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| Eskomlogo 2002 Black |

NEC3 Engineering & Construction Contract

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| **Between** | **ESKOM HOLDINGS SOC Ltd**  **(Reg No. 2002/015527/30)** | |
| **and** | **………………………………………………….**  **(Reg No. \_\_\_\_\_\_\_\_\_\_\_)** | |
| **for** | **Engineering, Procurement and Construction of Maximum 17MW Solar PV Plant at Arnot Power Station including 2-years of Operation and Maintenance.** | |
|  |  | |
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|  |  |  |
| **CONTRACT No.** | **46000……………….** | |
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Part C1: Agreements & Contract Data

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| --- | --- | --- |
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C1.1 Form of Offer & Acceptance

## Offer

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract for the procurement of:

# ARNOT SOLAR PV PLANT

The tenderer, identified in the Offer signature block, has examined the documents listed in the Tender Data and addenda thereto and by submitting this Offer has accepted the Conditions of Tender.

By the representative of the tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance the tenderer offers to perform all the obligations and liabilities of the *Contractor* under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the *conditions of contract* identified in the Contract Data.

Delete the Options which do not apply

|  |  |  |
| --- | --- | --- |
| Options A | The offered total of the Prices exclusive of VAT is | **R** |
|  | Value Added Tax @ 15% is | **R** |
|  | The offered total of the amount due inclusive of VAT is[[1]](#footnote-2) | **R** |
|  | (in words) | |

This Offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document including the Schedule of Deviations (if any) to the tenderer before the end of the period of validity stated in the Tender Data, or other period as agreed, whereupon the tenderer becomes the party named as the *Contractor* in the *conditions of contract* identified in the Contract Data.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Signature(s) |  |  |  | |
| Name(s) |  |  |  | |
| Capacity |  |  |  | |
| **For the tenderer:** |  | | | |
| Name & signature of witness | *(Insert name and address of organisation)* |  | Date |  |
| Tenderer’s CIDB registration number (if applicable) | |  | | |

## Acceptance

By signing this part of this Form of Offer and Acceptance, the Employer identified below accepts the tenderer’s Offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the *conditions of contract* identified in the Contract Data. Acceptance of the tenderer’s Offer shall form an agreement between the Employer and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract, are contained in:

Part C1 Agreements and Contract Data, (which includes this Form of Offer and Acceptance)

Part C2 Pricing Data

Part C3 Scope of Work: Works Information

Part C4 Site Information

and drawings and documents (or parts thereof), which may be incorporated by reference into the above listed Parts.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Returnable Schedules as well as any changes to the terms of the Offer agreed by the tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Form of Offer and Acceptance. No amendments to or deviations from said documents are valid unless contained in this Schedule.

The tenderer shall within two weeks of receiving a completed copy of this agreement, including the Schedule of Deviations (if any), contact the Employer’s agent (whose details are given in the Contract Data) to arrange the delivery of any securities, bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the *conditions of contract* identified in the Contract Data at, or just after, the date this agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed original copy signed between them of this document, including the Schedule of Deviations (if any).

Unless the tenderer (now *Contractor*) within five working days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the Parties.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Signature(s) |  |  |  | |
| Name(s) |  |  |  | |
| Capacity |  |  |  | |
| for the Employer |  | | | |
| Name & signature of witness | *(Insert name and address of organisation)* |  | Date |  |

Note: If a tenderer wishes to submit alternative tenders, use another copy of this Form of Offer and Acceptance.

## Schedule of Deviations to be completed by the *Employer* prior to contract award

Note:

1. This part of the Offer & Acceptance would not be required if the contract has been developed by negotiation between the Parties and is not the result of a process of competitive tendering.
2. The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender.
3. A tenderer’s covering letter must not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid be the subject of agreement reached during the process of Offer and Acceptance, the outcome of such agreement shall be recorded here and the final draft of the contract documents shall be revised to incorporate the effect of it.

|  |  |  |
| --- | --- | --- |
| No. | Subject | Details |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
|  |  |  |

By the duly authorised representatives signing this Schedule of Deviations below, the Employer and the tenderer agree to and accept this Schedule of Deviations as the only deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules, as well as any confirmation, clarification or changes to the terms of the Offer agreed by the tenderer and the Employer during this process of Offer and Acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the tenderer of a completed signed copy of this Form shall have any meaning or effect in the contract between the parties arising from this Agreement.

|  |  |  |  |
| --- | --- | --- | --- |
|  | For the tenderer: |  | For the Employer |
| Signature |  |  |  |
| Name |  |  |  |
| Capacity |  |  |  |
| On behalf of | *(Insert name and address of organisation)* |  | *(Insert name and address of organisation)* |
| Name & signature of witness |  |  |  |
| Date |  |  |  |

