

RÉPUBLIQUE DU CAMEROUN
Paix – Travail – Patrie

MINISTÈRE DE LA DÉCENTRALISATION ET DU
DÉVELOPPEMENT LOCAL

RÉGION DU NORD OUEST

DÉPARTEMENTALE DE LA MOMO

COMMUNE DE NJIKWA



REPUBLIC OF CAMEROON
Peace – Work – Fatherland

MINISTRY OF DECENTRALISATION AND
LOCAL DEVELOPMENT

NORTH WEST REGION

MOMO DIVISION

NJIKWA COUNCIL

NJIKWA COUNCIL INTERNAL TENDERS BOARD

OPEN NATIONAL INVITATION TO TENDER, EMERGENCY PROCEDURE

TENDER FILE

OPEN NATIONAL INVITATION TO TENDER, EMERGENCY
PROCEDURE N° 10/ONIT/NCITB/NC/2024 OF 11/04/2024 FOR THE
CONSTRUCTION OF A MINI-SOLAR PLANT AT NJIKWA, NJIKWA
MUNICIPALITY, MOMO DIVISION OF THE NORTH WEST REGION

PROJECT OWNER: THE LORD MAYOR OF NJIKWA COUNCIL

FINANCING: MINEE PUBLIC INVESTMENT BUDGET - 2024 FINANCIAL YEAR

AUTHORIZATION NUMBER:
IMPUTATION:

NAME OF PROJECT	AMOUNT OF PROJECT	AMOUNT OF BID BOND	COST OF TENDER FILE :	FINANCIAL YEAR
CONSTRUCTION OF A MINI-SOLAR PLANT AT NJIKWA, NJIKWA MUNICIPALITY,	30,000,000 FCFA	600,000 FCFA	40,000 FCFA	2024



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Document N° 4

SPECIAL ADMINISTRATIVE CONDITIONS
(SAC)

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Chapter I: General

Article 1: Subject of Contract

The subject of this Contract shall be the CONSTRUCTION OF A MINI-SOLAR PLANT AT NJIKWA, NJIKWA MUNICIPALITY, Momo Division of the North-West Region.

Article 2: Contract award procedure

This Contract shall be awarded by Open National Invitation to Tender N° 10/ONIT/NCITB/NC/2024 OF 11/04/2024.

Article 3: Definitions and duties (article 2 of GAC supplemented)

3.1 General definitions (cf. Code)

- ✓ The Contracting Authority shall be the Mayor NJIKWA Council; in this respect he preserves the original documents relating to the contract and transmits copies to the Public Contracts Regulatory Agency.
- ✓ the control brigade of MINMAP shall control all the equipment supplied to ensure that this jobbing order is respected.
- ✓ The Project Manager shall be the CDO Njikwa Council. In this capacity, he shall prepare and provide documents in respect to the administrative, technical and financial clauses of this contract.
- ✓ The Contract Engineer shall be the Divisional Delegate of Water Resources and Energy for Momo. He shall, validate the different crucial phases of work done, from the installation of the Contractor to the Provisional Technical Reception.
- ✓ **The Contractor shall be [to be specified].**

3.2 Security

This Contract may be secured by the use of any form of transfer of the debt.

In this case:

- The authority in charge of ordering payment shall be the Mayor Njikwa Council (Authorizing Officer);
- The authority in charge of clearance shall be the Divisional Finance Controller for Momo;
- The body or official in charge of payment shall be the Njikwa Council treasury;
- The official competent to furnish information within the context of execution of this Contract shall be the Mayor Njikwa Council.

Article 4: Language, applicable law and regulation

1.2 The language to be used shall be *English or French*.

1.3 The Contractor shall be bound to observe the law, regulations and ordinances in force in Cameroon both within his own organization and in the execution of the Contract.

If the laws and regulations in force at the date of signature of this Contract are amended after the signature of the Contract, the possible direct resulting costs shall be taken into account without gain or loss for either party.

Article 5: Constituent documents of the Contract (Article 4 of GAC)

The constituent Contractual documents of this Contract are in order of priority:

- 1) The tender or commitment letter;
- 2) The bidder's tender and its annexes in all provisions not contrary to the Special Administrative Conditions (GAC) and the Special Technical Conditions (STC) hereunder;

- 3) The Special Administrative Conditions (SAC);
- 4) The Special Technical Conditions (STC);
- 5) The particular elements necessary for the determination of the Contract price, such as, in order of priority: the unit price schedule, the statement of all-in prices, detailed estimates, the breakdown of all-in prices and the sub-details of unit prices;
- 6) Plans, calculation notes, trial documents, geotechnical documents;
- 7) The General Administrative Conditions applicable on Public works Contracts that went into effect by Order N°. 033/CAB/PM of 13 February 2007;
- 8) The General Technical Condition(s) applicable on the services forming the subject of the Contract.

Article 6: General instruments in force

This Contract shall be governed by the following general instruments:

1. Framework Law N°. 96/12 of 5th August 1996 on the management of the environment;
2. The Mining Code;
3. Instruments governing the various professional bodies;
4. Decree N°. 2001/048 of 23rd February 2001 relating to the Setting up, Organization and Functioning of the Public Contracts Regulatory Agency
5. Decree N°. 2003/651/PM of 16th April 2003 to lay down the Procedure for Implementing the Tax and Customs System applicable to Public Contracts;
6. Decree N°. 2018/366 of 20th June 2018 to institute the Public Contracts Code;
7. Decree N°. 2012/075 of 8th March 2012 to organise the Ministry in charge of Public Contracts;
8. Law No 2019/024 of 24/12/ 2019 bearing on the General code of Regional and Local Authorities.
9. Letter N°. 00908/MINTP/DR of 1997 to publish guidelines for the consideration of environmental impact of road maintenance;
10. Circular N° 01/CL/MINFI/MINDDEVEL of 4TH JANUARY 2024 relating to the execution, monitoring and control of the execution of the budgets of regional and local authorities for the 2024 financial year;
11. Unified Technical Documents (DTU) for building works;
12. Applicable standards;
13. Other instruments specific to the domain concerned with the Contract.

Article 7: Communication (Articles 6 and 10 supplemented)

7.1 All notifications and written communication within the framework of this Jobbing order shall be sent to the following address:

- a) In the case where the contractor is the addressee: beyond the time-limit of 15 days fixed in Article 6 (1) of the GAC to make his domicile known to the Contract manager and immediately after completion of the works, correspondences shall be validly address to council where the Contractor Resides.
- b) In the case where the Contracting Authority in the addressee: Mayor Njikwa Council with copies addressed to the Contract manager and the Engineer.

7.2 The contractor shall address all written notifications or correspondences to the Engineer with a copy to the Contract manager.

Article 8: Administrative Orders (Article 8 of GAC)

The various Administrative Orders shall be established and notified as follows:

- 8.1 The Administrative Order to start execution of works shall be signed by the Contracting Authority and notified to the Contractor by the Project Owner with a copy to the Contracting Authority, the

Contract Manager, Contract Engineer, the Paying Body and the Project Manager, where applicable.

- 8.2 Upon proposal by the Project Owner, Administrative Orders with an incidence on the objective, the amount and execution deadline shall be signed by Contracting Authority and notified by the Project Owner to the Contractor with a copy to the Contracting Authority, the Contract Manager, the Contract Engineer, the Project Manager and the Paying Body. The prior endorsement of the Paying Body shall possibly be required before the signature of those that have an incidence on the amount.
- 8.3 Administrative Orders of a technical nature linked to the normal progress of the work and without financial incidence shall be signed directly by Contract Manager and notified to the Contractor by the Contract Engineer or Project Manager (where applicable) with a copy to the Delegated Contracting Authority and Contract Manager.
- 8.4 Administrative Orders serving as warnings shall be signed by the Contracting Authority and notified to the Contractor by the Contract Engineer with a copy to the Project Owner and Project Manager.
- 8.5 Administrative Orders for suspension or resumption of work as a result of the weather or any other case of force majeure shall be signed by the Contracting Authority and notified by the Contract Engineer to the Contractor with a copy to the Project Owner, Contract Manager and Project Manager.
- 8.6 Administrative Orders prescribing works necessary to remedy disorders which could appear on structures during the guarantee period and not related to normal usage shall be signed by the Contract Manager upon the proposal of the Contract Engineer and notified to the Contractor by the Contract Engineer.
- 8.7 The Contractor has a time-limit of fifteen (15) days to issue reservations on any Administrative Order received. Having reservations shall not free the enterprise of executing the Administrative Orders received.
- 8.8 Concerning Administrative Order signed by the Contracting Authority and notified by the Project Owner, the notification must be done within a **maximum of 30 days** from the date of transmission by the Contracting Authority to the Project Manager. **Beyond this deadline, the Contracting Authority shall establish the default of the Project Owner, take over from him and carry out the said notification.**

Article 9: Contracts with conditional phases (Article 9 of GAC)

- 9.1 This Contract has one phase.
At the end of phase one, the Project Owner shall carry out the acceptance of the works and issue an attestation of proper execution to the Contractor.
- 9.2 The time-limit granted for notification of the Administrative Order to start execution shall be five (5) days.

Article 10: Contractor's equipment and personnel (Article 15 of GAC supplemented)

- 10.1 Any modification, even partial, made to the technical bid shall only occur after the written approval of the Contract Manager. In case of modification, the Contractor shall have himself replaced by a member of staff of equal competence (qualifications and experiences).
- 10.2 In any case, the lists of supervisory staff to be used shall be subject to the approval of the Project Owner in the days following notification of the Administrative Order to start execution. The Project

Manager has **five (5) days** to notify his opinion in writing with a copy sent to the Contract Manager. Beyond this time-limit, the staff list shall be considered as approved.

- 10.3 Any unilateral modification on the supervisory staff made in the technical bid prior to and during the works shall be a reason for termination of the Contract as mentioned in article 45 below or the application of penalties [to be specified where need be].

Chapter II: Financial conditions

Article 11 Guarantees and bonds (Articles 29 and 41 of GAC)

11.1 Final bond

The final bond shall be set at 2% of the amount of the Contract, inclusive of all taxes.

It is constituted and transmitted to the Contract Manager within a maximum deadline of twenty (20) days of the notification of the Contract.

The bond shall be returned or the guarantee released within one month following the date of provisional acceptance of the works, following a release issued by the Contracting Authority upon request by the Contractor.

11.2 Performance bond

The retention fund shall be set at 10 % of the amount of the Contract, inclusive of all taxes.

The return or release of the retention fund or security shall be done within one month after final acceptance by release issued by the **Contracting Authority** upon request by the Contractor.

11.3 Guarantee of start-off advance

The contractor may be granted a start off amount of 20% of the Jobbing Order amount (inclusive of taxes) upon request.

The start-off payment shall be guaranteed at 100% by a Cameroonian bank recognized by the Ministry in charge of Finance.

Article 12: Amount of the Contract (Articles 18 and 19 of GAC supplemented)

The amount of this Contract as indicated by the attached [detail or estimates] is _____ (in figures) _____ (in letters) CFA francs Inclusive of All Taxes; that is:

- Amount exclusive of VAT: _____ (_____) CFA F
- Amount of VAT: _____ (_____) CFA F.
- Amount of AIR _____ CFA F
- Net to be paid= EVAT- AIR

Article 13: Place and method of payment

The Project Owner shall release the sums due in the following manner:

- a. For payments in CFA francs (*amount in figures and letters exclusive of taxes*) by credit to account N°. _____ Open in the name of the Contractor in the _____ bank.
- b. For payments in foreign currencies (*amount in figures and letters exclusive of taxes*) by credit to account N°. _____ Open in the name of the Contractor in _____ bank.

Article 14: Price variation (Article 20 of GAC)

13.1 Prices shall be firm.

- a. Payments on account made to the Contractor as advances shall not be revisable.
- b. Revision shall be "frozen" upon expiry of the Contractual time-limit, except in the case of price reductions.

13.2 Price updating modalities (not applicable)

Article 15: Price revision formulae (article 21 of GAC)

(not applicable)

Article 16: Price updating formulae (article 21 of the GAC)

(not applicable)

Article 17: Works under State supervision (Article 22 of GAC supplemented)

17.1 The percentage of works under State supervision shall be 2 % of the amount of the Contract and its additional clauses, where applicable.

17.2 In the case where the Contractor were invited to execute works under State supervision, the submitted and duly justified expenditures shall be reimbursed to him under the following conditions:

- The quantities considered shall be the hours used or the quantities of building materials and materials used that was the subject of joint job cost sheets;
- The remunerations and salaries effectively paid to local labour shall be increased by forty percent (40 %) to take account of social benefits;
- The hours put in by the heavy equipment shall be counted at the rate featuring in the sub-detail of prices;
- building materials and materials shall be reimbursed at cost price duly justified at the place of use, marked up by ten percent for loss, stocking and handling;
- The amount for services thus calculated, including the hours put by heavy equipment shall be marked up by 25 % to take into account the overheads, profits and the Contractor's unforeseen.

Article 18: Evaluation of works (article 23 of the GAC)

The work done shall be evaluated using the unit price.

Article 19: Evaluation of supplies (article 24 of the GAC supplemented)

19.1 Materials supplied shall be received by the competent technical commission. The contractor shall present purchase receipts for these materials.

19.2 No security shall be requested for payments on account on supplies.

Article 20: Advances (article 28 of the GAC)

20.1 The Contracting Authority *may* grant a start-off advance equal to 20 % of the amount of the Contract.

20.2 This advance whose value cannot exceed twenty (20) percent of the initial amount inclusive of all taxes shall be guaranteed at one hundred (100) percent by a banking establishment governed by Cameroon law or a first-rate financial institution in accordance with the instruments in force and reimbursed by deduction of the payments on accounts to be paid to the Contractor during the

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execution of the Contract according to the modalities laid down in the Special Administrative Conditions.

20.3 The total amount of the advance must be reimbursed not later than when the value in basic price of the works reaches eighty (80) percent of the amount of the Contract.

20.4 As the reimbursement advances, the Project Owner shall issue the release of the corresponding part of the guarantee upon the express request by the Contractor.

20.5 The possibility of granting start-off advance or advance for supplies must be expressly stipulated in the Tender File.

Article 21: Payment for works (articles 26, 27 and 30 of the GAC supplemented)

21.1 Establishment of works executed

Before the 30th of each month, the Contractor and the Project Manager shall jointly establish a job cost sheet which summarises and fixes the quantities executed and established for each item on the schedule during the month and capable of giving entitlement to payment.

21.2 Monthly detailed account

No later than the fifth (5th) of the month following the month of the services, the Contractor shall hand over to the Project Manager two draft provisional monthly detailed accounts in seven copies (one detailed account exclusive of VAT and the other inclusive of taxes), according to the agreed model and establishing the total amount of the sums to which he may lay claim as a result of the execution of the Contract since the start of the Contract.

Only the detailed account exclusive of VAT shall be paid to the Contractor. The detailed account of the amount of the taxes shall be the subject of an entry into the budgets of the Ministry in charge of Finance

Only the amount exclusive of VAT shall be paid to the Contractor as follows:

- 100-2.2/5.5% paid directly into the account of the Contractor;
- 2.2 or 5.5% paid to the Public treasury as AIR due by the Contractor.

The amount of payment on account shall not exceed the value of the technical execution phases carried out.

Payment on account may be spread over the duration of the execution of the Jobbing Order according to technical execution phases as defined in the Jobbing order.

Payment on account shall take place within thirty (30) days from the date of transmission to the competent accounting officer, of the documents giving entitlement to payment.

The contractor shall transmit seven (7) copies of the partial invoices to the Engineer for approval before the 5th of the month following the works executed.

The Engineer shall within a time-limit of seven (7) days forward the approved partial invoices to the Contract manager.

The Contract manager has a maximum time-limit of twenty-one (21) days to sign the partial invoice and to produce the documents giving entitlement to payment on account and transmit same to the competent accounting officer.

21.3 Detailed account of start-off account (if applicable).

Article 22: Interest on overdue payments (Article 31 of the GAC)

Possible interests on overdue payments are paid by statement of sums due in accordance with article 88 of Decree N°. 2018/366 of 20th June 2018 to institute the Public Contracts Code.

