the total DAP (exclusive of domestic taxes) amount as an advance payment against receipt of invoice and an irrevocable advance payment security for the equivalent amount made out in favor of the Employer.

Eighty five percent (85%) of the total or pro rata DAP (exclusive of domestic taxes) amount upon *Incoterm* "DAP," upon delivery to Site within forty-five (45) days after receipt of invoice.

PAYMENT PROCEDURES

The procedures to be followed in applying for certification and making payments shall be as follows:

The contractor shall submit invoices that shall be certified by the Project Manager. The certified invoices shall be submitted for payment by the Project Manager and payment shall be as detailed above. The invoices shall be accompanied with appropriate forms and certificates annexed by the Employer in the bidding documents.

Price Adjustment

Not Applicable. The contractor prices shall remain firm and fixed for the whole duration of the Contract (and any future time extensions to the contract if it occurs)