C1.2 ECC3 Contract Data

# Part one - Data provided by the *Employer*

Completion of the data in full, according to the Options chosen, is essential to create a complete contract.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Clause | | Statement | Data | | | | | | |
| 1 | | General |  | | | | | | |
|  | | The *conditions of contract* are the core clauses and the clauses for main Option |  | | | | | | |
|  | |  | **A: Priced contract with activity schedule** | | | | | | |
|  | | dispute resolution Option | **W1: Dispute resolution procedure** | | | | | | |
|  | | and secondary Options |  | | | | | | |
|  | |  | **X1: Price adjustment for inflation** | | | | | | |
|  | |  | **X2 Changes in the law**  **X3 Multiple currencies** | | | | | | |
|  | |  | **X7: Delay damages**  **X13 Performance bond** | | | | | | |
|  | |  | **X16: Retention** | | | | | | |
|  | |  | X18: Limitation of liability | | | | | | |
|  | |  | Z: *Additional conditions of contract* | | | | | | |
|  | |  | **of the NEC3 Engineering and Construction Contract, April 2013 (ECC3)If 2005 Edition is to be used delete “April 2013” and replace with “June 2005 with amendments June 2006”. Always delete this note before finalising this Data** | | | | | | |
| 10.1 | | The *Employer* is (Name): | **Eskom Holdings SOC Ltd (reg no: 2002/015527/30), a state owned company incorporated in terms of the company laws of the Republic of South Africa** | | | | | | |
| Address | **Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg** | | | | | | |
| 10.1 | | The *Project Manager* is: (Name) | **TBA** | | | | | | |
| 10.1 | | The *Supervisor* is: (Name) | **TBA** | | | | | | |
| 11.2(13) | | The *works* are | **Design, Supply, Installation, Testing, Commissioning and Handover of**  **Arnot Solar PV Plant** | | | | | | |
| 11.2(14) | | The following matters will be included in the Risk Register | * **Business forums** * **Delays due to labour strikes.** * **Fire and smoke** * **Ground conditions** * **Existing site services.** | | | | | | |
| 11.2(15) | | The *boundaries of the site* are | **Geographically, the site lies** **between 25o 56’ and 25o 58’ S and between 29o 46’ and 29o 48’ E. The site is owned by Eskom Holding SOC Limited (Eskom) and located on the same property as the existing Eskom Arnot Power Station. The site is approximately 25.8 ha in size and included in portion 24 of the farm Rietkuil 491 JS.** | | | | | | |
| 11.2(16) | | The Site Information is in | **Part 4: Site Information** | | | | | | |
| 11.2(19) | | The Works Information is in | **Part 3: Scope of Work and all documents and drawings to which it makes reference.** | | | | | | |
| 12.2 | | The *law of the contract* is the law of | **the Republic of South Africa** | | | | | | |
| 13.1 | | The *language of this contract* is | **English** | | | | | | |
| 13.3 | | The *period for reply* is | **seven (7) working days.** | | | | | | |
| 2 | | The *Contractor's* main responsibilities | **Data required by this section of the core clauses is provided by the *Contractor* in Part 2 and terms in italics used in this section are identified elsewhere in this Contract Data.** | | | | | | |
| 3 | | Time |  | | | | | | |
| 11.2(3) | | The *completion date* for the whole of the *works* is | **12 (Twelve) Months from Start date** | | | | | | |
| 11.2(9) | | The *key date*s and the *condition*s to be met are: | ***Condition* to be met** | | | | | ***key date*** | |
|  | |  |  | | **1. Detail Design Phase (Start & End)**  **2. Procurement (Start & End)**  **3. Construction (Start & End)**  **4. Commissioning & Testing (Start & End)**  **5. Taking Over Certificate Date (As applicable)** | | |  | |
|  | |  |  | | **These are contract dates that must be shown on the contractor’s baseline schedule that will be binding for this contract.** | | |  | |
| 31.1 | | The *Contractor* is to submit a first programme and forecasted rate of invoicing for acceptance within | **Two (2) weeks of the Contract Date.** | | | | | | |
| 31.2 | | The *starting date* is | **To be confirmed** | | | | | | |
| 32.2 | | The *Contractor* submits revised programmes at intervals no longer than | **Two (2) weeks after any change.** | | | | | | |
| 35.1 | | The *Employer* is not willing to take over the *works* before the Completion Date. |  | | | | | | |
| 4 | | Testing and Defects |  | | | | | | |
| 42.2 | | The *defects date* is | **one years after Completion of the whole of the *works*.** | | | | | | |
| 43.2 | | The *defect correction period* is | **Two week.**  **Defect of such a nature that it cannot**  **reasonably be repaired in 1 week, the**  **Contractor promptly notifies the Project**  **Manager and submits a plan for correcting the Defect**  **The Contractor and Project Manager agree on a time allowed for defect correction, in**  **addition to the defect correction period**  **If no agreement is reached in respect of**  **further time allowed, the defect correction**  **period remains one week.** | | | | | | |
| 5 | | Payment |  | | | | | | |
| 50.1 | | The *assessment interval* is | **Monthly. Assessment to completed by the 30th of the month** | | | | | | |
| 51.1 | | The *currency of this contract* is the | **South African Rand (ZAR)** | | | | | | |
| 51.2 | | The period within which payments are made is | **Sixty (60) days from when the *Contractor* provides the *Employer* with an invoice in accordance with the *law of the contract* and the *Employer* requirements stated in the Z 8 Clauses and/or Works Information, reflecting the amount due for payment equal to that certified, accepted, or corrected by the *Employer, Employer’s Agent,* or decided by the *Adjudicator* or awarded by the *tribunal, as applicable*.** | | | | | | |
| 51.4 | | The *interest rate* is | **dependant on the required currency of the payment.**  **(i) For ZAR, it is the publicly quoted prime rate published by the South African Reserve Bank.**  **(ii) For USD, it is the secured overnight financing rate (SOFR) administered by the Federal Reserve Bank of New York (or any other person which takes over the administration of that rate) published by the Federal Reserve Bank of New York (or any other person which takes over the publication of that rate), and depending on the period, the 30-day, 90-day or 180-day average SOFR (simple compounding convention) rates will apply and, for periods longer than 180 days, interest will be based on an extended 180-day period/s.**  **(iii) For other currencies, it is the publicly quoted risk-free reference rate as published by the applicable Central Bank of the applicable currency,**  **or, if this is not available,**  **the LIBOR rate applicable at the time for amounts due in other currencies. LIBOR is the 6 month London Interbank Offered Rate quoted under the caption “Money Rates” in The Wall Street Journal for the applicable currency or if no rate is quoted for the currency in question then the rate for United States Dollars, and if no such rate appears in The Wall Street Journal then the rate as quoted by the Reuters Monitor Money Rates Service (or such service as may replace the Reuters Monitor Money Rates Service) on the due date for the payment in question, adjusted mutatis mutandis every 6 months thereafter and as certified, in the event of any dispute, by any manager employed in the foreign exchange department of The Standard Bank of South Africa Limited/South African Reserve Bank, whose appointment it shall not be necessary to prove.** | | | | | | |
| 6 | | Compensation events |  | | | | | | |
| 60.1(13) | | The place where weather is to be recorded is: | **Arnot Power Station** | | | | | | |
|  | | The *weather measurements* to be recorded for each calendar month are, | **the cumulative rainfall (mm)** | | | | | | |
|  | |  | **the number of days with rainfall more than 10 mm** | | | | | | |
|  | |  | **the number of days with minimum air temperature less than 0 degrees Celsius** | | | | | | |
|  | |  | **the number of days with snow lying at 09:00 hours South African Time** | | | | | | |
|  | |  | **and these measurements are supplied by South African Weather Bureau, the weather date, millimetres of the rainfall should be measured each calendar day.** | | | | | | |
|  | |  |  | | | | | | |
|  | |  |  | | | | | | |
|  | |  |  | | | | | | |
| 7 | | Title | **There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.** | | | | | | |
| 8 | | Risks and insurance |  | | | | | | |
| 80.1 | | These are additional *Employer*'s risks | **Refer to clause 80.1 of NEC ECC** | | | | | | |
|  | |  |  | | | | | | |
|  | |  |  | | | | | | |
| 9 | | Termination | **As per clause 90 of NEC3 ECC** | | | | | | |
| 10 | | Data for main Option clause |  | | | | | | |
| **A** | |  | **Priced contract with activity schedule** | | | | | | |
| 11 | | Data for Option W1 |  | | | | | | |
| W1.1 | | The *Adjudicator* is | **the person selected from the ICE-SA Division (or its successor body) of the South African Institution of Civil Engineering Panel of Adjudicators by the Party intending to refer a dispute to him. (see** [**www.ice-sa.org.za**](http://www.ice-sa.org.za)**). If the Parties do not agree on an Adjudicator the Adjudicator will be appointed by the Arbitration Foundation of Southern Africa (AFSA).** | | | | | | |
| W1.2(3) | | The *Adjudicator nominating body* is: | **the Chairman of ICE-SA a joint Division of the South African Institution of Civil Engineering and the London Institution of Civil Engineers. (See** [**www.ice-sa.org.za**](http://www.ice-sa.org.za) **) or its successor body.** | | | | | | |
| W1.4(2) | | The *tribunal* is: | **arbitration.** | | | | | | |
| W1.4(5) | | The *arbitration procedure* is | **the latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body.** | | | | | | |
|  | | The place where arbitration is to be held is | **Johannesburg, South Africa** | | | | | | |
|  | | The person or organisation who will choose an arbitrator   * if the Parties cannot agree a choice or * if the arbitration procedure does not state who selects an arbitrator, is | **the Chairman for the time being or his nominee of the Association of Arbitrators (Southern Africa) or its successor body.** | | | | | | |
| 12 | | Data for secondary Option clauses |  | | | | | | |
| **X1** | | **Price adjustment for inflation** | **CPA does not apply for the first twelve (12) months of the contract period.** | | | | | | |
| X1.1(a) | | The *base date* for indices is | **A month prior to the tender closing date.** | | | | | | |
| **X2** | | **Changes in the law** | **There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.** | | | | | | |
|  | |  |  | | | | | | |
| **X2** | | **Changes in the law** | | **There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.** | | | | |
| **X3** | | **Multiple currencies** | |  | | | | | |
| X3.1 | | The *Employer* will pay for these items or activities in the currencies stated | | **Items & activities** | | **Other currency** | **Maximum payment in other currency** | | |
|  | |  | | **[●]** | | **[●]** | **[●]** | | |
|  | |  | | **[●]** | | **[●]** | **[●]** | | |
|  | |  | | **[●]** | | **[●]** | **[●]** | | |
|  | |  | | **[●]** | | **[●]** | **[●]** | | |
| X3.1 | | The *exchange rates* are those published in | | **[●] on [●] (date)** | | | | | |
|  | |  | | **The items & activities will be paid in the other currency**  **- to a foreign Bank account nominated by the *Contractor***  **- to a valid SARB approved CFC account in South Africa**  **- in accordance with an alternative payment method agreed with the *Employer* before the Contract Date.**  **(select one of the three methods as agreed with successful tenderer and delete the others and this note)** | | | | | |
| **X7** | | **Delay damages (but not if Option X5 is also used)** |  | | | | | | |
| X7.1 | | Delay damages for late Completion *works* are | **10% of the total of the Price of the contract at 0.03% per day** | | | | | | |
| **X16** | | **Retention (not used with Option F)** |  | | | | | | |
| **X13** | | **Performance bond** | |  | | | | | |
| X13.1 | | The amount of the performance bond is | | **10% of Contract Value.** | | | | | |
| X16.1 | | The *retention free amount* is | | **NIL** | | | | |
|  | | The *retention percentage* is | | **10 % of Contract Price for construction** | | | | |
| **X18** | | **Limitation of liability** | |  | | | | |
| X18.1 | | The *Contractor*’s liability to the *Employer* for indirect or consequential loss is limited to: | | **NIL** | | | | |
| X18.2 | | For any one event, the *Contractor*’s liability to the *Employer* for loss of or damage to the *Employer*’s property is limited to: | | **the amount of the deductibles relevant to the event** | | | | |
| X18.3 | | The *Contractor*’s liability for Defects due to his design which are not listed on the Defects Certificate is limited to | | **The Contractor’s liability for his design for the *works* is unlimited.** | | | | |