Article 23: Penalties (Article 32 of the GAC supplemented)

A. Penalties for delay

23.1 The amount set for penalties for delays shall be set as follows:

- a) One two thousandths ($1/2000^{\text{th}}$) of the initial Contract amount all taxes inclusive per calendar day of delay from the first to the 30th day beyond the Contractual time-limit;
- b) One thousandth ($1/1000^{\text{th}}$) of the initial amount of the Contract inclusive of all taxes per calendar day beyond the 30th day.

23.2 The cumulated amounts of penalties for delay shall be limited to ten percent (10 %) of the initial Contract inclusive of all taxes.

B. Specific penalties

23.3 Independently of penalties for overrun of Contractual time-limit, the Contractor shall be liable for the following special penalties for the non-observation of the provisions of the Contract, especially:

- Late submission of final bond;
- Late submission of insurances, shall be one five thousandth ($1/5000^{\text{th}}$) of the initial Contract amount all taxes inclusive per calendar day of delay from the first to the 30th day beyond the Contractual time-limit;
- Late submission of the draft execution schedule if the lateness is caused by the Contractor shall be one five thousandth ($1/5000^{\text{th}}$) of the initial Contract amount all taxes inclusive per calendar day of delay from the first to the 30th day beyond the Contractual time-limit;

Article 24: Payment in case of a group of enterprises (article 33 of the GAC)

1. In the case of a group of enterprises, indicate the method of payment of co- and sub-Contractors, where need be.
2. Indicate the method of payment of sub-Contractors, where need be.

Article 25: Final detailed account (article 34 of the GAC)

25.1 After completion of the works and within a maximum time-limit of fourteen (14) days after the date of provisional acceptance, the Contractor shall establish, based on joint reports, the draft final detailed account of works executed and which detailed account summarises the total sums to which the Contractor may be entitled as a result of the execution of the whole Contract.

25.2 *The Contract Engineer has up to thirty (30) days to notify the corrected and approved draft to the Project owner.*

25.3 *The Contractor has up to thirty (30) days to return the corrected and approved final detailed account to the competent accounting officer.*

Article 26: General and final detailed account (article 35 of the GAC)

26.1 The Contract Manager or the Project Manager has up to thirty (30) days to establish the general detailed account and forward to the Contractor after final acceptance.

At the end of the guarantee period which results in the final acceptance of the works, the Authorising Officer draws up the general and final detailed accounts of the Contract which he had signed jointly by the Contractor and the Contracting Authority. This detailed account includes:

- the final detailed account,
- the balance
- the summary of monthly payments on account.

The signing of the general and final detailed account without reservation by the Contractor definitely binds the two parties, puts an end to the Contract, except with regard to interest on overdue payments.

26.2 The Contractor has up to thirty (30) days to return the signed final detailed account.

Article 27: Tax and customs regulations (article 36 of the GAC)

Decree №. 2003/651/PM of 16 April 2003 lays down the Terms and Conditions for Implementing the Tax regulations and Customs Procedures applicable to Public Contracts. The taxes applicable to this Contract include notably:

- Taxes and dues relating to industrial and commercial profits, including the IAR which is a deduction on company taxes;
- Registration dues in accordance with the Tax Code;
- Dues and taxes attached to the execution of services provided for in the Contract;
 - o Duties and taxes of entry into Cameroonian territory (customs duties, VAT, computer tax);
 - o Council dues and taxes;
 - o Dues and taxes relating to the extraction of building materials and water.

These elements must be included in the costs which the undertaking imputes on its running costs and constitute one of the elements of the sub-details of prices exclusive of taxes.

All taxes inclusive prices means VAT included.

Article 28: Stamp duty and registration of Contracts (article 37 of GAC)

Seven (7) original copies of the Contract shall be stamped by and at the cost of the Contractor, in accordance with the applicable regulations.

Chapter III: Execution of works

Article 29: Nature of the works (article 46 of GAC)

The works shall include especially:

Work to be done consists of

- ✓ Preparatory works
- ✓ Civil works
- ✓ Metal works
- ✓ Electrical works
- ✓ Solar energy installation
- ✓ Earthing system installation + protection
- ✓ Project sustainability
- ✓ Other expenses

Article 30: Roles and responsibilities of the Project Owner (GAC supplemented)

30.1 The Project Owner shall be bound to furnish the Contractor with information necessary for the execution of his mission and to guarantee, at the cost of the Contractor, access to sites of projects.

30.2 The Project Owner shall ensure the Contractor of protection against threats, insults, violence, assault and battery, slander or defamation of which he could be victim by reason of or during the exercise of his mission.

Article 31: Execution time-limit of the Contract (article 38 of the GAC)

31.1 The time-limit for the execution of the works forming the subject of this Contract shall be **one hundred and twenty (120) days**.

31.2 This time-limit shall run from the date of notification of the Administrative Order to commence execution of the works.

Article 32: Roles and responsibilities of the Contractor (article 40 of the CAG)

The detailed and general plan of progress of the works shall be communicated to the Contract Engineer in five (05) copies at the beginning of each month.

Article 33: Provision of documents and site (article 42 of the GAC)

A reproducible copy of the plans featuring in the Tender File shall be submitted by the Contract Engineer.

The Project Owner shall make available the site and access ways to the Contractor at the appropriate time as the works progress.

Article 34: Insurance of structures and civil liabilities (article 45 of GAC)

The Contractor shall take out a third-party risk insurance concerning persons, property or liabilities from an insurance company governed by the "CIMA" insurance code.

Article 35: Documents to be furnished by the Contractor (Article 49 of the GAC supplemented)

35.1 Programme of works, Quality Assurance Plan and pegging map.

a) Within a maximum deadline of fifteen (15) days from the date of notification of the Administrative Order to commence execution, the Contractor shall submit in six (6) copies for the approval of project owner after the endorsement of the Contract Engineer the execution programme of the works, his supply calendar, his draft Quality Assurance Plan and the Environment Management Plan, where applicable and the electricity network pegging map at scale 1/2500.

This programme shall be exclusively presented according to the furnished models.

Two (2) copies of these documents will be returned to him within a deadline of fifteen (15) days from the date of reception with:

- Either the indication "GOOD FOR EXECUTION";
- Or the indication of their rejection including the reasons for the said rejection.

The Contractor has eight (8) days to present a new draft. The Contract Manager or the Project Manager then has a deadline of five (5) days to give his approval or possibly make comments. Delay in approving the draft execution schedule shall stay the execution deadline.

The approval given by the Project Owner does not in any way release the Contractor of his responsibilities. Meanwhile, works executed before the approval of the programme shall neither be ascertained nor paid for. The updated and approved schedule will become the Contractual schedule.

The Contractor shall constantly update on site, a schedule that will take account of real progress of the site. Significant modifications may only be made on the Contractual programme upon receiving the approval of the contract engineer. After approval of the execution schedule by the Contract Manager, the latter shall transmit it within five (5) days to the Contracting Authority without staying its execution. However, if important modifications alter the objective of the Contract or the nature of the works, the Contracting Authority shall return the execution schedule accompanied by reservations to be lifted within fifteen (15) days of the date of reception.

b) The Environment Management Plan should bring out notably the choice technical conditions of the site and basic life, conditions of the backfill of the extraction sites and conditions for reinstating the works and installation sites.

c) The Contractor shall indicate in this schedule the equipment and methods which he intends to use as well as the personnel he intends to employ.

- d) The approval granted by the Contract Engineer shall in no way diminish the responsibility of the Contractor with regard to the harmful consequences which their implementation may cause both towards third parties and the respect of clauses of the Contract.

35.2 Execution draft

a) The execution plan documents (calculations and drawings) necessary for the realisation of all the parts of the structure must be submitted for the endorsement of the Contract Engineer at most fifteen (15) days prior to the date provided for the commencement of execution of the corresponding part of the structure.

b) The Contract Engineer has a deadline of five (05) days to examine and make known his observations. The Contractor then has a deadline of (04) four days to present a new file including the said observations.

35.3 In case of the non-observance of the approval deadlines of the above documents by the Administration, these documents shall be deemed to have been approved.

Article 36: Organisation and safety of sites (article 50 of the GAC)

36.1 Signboards at the beginning and end of each section must be placed within a maximum deadline of fifteen days after the notification of the Administrative Order to commence work. It must have the following characteristics: Height = 2.80m, width=1.20m, board thickness=2.5cm at 1.20m above the ground level. The Contract Engineer shall put at the Contractors' disposal the text to be used.

36.2 The services to inform in case of interruption of traffic or along the deviated itinerary: *[To be specified in accordance with article 50(2) of the GAC]*.

36.3 Indicate the special measures demanded of the Contractor, other than those provided for in the GAC, for rules of hygiene and safety and for circulation around or in the site.

Article 37: Implantation of structures

The Project Owner shall notify within [five] days following the date of notification of the Administrative Order to commence work, the basic points and levels of the project.

Article 38: Sub-Contracting (article 54 of the GAC)

The part of the works to be sub-Contracted shall be 30 % of the initial amount of the Contract and its additional clauses.

Article 39: Site laboratory and trials (article 55 of GAC)

39.1 Indicate if necessary, the modalities for carrying out the trials and geotechnical studies provided for in the Special Technical Conditions.

39.2 The Contract Manager has a deadline of three days to approve the Contractor's personnel and laboratory as soon as the request is made.

Article 40: Site logbook (article 56 of the GAC supplemented)

40.1 The Site logbook must be systematically jointly signed by the Project Manager or Engineer, where need be and the Contractor's representative each day.

40.2 It is a joint document in a single copy. Its pages must be numbered and initialled. No page should be removed. The erased or cancelled parts must be mentioned on the margin for validation.

Article 41: Use of explosives (article 60 of the GAC)

CHAPTER IV: ACCEPTANCE

Article 42: PROVISIONAL ACCEPTANCE

42.1 PRE- ACCEPTANCE OPERATIONS

Before the acceptance of the works the Contractor shall ask in writing to the Contract Engineer, to organize a technical visit for pre-acceptance. This visit shall include the following operations.

- Qualitative and quantitative evaluations of the different works that have been executed.
- Findings and statement of the unexecuted task envisaged in the present jobbing order.
- Findings relative to the completion of the work
- Findings on the quantity of works that have been effectively realized

These operations shall be subject to a site report drawn up on the field, signed by the following.

- Contract Engineer,
- Contractor,
- DDMINMAP.

During this pre-reception, the Engineer shall eventually specify the reserves to be lifted and the corresponding works to be effected before the reception. The Mayor shall fix the reception date in collaboration with the Engineer.

42.2 Acceptance

The acceptance commission shall comprise:

- 1- The Contracting Authority or his representative (Chairman)
- 2- The Contract Engineer.....(Secretary)
- 3- The contract manager.....(Member)
- 4- The project manager.....(Member)
- 5- The stores accountant at Njikwa Council(Member)
- 6- The Contractor or his Representative.....(Observer)
- 7- The DD MINMAP Momo or his representative.....(Observer)
- 8- The DD MINDDEVEL Momo or his representative.....(Observer)

The commission shall examine the report of the pre-acceptance and shall proceed to the acceptance. An acceptance report (process - verbal) of the works shall be prepared by the Contract Engineer and sign by all the commission members.

ARTICLE 43: DOCUMENTS TO BE FURNISHED AFTER EXECUTION

43.1 The contractor shall furnish within one (1) month after completion of the works five (05) copies of all working documents and drawings as executed, especially those relevant to the exploitation and maintenance of the works.

43.2 A penalty of 30% of the guarantee retention shall be retained in the event where the contractor fails to comply with Article 43.1 above.

Article 44: GUARANTEE PERIOD.

The guarantee period is one (01) year from the date of the provisional acceptance.

Article 45: Final acceptance (article 72 of the GAC)

Final acceptance shall take place within a maximum deadline of fifteen (15) days from the date of expiry of the guarantee.

The procedure for final acceptance shall be the same as for provisional acceptance

Chapter V: Sundry provisions

Article 46: Termination of the Contract (article 74 of the GAC)

The Contract may be terminated as provided for in Part III Paragraph IV of Decree N°. 2018/366 of 20th June 2018 and equally under the conditions laid down in articles 74, 75 and 76 of the GAC especially in one of the following cases:

- Delay of more than fifteen (15) calendar days in the execution of an Administrative Order or unjustified stoppage of more than seven (7) calendar days;
- Delay in work resulting in penalties of more than 10 % of the amount of the works;
- Refusal to repeat poorly executed works;
- Default by the Contractor;
- Persistent non-payment for services.

Article 47: Case of force majeure (article 75 of the GAC)

If the Contractor were to raise the issue of force majeure, the thresholds below which claims shall not be admitted are:

- *Rainfall: 200 millimetres in 24 hours;*
- *Wind: 40 metres per second;*
- *Flood: decennial flood frequency.*

Article 48: Disagreements and disputes (article 79 of the GAC)

Disagreements and disputes resulting from the execution of this Contract may be settled amicably. Where no amicable solution can be found for a disagreement, it is brought before *the competent court in the North-West Region of the Republic of Cameroon.*

Article 49: Production and dissemination of this Contract

seven (07) copies of this Contract shall be produced at the cost of the Contractor and furnished to the Contract Manager.

Article 49 and last: Entry into force of the Contract

This Contract shall be final only upon its signature by the Contracting Authority after obtaining a budgetary visa from the finance controller. It shall enter into force as soon as it is notified to the Contractor by the Contracting Authority.

Document N°. 5
SPECIAL TECHNICAL CONDITIONS
(STC)

CONTENT

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GENERAL DISPOSITIONS RELATING TO THE INSTALLATION OF SOLAR PHOTOVOLTAIC MODULES

1) Goal of the STC

This present STC helps to inform the bidder on the nature of the work to be done, the consistency, the size and the technical specifications to be observed. It is however not limited and the bidder has to execute as per the prices without exception nor reserves all the works contained in this tender file with all professionalism using cutting edge techniques. The diagrams and plans contained in this document are simple snoptic for ease understanding of the project.

2) Duties of the contractor

The fact that the contractor has to execute the job without modifying the technical prescription done by the engineer doesn't attenuate in any way his full and total responsibilities. However, a site visit will help to have a better visibility of the project to be done.

In the case of insufficiencies or errors, the contractor has to refer to the engineer in good time such that he will have enough time to submit the corrections. He the engineer remains responsible for the errors and has the singular ability to bring about the modifications or observation of this clause.

The contractor will be responsible for every destruction or accidents committed by his personnel in the cause of the works.

3) Nature of work

The nature of work described in this tender file is for the installation of solar plant in Njikwa municipality:

4) Normes and regulation texts

4.1- Normes and general texts

The consistency of the works is subject to prescriptions, laws, decrees, arretes, standards, norms and publications inforce in Cameroon and in relation to the management of the electricity sector and or the labour code. By default of these texts, the following recommendations from comité électrotechnique international (CEI) will apply:

- European norms CEN-CENELEC (EN) ;
- French norms AFNOR ;
- UTE norms – class C relating to electrical installation (NF C 10-100 ; NF C 10-101 ; NF C 10-200 ; NF C 13.100 ; NF C 14.100 ; NF C 15.100) and supplimentaries ;
- les Documents techniques unifiés (DTU).

4.2- Normes and texts relating to the installation of solar photovoltaic

The installation of solar photovoltaic of this present tender file must be in conformity to prescriptions, laws, decrees, arretes, standards, norms and publications inforce in Cameroon, and relating to renewable energy and low voltage electric installation:

- UTE C 57-300 : descriptive parameters for a photovoltaic system ;
- UTE C 57-310 : direct transformation from solar energy to electrical energy;
- NF EN 61727 : photovoltaic system(PV) – Characteristics and grid connected interface;
- NF EN 61173 : High voltage protection in solr photovoltaic systems and energy protection.
- CEI 61724 : suveillance of quality functioning of the solar photovoltaic system– Recommandations pour la mesure, le transfert et l'analyse des données
- NF EN 60904-3 (C57-323) photovoltaic Dispositive – Part: Measuring the photovoltaic characteristics Current-voltage - Part 3: Principle of measuring the solar photovoltaic dispositive (PV) to be used on the ground including spectral lighting which is reference.
- NF EN 61215 Silicon monocrystalline of polychrystalline photovoltaic modules (PV) : Qualification of the conception and homologation.
- NF EN 61730-1 (C 57-111-1) Qualification for the certainty of functioning of Part 1 photovoltaic modules: Demands for the construction.
- NF EN 61730-2 (C 57-111-2) Qualification for the certainty of functioning of Part 3 photovoltaic modules: Demands for Testing.