| X18.4 | | The *Contractor*’s total liability to the *Employer* for all matters arising under or in connection with this contract, other than excluded matters, is limited to: | | **The Total of the Prices other than for the additional excluded matters.**  **The *Contractor’s* total liability for the additional excluded matters is not limited.**  **The additional excluded matters are amounts for which the *Contractor* is liable under this contract for**  **Defects due to his design which arise before the Defects Certificate for Construction**  **Defects due to manufacture and fabrication outside the Site,**  **loss of or damage to property (other than the *works*, Plant and Materials),**  **death of or injury to a person and**  **infringement of an intellectual property right.** | | | | |
| X18.5 | | The *end of liability date* is | | **(i) Five years after the Completionfor latent Defects and**  **(ii) the date on which the liability in question prescribes in accordance with the Prescription Act No. 68 of 1969 (as amended or in terms of any replacement legislation) for any other matter.**  **A latent Defect is a Defect which would not have been discovered on reasonable inspection by the *Employer* or the *Supervisor* before the *defects date*, without requiring any inspection not ordinarily carried out by the *Employer* or the *Supervisor* during that period.**  **If the *Employer* or the *Supervisor* do undertake any inspection over and above the reasonable inspection, this does not place a greater responsibility on the *Employer* or the *Supervisor* to have discovered the Defect.** | | | | |
| **Z** | | **The *Additional conditions of contract* are** | **Z1 to Z12 always apply.** | | | | | | |
|  |  | | | | | | | | |
| **Z1** | **Cession delegation and assignment** | | | | | | | | |
| Z1.1 | The *Contractor* does notcede, delegate or assign any of its rights or obligations to any person without the written consent of the *Employer.* | | | | | | | | |
| Z1.2 | Notwithstanding the above, the *Employer* may on written notice to the *Contractor* cede and delegate its rights and obligations under this contract to any of its subsidiaries or any of its present divisions or operations which may be converted into separate legal entities as a result of the restructuring of the Electricity Supply Industry. | | | | | | | | |
|  |  | | | | | | | | |
| **Z2** | **Joint ventures** | | | | | | | | |
| Z2.1 | If the *Contractor* constitutes a joint venture, consortium or other unincorporated grouping of two or more persons or organisations then these persons or organisations are deemed to be jointly and severally liable to the *Employer* for the performance of this contract. | | | | | | | | |
| Z2.2 | Unless already notified to the *Employer*, the persons or organisations notify the *Project Manager* within two weeks of the Contract Date of the key person who has the authority to bind the *Contractor* on their behalf. | | | | | | | | |
| Z2.3 | The *Contractor* does not alter the composition of the joint venture, consortium or other unincorporated grouping of two or more persons without the consent of the *Employer* having been given to the *Contractor* in writing. | | | | | | | | |
|  |  | | | | | | | | |
| **Z3** | | **Change of Broad Based Black Economic Empowerment (B-BBEE) status** | | | | | | | |
| Z3.1 | | Where a change in the *Contractor’s* legal status, ownership or any other change to his business composition or business dealings results in a change to the *Contractor*’s B-BBEE status, the *Contractor* notifies the *Employer* within seven days of the change. | | | | | | | |
| Z3.2 | | The *Contractor* is required to submit an updated verification certificate and necessary supporting documentation confirming the change in his B-BBEE status to the *Project Manager* within thirty days of the notification or as otherwise instructed by the *Project Manager*. | | | | | | | |
| Z3.3 | | Where, as a result, the *Contractor’s* B-BBEE status has decreased since the Contract Date the *Employer* may either re-negotiate this contract or alternatively, terminate the *Contractor*’s obligation to Provide the Works. | | | | | | | |
| Z3.4 | | Failure by the *Contractor* to notify the *Employer* of a change in its B-BBEE status may constitute a reason for termination. If the *Employer* terminates in terms of this clause, the procedures on termination are P1, P2 and P3 as stated in clause 92, and the amount due is A1 and A3 as stated in clause 93. | | | | | | | |
|  | |  | | | | | | | |
| **Z4** | **Ethics** | | | | | | | | |
| Z4.1 | Any offer, payment, consideration, or benefit of any kind made by the *Contractor*, which constitutes or could be construed either directly or indirectly as an illegal or corrupt practice, as an inducement or reward for the award or in execution of this contract constitutes grounds for terminating the *Contractor*’s obligation to Provide the Works or taking any other action as appropriate against the *Contractor* (including civil or criminal action). | | | | | | | | |
| Z4.2 | The *Employer* may terminate the *Contractor*’s obligation to Provide the Works if the *Contractor* (or any member of the *Contractor* where the *Contractor* constitutes a joint venture, consortium or other unincorporated grouping of two or more persons or organisations) is found guilty by a competent court, administrative or regulatory body of participating in illegal or corrupt practices.  Such practices include making of offers, payments, considerations, or benefits of any kind or otherwise, whether in connection with any procurement process or contract with the *Employer* or other people or organisations and including in circumstances where the *Contractor* or any such member is removed from the an approved vendor data base of the *Employer* as a consequence of such practice. | | | | | | | | |
| Z4.3 | Notwithstanding the provisions of core clause 90.2, the procedures on termination in terms of this clause are P1, P2 and P3 as stated in the core clause 92 and the amount due is A1 and A3 as stated in core clause 93. | | | | | | | | |
|  |  | | | | | | | | |
| **Z5** | **Confidentiality** | | | | | | | | |
| Z5.1 | The *Contractor* does not disclose or make any information arising from or in connection with this contract available to Others. This undertaking does not, however, apply to information which at the time of disclosure or thereafter, without default on the part of the *Contractor*, enters the public domain or to information which was already in the possession of the *Contractor* at the time of disclosure (evidenced by written records in existence at that time). Should the *Contractor* disclose information to Others in terms of clause 25.1, the *Contractor* ensures that the provisions of this clause are complied with by the recipient. | | | | | | | | |
| Z5.2 | If the *Contractor* is uncertain about whether any such information is confidential, it is to be regarded as such until notified otherwise by the *Project Manager*. | | | | | | | | |
| Z5.3 | In the event that the *Contractor* is, at any time, required by law to disclose any such information which is required to be kept confidential, the *Contractor*, to the extent permitted by law prior to disclosure, notifies the *Employer* so that an appropriate protection order and/or any other action can be taken if possible, prior to any disclosure. In the event that such protective order is not, or cannot, be obtained, then the *Contractor* may disclose that portion of the information which it is required to be disclosed by law and uses reasonable efforts to obtain assurances that confidential treatment will be afforded to the information so disclosed. | | | | | | | | |
| Z5.4 | The taking of images (whether photographs, video footage or otherwise) of the *works* or any portion thereof, in the course of Providing the Works and after Completion, requires the prior written consent of the *Project Manager*. All rights in and to all such images vests exclusively in the *Employer*. | | | | | | | | |
| Z5.5 | The *Contractor* ensures that all his subcontractors abide by the undertakings in this clause. | | | | | | | | |
|  |  | | | | | | | | |
| **Z6** | **Waiver and estoppel: Add to core clause 12.3:** | | | | | | | | |
| Z6.1 | Any extension, concession, waiver or relaxation of any action stated in this contract by the Parties*,* the *Project Manager*, the *Supervisor*, or the *Adjudicator* does not constitute a waiver of rights, and does not give rise to an estoppel unless the Parties agree otherwise and confirm such agreement in writing. | | | | | | | | |
|  |  | | | | | | | | |
| **Z7** | | **Health, safety and the environment: Add to core clause 27.4** | | | | | | | |
| Z7.1 | | The *Contractor* undertakes to take all reasonable precautions to maintain the health and safety of persons in and about the execution of the *works*. Without limitation the *Contractor*:  accepts that the *Employer* may appoint him as the “Principal Contractor” (as defined and provided for under the Construction Regulations 2014 (promulgated under the Occupational Health & Safety Act 85 of 1993) (“the Construction Regulations”) for the Site;  warrants that the total of the Prices as at the Contract Date includes a sufficient amount for proper compliance with the Construction Regulations, all applicable health & safety laws and regulations and the health and safety rules, guidelines and procedures provided for in this contract and generally for the proper maintenance of health & safety in and about the execution of *works*; and  undertakes, in and about the execution of the *works*, to comply with the Construction Regulations and with all applicable health & safety laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Contractor’s* direction and control, likewise observe and comply with the foregoing. | | | | | | | |
| Z7.2 | | The *Contractor*, in and about the execution of the *works*, complies with all applicable environmental laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Contractor’s* direction and control, likewise observe and comply with the foregoing. | | | | | | | |
| **Z8**  Z8.1  Z8.2  Z8.3  Z8.4 | **Provision of a Tax Invoice, payment and interest**  The *Contractor/* (if registered in South Africa in terms of the companies Act) is required to comply with the requirements of the Value Added Tax Act, No 89 of 1991 (as amended) and to include the *Employer/Client/Purchaser*’s VAT number 4740101508 on each invoice submitted for payment.  Within one week of receiving a payment certificate from the *Project Manager* or the *Employer* acceptance or correction of the *Contractor/* assessment or application for payment, the *Contractor/* provides the *Employer/* with a tax invoice in the form required by the *law of the contract*, and this contract, including in accordance with any requirements and procedures stated in the Works/Service/Goods Information/Scope, and showing the amount due for payment equal to that stated in the payment certificate, or that accepted or corrected assessment or application for payment.  If the *Contractor/* does not provide a tax invoice in the form, reflecting the certified, accepted or corrected amount and by the time required by this contract, the time by when the *Employer/* is to make a payment, and the date from which interest is assessed for the certified, accepted or corrected amount, is extended by a period equal in time to the delayed submission of the tax invoice.  The *Contractor* provision of a tax invoice reflecting the certified, accepted or corrected amount does not affect the Parties’ rights in terms of this contract, including with respect to disputed amounts. | | | | | | | | |
|  |  | | | | | | | | |
| **Z9** | **Notifying compensation events** | | | | | | | | |
| Z9.1 | Delete from the last sentence in core clause 61.3, “unless the *Project Manager* should have notified the event to the *Contractor* but did not”. | | | | | | | | |
|  |  | | | | | | | | |
| **Z10** | ***Employer’s* limitation of liability** | | | | | | | | |
| Z10.1 | The *Employer’s* liability to the *Contractor* for the *Contractor’s* indirect or consequential loss is limited to R0.00 (zero Rand) | | | | | | | | |
| Z10.2 | The *Contractor*’s entitlement under the indemnity in 83.1 is provided for in 60.1(14) and the *Employer*’s liability under the indemnity is limited. | | | | | | | | |
|  |  | | | | | | | | |
| **Z11** | **Termination: Add to core clause 91.1, at the second main bullet point, fourth sub-bullet point, after the words "against it":** | | | | | | | | |
| Z11.1 | or had a business rescue order granted against it. | | | | | | | | |
|  |  | | | | | | | | |
| **Z12** | **Addition to secondary Option X7 Delay damages (if applicable in this contract)** | | | | | | | | |
| Z12.1 | If the amount due for the *Contractor*’s payment of delay damages reaches the limits stated in this Contract Data for Option X7 or Options X5 and X7 used together, the *Employer* may terminate the *Contractor*’s obligation to Provide the Works using the same procedures and payment on termination as those applied for reasons R1 to R15 or R18 stated in the Termination Table. | | | | | | | | |
|  |  | | | | | | | | |