4.3- Normes and text relating to the installation of street lighting.

Solar lighting which is the subject of this tender file must be in conformity to prescriptions, laws, decrees, arretes, standards, norms and publications in force in Cameroon, and relating to the installation of street lighting. By default of these texts, the following recommendations will apply:

- NF EN 60598 on the safety of luminaries;
- UTE C 17-205 applicable to the characteristics of street lighting installations;
- NF C 17-200 Relating to installations destined for public streetlighting;
- NF C 17-202 applicable to illumination installations and lighting purposes;
- NF EN 13201 concerning public lighting parts 1, 2, 3 and 4.
- NF EN 40 concerning poles of public lighting.

4.4- Other textes

The fact that all the regulations have not been mentioned requires the contractor to conform to them. The contractor after signing the contract takes the responsibility to conceive and execute the project. He is called upon to submit his remarks on the design of this document before signing the contract. In case in the course of the execution of this project, new regulations are in forced, the contractor has to inform the engineer by writing specifying the modalities of applying the new regulations and their incidence in course.

5) Quality and source of material

All the material, appliances and diverse accessories to be used for this installation of this project must be new and of first quality.

The bidder has to furnish alongside his offer and the state of the material, a descriptive list of his suppliers and documents justifying the supply or an eventual partnership. In the course of the works, replacements of material will not be possible without autorisation from the engineer.

6) Site Organisations – duration – penalties

All necessarily measures for the execution of this present project must be respected: (supply and tempopary connections, time management, etc.). The contractor must ensure the supply of the materials in good time and the necessary supplies for a consistent work evolution. No material delivery will be used as an excuse for lateness on the prescribed schedule.

7) Hygiene, safety and conditions of work

7.1- General safety measures

All regulatory dispositions concerning hygiene and safety at work for workers must be respected by the contractor or by his sub contractor. In addition, it is also imperative to respect the dispositions of article 10 of this present STC.

7.2- Specific measures for safety

In other to reduce the risk encured in the course of working, the following safety measures subject to this tender file must be put in place :

- Lifting works: the use of individual protective equipments (helmet, overalls, gloves, safety shoes...); the use of appropriate lifting devices; the use of homologated tools and appliances for external use (tools, portable electrical tools, extension cords, mobile lamps, generator etc.);
- Electrical works : the use of individual protective equipments ; the use of collective safety material (protective bands, etc.) ; the respect of the right procedure in the installation;
- Working at heights : the use of appropriate temporal or permanent material (mobile ladders, scaffold, crinoline ladder,...) ; the use of individual protective equipment (helmet,...) ; signaling and limiting areas of work from risk zones of falling objects (barriers, bands, sign board...).

GENERALITIES

This descriptive notes and technical specifications are drawn up for the purpose of execution of construction projects. This document is intended mostly to help building contractors and site supervisors to maintain reliable standards in order to ensure that the final product would be of durable quality. Also these descriptive notes are for those to execute, supervise and the contractor, to direct and guide them towards quality choice of materials, method of job execution and conditions of execution in order to achieve this highly desired goal. Building materials concerned are generally what is accepted in the construction industry and only qualified technicians are required to transform these materials into structure clearly shown on the working drawings as its aesthetics is also very much dependent on the manipulation of the carefully chosen materials. The selected site has been found favorable to the envisaged structure in terms

of geotechnical cross-section, atmospheric conditions, topography, sewage disposal, and automobile and pedestrian accessibility. This document has been prepared also to serve the interests of persons who would occupy the houses constructed and those financing the construction as stakeholders who must be concerned about achieving quality in the final product.

THE CONSTRUCTION PROCESS AND SUPERVISION

Reliable standards must be maintained throughout the whole construction process in order to ensure that the built work is durable, is functionally sound and aesthetically satisfying. Simple time-tested methods that have proved effective in ensuring quality can be employed to make sure that problems do not develop later, which can be expensive and difficult to rectify. Close supervision of craftsmen and workers employed by the main contractor on the site is essential to make certain that all the elements that make up the building conform to acceptable standards of quality. The work of sub contractors too requires planning and supervision to ensure quality is maintained in all aspects of construction, including services.

CHOOSING SUPPLIERS AND PURCHASING MATERIALS

Conformity to the specifications should be the primary consideration and not the cheapest price when choosing suppliers and materials. Whenever and whatever the contractor aims to purchase, s/he should aim to buy:

- the right quality
- at the right time
- the right quantity
- from the right source
- at the right price

CONTENT OF THE STRUCTURE

- ✓ Preparatory works
- ✓ Civil works
- ✓ Metal works
- ✓ Electrical works
- ✓ Solar energy installation
- ✓ Earthing system installation + protection
- ✓ Project sustainability
- ✓ Other expenses

He will proceed to a careful study of the project and make observations and finished modifications to the Architect before commencement of work. All supplementary tasks must be verified and signed by the supervisor. Careful studies must be done before commencement of foundation.

PRELIMINARY WORKS

Determine requirements –plant/equipment, materials, and personnel

The contractor shall Study the plans and specifications in relation to the phases of construction, double check the accuracy of the Bill of Quantities, listed the materials required at each successive stage of construction then draw up a schedule of personnel required for carrying out the project to completion. He shall check the work planning 's time periods for completing each activity in sequence, taking into account holidays, inclement weather and other common factors that cause delays and determined the feasibility of completing work on schedule.

Building Site Installations

The contractor shall set up temporary constructions and facilities needed to execute the works, such as:

- Office of the Contractor equipped with tables, chairs and lock-up cupboards.
- Building site toilet facility(if it does not exist)
- Storehouse for materials
- Removal of temporary work (fences, field office, sheds, signs, etc.).

WORKS TO BE EXECUTED

Site preparation

This involves:

- Clearing the surface of grass and other vegetable matter as well as roofs of all, felled and fallen trees, plants etc. that come within the area of the proposed building/s;
- Removal of the topsoil at the site and stockpiled (in a suitable place) the removed topsoil for later reuse in the garden surrounding the proposed building;
- Ensuring that the area for the proposed building is properly drained of surface water so as to prevent the collection of water within or very near the proposed building area during and after construction is completed.

Locating of services on site

The contractor shall locate on site – the following?

- Area for storage of cement, aggregate, sand, timber, steel, bricks, stones;
- Concrete mixer and concrete mixing platform;
- Lock-up store for equipment and tools with necessary racks, bins etc;
- Steel bending bench;
- Temporary toilet/s for workers (if no off site toilet is available);
- A place where a First Aid kit can be accessible to all workers on site;
- A site office with racks for documents and basic furniture;

Positioning excavations for foundations

- Establish centre lines of principle walls and identified these with pegs and chords
- Use the centre lines to establish the side limits of excavations for wall foundations as per architectural/structural drawings

Foundation walls

Foundation walls are constructed by pouring concrete between sets of form work (the total system of support assemblies for freshly poured concrete, including mold, hardware and necessary bracing.) Once the concrete gains its full strength, the form work is removed. Foundation wall thickness is determined by a structural engineer who considers the height of the wall and the load it has to bear. (Structural load is the force or combination of forces of gravity, wind, and earth that acts upon the structural system of a home). Wall thickness varies from home to home, and even within a home.

Blinding concrete.

A 5cm thick lean concrete mix of 150kg/m³ (cpj 325) will be laid under foundation pads for pillar footings.

Mass Concrete

The ground floors and outdoor pavements of this building will be of mass concrete of dosage 300kg/m³ and following the rules and regulations of pavements and done independently and with finishes as required by design.

Reinforced concrete

Reinforced concrete is concrete in which reinforcement bars ("rebars"), reinforcement grids, plates or fibers have been incorporated to strengthen the concrete in tension. Concrete is strong in compression, but weak in tension, thus adding reinforcement increases the strength in tension. In addition, the failure strain of concrete in tension is so low that the reinforcement has to hold the cracked sections together. For a strong, ductile and durable construction the reinforcement shall have the following properties:

- High strength
- High tensile strain
- Good bond to the concrete
- Thermal compatibility
- Durability in the concrete environment

Reception for Reinforcements

Before concrete is cast, the Contractor must inform the supervisor that work has been completed in the assembling of reinforcements so that they can be approved. The Project engineer shall indicate the term

“Good for concreting” on the building site log, after reception, thereby authorizing the Contractor to proceed.

Formwork

All foundation concrete structures shall be made inside ordinary concrete forms, unless otherwise specified by the supervisor and should meet the following requirements:

- a) If the concrete box is made with timber that has simply been assembled, the boards must be of the same level and properly joined.
- b) If the ordinary form is made with fiberboard or plywood, the sides must be properly joined and be of the same level. The tolerated space between joints should be same as those between sawn timbers.
- c) Formwork for Reservations or recesses: Recesses intended for masonry fittings or other uses should be made using appropriate forms. Such forms should be put together in such a way that its parts can be removed with ease.

Pre-casting Preparations

a) Cleanness

The form must be free from hydrocarbon products such as grease, etc or by rust. The stains must be thoroughly cleaned up, if need be.

b) Cleaning

Before concreting, the concrete boxes must be carefully cleaned to remove all dust and debris. Compressed air should be used to finish the cleaning.

c) Watering

Timber forms must be sufficiently watered before concreting. It should be watered several times to make the wood as wet as possible, causing it to swell and close the joint gaps. The wet surfaces must not, however, be dripping with water. Excess water shall be blown out using compressed air.

d) Coating with oil

The following shall be oiled before concreting:

- Worked moulds of plywood or fiberboard and all moulds for fine dressing
- Excess oil in the moulds must be drained before concreting. The oils used should be special stripping oils
- The oil used must not touch the reinforcement rods.

Maintenance

If the moulds are to be used more than once they should be properly cleaned, and if necessary, repaired before being used again.

Safety of Workers and Others

Nails, bolts or projections should immediately be removed from used forms if they are to be used again. Otherwise, the forms should be burnt immediately or stored at a distance from the building site, in a place that is not accessible to the public.

CONSTITUENT MATERIALS OF CONCRETE

• Crushed Aggregate

All crushed aggregate on the building site should be stored in the compartments intended for this purpose. The only aggregate authorized on the building site is the following:

Crushed 0/5 gravel (river sand)

Crushed 5/15 fine gravel

Crushed 15/25 coarse gravel

Natural or crushed sand 0/5 (the quantity retained on a 5 mm sieve must be less than 10 %).

Crushed aggregate to the site shall be subject to prior approval of the supervisor. The latter must approve the origin of the aggregate. The aggregate should come from rivers, quarries or crushed stable rocks, free of foreign bodies, organic material, dust, mud and clay, whether it sticks to grit or not.

With respect to particle distribution, the following shall apply:

• Sand (Fine Aggregate)

Sand shall have the characteristics specified in the tables of approved tests. Sand must be fine, clean, hard, and sharp and must not stick to the hand. It must be free of any soil or limestone, wastes, debris and wood.

It should, if need be, be sieved and washed. The sand must come from approved quarries or from rivers. It must not contain more than 5% weight of grit passing through a sieve with 900 meshes per cm² and must not contain particles, whose biggest dimensions exceed the following limits:

- For mortar 0/2 mm
- For reinforced concrete 0/5 mm
- For non-reinforced concrete 10/5 mm

Cleanliness: The sand must have sand equivalent (SE) higher than 75.

• Cement

Cement shall be true Portland of standard brand and manufacture, i.e. CPA 45 or CPJ 35 type or equivalent.

The cement used should be artificial Portland cement 215.325 P.15.302 Standard. It should be supplied to the building site in six ply paper bags. Any humid cement shall be rejected and immediately removed from the building site.

The Contractor must inform the supervisor that he has received his supplies. Random samples could be taken from each lot and tested in an approved laboratory using the AFNOR P.15.301 Standard, at the contractor's expense.

The lots that do not meet the standards must be removed from the stock and taken away from the building site.

The bags must be in good shape, at the time they reach the site, and should be stored in a covered and completely dry place, and on a raised plank surface that is at least 10 cm above the ground.

• Reinforcements

All reinforcements or meshes must comply with BAEL 91 specifications. Iron rods must have French AFNOR 35.001 standard characteristics or similar. All reinforcements used in the construction project must be of the Fe E240 grade for smooth bars and the Fe E400 grade for high bond rods. The rods must be cut with shears.

The rod should be bent cold, either manually or mechanically. Hot bending may be allowed for high adhesive rods of a diameter equal to or larger than 32 mm, on condition that a control apparatus is used to avoid overheating, and on the approval of the Project Manager's representative. The diameter of the tube benders used for bending must comply with BAEL 91 rules and approval records. Anchor tabs shall be normal 45-degree elbows at right angle or double knee anchoring. The metal used shall be clean and free from calamine. Bars with defects such as blisters, cracks or hairlines that can affect tensile strength shall be rejected.

Concrete reinforcements shall be assembled to the exact dimensions indicated in the drawings provided by the consulting firm or the Contractor.

Reinforcements must be assembled in the workshop at the building site. They should never be assembled inside the form box if the cheek boards have already been put in place.

The space between the walls of the formwork and reinforcements should be at least 2.3 cm for elevation concrete and 4 cm for foundation concrete. These spaces should be obtained using prefabricated concrete or plastic shims, whose dimension should match the results to be obtained. The concrete shims should have wires to be used in tying them to the reinforcements. There should be enough shims and mounting bars to prevent the reinforcements from being deformed during handling and concreting.

If there are any doubts as to the quality of the iron rods supplied to the project site, the supervisor or his representative could, ask for tensile strength tests on the samples taken from the batch. Such tests would be done at the contractor's expense. The tests should be carried out by an approved body.

For floor beam frames, all measures should be taken to keep the bars raised and properly positioned around the supports. Enough vertical stirrup rods should be used to prevent any deformation. All overlaps should comply with BAEL 91 prescriptions.

Frames with traces of non-adhesive rust should be thoroughly brushed off before being placed in the forms. The reinforcements, whether assembled or not, should be stored on boards and not on bare ground.

The iron rods used must be supplied by a reputable and approved manufacturer with guaranteed and stamped production quality. The 6 mm diameter iron rods could be used for circles with diameters of 200: Ø.

The iron rods supplied must be at least 11.5 m long

- **Wood**

Wood for formwork: type white wood or equivalent

Wood for openings: type Bubinga or equivalent, dry wood (15-20% of humidity), having less than one node/meter.

Wood for roof: type hard wood, moabi, mouvingui, frake or equivalent, dry wood of identical humidity as above.

Wood for ceiling (knockings): identical qualities as above; with section 5x5cm

Plywood: 4mm in Ayous or equivalent wood, treated before use.

Rafters and Purlins: same wood type and quality of sections 5x15cm and 5x7.5cm respectively.

All wood shall be treated with xylamon or similar product.

SUMMARY ON DOSAGE PER 50KG BAG OF CEMENT

Designation	Cement	Sand	Gravel	Water	Dosage
Lean concrete	1 bag	3 wheel barrows	4 wheel barrows	Done in accordance with the directives of the	150kg/m ³
R. Concrete	1 bag	1 wheel barrows	2 wheel barrows		350kg/m ³
M. Concrete	1 bag	1.5 wheel barrows	2 wheel barrows		300kg/m ³
Mortar for plastering	1 bag	2 wheel barrows			400kg/m ³

Mortar:

Mortar shall be a mixture of 250 (two hundred and fifty) kilogrammes of cement per cubic metre of dry sand.

If the M250 mortar is more than 20 (twenty) millimeters thick, micro-concrete mixed with 300 (three hundred) kilogrammes of cement whose composition shall first of all be submitted for the Supervisor's approval shall be used. (Use mortar mixes for various structural components works as specified in project consulting documents).

- **Masonry work**

The foundation walls shall be done in black stone shaped or unshaped where need be or cement hollow block of 20x20x40cm filled with concrete mixed 150kg/m³ and cement mortar while the partition walls shall be erected in cement hollow blocks of 15x20x40cm and 10x20x20cm for toilet walls as shown in the working diagrams.

The locally produced blocks must be laid using cement mortar as specified.

- **Plastering**

Two coats of plaster of 2cm thick and two coats of (stucco) rendering 2.5cm thick shall be applied on the walls respectively in cement mortar of 400kg/m³ mix.

- **Carpentry and Joinery**

Timber will be gotten locally, well-seasoned and shall be free from shakes, defects, insects attack and dry rods. All doorframes are of hardwood panel timber.

Timber is sensitive to changes in temperature and moisture, therefore requiring special attention in Cameroon. Timber is also subject to deterioration by wood-destroying fungi, insect attack, weathering, mechanical wear as well as chemical action. It is therefore prudent to take measures to retard the deterioration of timber as far as possible. In view of the questionable quality of available timber, it is vital that some form of preservative be used prior to using the timber in a building.

OPENINGS

Metallic and wooden doors

All the doors and windows at sensitive areas shall be of high metal quality properly finished respecting the dimensions on the working drawings.

PAINTING

Procedure

- Thoroughly clean the surface to be painted before applying paint;
- Mix the recommended proportions of paint and water (As specified by the manufacturer) for water-based paints such as emulsion and cement paint;
- Mix the recommended proportions of paint for thinner (As specified by the manufacturer) for oil-based Enamel paints;
- Ensure that manufacturer's instructions are followed when applying overcoats on undercoats;
- Ensure that good quality brushes have been used for applying paint;
- Ensure the stability of working platform for painters;
- Ensure that all paint drippings are cleaned off while the paint is fresh

ROOF COVERING

All the timber for the roof trusses shall be eucalyptus or any hardwood obtained locally, well seasoned and shall be of straight grains, without defects and treated against insect attack with carbonyl most of the roof trusses shall be triangular. The rafters shall be of 2"x6" (5x15cm) and the purlins 2"x3" (5x8cm.) Oblique, horizontal and vertical wind braces shall be done to secure the truss from possible up heave due to wind pressures. The roof shall be tied to the building by diameter 6mm extended reinforcement bars. The roof slope, fall direction etc. is chosen in accordance with the manufacturers (AUBAC) specification, atmospheric conditions aesthetic and longevity. The sheathing shall be semi-circular corrugated three (3) m long aluminum sheets of 0.35, from SCATRAL or AUBAC Douala. It shall be screwed or nailed to the purlins by carefully chosen qualified and skilled technicians under the close supervision of the architect. The fascia boards shall be of metal sheets with a finish hue to be determined by the architect in close collaboration with the client.

CEILINGS

Scope of section

This section deals with:

- The quality of materials used for ceiling;
- The normal conditions for putting ceiling.

Work shall comprise:

- Ceilings of concrete;
- Joining the ceilings to the walls, caulking, sloping, friezes, etc
- Other relevant works.

SPECIAL PRESCRIPTIONS

State of Finishing

The contractor must deliver his structures in a perfect state of finish. To this end, he must carry out all repair work on surfaces, including replacement of defective parts and repairs on areas damaged as a result of work done by other contractors.

8/ Drainage and Landscaping (external works)

- **Gutters.** The gutters shall be realized all-round the building. There shall be dosed at 300kg/m^3 . The section shall be 40cm wide and 30cm deep. The base shall have an average thickness of 8cm and shall be of ordinary concrete, dosed at 300kg/m^3 . The gutters shall have a slope of 5%.
- **Pavement.** The walls of the foundation shall be protected by concreting all-round the foundation. It shall be realized with ordinary concrete dosed at 300kg/m^3 and thickness of 8cm.
- **Concrete slabs:** Shall be of 1.2m wide and positioned as instructed by the control engineer.
- **Concrete ramps:** Shall be of 1.2m wide cast in-situ with edges protected with angle bar 25mm.

ELECTRICITY

Since some structures are located in the rural areas where there is no electricity the contractor is expected to install all the electrical fittings on the building as stated on the bill of quantities. The final connection to the main supply shall not be the responsibility of the contractor. All electrical works shall be carried out by adequately skilled and licensed supervisors and trained technicians. Primary attention shall be given to safety of the installation and conformity to prevailing regulations. Particular attention shall be given to the neatness in the appearance of the installation which is to be achieved by judicious planning of runs and cables, the locations of light fittings, fans, switches, socket outlets etc. and making good any surfaces, framework or other elements in the building in the process of execution of electrical installation.

CIRCUIT PLAN

The circuit plan shall have branch circuits that serve easily defined areas or purposes. Each branch circuit should not be overloaded. Some heavy voltage appliances may need dedicated circuits for themselves.

PROTECTION OF CABLES

- Cables shall be encased in conduits (PVC or metal) and shall be surface mounted or embedded in walls and floor slabs and shall be mechanically continuous and watertight so that cables are fully protected. No conduit smaller than $\frac{3}{4}$ " (19mm) shall be used;
- Cables buried in concrete shall have at least $1\frac{3}{8}$ " (35mm) depth of cover over its entire length;
- Conduits buried in plaster shall have at least $\frac{3}{16}$ " (5mm) depth of cover throughout its entire length;
- Below ground cables have to be laid at depths designated by the local authority and excavations for buried cables should be identified with marker tapes at required depths;

INSTALLATION OF CONDUITS AND CABLES

- The conduits shall be fitted and completed before any cables are drawn in. Surface mounted conduits shall be securely fitted to wall and ceiling surfaces;
- No conduit smaller than $\frac{3}{4}$ " (20mm) in diameter shall be used as per standard regulations;
- Conduits in floor slabs or columns shall be inspected and approved before pouring of concrete or otherwise covering up.
- All cables and conductors used as fixed wiring shall be supported so that they are not exposed to undue stress.
- Unbroken runs of conductors shall be used. Joints shall not be permitted in wiring between power control sources (Control switch or main switch) and any outlet point, light fixture, fan, etc.
- Diagonal runs of power cables shall not be permitted. All branches shall be taken at right angles. Cables shall be kept clear of hot water or steam pipes etc.
- During construction, where conduit is buried in the carcass of a building or in the ground, all open ends shall be temporarily plugged to prevent ingress of foreign matter, moisture or water.

INSTALLATION OF ACCESSORIES

- All switches, bell pushes and fan regulators shall be fitted at a minimum height of 4' – 0" (1200mm) above finished floor level, unless otherwise specified in the design (Provision for disabled persons to access switches etc. would require height adjustments);
- Switches for toilets and bathrooms shall be installed outside the room and immediately adjacent to the normal access door of the room, or a switch can be of a type operated by an insulated chord.
- All socket outlets except in a toilet, or kitchen shall be mounted at a minimum height of 6" (150mm) above finished floor level. Socket outlets in kitchens shall be mounted at a minimum height of 6" (150mm) above kitchen counter level unless otherwise specified;
- All socket outlets shall be of the shuttered type;
- All ceiling fans shall be fitted at a height where an average person with raised hands will not be able to touch the blades of the fan;
- All lamps with metal parts shall be earthed;
- All cables should be PVC/PVC/Cu except earth wire which could be PVC/Cu;
- Cable description: PVC/PVC = PVC sheathed cables with copper conductor PVC/Cu = PVC insulated copper conductor. E.g. Earth cables;
- Lamps with fan circuits and 5 Amp socket outlets shall be with 1/1.13 cables and 7/0 67;

SIMPLIFIED ENVIRONMENT CLAUSES

These standard clauses constitute the Environmental Regulations relating to the construction works contracts within the framework of the Republic of Cameroon.

Thus, every enterprise pre-selected for a works contract will have to implement not only measures aimed at mitigating the socio-environmental impacts of the micro-projects but also environmental and social clauses outlined below. It should be stressed that these clauses apply to all types of micro-projects, the enterprise as well as all sub-contractors or dealers.

These measurements include:

- A reduction in the raising of dust particles at the work site in order to protect the health of the beneficiary population and site workers, by regular watering of the site, or the adoption of an appropriate calendar;
- A Reduction in sound (noise) effects due to the movements of the equipment and machines within the construction site;
- Non obstruction of the existing rivers by works, or the deposit of waste in the river channel
- Putting in place a management plan for oils, fuel, lubricants and other dangerous products. This plan will have to include the recuperation of the above mentioned products and their transfer to specialized companies for treatment;
- Automatic stop of works in the event of discovering of an archaeological or historical artefact, then report immediately to the services of the Ministry of Culture;
- Prohibition to transport or drive out game, hunting and non timber forest products by the personnel of the building site;
- Put at the disposal of the working site adequate equipment for potable water and domestic use water;
- Priority recruitment for local labor, as well as the use of local materials;
- Putting of warning signs (sign boards) at building site during and after work; putting speed limits warning signs as well in order to protect the safety and health of the resident population and of site workers;
- The wearing of appropriate equipment & attire (e.g. work clothes) by site workers.
- Restoring (*putting back to its original nature*) gradually installations at building site at the end of works;
- Organizing information and sensitizing campaigns for site workers and the beneficiary populations, on medical risks, risks of accidents, and on the impacts of poaching.

Starting of works and sensitization of stakeholders

Before the effective start of works, the company or enterprise must prepare an environmental action plan specifying the whole of environmental measures to be implemented, as well as rules of procedures mentioning in a specific way the safety requirements and in particular the wearing of appropriate

equipment (work clothes) and speed limit warning signs. Furthermore, these internal rules and regulations will have to prescribe the prohibition of alcohol consumption during working hours, to transport or hunt game, to abusively use wood for fuel, as well as the sensitization of the personnel on the dangers of the STI/SIDA, the respect of the customs and habits of the populations of the area. These rules must be pasted within the company.

On the other hand, an information and sensitization campaign of the personnel and residents will have thus to be organized beforehand and their attention will have to be drawn to all these aspects, including the calendar of execution, the employment opportunities. In particular, these stakeholders should be informed on the reasons for the choice of the site for the localization of the micro-project as well as the environmental action plan. This sensitization campaign will have to be re-lunched during the execution of the work.

SETTING UP OF THE BUILDING SITE

Localization

The importance of setting up a site is determined by the volume and the nature of work to be realized, the number of workmen or laborers, the number and the type of machines. The plan of setting up a building site will have to take into account management and protection measures.

In this regard, the selected site must be at a distance from at least:

- 50 m off the road;
- 100m off a lake or river;
- 100m off habitation (dwelling);

The site will have to be selected in order to limit clearing, the pulling up of shrubs or bushes and the demolition of the trees. The valuable trees will be preserved and protected.

The site must be selected away from sensitive zones particularly the marshy zones, the wetlands, sacred zones and the hillsides. Lastly, the site should envisage an adequate Water drainage on the whole of its surface

Management of solid waste and liquids

Receptacles (*containers*) to receive waste are to be installed near the various installations. These receptacles are to be emptied periodically and the waste deposited in a garbage can for recuperation by the Council or in a dumping pit. This pit must be located at least 100m from the installations and in case of a river at least 150m away. At the end of work the pit is to be filled (restored) with soil up to the level of the original soil.

The pads (apartment) for servicing and washing of the machines will have to be concreted and equipped with a sump - *container into which a liquid that is not needed can flow*) for recuperation of oils and greases. Worn oils or drainage oil are to be stored in barrels and kept in a secured place while waiting to be moved to a specialized centres for treatment. It is the same process for oil filters, batteries and other toxic waste.

b) Bringing back the site to initial or original state (Restoration of the site) & withdrawal from the site

At the end of works, the site will have to be brought back to its initial or original state. In this regard, installations necessary hereafter will have to be carried out:

- The adjusting of opening materials, then the leveling of the site and in particular leveling of the top soils in order to facilitate the infiltration of water, re-planting of grass and trees as the case may be,
- Restoration of the former natural flows,
- Removal of the dilapidated aspect of the site,
- Fitting up (either through re-filling) of pits in order to avoid the erosion of the degraded soil,
- Restoration of the pit and recuperation of surface waters and conservation of the slope, if the quarry or the borrowed zone can be used for other uses - livestock, playgrounds for the inhabitants, etc.

As regards the working site, the contractor will complete all necessary work to restore the site (bringing the site to its original state). The contractor will have to take away all his material & machines. He is not supposed to abandon any equipment nor materials on the site, or at the surroundings, without prior notice of the controller. This restoration of the site relates to all its deviations and contours (e.g. foot paths etc) set up during the works.

It is desirable that the sites should be restored in a progressive way.

Clearing of undergrowth and pruning

Clearing of undergrowth and pruning of the immediate surroundings of the work in order to improve on the exposure of sunlight and to improve on the visibility.

As regards pruning, all the branches overhanging the platform will be cut vertically passing by the clearing limit. All the trees will be cut down overhanging the immediate surroundings and threatening to fall on the work or to impede circulation after a tornado.

The question on clearing of the undergrowth consists of cutting at ground level without uprooting the vegetation.

All trees and shrubs at the entrance and exit of the works (bridges, etc.) will be uprooted so as to facilitate the running of water and to facilitate the regular inspections of the works.

Lastly, it is requested from the contractor to identify as from the starting of works, the buyers (middlemen) of the aforementioned waste among the residents (fodder for the cattle, for construction, fuel wood, etc). It is prohibited in the areas of the Extreme North and North to burn on the spot wastes vegetation that have been cut.

For other regions, if the burning of waste is authorized by the Controller, the contractor must take additional precautions by increasing for example the width of the safety belts around waste to burn, and prevent the residues from being an obstacle to the running off of water.

Management of water Resources

The contractor will have to avoid any conflict which can result from the use of water resources, in particular in the Northern regions of Cameroun.

Compensation for the damages caused to third parties

It can happen that the company hurts an individual in a deliberate or accidental manner (destruction of crops, habitat, etc). If this wrong is not taken into account by the project owner or Contracting Authority , it will have to be compensated with the expenses from the company and satisfactorily to the party. On the other hand, he will have to issue a certificate of compensation to him, in order to avoid any other later complaints.

Other protective and preventive measures are:

- Make sure that protective gear and equipment are used – such as gloves, eye shields for welders, safety helmets, safety belts, face masks etc.
- Make certain that workers at site are given clear and specific instructions on proper posture when lifting heavy items and methods of moving and handling materials.

TECHNICAL SPECIFICATION

GENERAL TECHNICAL SPECIFICATIONS RELATING TO THE INSTALLATION OF SOLAR PLANT.

DEFINITION

A solar plant is an electrical plant for the production of electrical energy through the use of solar panels, batteries, charge controllers and inverters as main components. Within the framework of this STC, it consists of :

- Photovoltaic modules (solar panels);
- Batteries for storage;
- A charge controller;
- A set of control dispositive, cables and earth;
- An assembly of metallic support for the panels;
- Power house;
- Fencing.

PHOTOVOLTAIC MODULES

The modules of photovoltaic cells must resist the ambient climatic conditions described below :

- Temperature : $10^{\circ} \text{ à } + 85^{\circ}\text{C}$
- Relative Humidity : up to 100%
- Wind speed: weak constraints in the Center and south Regions of Cameroon.
- Precipitations : continues severe rains
- particular conditions (tropical climate of the equatorial type, etc.)

the photovoltaic Les modules must respect the standard CEI 61215 for crystalline modules.

The maximum operational voltage should be clearly specified on the datasheet and on the name plate of the module. It must be compatible with the voltage put in place for the normal functioning of the lamps.

The module should have :

- A junction box where appropriate connectors of IP54 at least are used ;
- A bypass diode (diode for derivation).

All precautions must be taken in a manner to avoid every risk link to corrosion by electrolytic coupling between the photovoltaic module and the frames or racks.

THE SOLAR BATTERIES

The solar batteries are sized such that it functions from 6am to 6pm with a 1.5 days autonomy. It must reconstitute a constant current flow during long periods while preserving its ability to recharge. Gel batteries are of preference and must have the following characteristics:

- A high efficiency (0,9 in Ah) ;
- Cycle and life span: the number of charging/discharging of about 200cycles at 50% depth of discharge;
- Autodischarge : a good solar battery must not have more than 3 to 5 % of monthly losses capacity at 20°C ;

to avoid the accumulation of explosive gas, we need to watch out for good ventilation of the batteries. A supplementary water tight container will constitute a good protection in case of acid.

CHARGE CONTROLLER

The charge controller protects the battery against overcharging from the modules and deep discharges by the load. For the purpose of this jobbing order, the following charge controller of the series model will be used for the following criteria:

- an eventual reverse biased diode of type « schottky » ;
- quality contacts with easy access;
- a minimum internal consumption (few mA maximum) ;
- a load thermal compensation ($T > 30^{\circ}\text{C}$ and $T < 0^{\circ}\text{C}$) ;
- an output manual faulty breaker;
- full charge indicators and output cut;
- an output protection (fuses).

EARTH AND LIGHTNING DISCHARGE PROTECTION

The interconnection of masses is of a fundamental importance for the proper functioning of protection against lightning and over voltage. The metallic masses of equipments must be interconnected and linked to the earth.