Z 13 Cooperation with Operations and Maintenance Contractor

Z13.1 The Parties acknowledge and agree that (a) as of the start date the Contractor and the Contractor under the Operations and Maintenance Contract (O &M Contractor) are the same legal entity.

Z13.2 For the avoidance of doubt, if at any time after the Effective Date the O &M Contractor and the Contractor are no longer the same legal entity, then the Contractor further acknowledges and agrees that (i) the Employer’s objective is for the Contractor and the O&M Contractor , on a collaborative and coordinated basis, to design, supply, install, test, commission, operate and maintain the Arnot Solar PV plant in accordance with the terms of this Contract and the O&M Agreement, (ii) the Parties intend that this Contract will promote and support such objective, and that this Contract shall be performed and interpreted in a way that gives greatest effect to this purpose, and (iii) during the period from the Effective Date until Operational Acceptance, the Contractor shall use commercially reasonable efforts to coordinate its activities under this Contract with the O & M Contractor and the Employer in order to reduce duplicative efforts, maximize efficiencies, resolve disputes collaboratively and expeditiously, and minimize delays.

Z13.3 The Contractor shall take no action which could reasonably be expected to relieve the O &M Contractor from any obligation or liability under the O&M Agreement or to give rise to any claim by the O &M Contractor against the Employer

C1.2 Contract Data

# Part two - Data provided by the *Contractor*

**Notes to a tendering contractor:**

1. Please read both the NEC3 Engineering and Construction Contract (April 2013) and the relevant parts of its Guidance Notes (ECC3-GN)[[2]](#footnote-3) in order to understand the implications of this Data which the tenderer is required to complete. An example of the completed Data is provided on pages 156 to 158 of the ECC3 (April 2013) Guidance Notes.
2. The number of the clause which requires the data is shown in the left hand column for each statement however other clauses may also use the same data
3. Where a form field like this [     ] appears, data is required to be inserted relevant to the option selected. Click on the form field ***once*** and type in the data. Otherwise complete by hand and in ink.

Completion of the data in full, according to Options chosen, is essential to create a complete contract.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Clause | Statement | Data | | | |
| 10.1 | The *Contractor* is (Name): |  | | | |
|  | Address |  | | | |
|  | Tel No. |  | | | |
|  | Fax No. |  | | | |
| 11.2(8) | The *direct fee percentage* is | **%** | | | |
|  | The *subcontracted fee percentage* is | **%** | | | |
| 11.2(18) | The *working areas* are the Site and |  | | | |
| 24.1 | The *Contractor's* key persons are: |  | | | |
|  | 1 Name: |  | | | |
|  | Job: |  | | | |
|  | Responsibilities: |  | | | |
|  | Qualifications: |  | | | |
|  | Experience: |  | | | |
|  | 2 Name: |  | | | |
|  | Job |  | | | |
|  | Responsibilities: |  | | | |
|  | Qualifications: |  | | | |
|  | Experience: |  | | | |
|  |  | **CV's (and further key persons data including CVs) are appended to Tender Schedule entitled****.** | | | |
| 11.2(3) | The *completion date* for the whole of the *works* is |  | | | |
| 11.2(14) | The following matters will be included in the Risk Register |  | | | |
| 11.2(19) | The Works Information for the *Contractor*’s design is in: |  | | | |
| 31.1 | The programme identified in the Contract Data is |  | | | |
| **A** | **Priced contract with activity schedule** |  | | | |
| 11.2(20) | The *activity schedule* is in |  | | | |
| 11.2(30) | The tendered total of the Prices is | **(in figures)**  **(in words), excluding VAT** | | | |
|  | Data for Schedules of Cost Components | *Note “SCC” means Schedule of Cost Components starting on page 60, and “SSCC” means Shorter Schedule of Cost Components starting on page 63 of ECC3 (April 2013).* | | | |
| **A** | **Priced contract with activity schedule** | **Data for the Shorter Schedule of Cost Components** | | | |
| 41 in SSCC | The percentage for people overheads is: | **%** | | | |
| 22 in SSCC | The rates of other Equipment are: | **Equipment** | **Size or capacity** | | **Rate** |
|  |  |  |  | |  |
|  |  |  |  | |  |
|  |  |  |  | |  |
|  |  |  |  | |  |
|  |  |  |  | |  |
| 61 in SSCC | The hourly rates for Defined Cost of design outside the Working Areas are | **Category of employee** | | **Hourly rate** | |
|  | **Note: Hourly rates are estimated ‘cost to company of the employee’ and not selling rates.** |  | |  | |
|  | **Please insert another schedule if foreign resources may also be used** |  | |  | |
|  |  |  | |  | |
|  |  |  | |  | |
| 62 in SSCC | The percentage for design overheads is | **%** | | | |

Part 2: Pricing Data

**ECC3 Option A**

|  |  |  |
| --- | --- | --- |
| **Document reference** | **Title:** **Arnot Solar PV Plant** | **No of pages** |
| C2.1 | Pricing assumptions: Option A |  |
| C2.2 | The *activity schedule* |  |

C2.1 Pricing assumptions: Option A

# How work is priced and assessed for payment

Clause 11 in NEC3 Engineering and Construction Contract, (ECC3) Option A states:

|  |  |  |
| --- | --- | --- |
| **Identified and defined terms** | 11  11.2 | (20) The Activity Schedule is the *activity schedule* unless later changed in accordance with this contract. |
|  |  | (27) The Price for Work Done to Date is the total of the Prices for  each group of completed activities and  each completed activity which is not in a group.  A completed activity is one which is without Defects which would either delay or be covered by immediately following work. |
|  |  | (30) The Prices are the lump sum prices for each of the activities on the Activity Schedule unless later changed in accordance with this contract. |

This confirms that Option A is a lump sum form of contract where the work is broken down into activities, each of which is priced by the tendering contractor as a lump sum. Only completed activities are assessed for payment at each assessment date; no part payment is made if the activity is not completed by the assessment date.

# Function of the Activity Schedule

Clause 54.1 in Option A states: “Information in the Activity Schedule is not Works Information or Site Information”. This confirms that specifications and descriptions of the work or any constraints on how it is to be done are not included in the Activity Schedule but in the Works Information. This is further confirmed by Clause 20.1 which states, “The *Contractor* Provides the Works in accordance with the Works Information”. Hence the *Contractor* does **not** Provide the Works in accordance with the Activity Schedule. The Activity Schedule is only a pricing document.

# Link to the programme

Clause 31.4 states that “The *Contractor* provides information which shows how each activity on the Activity Schedule relates to the operations on each programme which he submits for acceptance”. Ideally the tendering contractor will develop a high level programme first then resource each activity and thus arrive at the lump sum price for that activity both of which can be entered into the *activity schedule*.