In a mode of protecting the equipments against indirect lightning faults, thunder arrestors must be installed in different liaisons.

CONTROL OF THE PLANT

A control dispositive for the plant must allow the lamps to be controlled in lighting and turning off during appropriate hours by the help of usual dispositives (switches, circuit breakers etc.).

TECHNICAL CHARACTERISTICS

PHOTOVOLTAIC GENERATOR		
Solar panels	Brand	/
	Type	Monocrystalline
	Power	350W
	Efficiency	25years/80%,
	Norminal voltage	24V
	Quality / class	Class A
	Number	30
Accumultor	Brand	/
	Type	LifePO ₄
	Capacity	10KWH X 3
	Voltage	48V
	Nber of cycles at 80% discharge	Minimum 2000 cycles
	Nber of cycles at 25% discharge	Minimum 6000 cycles
	Efficiency	90%
	Quality / class	Class A
Charge controller	Type (MPPT/PWM)	MPPT
	Brand	
	Quality / class	Class A
	Current	120A
	Voltage	AUTO
	Autoconsumption	<=5W
Inverter	Type	Offgrid power inverter
	Brand	
	Quality / class	Class A
	Power	10KW

PHOTOVOLTAIC GENERATOR		
	<i>Voltage</i>	48V
	<i>Autoconsumption</i>	$\leq 50W$
<i>Exploitation Temperature</i>		/
<i>Protection index</i>		/

OTHER SPECIFICATIONS RELATING TO SOLAR PLANT INSTALLATIONS

DESCRIPTION	SPECIFICATIONS	REMARKS
Site cleaning and leveling for	<p>1, Site preparation work, site area inside fence, details are according to the actual design layout.</p> <p>2, Cleaning: Clean the area to ensure no trees roots or stumps are found on the site; No trees should shadow the site.</p> <p>3, Leveling: level the area to remove all the waste soil around the site.</p> <p>Ensure the following: First, all soil of excavation can't be stacked around the site. Second must keep 3m open space from fence position at minimum (worst situation we can agree to keep the 2m.), third, must keep the outside area of the fence 20cm lower than the inside.</p> <p>4, The elevation resulting from site excavation should be trimmed at 60° maximum for sites in slopy areas.</p> <p>5, It is not allowed to build a site on backfilled ground without approval. If approved, firstly, it has to be well compacted in soil layers of 20cm. secondly, ensure the site drainage is assured. Thirdly, site surface should be smoothly flattened and the difference in level should be from 0.2m to 0.5m (except slope site case).</p> <p>6, If you need to build a simple access road (width=3m) to the site, the access road will be issued when road distance is > 30m. Only for the extra meters not included in the 30m.</p> <p>7, If there is need for an additional drainage gutter (BOQ for gutter), it will be evaluated and a PO will be issued).</p>	
Supply and installation of Site Notification Sign Board	The contractor will need to provide site Notification Sign Board and installation, the position is according to requirement (such as in front of the site, at the entrance of the locality, etc).	NOT APPLICABLE HERE
Concrete foundation		
Foundation concrete (reinforcement concrete)	This includes excavation, backfilling, compaction, formwork, embeded anchor bolts, the value is calculated on the basis of the volume of Concrete 25MPA for reinforcement concrete. Reinforcement bar 410N/mm ² , the foundation surface needs to be made smoothly with tools when casting.	
Civil Works-		

gravel & anti-grass		
Supply and put herbicide (phytocide) for weeding	provide and put herbicide (phytocide) to prevent grasses in and around the solar plant yard, according to the actual quantity of survey.	NA
Supply and putting of gravel on site	Site finishing providing gravel material (15/25mm gravel [crushed stone]) & spreading around the site (height 50mm or 100mm, according to the design), according to the actual quantity of survey.	NA
Installation works		
Fence installation		
Installation of galvanized steel (2.4m high) mesh fence with razor wire standard, 3m double leaf gate, column distance is 2m	Installation of galvanized steel (2.4m high) mesh fence with razor wire standard, 3m double leaf gate, column distance is 2m, and fence needs to connect to grounding at 5 points minimum accordingly, need to provide \varnothing 50mm PVC for fence water drainage for an interval of 4m and one \varnothing 10mm lock for security, . (Anti rust requires 2 layer anti-rust painting, the 1st layer is red anti-rust painting and the 2 nd layer is silver painting), according to the actual quantity of survey.	NA
Solar system installation		
Installation of PV Screw pile	The installation depth of PV Screw pile is around 1.4m (according to the design. Ensure that all screw pile are vertical and at the same horizontal height and in the same straight line.	NA
Installation of PV module array, including PV rack and PV module, string Inverter (when applicable) installation, cable connection, etc	Including PV supports (keel bracket and extended crossbeam), PV modules and string inverter installation – if applicable (1pcs String inverter maximum for 5 sets of 20pcs PV module array), PV cable cabling, connection and fixing on support.	
Canopy installation		
Installation of fabricated canopy fence and shelter	1. Canopy fence size about (L*W*H=4000mm*3000mm*3000m): Assemble prefabricated canopy (Including expansion bolts installation and fixing, steel frames, roof board) according to regulations, install canopy lighting and switches, etc.), 2. Shelter size about (L*W*H=2500mm*2500mm*2800m): Assemble prefabricated shelter (Including expansion bolts installation and fixing, steel frames, wall & roof board, doors , window, exhaust fan) according to drawing, install lighting and accessory parts (cable trays, cables, lamps,	NOT APPLICABLE HERE

	switches, etc..) , backfill concrete into the gap and smoothen the ground floor (cement-paste screed finish); 3. need to provide fire extinguisher (2pcs portable dry powder fire extinguisher (6kg/pcs) ABC or equivalent with 3 years validity) and one \$ 10mm padlock. must pass the waterproof test. The canopy and shelter columns must be connected to the general earthing system.	
Equipment installation		
Installation and commissioning of Converter system	Installation and cabling of 1pcs Isolating transformer cabinet (Around WDH=800*850*2000mm) with accessories, 1pcs SACU box (WDH=550*280*700mm)&EMS Box (installation on the shelter wall), 1 pcs of Backup battery(H*W*D=636×700×158mm, AS Specification) according to the design	NOT APPLICABLE HERE
Installation and commissioning of battery	Installation of 1 pcs battery Including cable connection, cabinet fixing on concrete floor with expansion bolt (Including smart PCS & cluster controller and other accessories installation and cabling). (battery installation and commissioning will be according to specification defined by manufacturer and industrial standards)	
Earthing system installation		
Site earthing net installation, horizontal earth electrode flat steel, vertical earth electrode angle steel	flat steel (3000mm*50mm*5mm) horizontal burying, depth of 0.8m; angle steel (∠50mm*50mm*5mm, length 2.5m) vertical burying, the depth of 2.5m at the - 0.8m.level from ground level (All kind site need 8 point of angle steel at minimum) . The earthing resistance of less than 8 Ohms (should provide the test report if necessary), the earthing net size reference < according to specification> , according to the actual layout, but the connection principle between arrays and earthing net is the same, after welding, need to put 2 levels of rust protection paint(first level is red, second level antirust is silver), needs to provide test report (if necessary)	NOT EXACTLY, WILL BE ACCORDING TO FIELD REALITIES
Cables laying		
Cables laying including burying PVC	Includes excavation & backfilling works, including burying PVC, the soil must be compacted after backfilling, burying depth=0.8m, the cable inside PVC pipe must make sure no any second reconnection terminal; to provide red warning mesh if Cable laying is done outside the site (fence), according to the actual quantity of survey	ACCORDING TO FIELD REALITIES
AC power to consumer engineering		

Installation of 9m concrete pole with crossarms (three-phase or single-phase) & Insulators, and cables span on pole and twining	<p>Installation of 9m Concrete Pole</p> <ol style="list-style-type: none"> 1. Including excavation & backfilling, pole planting work, The soil must be compacted after backfilling to ensure the pole is vertical, 2. The new concrete pole with C20 concrete plate at the base (Detailed design as Specification), 800mmx600mmx150mm 3. 9m Concrete pole need to be buried 1.6m, needs to paint the white line on pole, the distance between two poles is about 50m, 2~4 cables span on pole and twining, 1.5m around the pole should be cleaned after installation, After installation of poles must tension the PD line; including V support installation ; 4. paint the numbering label on 1.6m point of pole from ground and provide the cable endcup to cover the cable head if need. 5. according to the actual quantity of survey. 	NOT APPLICABLE HERE
Installation of power distribution box for households and cable connection	Install power distribution box on pole according to design, including cable connection from PD line to power distribution box, cable fixing with plastic clip (needs to provide the clips), according to the actual quantity of survey,	
Scenario 1: Installation of powermeter of household with material and connect to Power Box	<ol style="list-style-type: none"> 1. Install wooden board on brick wall or wood wall; 2. Install the meter on wooden board, connect the cable from power distribution box to meter, the cable fix on one pole and house with accessories. 3. need to provide EHS and installation tools (as <EHS & Tool list>), 4. will provide meter & cable, should provide the accessories material (The accessories list reference the sheet of 5. Transportation (if need to transport Power meter & material, 	NOT APPLICABLE HERE
Grounding system for wooden pole (30 Ω)	<p>The system consist of Neutral line connected to earthing.</p> <ol style="list-style-type: none"> 1. The copper wire is the guided down along the pole with the help u-type clamp. At 5m above the ground the cable is guided into a pvc pipe of diameter 25mm. 2. The wire is then connected to electrodes still with the help of hex bolt and Tin-plating copper terminal just above the ground. 3. The grounding system consist of 1 copper rod or more and buried vertically into the ground 1.5m depth and 1m far from existing wooden pole, ensure all electrodes keep 3 meters from each other when use 2 or more electrodes, the rod quantity is around 3-5 pcs(No VO will be issued within one year warranty). 4 The earthing resistance has to be less than 30 Ohms, can use drag reducing agent such as charcoal or other Acceptable materias ; 5. should guarantee resistance value through 1 year period after sign acceptance, including dry season or rainy season 	NOT APPLICABLE HERE

Additional electrode	1. This Item is only for extreme conditions; 2.The item Only used for after one year warranty; 3..Detailed work includes to provide the connection Material between two electrode and earthing rod. also including ditching and buried vertically into the ground 1.5m depth.	NOT APPLICABLE HERE
Connection of eathing electrode to inverter cabinet with copper stand wire	The copper isolated wire should be passes through a burried pvc pipe with a diameter of 25mm. The gutter should be dug at height of 1m from the shelter to the eathing system. The non-shear terminal should be use to create a test point connected within the cable tray.The total length will depend on the chosen area in the site to implement the grounding system.	
Connect Power distribution cable from the first pole to the TE distributon cabinet	1.Includes excavation & backfilling works, including burying PVC, the soil must be compacted after backfilling, burying depth=0.8m, 2.Connect the PD cable to isolation transformer voltage output terminals with copper connectors,keep the cable inside PVC pipe , Cable climbing on to the first pole should be installed in the PVC and fix the pvc pipe on the pole. 3.Ensure that the connection of the pvc pipe joint is tight and waterproof(put fire-proofing mud) and the pipe joints ends on the pole are blocked with fire-proofing mud; 4.It needs to be compacted well when backfilling;	NOT APPLICABLE HERE
Cut trees		
Cut trees: 10cm < diameter ≤ 30cm	Measure circumference on planed cut point, diameter = circumference / 2π , mark white paint on planed cut point, need to record and take picture	NOT APPLICABLE HERE
Others		
Stone wall	Including excavation & leveling, stones (20/50cm) and stones are fixed by cement, this item is for retaining wall or water drainage, other stone works and so on	NOT APPLICABLE HERE
Gutter Excavation	Natural gutter excavation and compaction at about 600mm*700mm (according to the actual standard) with water outlet. Can using the U-type ground digging excavated gutter, sloppy towards predefined water drainage way.	NOT APPLICABLE HERE
Extra soil removal	For some particular cases where we need to remove the extra soil out of site by truck, and should be moved far from site to an area prescribed by the village representative. Soil /ground volume will be calculated as per Pythagorean theory	NOT APPLICABLE HERE
Concrete hole for single pole	use concrete to single poles in swampy area, and when the pole is in low-laying (swampy) position. needs provide 0.08cbm C20 concrete at minimum	NOT APPLICABLE HERE
Plant centipede grass to stabilise embankment	This involves supply and planting and maintaining the centipede grass on the embankment slope around the site to form a grid to stabilise embankment, the quantity of grass to be planted will depend on the site situation.	NOT APPLICABLE HERE
Gutter excavation with	A ground digging excavated gutter which has 2 PVC PIPE (diameter ≥150mm & thickness ≥ 5mm) inside the	NOT APPLICABLE

PVC pipe	gutter and backfilling with soil and well compacted. will be connected with outside gutter and road beside existing gutter and will go up to Natural water drainage valley. (provides PVC Pipe)	HERE
Gutter excavation with Iron pipe	A ground digging excavated gutter which has 1 iron pipe (diameter $\geq 300\text{mm}$ thickness $\geq 5\text{mm}$) inside the gutter and backfilling with soil and well compacted. will be connected with outside gutter and road beside existing gutter and will go up to Natural water drainage valley. (provides Iron Pipe)	NOT APPLICABLE HERE
First aid kit	As Specification	NOT APPLICABLE HERE
Supply Site logbook&pen	As Specification (1 set including 1 pcs notebook and 1 pcs BIC pen)	
Supply Fence lock	As Specification	
Supply Fire extinguisher	Portable dry powder fire extinguisher, 6kg per bottle, Validity period is at least 3 years – or recommended alternative	
Supply Bulb	LED bulb (Power:20w), As Specification	
Supply and install EHS signs per site	According to regulations	

- **Studies:** After these technical specifications by the contract engineer, the contractor has to carry out his/her own studies using the plans, specifications, bill of quantities, visit the site to have a mastery of the project before he/she can prepare a bid for the project. In case of an omission or an error, he should indicate to the authorities concerned.

CHAPTER III: WORK EVALUATION METHOD

Article 21: Calculation of the Level of Realization.

Article 22: Provisional Reception

Article 23: Conditions for the Final Reception

INTRODUCTION

The technical specifications presented herein below define the works that shall be executed during the CONSTRUCTION OF A MINI-SOLAR PLANT AT NJIKWA, NJIKWA MUNICIPALITY, Momo Division of the North-West Region, and the manner in which these works shall be carried out. So, the Contractor is expected to read these specifications critically and identify all the articles that are applicable to his job.

CHAPTER I: GENERAL INFORMATION

Article 1: Volume of Work to be executed.

In each case, the volume of work to be executed is indicated in the bill of quantities, network maps and/or plans that are provided. The various works to be executed shall conform to the relevant terms of the technical specifications given herein below.

Article 2: General instructions

It should be understood that the provision of the bill of quantities does not absolve the potential Contractor of the necessity to affect a well-planned site visit, at his own expense, to gain complete knowledge of the conditions prevailing on the terrain. This knowledge shall come in handy when preparing the List of Tasks and the Unit Price Schedule. Potential Contractors (or Bidders) shall provide a detailed and sequenced List of Tasks to be effected on each component of the project. Within fifteen (15) days from the date of notification to start work, the Contractor shall provide the Control Engineer with:

- A detailed plan of the work, showing the scheduling of the various works to be executed in time
- Detailed technical drawing of the works to be realized
- A manpower deployment plan
- A schedule of the delivery of materials to the project site, showing possible delays
- Failure to forward the foregoing documents shall engender the postponement of the reception of project materials, which could result in a punishable overall delay in the execution of the project.

No material shall be used that has not been checked for conformity with the technical specifications by the Control Engineer.

The Control Engineer reserves the right to modify the plans and work schedule provided by the Contractor, which modification shall first be submitted to the Authorizing Officer for approval. Under exceptional circumstances, the Control Engineer may suggest modifications to the technical specifications for any component of a project to the Authorizing Officer, while making sure that the overall cost of the project stays within the limits of the financial bid of the contractor.

Any modification must be done in writing, with sufficient justification. For this purpose, a numbered page book (the project log book) shall be kept on site in which the Control Engineer shall write his approved instructions. Both the Contractor, or his representative, and the Control Engineer shall initial every page of the project logbook.