# Preparing the *activity schedule*

Generally it is the tendering contractor who prepares the *activity schedule* by breaking down the work described within the Works Information into suitable activities which can be well defined, shown on a programme and priced as a lump sum.

The *Employer*, in his Instructions to Tenderers or in a Tender Schedule, may have listed some items that he requires the *Contractor* to include in his *activity schedule* and be priced accordingly.

It is assumed that in preparing his *activity schedule* the *Contractor:*

* Has taken account of the guidance given in the ECC3 Guidance Notes pages 19 and 20;
* Understands the function of the Activity Schedule and how work is priced and paid for;
* Is aware of the need to link the Activity Schedule to activities shown on his programme;
* Has listed and priced activities in the *activity schedule* which are inclusive of everything necessary and incidental to Providing the Works in accordance with the Works Information, as it was at the time of tender, as well as correct any Defects not caused by an *Employer’s* risk;
* Has priced work he decides not to show as a separate activity within the Prices of other listed activities in order to fulfil the obligation to complete the *works* for the tendered total of the Prices.
* Understands there is no adjustment to the lump sum Activity Schedule price if the amount, or quantity, of work within that activity later turns out to be different to that which the *Contractor* estimated at time of tender. The only basis for a change to the Prices is as a result of a compensation event.

An activity schedule could have the following format:

|  |  |  |  |
| --- | --- | --- | --- |
| **Item**  **No.** | **Programme Reference** | **Activity description** | **Price** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

C2.2 the *activity schedule*

Use this page as a cover page to the *Contractor*’s *activity schedule*.

Part 3: Scope of Work

|  |  |  |
| --- | --- | --- |
| **Document reference** | **Title Arnot Solar PV Plant** | **No of pages** |
|  | This cover page | 1 |
| C3.1 | *Employer*’s Works Information |  |
| C3.2 | *Contractor*’s Works Information  (insert at award stage or delete if not applicable) |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  | Total number of pages |  |

|  |  |  |
| --- | --- | --- |
| Drawing1 | Specification | Asset  Management |

**C3.1: Employer’s works Information**

**Description of the *works***

**Executive overview**

Eskom Holdings SOC Ltd (the "*Employer")* desires to engage the services of an Engineering, Procurement and Construction (EPC) Contractor (the “*Contractor*”) to undertake, on a lump-sum basis under an EPC Contract (the “Contract”), all studies, permitting, design, engineering, procurement, manufacturing, deliveries to Site, execution, erection, commissioning, testing, completion until the end of the Defects Liability Period, making good defects and warranty cover during the Defects Liability Period, and other works (altogether defined as the “*Works*”) necessary to construct a solar photovoltaic (PV) power Plant (the “Plant”), the access road, the Site facilities and any additional infrastructure (the “Project”).

The Project is to be situated between 25o 56’ and 25o 58’ S and between 29o 46’ and 29o 48’ E. The site is owned by Eskom Holding SOC Limited (Eskom) and located on the same property as the existing Eskom Arnot Power Station. The site is approximately 25.8 ha in size and included in portion 24 of the farm Rietkuil 491 JS.

***Employer*’s objectives and purpose of the *works***

The Arnot Solar PV Project is one of the reference projects within the iLanga Solar PV Rollout Programme, and is aimed at showcasing Eskom’s capability of developing and executing utility scale ground mounted Solar PV projects. The Concept Design is executed to describe, evaluate, and propose technically feasible Solar PV designs for the identified Project site at Arnot Power Station. It is important to note that the Project will be executed by appointing an EPC Contractor. The EPC Contractor will perform the detailed design of the PV Plant, and may select components and designs that are different to the ones presented in this Concept Design

Eskom’s Renewables Operating Unit requires the capability to produce electricity generated from Solar PV to supply Arnot Power Station’s auxiliaries as identified in the Power Stations Site Screening. The objective of the Solar PV installation is to provide “clean” electricity to Arnot Power Station’s auxiliaries for own consumption, thereby increasing the overall electrical energy exported from Arnot Power Station onto the National Grid.

**Interpretation and terminology**

The following abbreviations are used in this Works Information:

|  |  |
| --- | --- |
| **Abbreviation** | **Meaning given to the abbreviation** |
| CV | Curriculum Vitae |
| EPC | Engineering, Procurement and Construction |
| MDL | Master Document List |
| O&M | Operation and Maintenance |
| PSiRA | Private Security Industry Regulatory Authority |
| PTW | Permit to Work |
| PV | Photovoltaic |
| SHEQ | Safety, Health, Environment and Quality |

**Management and start up**

**Management meetings**

Regular meetings of a general nature may be convened and chaired by the *Project Manager* as follows:

|  |  |  |  |
| --- | --- | --- | --- |
| Title and purpose | Approximate time & interval | Location | Attendance by: |
| Risk register and compensation events | Monthly at progress meetings. |  | *Employer and Contractor (incl. risk management personnel from both parties)* |
| Overall contract progress and feedback | Monthly at progress and management meetings. |  | *Employer (or representatives)* and *Contractor* |
| Design review progress | Weekly during design phase |  | *Employer (or representatives) and the Contractor (incl. Lead Design Engineer).* |
| Site construction progress | Weekly during construction and commissioning phase |  | *Employer (or representatives) and Contractor (incl. Site Supervisor, construction foreman, SHEQ personnel.)* |

Meetings of a specialist nature may be convened as specified elsewhere in this Works Information or if not so specified by persons and at times and locations to suit the Parties, the nature and the progress of the *works*. Records of these meetings shall be submitted to the *Project Manager* by the person convening the meeting within five days of the meeting.

All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.

**Functional Specification**

The Employer’s Works Information are as detailed in this document including the technical requirements provided in the Sere Solar PV Plant Functional Specification (474-12578). The following is the content of the Sere Solar PV Plant Functional Specification (474-12578);

|  |
| --- |
| **CONTENTS**  **1. INTRODUCTION**  **1.1 EXECUTIVE SUMMARY**  **1.2 EMPLOYER’S OBJECTIVES**  **2. SUPPORTING CLAUSES**  **2.1 SCOPE**  **2.1.1 Purpose**  **2.1.2 Applicability**  **2.2 NORMATIVE/INFORMATIVE REFERENCES**  2.2.1 Normative  2.2.2 Informative  **2.3 DEFINITIONS**  2.3.1 Disclosure Classification  **2.4 ABBREVIATIONS**  **2.5 ROLES AND RESPONSIBILITIES**  **2.6 PROCESS FOR MONITORING**  **2.7 RELATED/SUPPORTING DOCUMENTS**  **3. GENERAL REQUIREMENTS**  **3.1 CONTRACTOR’S SCOPE OF WORK**  **3.2 CONTRACTOR’S EXPERIENCE**  3.2.1 EPC Contractor  3.2.2 Key Personnel’s Experience  **3.3 OPERATION AND MAINTENANCE**  **3.4 TRAINING**  **4. TECHNICAL REQUIREMENTS**  **4.1 PROJECT DEFINITION**  4.1.1 PV Plant Description  4.1.2 PV Plant Operational Requirements  4.1.3 PV Plant Location  4.1.4 PV Plant Point of Connection  4.1.5 Solar Resource and Temperature  4.1.6 PV Plant Design Definition  4.1.7 Material Quality Specification  **4.2 CIVIL**  4.2.1 Overview  4.2.2 Surveys, studies and reports  4.2.3 Design  4.2.4 Construction  4.2.5 Deliverables  4.2.6 Pre-implementation  4.2.7 Post-implementation  4.2.8 Codes and Standards  **4.3 ELECTRICAL**  4.3.1 Scope of Work  4.3.2 Electrical HV interconnection  4.3.3 General Electrical Requirements  4.3.4 PV Capacity  4.3.5 PV Modules  4.3.6 DC Interconnections and Cabling  4.3.7 PV String Combiner Box  4.3.8 Grid Tie Inverters  4.3.9 MV/LV Transformers  4.3.10 Switchgear  4.3.11 Inverter MV Station  4.3.12 Protection and Control  4.3.13 AC Cables and Installation  4.3.14 Lighting and Small Power  4.3.15 400-690/230V AC and DC Sub-Distribution Boards  4.3.16 PV Plant Auxiliary Supplies  4.3.17 Earthing System Design, Bonding, and Lightning Protection  4.3.18 Grid Connection  4.3.19 Grid Code Requirements  **4.4 CONTROL MONITORING AND COMMUNICATION**  4.4.1 Introduction  4.4.2 General  4.4.3 Control and Monitoring System Overview  4.4.4 Architecture  4.4.5 Sere Wind and PV Combined Operating and Control Philosophy  4.4.6 Local Plant SCADA  4.4.7 Plant Process Network and Automation  4.4.8 Alarms  4.4.9 Operational Control and Monitoring  4.4.10 Control and Monitoring System (CMS) Servers  4.4.11 Control and Monitoring System (CMS) Network  4.4.12 Building Management Systems (BMS)  4.4.13 Fire detection System  4.4.14 Third Party Network Access into the CMS Network  4.4.15 Operator System Thin Clients  4.4.16 Thin Client Operational and Graphical Display Requirements  4.4.17 SCADA/CMS Plant Information Server (PIS) Requirements  4.4.18 Network Time Synchronisation  4.4.19 Miscellaneous Network Equipment  4.4.20 SCADA/CMS Field Equipment Panels  4.4.21 Server Room Network Cabinets  4.4.22 SCADA/CMS Power Supply and Power Distribution  4.4.23 Field Equipment, Cabling, and Installation Requirements  4.4.24 CMS Control Room, Server Room, Equipment Rooms  4.4.25 Plant Parameters  4.4.26 Software Management  4.4.27 Labelling and Codification  4.4.28 Vendor Document Submittal Schedule (VDSS)  4.4.29 Codes, Standards, and Guidelines  **4.5 INFORMATION MANAGEMENT**  4.5.1 Codes, Standards, and Guidelines  **4.6 THE SECURITY SYSTEM**  4.6.1 General Requirements for the Security System  4.6.2 Codes, Standards, and Guidelines  **4.7 HEATING VENTILATION AND AIR CONDITIONING**  4.7.1 Design Conditions  4.7.2 HVAC System Description  4.7.3 HVAC System Commissioning  4.7.4 Codes, Standards, and Guidelines  **4.8 FIRE PROTECTION**  4.8.1 Codes, Standards, and Guidelines  **4.9 SEWAGE AND WASTE DISPOSAL**  4.9.1 General  4.9.2 Design Phase  4.9.3 Construction Specifications  4.9.4 Codes, Standards, and Guidelines  **4.10 MONITORING AND METEOROLOGICAL EQUIPMENT AND INSTRUMENTATION**  **4.11 INSPECTION, TESTING AND COMMISSIONING**  4.11.1 General Requirements  4.11.2 Tests before Installation  4.11.3 Tests after Installation  4.11.4 Tests after Completion  4.11.5 Tests after Operational Acceptance  **4.12 CONTRACTOR’S GUARANTEE ON PERFORMANCE AND AVAILABILITY**  **4.13 EQUIPMENT WARRANTY**  **4.14 SPARE PARTS AND TOOLS**  4.14.1 Spares Cataloguing Requirements  **4.15 OPERATION AND MAINTENANCE**  **5. 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Additional requirement clarifications