It is therefore obligatory for the contractor to execute the works in conformity with:

- The Bills of Quantities and Estimates,
- The Special Administrative Clauses
- The Special Technical Clauses stated herein,
- Any other special rules and regulations that may be applicable to this job,
- The work schedule,

-The detailed technical drawings,
Subject to any approved modifications indicated in the project log book by the Control Engineer.
The Contractor shall take note of any omission or discrepancies that may exist in the three documents mentioned in the preceding paragraph, which omission or discrepancies could fundamentally affect the technical or aesthetic quality of the works executed to his detriment, and call the attention of the Supervisory Engineers who shall remain at his disposal of the Contractor for necessary information and inquiries through the duration of the project.
In this regard, the contractor shall not absolve himself of the responsibility for poor quality work by citing imprecision, omissions or discrepancies in the technical specifications or modifications thereof indicated in the project log book by the Control Engineer.
Any works effected without regard for the foregoing instructions or provisions shall be demolished at the expense of the contractor.

CHAPTER II - WORKS TO BE DONE BY THE CONTRACTOR

Article 3: Role of the Contractor

The Contractor who shall be chosen after this call for tender, shall be responsible to execute all the works outlined here. These include **CONSTRUCTION OF A MINI-SOLAR PLANT AT NJIKWA**.

Article 4 : Work plan

The Contractor shall execute the work within a deadline of FOUR (04) MONTHS as from the date of notification of the service order to start work.

Article 5 : Guarantee of works

The Contractor shall take an engagement to **CONSTRUCTION OF A MINI-SOLAR PLANT AT NJIKWA** with proposed accessories and to respect all the technical norms in force.

In case of an accident leading to the abandonment of any of the working site, the Contractor is not compeled to another site. The Contractor shall not be entitled to any remuneration for the abandoned structure site.

The obligations of the Contractor during the guarantee period consist of changing, or repairing the worn out parts or those that have been damaged due to an error by the manufacturer.

CHAPTER IV: METHOD OF EXECUTION

Article 13: General Information.

13.1 Security at Worksite.

The Contractor shall place at the entrance to work site signboards in bold letters indicating that work is underway and prohibiting the public and unauthorized persons from entering the work site. He shall be responsible for any accident that may occur on the work site or may be suffered by a third party, his staff and employees or officials of the Administration as a result of their presence on the work site. Organization of work and security on the work site shall therefore be the sole responsibility of the Contractor. Furthermore, the Contractor shall be bound by the labour legislation in Cameroon vis-à-vis his workers and the Administration. Moreover, his insurance policy shall cover any damages he could cause to any one during the execution of the job.

13.2. Organization at Worksite.

The success of this project largely depends on the perfect coordination of the different activities by the Contractor (the Supply and the installation of poles, lamps, batteries respecting the appropriate electric technics, the construction of the superstructures with good support systems, project sustainability). This

coordination requires the strict respect of the execution plan of the installation Scheme which contains the outlined execution plans of the different activities.

The Enterprise shall place its Technical Director who shall be responsible to the Administration and on the worksite, the work execution shall be supervised by a Foreman who is well qualified and experienced in the domain of Electrical installations, and project sustainability. The execution plan should be conceived in such a way that the different phases will be done without any break.

The state of work progression shall be established monthly and if after two months, the progression rate is considered low, the Contractor will be asked to deploy additional means to the worksite so as to accelerate work progression and meet up with the deadline.

During the work execution, the Administration has the right to modify the work.

13.3. Working Time

The general conditions fixed for workers by the Cameroon Legislation also applies to the Contractor's workers in the worksite. There shall be no work at night.

Article 14 : Traffic

The Contractor shall be responsible for ensuring that traffic is not obstructed on the entire stretch of his work site throughout the duration of the work, right up till provisional reception. No obstruction of traffic shall be allowed for more than two hours. Maintenance of traffic flow shall be the responsibility of the Contractor. In case of any breach of contract in this matter, the Control Engineer may bring in a third party to correct any shortcomings that may be impeding the traffic flow, and related expenses shall be borne by the Contractor. Where interference of the traffic flow for a given period is inevitable, the Contract Engineer shall be informed of the situation at least 7 days in advance, so that he can seek the opinion of local Administrative authorities and get everything arranged beforehand.

In case a deviation has to be used, the contractor shall submit to the Contract Engineer for approval after consultation with local administrative authorities, the deviation route and his plan for maintaining the deviation throughout the duration of the works that have necessitated the deviation.

CHAPTER VI: WORK EVALUATION METHOD

Article 23: Control of the Works.

The supervision and control of the works shall be done by Follow-up Engineers under the coordination of the Contract Engineer.

Article 24: Worksite logbook.

In order to carry out an effective follow-up of the execution of the project, the Contractor shall make available in the worksite a logbook on which shall be recorded everything concerning work progression. This log book will help the Controller, on arrival in the worksite, to exactly know the state of evolution of the project.

The book will be held by the "Recorder", an employee of the Enterprise, and that will be his sole task in the worksite. The Recorder shall always put in writing all the daily activities in this book, as operations evolve.

In this book shall be recorded the following informations:

- Name of worksite (name of village),
- Serial number of project in the Council,
- Dates and time of commencement of work,

- Numbers of street lamps,
- Length of distribution network,
- In short, all the technical details, incidents, breakdowns, difficulties specific to the evolution of the project, indicating the time these occurred.

The book shall be signed by the Representatives of the Administration and that of the Contractor, and shall serve as the basis for the establishment of vouchers.

Remarks and reserves made by the Contractor and/or the Administration shall be recorded in this book.

Article 25: Control and Supervision

The control of works shall be carried out by a Contract and Follow-up Engineers and shall be based on the following items:

- Definition of the work plan and its execution calendar in agreement with the Contractor.
- Choice of the configuration of the network and superstructures.

Article 26: Calculation of the overall level of Realization.

Each month, the overall level of realization shall be calculated using field data and the unit prices quoted by the Contractor in the Unit Price Schedule.

Article 27: Provisional Reception

The materials to be used ought to undergo a qualitative provisional reception, which shall be based on the administrative and technical documents justifying the quality of the materials used are in conformity with the technical objectives.

This reception shall be later followed by a technical reception which shall take place at the worksite after the installation of solar lamps and after observing the whole system functioning, with each lamp lighting. The decision taken during this reception does not liberate the Contractor from his engagements with respect to the deadline as well as the technical specifications. Any change of material that was proposed in the bid (type, characteristics, origin, etc.) before or after the conformity visit and during the execution of the project, is forbidden except authorized in writing by the Contracting Authority, following the application forwarded by the Contractor.

If the works are not in conformity with the specifications, the Contracting Authority can reject them and ask for their replacement or necessary modifications, without any extra charge for this.

Article 28: Conditions for the Final reception

The final reception shall be pronounced after the expiration of the guarantee date which comes one year after the provisional reception. There shall be no specific test during the final reception, but a test of the equipments used in exploiting the spring and a survey among the population to confirm the good working order of the Scheme during the one year guarantee period.

CHAPTER VII: PROTECTION OF THE ENVIRONMENT

Article 29 Sanctions and penalties

The contractor shall be sanctioned for poor work done and non-respect of technical specification, non-respect of work execution deadline as stipulated in the work document.

Document N°. 6
SCHEDULE OF UNIT PRICES

CONSTRUCTION OF A MINI-SOLAR PLANT AT NJIKWA, NJIKWA MUNICIPALITY, OF MOMO DIVISION

UNIT PRICE SCHEDULE

S/N	DESIGNATION	UNIT	AMT (figurs)	AMT (Words)
100	PREPARATORY WORKS			
101	Project execution plan	LS		
102	Site installation	LS		
	SUB TOTAL LOT 100			
200	CONSTRUCTION OF THE POWER HOUSE			
201	Site cleaning and leveling	LS		
202	Excavation of foundation and backfilling	m ³		
203	Construction of 2x1.5x3m (LxWxH) ventilated concrete power house (with concreted ceiling + roofing sheets and reinforced cement blocks for walls) + painting + extra-reinforced metal door)	LS		
	SUB TOTAL 200			
300	METAL WORKS FOR ROOF-TOP INSTALLATION			
301	Supply and installation of PV dismountable roof racks (galvanised) + accessories	LS		
302	Supply and installation of Aluminum (or galvanised) rails	U		
303	Supply and installation of rail connectors	U		
304	Supply and installation of clamps	U		
305	Supply and installation of all other assorted accessories	LS		
	SUB TOTAL 300			
400	ELECTRICAL WORKS			
401	Supply and installation of Gray flexible conduit pipe dia 30mm, length 100m (ref 44-006-180239)	roll		
402	Supply and installation of square conduit pipe 30mm, 3m long	U		
403	Supply and installation of TH cable - 6mm ² -100m (ref 44-002-180045)	roll		
404	Supply and installation of AC Line breakers	U		
405	Supply and installation one way switch for power house	U		
406	Supply and installation of AC bulb - 15W	U		
407	Supply and installation of Lamp holder	U		
408	Supply and installation of one-way embedded switch	U		
409	Supply and installation of Circuit breakers AC 60A + differential protection	U		
410	Supply and installation of change over switch	U		
411	Supply and installation of projector (or flood lamp) -solar	U		
412	Supply and installation of cable ties, clips, connectors and other assorted accessories	LS		
	SUB TOTAL 400			
500	SOLAR ENERGY INSTALLATION			
501	Supply and installation of Solar monocrystalline modules 350W	U		
502	Supply and installation of PV copper cables - 2x 10mm ²	roll		
503	Supply and installation of PV Combiner box PV	U		
504	Supply and installation of MC4 connectors (4 in 1)	pairs		

S/N	DESIGNATION	UNIT	AMT (figurs)	AMT (Words)
505	Supply and installation of MC4 connectors male/female	pairs		
506	Supply, installation and commissioning of charge controller - 120A MPPT	U		
507	Supply, installation and commissioning of LiFePO4 battery - 48V 200AH	U		
508	Supply and installation Fuse breakers - PV 15A	U		
509	Supply and installation PV breakers - 32A	U		
510	Supply and installation DC breakers - 100A	U		
511	Installation and commissioning of solar inverter 10KVA/48V- Power inverter	U		
512	Supply and installation of control box	U		
513	Accessories	LS		
	SUB TOTAL 500			
600	EARTHING SYSTEM INSTALLATION + PROTECTION			
601	Supply and commissioning of DC thunder arrester	LS		
602	Supply and installation full earthing system with 29mm ² copper earth cable, 2.1m copper earth rod or mesh and other installation accessories	set		
603	Supply and installation of 9KG portable fire extinguisher	U		
	SUB TOTAL 600			
700	SECURITY SURVEIYANCE AND REMOTE MONITORING			
	Supply and commissioning of security camera system - remotely monitored (camera system (infra-red vision), android device, broadband internet link + installation accessories)	LS		
	SUB TOTAL 700			
800	PROJECT SUSTAINABILITY			
801	Training of two caretaker technicians provided by the Council	LS		
802	Supply of a set of maintenance tools	U		
	SUB TOTAL 800			
900	OTHER EXPENSES			
901	Transportation of equipment/materials	LS		
902	Personnel expenses	LS		
	SUB TOTAL 900			
	TOTAL WITHOUT TAXES			

Document N°. 7
BILL OF QUANTITIES AND ESTIMATES

BILL OF QUANTITIES AND COST ESTIMATES FOR THE CONSTRUCTION OF A MINI-SOLAR PLANT AT NJIKWA, NJIKWA MUNICIPALITY, MOMO DIVISION

S/N	DESIGNATION	UNIT	QTY	UP	AMOUNT
100	PREPARATORY WORKS				
101	Project execution plan	LS	1		
102	Site installation	LS	1		
	SUB TOTAL LOT 100				
200	CONSTRUCTION OF THE POWER HOUSE				
201	Site cleaning and leveling	LS	1		
202	Excavation of foundation and backfilling	m ³	15		
203	Construction of 2x1.5x3m (LxWxH) ventilated concrete power house (with concreted ceiling + roofing sheets and reinforced cement blocks for walls) + painting + extra-reinforced metal door)	LS	1		
	SUB TOTAL 200				
300	METAL WORKS FOR ROOF-TOP INSTALLATION				
301	Supply and installation of PV dismountable roof racks (galvanised) + accessories	LS	1		
302	Supply and installation of Aluminum (or galvanised) rails	U	22		
303	Supply and installation of rail connectors	U	28		
304	Supply and installation of clamps	U	84		
305	Supply and installation of all other assorted accessories	LS	1		
	SUB TOTAL 300				
400	ELECTRICAL WORKS				
401	Supply and installation of Gray flexible conduit pipe dia 30mm, length 100m (ref 44-006-180239)	roll	2		
402	Supply and installation of square conduit pipe 30mm, 3m long	U	2		
403	Supply and installation of TH cable - 6mm ² -100m (ref 44-002-180045)	roll	2		
404	Supply and installation of AC Line breakers	U	1		
405	Supply and installation one way switch for power house	U	1		
406	Supply and installation of AC bulb - 15W	U	2		
407	Supply and installation of Lamp holder	U	2		
408	Supply and installation of one-way embedded switch	U	2		
409	Supply and installation of Circuit breakers AC 60A + differential protection	U	1		
410	Supply and installation of change over switch	U	1		
411	Supply and installation of projector (or flood lamp) - solar	U	1		
412	Supply and installation of cable ties, clips, connectors and other assorted accessories	LS	1		
	SUB TOTAL 400				
500	SOLAR ENERGY INSTALLATION				
501	Supply and installation of Solar monocrystalline modules 350W	U	30		
502	Supply and installation of PV copper cables - 2x 10mm ²	roll	2		
503	Supply and installation of PV Combiner box PV	U	1		
504	Supply and installation of MC4 connectors (4 in 1)	pairs	8		
505	Supply and installation of MC4 connectors male/female	pairs	50		
506	Supply, installation and commissioning of charge	U	2		

S/N	DESIGNATION	UNIT	QTY	UP	AMOUNT
	controller - 120A MPPT				
507	Supply, installation and commissioning of LiFePO4 battery – 48V 200AH	U	3		
508	Supply and installation Fuse breakers - PV 15A	U	8		
509	Supply and installation PV breakers - 32A	U	8		
510	Supply and installation DC breakers - 100A	U	2		
511	Installation and commissioning of solar inverter 10KVA/48V- Power inverter	U	2		
512	Supply and installation of control box	U	1		
513	Accessories	LS	1		
	SUB TOTAL 500				
600	EARTHING SYSTEM INSTALLATION + PROTECTION				
601	Supply and commissioning of DC thunder arrester	LS	2		
602	Supply and installation full earthing system with 29mm ² copper earth cable, 2.1m copper earth rod or mesh and other installation accessories	set	2		
603	Supply and installation of 9KG portable fire extinguisher	U	1		
	SUB TOTAL 600				
700	SECURITY SURVEIYANCE AND REMOTE MONITORING				
701	Supply and commissioning of security camera system - remotely monitored (camera system (infra-red vision), android device, broad band internet link + installation accessories)	LS	1		
	SUB TOTAL 700				
800	PROJECT SUSTAINABILITY				
801	Training of two caretaker technicians provided by the council	LS	1		
802	Supply of a set of maintenance tools	U	1		
	SUB TOTAL 800				
900	OTHER EXPENSES				
901	Transportation of equipment/materials	LS	1		
902	Personnel expenses	LS	1		
	SUB TOTAL 900				
	TOTAL WITHOUT TAXES				
	VAT (19.25%)				
	AIR (5.5% / 2.2%)				
	TOTAL TAXES				
	NET PAYMENT				
	TOTAL - ALL TAXES INCLUSIVE				

The present bill is fixed at the sum all taxes inclusive of

Document N° . 8
SUB-DETAIL OF PRICES

SUBDETAILS OF PRICES

Price N°
 Designation of work.....
 Unit
 Quantity
 Daily output
 Duration of execution

DESIGNATION :					
No	Daily out put	Total quantity	Unit	Duration of activity	
WORKMAN SHIP	Category	No	Daily wage	Days break up	Amount
TOTAL A					
AND EQUIPMENT / MACHINES	Type	No	Daily rate	Days break up	Amount
TOTAL B					
MATERIAL MISCELLANEOUS	Type	Unit	Unit cost	Quantity	Amount
TOTAL C					
D	DIRECT TOTAL COST			A+B+C	
E	GENERAL SITE EXPENSES			Dx%	
F	GENERAL OFFICE EXPENSES			Dx%	
G	NET COST			D+E+F	
H	RISK + BENEFITS			Gx%	
P	TOTAL COST (HT)			G+H	
V	UNIT COST (HT)			P/Q'TY	

Document N°. 9
MODEL CONTRACT

RÉPUBLIQUE DU CAMEROUN
Paix – Travail – Patrie

MINISTRE DE LA DECENTRALISATION ET DU
DEVELOPMENT LOCAL

RÉGION DU NORD OUEST

DÉPARTEMENTALE DE LA MOMO

COMMUNE DE NJIKWA



REPUBLIC OF CAMEROON
PeNCE – Work – Fatherland

MINISTRY OF DECENTRALISATION AND
LOCAL DEVELOPMENT

NORTH WEST REGION

MOMO DIVISION

NJIKWA COUNCIL

CONTRACT N° _____ C/NC/ITB/2024 OF2024

Awarded after OPEN NATIONAL INVITATION TO TENDER N° ____/ ONIT/NC/ITB/2024 OF
____/____/2024 FOR THE CONSTRUCTION OF A MINI-SOLAR PLANT AT NJIKWA, NJIKWA
MUNICIPALITY, MOMO DIVISION.