* Protection and Control circuit supplies

IEDs (Intelligent electronic device), metering, control and protection devices in inverter buildings and MV substations to be AC powered with UPS. All stored data to synchronise when power restored

* HMI display for MV Systems and Substation information

HMI to have separate mimics for the electrical distribution system, including the MV Network and the substations. The mimic to include displaying real time metering data of all MV feeders. The mimic to include displaying the output of the Wind Farm also indicating curtailment status.

* Cable binding

Where the possibility exist of cabling being exposed to sunlight stainless steel cable ties to be utilised for cable binding.

* Fastening systems

Stainless steel bolts and nuts to be used to fasten systems where possible. This specifically include fastening systems required, amongst others, on the inverter cabins, transformers, RMU’s, water systems, earthing systems and fixing PV panels to the structures. Possible galvanic corrosion and required mitigation measures to be taken into account in the design and application.

* Condition monitoring

The Contractor to propose condition monitoring systems that can be implemented as part of the preventative maintenance processes that can be utilised to extend the plant life.

* O&M minimum spare parts

The minimum spare parts that the Contractor need to have available on site during the execution of this Contract as well as during the O&M period to include the minimum spare parts that can expected to be required including critical spare components such as the inverter and SCADA systems.

* Operating & Maintenance during Construction and Commissioning phase

The Contractor to be responsible for the execution of operating and maintenance activities that will be required on the plant during the construction and commissioning phases of the project until the effective date of the O&M Contract.

* Work instructions & safe work procedures

The Contractor to develop work instructions and safe work procedures for all proposed preventative maintenance activities as proposed in the maintenance manual. These work instructions and safe work procedures to be included in the O&M manuals.

**Documentation control**

**Documents for providing the *Works***

The *Contractor* shall compose and submit all Documentation and Technical Information required throughout the project.

Also refer to the Arnot Solar PV Plant Functional Specification for Project Documentation requirements.

All documents supplied by the *Contractor* shall be subject to *Employer’s* acceptance The *Contractor* shall include the *Employer’s* drawing number in the drawing title block. This requirement only applies to design drawings developed by the *Contractor* and his *Sub-contractors*. Drawing numbers will be assigned by the *Employer* as drawings are developed.

In Providing the *Works*, all documentation and data prepared and submitted by the *Contractor* conforms with and adheres to the requirements of:

* On receipt of documentation from the *Project Manager*, the *Contractor* verifies receipt of all transmitted documentation, including document status/revision. The *Contractor* advises the *Project Manager* in writing of any discrepancies, omissions or poor quality in the documentation.
* The *Project Manager* ensures that the document schedule is maintained and kept up to date for the duration of the contract.
* Prior to commencement of any *Works*, the *Contractor* confirms with the *Project Manager* that the *Contractor* is in receipt of and is working to the latest revision of all necessary documentation. All rectification undertaken by the *Contractor* resulting from a failure to do so will be to the *Contractor*’s account.
* In cases where modifications or additions are required on Site, a Field Change Notification (FCN) will be submitted by the *Contractor*. The *Project Manager* will issue the required instruction and documentation. The *Contractor* will neatly mark up, on the latest edition and revision of such documentation as may be impacted, all field changes undertaken in the course of the construction and these mark-ups will be submitted as part of "As Built" documentation at the final hand over.
* Each supplier of documentation and data to the project is responsible for ensuring that all documentation and data submitted conforms to the Project Standards and data quality requirements in terms of numbering, uniqueness, quality, accuracy, format, completeness and currency of information. Data not meeting the Project Standards and data quality requirements will be cause for rejection and returned to the *Contractor* for corrective action and resubmission.
* Should any change be made to documentation or data, which has already been submitted to the *Contractor*, then new or revised documentation or data shall be issued by the *Project Manager* to replace the outdated information.
* The *Contractor* ensures that the Microsoft Office 2019, and Microsoft Project 2010 or Primevera or earlier software and suitable ‘IT’ Infrastructure are in place to support the electronic transmission of documentation.
* Electronic files submitted to or from the Project Manager, *Contractor*, and *Employer* are free of any known viruses and extraneous “macros”.

**Transmittal**

An incoming transmittal note accompanies all documentation submitted, by the *Contractor*. Upon receipt of the transmittal, the *Employer* signs to indicate acknowledgement of receipt and returns this to the *Contractor.*

The *Contractor* ensures that the incoming transmittal contains the following minimum metadata:

* Transmittal title
* Transmittal number and revision
* Contract title
* Contract number
* Purpose
* Originator’s/ Sender contact information
* Issue status
* Authorisation date
* Number of sets of attached documents

All Project documents (soft copies and hard copies) submitted, are listed on the transmittal with the following metadata fields:

* Title of the document
* Document Unique Identification number
* Revision number
* Name of Discipline
* Reason for issuing/submission
* Sender’s detail
* Sent date
* Recipient’s Details
* Date received
* Quantity of documentation referenced on the transmittal
* Number of copies
* Format/medium submitted
* Sender signature
* Recipient signature, once submitted, to acknowledge receipt

The *Contractor* compiles and submits all the documentation, for the various phases of the project, in accordance with the agreed Programme. Documentation and drawings are programmed for delivery to meet the milestone dates and in accordance with the agreed MDL, that is to be developed by the *Contractor*.

The *Contractor* includes the *Employer’s* drawing number in the drawing title block. This requirement only applies to design drawings developed by the *Contractor* and his Sub-*Contractor*s. It does not apply to drawings developed by manufacturers for equipment and material such as valves, instruments, etc. Drawing numbers will be assigned by the *Employer* as drawings are developed.

**Email Subject**

The email subject shall as a minimum, contain the following: **(Project Name\_Discipline\_Subject)**

Documentation is submitted to the *Project Manager*, as well as to the centralised and on-site Documentation Centres, by way of the following media:

* Electronic copies are submitted to both on site Documentation Centres, and to the *Project Manager* as well through generic email address (HYPERLINK "mailto:edrmsharedservices@eskom.co.za" edrmsharedservices@eskom.co.za).
* Electronic copies too large for email (above 6 Megabytes|), are delivered by large file transfer protocol.
* Hard copies are submitted to the *Project Manager*, accompanied by the Transmittal Note. These transmittals are also scanned and a copy sent to the project e-mail address as per the first bullet.

**Identification of the Documentation**

The document will have the following as a minimum attributes on the cover page:

* Title of the document
* Document Unique Identification number (*Employer’s* number)
* *Contractor* Document number, if applicable
* Document status
* Revision number
* Document Type
* Document security level
* Document revision table/history
* Page number on the footer
* Document Author/Authoriser/
* Document Originator *Contractor*

The following additional attributes are important for technical documents:

Package/System name, sub-system if applicable

* *Contractor* name
* *Contractor* number
* Plant Identification Codes

**Format and Layout of Documents**

For consistency, it is important that all documents used within a specific domain follow the same layout, style and formatting standard.

All Documents shall be equipped with an index where applicable. Such index shall be hyperlinked in electronic formats of the Documents. The *Contractor* shall submit the final Documentation in electronic format and on paper copies as shown in the table below.

|  |  |  |  |
| --- | --- | --- | --- |
| **Paper Copies** | **Paper Copies** | | **Flash Disk** |
| **Number** | **Size** | **Number** |
| Documents | 2 | A4/A3 | 3 |
| Reports, Calculations and Technical Documents | 2 | A4 | 3 |
| Programmes and Work Plans | 2 | A3/A4 | 3 |
| Method Statements | 2 | A4 | 3 |
| Technical Data | 2 | A4 | 3 |
| Drawings | 2 | A2/A3 | 3 |
| Manufacturer's Information | 2 | A4 | 3 |
| Controls & Wiring Diagrams | 2 | A3/A4 | 3 |
| Scada Software | - | - | 3 |
| Antivirus Software | - | - | 3 |
| Test Certificates | 2 | A4 | 3 |
| Commissioning Records | 2 | A4 | 3 |
| O&M Manuals | 2 | A4 | 3 |
| Guarantees & Warranties | 2 | A4 | 3 |
| Reference Codes, Standards and Guides | 2 | - | 3 |

The *Contractor* shall employ all appropriate project electronic document handling systems for the transmission of the Documentation. Any or all of the *Contractor’s* Documents may be reviewed by the *Employer* to verify compliance with the Works Information Document and accordance with the Design Intent. All *Contractor’s* Documents selected for review will be given a status mark as shown in the table below.

|  |  |  |
| --- | --- | --- |
| **STATUS  MARK** | **REVIEW COMMENT** | **MEANING** |
|  | No comment | The *Contractor* may proceed. |
|  | Comments as noted | The *Contractor* may proceed at their own risk, incorporating the comments in a timely manner, and resubmit. |
|  | Re-submit before proceeding | The *Contractor* must resubmit before proceeding. |

Any incomplete or substandard submissions will automatically be given 'C' status. The *Contractor* shall allow a period for the *Employer* to review and comment on the *Contractor’s* submitted Documents, as shown in the table below.

|  |  |  |
| --- | --- | --- |
| **TYPE OF SUBMISSION** | **WORKING  DAYS** | **FROM** |
| Contractors’ Documents | 5 | Before date required by the Contractor |
| Draft O&M Manuals, draft record drawings and performance data | 5 | Before start of testing and commissioning |
| Commissioning & Testing Records | 5 | After tests |
| Input to the project Health & Safety File | 5 | Before construction commences |
| ‘A’ Status O&M Manuals and Record Drawings | 5 | Before Practical Completion |

Comments given by the *Employer* do not relieve the *Contractors* of their responsibilities and obligations regarding the execution of *the works* and compliance with the Contract Documentation and the Works Information Document. Comments given by the *Employer* do not constitute a Change under the Contract.

**Layout and Typography**

Ensure that every document complies with the following font specifications:

* Font Colour: Black
* Main Headings Font Type: Arial, Bold, Capital Letters
* Main Heading Font Size: 12pt
* Sub Headings Font Type: Arial, Bold, Title Case
* Sub Headings Font Size: 11pt
* Body Font Type: Arial, Sentence Case i.e., only the first letter of the first word is a capital letter.
* Body Text Font size: 11pt
* Line Spacing: 1.5 line spacing
* Margins: standard
* Alignment: full justification to be used
* Paragraphing: one line skip between paragraphs
* Pagination: centred page numbers (about 0.5 inches from bottom)
* Indentations: standard tab for all paragraphs (about 0.4 to 0.5 inches)

**Drawings**

The creation, issuing and control of all Engineering Drawings will be in accordance to the latest revision of the *Employer*’s standard: 240-86973501 (Engineering Drawing Standards – Common Requirements).

Drawings issued to the *Employer* may not be “Right Protected” or encrypted.

**Engineering Change Management**

Any design changes that may be required on designs accepted by the Employer shall follow an engineering change process. The Contractor to submit his engineering change process to the Employer for approval 4 weeks after Contract award. The updated design to follow the document submission process as indicated in Functional Specification for Arnot Solar PV Plant. The Employer response times for the approval of design changes are 14 days.

**Handover requirements**

The *Contractor* is required to handover documentation in such a way that it is compatible with Eskom Quality systems.

**Health and safety risk management**

The *Contractor* shall comply with all health and safety requirements stated in “OHS REQUIREMENTS FOR OHS REQUIREMENTS FOR ARNOT SOLAR PV 19.5 MW PROJECT.

**Environmental constraints and management**

The *Contractor* shall comply with the environmental criteria and constraints stated in, but not limited to, the Arnot Solar PV Plant Functional Specification including the environmental authorisation.

**Quality assurance requirements**

The *Contractor* shall comply with the quality assurance requirements of the Quality Requirements for the Contractor Appointed to Design, Supply, Install and Commission Arnot Power Station as well as the requirements as specified in the document of Arnot Solar PV Plant Functional Specification.

***Contractor*’s management, supervision and key people**

The *Contractor* is responsible for providing an organogram/organisation chart of the Project Team, including CVs for key positions, to the *Employer* for review along with a Company organogram showing the reporting structure and a Site Team Organogram (with names and cell phone numbers).

**Invoicing and payment**

Within one week of receiving a payment certificate from the *Project Manager* in terms of core clause 51.1, the *Contractor* provides the *Employer* with a tax invoice showing the amount due for payment equal to that stated in the *Project Manager’s* payment certificate.

The *Contractor* shall address the tax invoice to Eskom Holdings SOC Ltd and include on each invoice the following information:

Name and address of the *Contractor* and the *Project Manager;*

The contract number and title;

*Contractor*’s VAT registration number;

The *Employer*’s VAT registration number 4740101508;

Description of service provided for each item invoiced based on the Price List;

Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT;

(add other as required)

Add procedures for invoice submission and payment (e. g. electronic payment instructions)

**Insurance provided by the *Employer***

Refer to clause 8 Contract Data (Part one – Data provided by the *Employer*).

For all *Employer* Insurance related queries, contact:

* Cluster Manager
* Eskom Insurance Management Services
* Eskom Holdings SOC Ltd
* Megawatt Park
* 011 800 2714

**Provision of bonds and guarantees**

The form in which a bond or guarantee required by the *conditions of contract* (if any) is to be provided by the *Contractor* is given in Part 1 Agreements and Contract Data, document C1.3, Sureties.

The *Employer* may withhold payment of amounts due to the *Contractor* until the bond or guarantee required in terms of this contract has been received and accepted by the person notified to the *Contractor* by the *Project Manager* to receive and accept such bond or guarantee. Such withholding of payment due to the *Contractor* does not affect the *Employer*’s right to termination stated in this contract.

**Training workshops and technology transfer**

Please refer to the Arnot Solar PV Plant Functional Specification for training related requirements, including, but not limited to, sections 3.4.

**Engineering and the *Contractor*’s design**

***Employer*’s design**

The Employer’s design requirements are provided in the Arnot Solar PV Plant Functional Specification.

**Parts of the *works* which the *Contractor* is to design**

The *Contractor* is responsible for the design of the entire *Works*. Please refer to the Arnot Solar PV Plant Functional Specification for the respective design requirements.

**Procedure for submission and acceptance of *Contractor*’s design**

The *Contractor’*s design shall comply with all design requirements stated in Arnot Solar PV Plant Functional Specification.

**Other requirements of the *Contractor*’s design**

The *Contractor* is mandated in terms of Construction Regulations 2014: Duties of Designer, 6(1) g to fulfil the duties described therein. Any risk associated with the *Contractor’s* design shall be highlighted to the *Employer* together with mitigation measures. These risks shall be included in the project risk register.

**As-built drawings, operating manuals and maintenance schedules**

All As-built drawings, operational manuals and maintenance schedules shall be provided to the *Employe*r in adherence with the applicable requirements stated in the relevant section of the Arnot Solar PV Plant Functional Specification.