Project Owner: THE LORD MAYOR OF NJIKWA COUNCIL
Tel :

HOLDER :

P.O. Box _____, Tel: _____ Fax: _____

Business Registry N° _____ at
Taxpayer's No. _____

SUBJECT : Execution of _____ works;

PLACE : _____

EXECUTION DEADLINE : _____ (_____) months

AMOUNT IN CFA F:

IAT	
EVAT	
VAT (19.25%)	
AIR (Income tax) (2.2%)	
Net to be paid	

FINANCING : [indicate the source of financing]

BUDGET HEAD : [to be completed]

SUBSCRIBED ON: _____
SIGNED ON: _____
NOTIFIED ON: _____
REGISTERED ON: _____

Between:

The Government of the Republic of Cameroon, represented by _____ hereinafter referred to the "Contracting Authority"

On the one hand,

And

_____(enterprise)
P.O. Box _____ Tel: _____ Fax: _____
Business Registry No. _____
Taxpayer's No. _____

Represented by M _____, its General Manager, hereinafter referred to as the "Contractor"

On the other hand,

Agree on the following:

Summary

Part I: Special Administrative Conditions (SAC)

Part II: Special Technical Conditions (STC)

Part III: Schedule of Unit Prices (SUP)

Part IV: Details or Estimates

Page _____ and last of Contract N° _____ C/NC/ITB/2024 OF2024
 Awarded after Open National Invitation to Tender No 10/ONIT/NCITB/NC/2024 of 11/04/2024 for
 the CONSTRUCTION OF A MINI-SOLAR PLANT AT NJIKWA, NJIKWA MUNICIPALITY, Njikwa Subdivision,
 Momo Division.

With _____,

For the execution of _____ works

EXECUTION DEADLINE _____ (_____) months

Amount of Contract in CFA F:

IAT	
EVAT	
VAT (19.25)	
AIR (2.2 or 5.5 %)	
Net to be paid	

Read and accepted by the Contractor

(place of signature) _____ (date)

Signature of Delegated Contracting Authority

(place of signature) _____ (date)

Registration

Document N°. 10

FORMS AND MODELS TO BE USED BY BIDDERS

TABLE OF MODELS

- Annex N° 1: Model of declaration to Tender
- Annex N° 2: Model Bid
- Annex N° 3: Model Bid Bond
- Annex N° 4: Model Final Bond
- Annex N° 5: Model Retention fund (Guarantee Retention)
- Annex N° 6: Schedule framework
- Annex N° 7: Model attestation of site visit
- Annex N° 8: Model site visit report
- Annex N° 9: Model table of reference
- Annex N° 10: Model table of equipment

Annex N° 1: MODEL OF DECLARATION TO TENDER

DECLARATION OF THE INTENTION TO TENDER

I the undersigned,(indicate the name and capacity of signatory),

Nationality

Representing the company or enterprise or group with head office at

..... registered in the trade register of Under the number

In my capacity asofPO box....., hereby acknowledge receipt of the file for Open National Invitation to Tender N° for the

And hereby declare my intention to tender for the said contract.

Done at

Signature of

In the capacity of

Duly authorized to sign the tenders on behalf of

Annex N° 2: MODEL BID

I the undersigned,(indicate the name and capacity of signatory)
Representing the company or enterprise or group with head office at
..... registered in the trade register of Under the number

Having taken cognizance of all the documents featured or mentioned in the Tender file: tender N° 10/ONIT/NCITB/NC/2024 OF 11/04/2024 for the CONSTRUCTION OF A MINI-SOLAR PLANT AT NJIKWA, NJIKWA MUNICIPALITY, Momo Division of the North West Region.

after having personally taking account of the situation of the site and evaluated from my point of view and under my responsibility, the nature and difficulty of the works to be carried out;

- Hereby submit, bearing my signature, the schedule of unit prices as well as the quotations in accordance with the structure featuring in the Tender File;
- Submit and commit myself to execute the works in accordance with the Tender File, in return for the prices which I myself establish for each type of structure which prices reveal the amount of the tender at (in figures and words) CFAF exclusive of VAT and at (in figures and in words) CFAF inclusive of all taxes.
- I pledge to execute the works within a deadline of months.
- I pledge to maintain my offer for a duration of **One Twenty (120)** days from the deadline of submission of tenders;

The Contracting Authority shall pay the sums due for this Contract by crediting Account N°:.....
Open in Bank Branch.

Prior to the signing of the Contract, this tender accepted by you shall constitute an agreement between us.

Done at

Signature of

In the capacity of

Duly authorized to sign the tenders on behalf of
.....

Annex N° 3: MODEL BID BOND

Addressed to the Contracting Authority

Whereas the undertaking Hereinafter referred to as the "bidder" has submitted his tender on for the CONSTRUCTION OF A MINI-SOLAR PLANT AT NJIKWA, NJIKWA MUNICIPALITY, Momo Division of the North West Region, hereinafter referred to as "the tender" and to which must be attached a bid bond equivalent toCFAF.

We (name and address of the bank), represented by (names of signatories), hereinafter referred to as "the Bank" hereby declare to guarantee payment to the Delegated Contracting Authority of the maximum sum of, that the bank pledges to pay in full to the Contracting Authority, bidding itself, its successors and assignees.

The conditions of this commitment are as follows:

If the Bidder withdraws his offer during the validity period specified by the Bidder in the tender; or

If the Bidder, having been notified of the award of the contract by the Contracting Authority during the period of Bid validity:

- Fails or refuses to sign the contract, even though required to do so;
- Fails or refuses to furnish the final bond for the contract (final bond) as provided for by the contract.

We undertake to pay the Contracting Authority an amount up to the maximum of the sum referred to above upon receipt of his first written demand, without the Contracting Authority having to substantiate his demand, provided that in its demand the Contracting Authority shall note that the amount claimed by him is due, because one or the other or both of the above condition(s) has (have) been fulfilled and he shall specify which condition(s) took effect.

This bond shall enter into force from the date of signature and from the date set by the Contracting Authority for the submission of tenders. It shall remain valid up till the thirtieth day inclusive following the end of the deadline for the validity of tenders. Any request by the Contracting Authority to cause it to take effect should reach the bank by registered mail with an acknowledgement of receipt before the end of this period of validity.

This bond shall, for purposes of its interpretation, be submitted to Cameroon law. Cameroon courts shall be the only jurisdictions competent to rule on this commitment and its consequences.

Signed and authenticated by the bank

at, on

(Bank's signature)

Annex N° 4: MODEL FINAL BOND

Bank:

Reference of the Bond N°:

Addressed to the Mayor of NJIKWA Council "Contracting Authority"

Whereas (Name and address of Contractor) hereinafter referred to "the Contractor", pledge, in execution of the Contract, to carry out the works of the CONSTRUCTION OF A MINI-SOLAR PLANT AT NJIKWA, NJIKWA MUNICIPALITY, Momo Division of the North West Region..

Whereas it is stipulated in the Contract that the Contractor shall furnish the Delegated Contracting Authority a final bond of two percent (2%) of the amount of the Contract as security for compliance with the Contractor's performance obligations in accordance with the Contract.

Whereas we have agreed to provide the Contractor with this guarantee;

We, (name and address of bank),

Represented by (name of signatories)

hereinafter referred to as "the Bank", and we pledge to pay to the Delegated Contracting Authority within a maximum deadline of eight (8) weeks upon his simple written request declaring that the Contractor has not fulfilled his contractual obligations, without being able to defer the payment nor raise any contest for whatever reason, the sum of (in letters and in words).

We hereby agree that no change or addendum or any other amendment shall release us of any obligation incumbent on us by virtue of this bond and we hereby derogate by the present to the notification of any amendment, addendum or change.

This bond shall enter into force upon signature. It shall be released within thirty (30) days from the date of the Provisional Reception of the works.

After this date the caution shall no longer be valid and shall be returned to us without any request on our part.

Any request for payment formulated by the Contracting Authority by virtue of this bond should be done by registered mail with acknowledgement of receipt to reach the bank during the period of validity of this commitment.

This bond shall, for purposes of its interpretation and execution, be subject to Cameroon law. Cameroon courts shall be the only jurisdictions competent to rule on this pledge and its consequences.

Signed and authenticated by the bank at on
[signature of the bank]

Annex N° 5: MODEL OF PERFORMANCE BOND (GUARANTEE RETENTION)

Bank:

Reference of the Bond N°:

Addressed to the Mayor of NJIKWA Council
Hereinafter referred to as "The Contracting Authority"

Whereas (name and address of Contractor) hereinafter referred to "the Contractor",
pledge, in execution of the Contract, to carry out the works of for the CONSTRUCTION OF A MINI-SOLAR
PLANT AT NJIKWA, NJIKWA MUNICIPALITY, Momo Division of the North West Region.

Whereas it is stipulated in the Contract that the Guarantee Retention fixed at ten percent (10%) of the
amount of the Contract may be replaced by a joint guarantee;

Whereas we have agreed to provide the Contractor with this guarantee;
We, (name and address of bank),
Represented by (name of signatories) and hereinafter referred to as
"the Bank";

Hence, we hereby affirm that on behalf of the Contractor, we guarantee and are responsible to the
Contracting Authority for a maximum amount of (in figures and in letters)
corresponding to ten percent (10%) of the Jobbing Order amount.

And we pledge to pay to the Delegated Contracting Authority within a maximum deadline of eight (8)
weeks upon his simple written request declaring that the contractor has not fulfilled his contractual
obligations or is indebted to the Contracting Authority within the meaning of the contract, amended where
need be, by its additional clauses, without being able to defer the payment nor raise any contest for
whatever reason, any sum(s) within the limits of the amount equal to ten percent (10%) of the total amount
of the works featuring in the final detailed account, without the Contracting Authority having to prove or
give the reasons nor the motive for the amount of the sum indicated above.

We hereby agree that no change or addendum or any other amendment shall release us of any obligation
incumbent on us by virtue of this bond and we hereby derogate by the present to the notification of any
amendment, addendum or change.

This bond shall enter into force upon signature. It shall be released within thirty (30) days from the date of
the final acceptance of the works and upon released issued by the Contracting Authority.

Any request for payment formulated by the Contracting Authority by virtue of this bond should be done by
registered mail with acknowledgement of receipt to reach the bank during the period of validity of this
commitment.

This bond shall, for purposes of its interpretation and execution, be subject to Cameroon law. Cameroon
courts shall be the only jurisdictions competent to rule on this pledge and its consequences.

Signed and authenticated by the bank at on
[signature of the bank]

ANNEX N° 6: SCHEDULE FRAMEWORK

Note on the presentation of schedules

The quantities, daily outputs, the duration of execution of works and the slowdowns or even the due interruptions must be clearly brought out in the schedules.

The financial schedules resulting from the schedules of works must indicate month by month, the estimated amounts of the detailed accounts of works by item and cumulatively by taking into account the incidence of rainy seasons for the basic solution and possibly variant solution.

Annex N° 7: MODEL ATTESTATION OF SITE VISIT

LETTER HEAD HERE

TO WHOM IT MAY CONCERN

ATTESTATION OF SITE VISIT

This is to testify that Mr

.....

Manager/Technical Director/Engineer of

Has effectively visited the site for

.....

..... in view to tender for the said project.

This attestation is issued to serve the purpose for which it is intended for.

The Director

Annex N° 8: MODEL SITE VISIT REPORT

I) INTRODUCTION

TENDER N°.....

NAME OF THE ENTERPRISE:

DATE:

II) COMMENTARY

1- Nature of the project site:

2- Accessibility to the project site:

3- Vegetation:

4- Topography of the site:

III) AVAILABILITY OF SERVICES

IV) AVAILABILITY OF MATERIALS

V) DIFFICULTIES

VI) CONCLUSION

Signature of the contractors' engineer

Annex N° 9: MODEL TABLE OF REFERENCE

LIST OF ELECTRIFICATION PROJECTS EXECUTED BY THE COMPANY

Nº	YEAR	NAME OF THE PROJECT	NAME OF THE PROJECT OWNER	CONTRACT AMOUNT	CONTRACT DURATION	DATE OF ACCEPTANCE

DONE ONAT
 Mr.....
 SIGNATURE

Annex N° 10: MODEL TABLE OF EQUIPMENT

**LIST OF EQUIPMENT AND MATERIALS AVAILABLE FOR THE
(project name).....**

Nº	DESIGNATION OF THE EQUIPMENT	DESCRIPTION, MARK	AGE AND STATE	NUMBER AVAILABLE	OWNER OR NOT

DONE ONAT

Mr.....

SIGNATURE

ANNEX No. 6: Framework of schedules

DESIGNATION :					
No	Daily out put		Total quantity	Unit	Duration of activity
WORKMAN SHIP	Category	No	Daily wage	Days break up	Amount
TOTAL A					
EQUIPMENT/MACHINES	Type	No	Daily rate	Days break up	Amount
TOTAL B					
MATERIAL AND MISCELLANEOUS	Type	Unit	Unit cost	Quantity	Amount
TOTAL C					
D	DIRECT TOTAL COST				
E	GENERAL SITE EXPENSES			A+B+C	
F	GENERAL OFFICE EXPENSES			Dx%	
G	NET COST			D+E+F	
H	RISK + BENEFITS			Gx%	
P	TOTAL COST (HT)			G+H	
V	UNIT COST (HT)			P/Q'TY	

Note on preliminary studies

In accordance with the Public Contracts Code, the Project Owner or Delegated Project Owner must, prior to commencing the procedure to award Contracts or refer to the competent Tenders Board, ensure that draft Tender Files are prepared based on preliminary studies.

These studies must be required during the examination of the Tender File (TF) by the Tenders Board.

The Project Owner is bound to fill the questionnaire in annex 1 accompanied by justifications of the said studies.

Annex N°. 7: Justification of preliminary studies

1. Attach the preliminary studies.
2. Indicate
 - 2.1. The date studies were carried out;
 - 2.2. The name of the Public or private Project Manager
 - 2.3. References of the Contract, if Private Manager carried it out;
 - 2.4. If maintenance works
 - 2.4.1 Description of the studies;
 - 2.4.2 Attach the outline of the itinerary bringing out readings of degradations as well as the approved programming documents.
- 2.5 Rehabilitation or new works
 - 2.5.1 Are quantities in the quotations the same as those of the studies?
 - 2.5.2 Description of studies: Draft Preliminary Study, Detailed Preliminary Study;
 - 2.5.3 Attach the said studies.

N.B. For services of less scope, the Project Owner may furnish a justification of calculation of quantities of the Tender File.

- *The chairperson of the Tenders Board may, before taking a decision, seek expert advice on the quality of the studies.*

Document N°.12

LIST OF BANKING ESTABLISHMENTS AND FINANCIAL BODIES AUTHORISED TO ISSUE BONDS FOR PUBLIC CONTRACTS

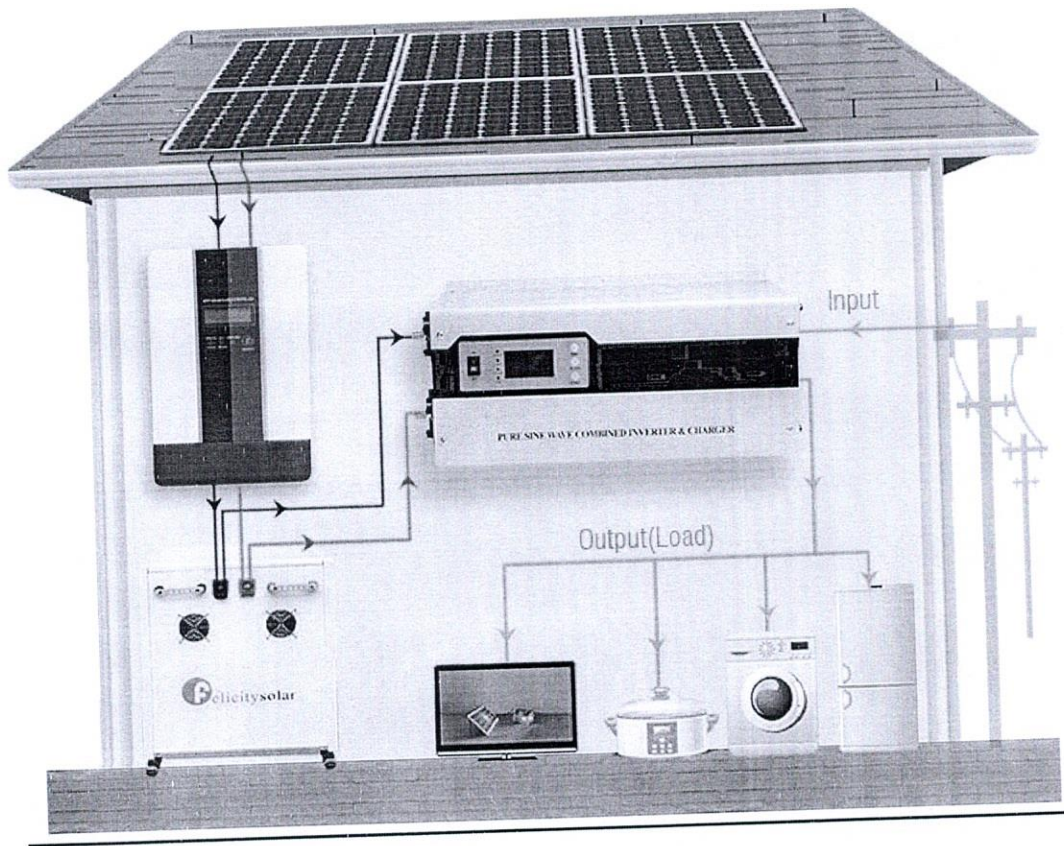
BANKS

1. Afriland First Bank (AFB)
2. Banque Atlantique Cameroun (BACM)
3. Banque International du Cameroun pour l'Epargne et le Crédit (BICEC)
4. CITI Bank N.A. CAMEROON
5. Commercial Bank of Cameroon (CBC)
6. Ecobank Cameroon (EBC)
7. National Financial Credit Bank (NFC BANK)
8. Société Commercial de Banques Cameroun (CA-SCB)
9. Société Générale Cameroun (SGC)
10. Standard Chartered Bank Cameroon (SCBC)
11. Union Bank of Cameroon PLC (SCBC)
12. United Bank for Africa (UBA)
13. Bank of Africa Cameroun (BOA-C)
14. Credit Communautaire d'Afrique (CCA)
15. BGFI. Banque Gabonaise pour le financement International
16. Banque Camerounaise des PME. IBEPME

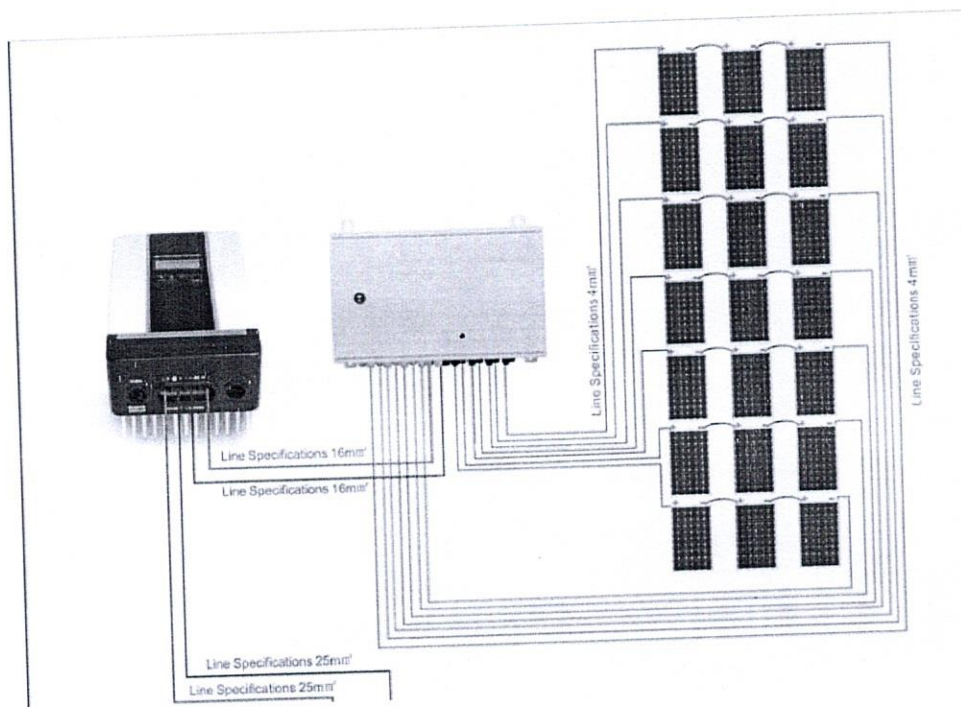
II- Insurance companies

1. Chanas Assurances S.A. BP 109/Douala;
2. Activa Assurances S.A. BP 12970/Douala ;
3. Zenithe Insurance S.A. BP 1540/Doual.
4. Area Assurance
5. Atlantique Assurance
6. Beneficial General Insurance
7. CPA Sa
8. NSIA Assurance
9. Pro- Assurance
10. SAAR Assurance
11. SAHAM Assurance

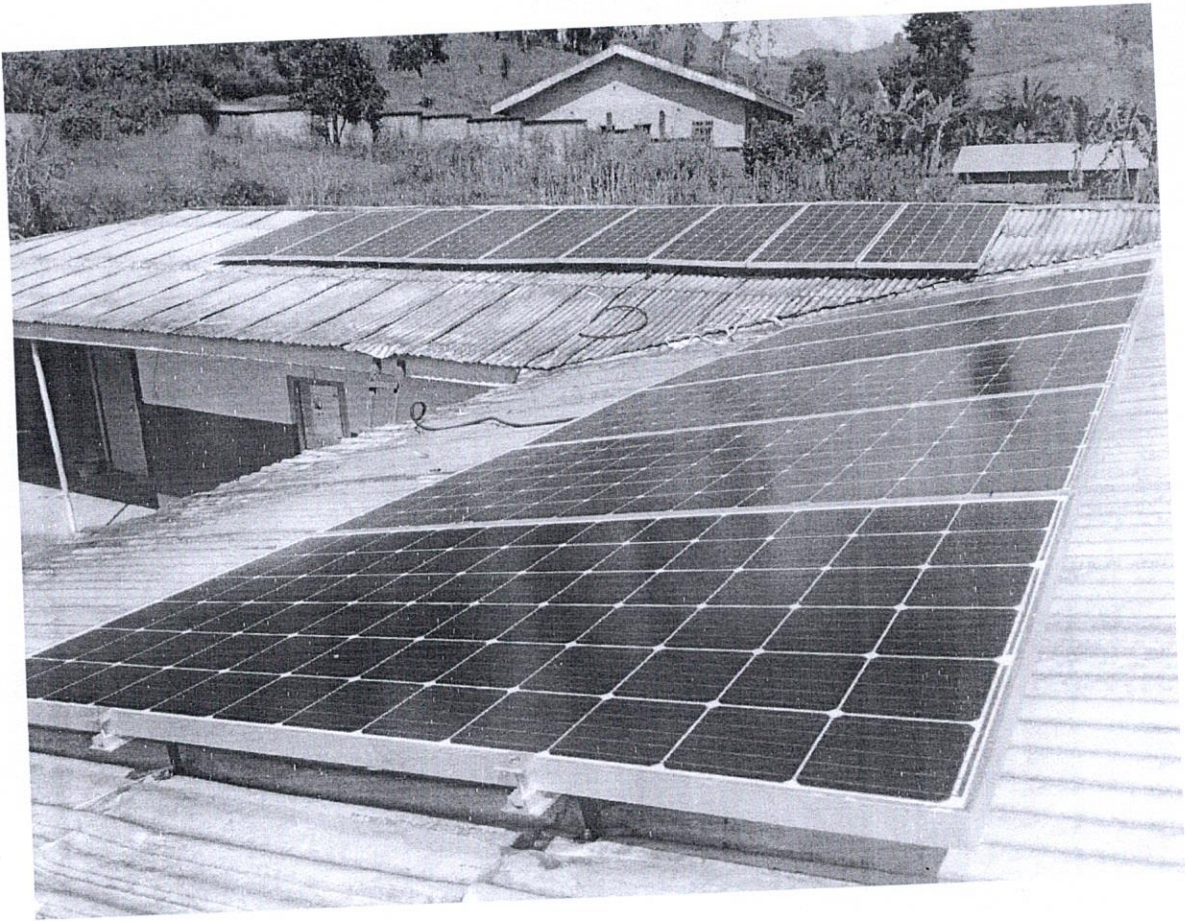
PLANS



Installation and commissioning of the solar modules, charge controller, inverter and batteries



PV module arraying and combiner box



Sample of Roof-mounted solar modules

EVALUATION GRID

OPEN NATIONAL INVITATION TO TENDER N° 10/ONIT/NCITB/NC/2024 OF 11/04/2024 FOR THE CONSTRUCTION OF A MINI-SOLAR PLANT AT NJIKWA, NJIKWA MUNICIPALITY, MOMO DIVISION OF THE NORTH WEST REGION.

ADMINISTRATIVE DOCUMENTS.

DOCUMENT N°	DESCRIPTION
A.1	Certified Copy of the Business Registration, not more than three months old.
A.2	Declaration of intention to tender stamped with the tariff in force (written by the bidder) with a fiscal stamp.
A.3	Certificate of non-bankruptcy established by the Court of 1 st instance or the Chamber Commerce, Industry and Trade of the place of residence of the bidder, not more than three (03) months.
A.4	Attestation of bank account of the bidder, issued by a first rate-bank approved by the Ministry in charge of Finance or by a foreign bank the first order not more than three months.
A.5	Purchase receipt of Tender File of forty thousand (40,000) CFAF issued by COUNCIL treasury
A.6	A bid bond of six hundred thousand (600,000) CFAF issued by a first rate-financial institution approved by the Ministry in charge of Finance in conformity with COBAC conditions
A.7	An attestation of non-exclusion from Public Contracts issued by the Public Contracts Regulatory Board (ARMP)
A.8	An Attestation of the National Social Insurance Fund stating that the bidder has met all his obligations vis a vis the Fund; the attestation valid within the given time.
A.9	A Clearance Certificate signed by the chief of Centre of Taxes that the bidder has met all the statutory declarations in issues of taxes in the current financial year; this certificate should be less than three months old.
A.10	Certified Copy of a valid taxpayer's card, delivered by the chief of center of Taxes.
A.11	Plan and attestation of location of the Company signed by the Chief of Taxation
A.12	Power of attorney if necessary
A.13	Special Technical Clauses initialed in all the pages and signed at the last page
A.14	Special Administrative Clauses completed and initialed in all the pages and signed at the last page

In the absence or in case of non-conformity of the one of these documents, the bidder will be given 48hrs to provide the said document failure of which it will result to the elimination of the offer.

The second Internal Envelope shall be labeled <<ENVELOPE B: TECHNICAL DOCUMENT>> and shall contain the following:

General presentation of bids	
- Presence of all documents	yes/no
- Properly bound.....	yes/no
- Table of content	yes/no
- Separators in colour apart from white.....	yes/no
- Order prescribed respected.....	yes/no
- Clearness of the documents.....	yes/no
TOTAL 1	/6
a. The company references	
References of the company in solar electrification works or similar works for the past years:	

- At least 03 copies of similar contract with bill of quantities and cost estimates (1 st page, bill of quantities and last page)	yes/no
- Minutes of reception of works realized	yes/no
TOTAL 2	/3
b. Equipment	
- Proof of ownership or hire of a yarp truck	yes/no
- Proof of ownership or hire of a 4x4 pick-up vehicle in good operating condition	yes/no
- Proof of ownership or hire of a concrete vibrator.....	yes/no
- Proof of ownership of wheel barrow.....	Yes/no
- Proof of ownership of GPS device	yes/no
- Proof of ownership of an electrical tool kit comprising: climbers, spades, dig axes, drill, service cord, set of screws drivers, pegging markers, fork, signalling cones, pliers.	yes/no
TOTAL 3	/6
c. Qualification of site personnel	
- Organizational Chart of the enterprise.....	yes/no
- Organizational Chart of site with comments	yes/no
Works Director: Electrical or Rural Engineer with at least 03 yrs experience	
- Diploma of work Director certified.....	yes/no
- CV signed and dated by works Director.....	yes/no
- Professional experience of works Director at least three years.....	yes/no
- Attestation of availability dully signed by the bearer	yes/no
- Attestation of presentation of originals	yes/no
Site foreman: Senior Electrical Engineering technician with at least 03 yrs experience	
- Certified copy of certificate of Foreman.....	yes/no
- CV signed and dated by site foreman.....	yes/no
- Professional experience of site foreman at least three years	yes/no
- Attestation of availability	yes/no
- attestation of presentation of originals	yes/no
Chief technician; at least BAC in electricity and at least 03 yrs of experience	
- Certified copy of diploma	yes/no
- CV signed and dated	yes/no
- Attestation of availability	yes/no
- Attestation of presentation of originals	yes/no
- Professional experience of chief technician at least three years	yes/no
TOTAL 4	/17
d The methodology of intervention and execution of work	
- Site Visit report signed and dated, plus pictures by the bidder.....	yes/no
- Detailed technical note on the organization and execution of works.....	yes/no

- Coherence of synchronized Planning of execution of works.....	yes/no
- Coherence of individual protection plan (IPP) within the project site.....	yes/no
- Coherence of the General Security and Safety Plan (GSSP) within the project site.....	yes/no
- Description of the socio - environment measures for the site protection.....	yes/no
- Attestation of site visit signed by the Mayor of Njikwa or signed on honour by the bidder ..	yes/no
- Coherence in the planning of execution.....	yes/no
- Plan of supply of materials.....	yes/no
- Detailed manpower deployment plan.....	yes/no
-Technical note drawn from site observations and recommendations.....	yes/no
TOTAL 5	/11
e- Pre-financing	
Attestation of credibility shall be at least 65% of the bid price.....	yes/no
TOTAL	/1
TOTAL = TOTAL1 + TOTAL2+ TOTAL3+ TOTAL4+ TOTAL5 + TOTAL6	/44

ENVELOPE C- FINANCIAL FILE

No.	DESIGNATION.
C1	A submission letter, signed, dated and stamped.(see ANNEX 3)
C2	Completed and signed frame work of unit prices.
C3	Signed Bills of quantities and cost estimates indicating the total amount without taxes (HT) and with taxes (TTC).
C4	Sub details of unit prices.

This evaluation will be done in a purely positive way (yes) or negative (no) with an acceptable minimum from at least 75% of the essential criteria taken in account.

The Contract will be awarded to the bidder who would have proposed the offer with the lowest amount, in conformity with the regulations of the Tender Documents and having satisfied to **100%** of the eliminatory criteria and at least **75%** of the essential criteria.

B. Eliminatory criteria

- 10-Absence of bid bond in the administrative file;
- 11-Deadline for delivery higher than prescribed;
- 12-False declaration or falsified documents;
- 13-A bid with the external envelope carrying a sign or mark leading to the identification of the bidder;
- 14-Incomplete financial file.
- 15-Non-respect of 75% of essential criteria
- 16-Change of quantity or unit
- 17-Suspended by MINMAP.
- 18-Lack of tender purchase receipt

C. Essential criteria

- 1- General presentation of the Tender Files;
- 2- Financial capacity of 25% of amount ATI;
- 3- References of the company in similar achievements;
- 4- Quality of the personnel ;