**Subcontracting**

**Preferred subcontractors**

It is preferred that adequate Subcontractors and consulting Engineers be appointed for execution of the scope as detailed in this Works Information including the Arnot Solar PV Plant Functional Specification :

**Subcontract documentation, and assessment of subcontract tenders**

All Sub Contractor’s to be approved by the Employer.

The Sub Contractor responsible for executing the Physical security scope shall have a valid registration with PSiRA.

**Plant and Materials**

**Quality**

All Plant and Materials are supplied new, and of materials most suited to the particular intended duty, including parts subjected to or affected by high operating temperature and/or pressure.

Plant and Material protection is suitable for the Site environmental conditions to which they are exposed.

***Contractor*’s procurement of Plant and Materials**

Please refer to the requirements for the Transportation of Goods and Materials in the Arnot Solar PV PlantFunctional Specification.

Please refer to the requirements for Site Establishment in the Arnot Solar PV Plant Functional Specification.

There is no constraint in the procurement of any Plant and Materials. All warranties for components of Plant and Materials are in favour of the *Employer*.

**Spares and consumables**

Please refer to the Arnot Solar PV Plant Functional Specification, including, but not limited.

**Tests and inspections before delivery**

Please refer to the applicable section(s) of the Arnot Solar PV Plant Functional Specification for the various tests and inspection requirements prior to delivery.

**Marking Plant and Materials outside the Working Areas**

The Contractor prepares the Equipment, Plant and Materials that are identified for payment and which are

outside the Working Areas, for marking by the Supervisor.

Preparation of the Equipment, Plant and Materials by the Contractor entails staging for inspection and labelling of the affected Equipment, Plant and Materials and arranging unobstructed access in accordance with Core Clause 27.2 of the ECC3.

The Contractor labels and promptly notifies the Project Manager for the Supervisor or his delegate to mark for title transfer.

The labels are prepared, containing the following information:

* Marked as for this Contract For title transfer to Eskom Holdings SOC Limited
* Equipment, Plant or Material item: [Description of the item]
* The Employer: Eskom Holdings SOC Limited
* The Contractor: [Include name]
* The Supervisor: [Include name]
* Contract Title: [Include Title]
* Contract Number: [Include number]
* Conditions of contract: The NEC3 Engineering and Construction Contract, June 2005 (ECC3) (with amendments June 2006) Core Clause 70.1 of the ECC3 states: “Whatever title the Contractor has to Plant and Materials which is outside the Working Areas passes to the Employer if the Supervisor has marked it as for this contract.”
* Supervisor signature Date:

***Contractor*’s Equipment (including temporary works)**

Please refer to the applicable section(s) of the Arnot Solar PV Plant Functional Specification for the various witness and hold points during manufacture, assembly, or delivery of key Equipment.

This are addressed in sections of the Employer’s Requirements Inspection, Testing and Commissioning.

**Cataloguing requirements by the *Contractor***

Please refer to the Arnot Solar PV Plant Functional Specification, including, but not limited.

**Construction**

**Temporary works, Site services & construction constraints**

***Employer*’s Site entry and security control, permits, and Site regulations**

The *Contractor* shall be responsible for the planning and arrangement, of the Site to ensure safe, secure and efficient progress of the *Works* throughout the entire Project duration.

The *Contractor’s* permit to work (PTW) system shall comply with the Commissioning Procedure for Arnot Solar PV Project.

**Health and safety facilities on Site**

The Contractor shall comply with all health and safety requirements stated in “OHS REQUIREMENTS FOR OHS REQUIREMENTS FOR ARNOT SOLAR PV PLANT”.

**Publicity and progress photographs**

State requirements for notice boards, advertising rights, media relations, photography and progress photographs if required.

***Contractor*’s Equipment**

The *Contractor* is responsible to maintain accurate records of all plant, equipment and spares, including scaffolding, rigs, cranes etc., which are brought on to the Arnot Power Station. The *Contractor* controls and manages the access of such plant and equipment to the working areas. The Contractor shall comply with the Employers access control processes and requirements which include amongst others control of plant, equipment and spares entering and exciting the Arnot Power Station.

**Site services and facilities**

Please refer to the Arnot Solar PV Plant Functional Specification.

The *Contractor* shall provide everything else necessary for providing the *Works*.

**Facilities provided by the *Contractor***

Please refer to the Arnot Solar PV Plant Functional Specification.

**Survey control and setting out of the *works***

Please refer to the Arnot Solar PV Plant Functional Specification.

**Excavations and associated water control**

Please refer to the applicable provisions in the Arnot Solar PV Plant Functional Specification.

**Underground services, other existing services, cable and pipe trenches and covers**

Please refer to the Arnot Solar PV Plant Functional Specification.

**Control of noise, dust, water and waste**

Please refer to the Arnot Solar PV Functional Specification, regarding dust control management and waste management.

**Giving notice of work to be covered up**

The *Contractor* shall request, in writing, inspection of *Works* to be covered up, by submission of such request to the Project Manager, at least 24 hours in advance.

**Completion, testing, commissioning and correction of Defects**

**Work to be done by the Completion Date**

On or before the Completion Date the *Contractor* shall have done everything required to Provide the Works except for the work listed below which may be done after the Completion Date but in any case, before the dates stated. The Completion Date to be on the date that the Operational Acceptance Certificate has been issued as per the Arnot Solar PV Plant Functional Specification.

The *Project Manager* cannot certify Completion until all the work except that listed below has been done and is also free of Defects which would have, in his opinion, prevented the *Employer* from using the *works* and Others from doing their work.

|  |  |  |
| --- | --- | --- |
|  | **Item of work** | **To be completed by** |
|  | As built drawings of the Project | Within 30 days after Completion |
|  | Final Punch list Items | To be determined |

**Materials facilities and samples for tests and inspections**

Please refer to the Arnot Solar PV Plant Functional Specification.

**Commissioning**

Commissioning to be done according to the Commissioning Procedure for Arnot Solar PV project (EPC) and relevant requirements detailed in the Arnot Solar PV Plant Functional Specification.

**Take over procedures**

Please refer to the Commissioning Procedure for Arnot Solar PV project (EPC).

After successful completion of the Works, the Supervisor shall arrange a completion inspection with the Contractor and if successful the Project Manager issues a Completion Certificate 240-147212868.

Plant is taken-over by means of the issue of a Take-over Certificate 240-147175304 by the Construction Manager upon plant meeting the contractual requirements. On plant where commissioning was required the Take-over Certificate can only be issued once;

* Relevant Contractual requirements have been met,
* Commissioning Certificate 240-147174870 and Safety/Housekeeping Certificate 240-147213071 has been issued,
* Agreement reached with relevant parties that the plant is constructed as per the Works Information and can be taken over.

**Performance tests after Completion**

Performance tests after Completion to be done as detailed, and not limited to, the Arnot Solar PV Plant Functional Specification.

**Training and technology transfer**

Training and technology transfer to be done as detailed in, and not limited to, the Arnot Solar PV Plant Functional Specification for the respective training and technology transfer requirements.

**Plant and Materials standards and workmanship**

Plant and materials standards and workmanship to be as detailed I this Works Information including the Arnot Solar PV Plant Functional Specification.

The *Contractor* shall ensure that all equipment, components materials services and workmanship are supplied designed, manufactured, installed and tested in accordance with the latest applicable IEC, SANS standards, International Codes, and Standards listed.

1. The *Contractor* shall ensure appropriate certification and independent testing has been carried out on any materials and products proposed.
2. The *Contractor* shall ensure materials and products used are suitable for the service conditions.
3. The *Contractor* shall ensure that all *Works*, materials, parts, components etc. supplied shall be new.
4. The *Contractor* shall ensure materials and products delivered to site bear the manufacturer's name, brand name and any other data required to verify that their performance and specification complies with the requirements of this document and the *Employer*’s Project Specific Requirements.

1. The *Contractor* shall follow manufacturers' instructions on the use of materials and products.
2. The *Contractor* shall ensure the same manufacturer is used for materials or products of a similar type and that identical parts of similar products are interchangeable.
3. The *Contractor* shall ensure that materials and components are transported and stored in accordance with manufacturer’s guidelines.
4. The *Contractor* shall provide suitable packaging for the protection of all materials and equipment during delivery, storage, and where exposed to damage on site. The *Contractor* shall return re-usable packaging to the supplier. The *Contractor* shall take particular care to protect and maintain plant and equipment delivered early.
5. The *Contractor* shall examine materials and products supplied when delivered to site and immediately prior to installation. The *Contractor* shall replace any damaged or faulty materials or products.

**List of drawings**

**Drawings issued by the *Employer***

This is the list of drawings issued by the *Employer* at or before the Contract Date and which apply to this contract.

Note: Some drawings may contain both Works Information and Site Information.

|  |  |  |
| --- | --- | --- |
| **Drawing number** | **Revision** | **Title** |
| Please refer to the Arnot Solar PV Plant Functional Specification and Appendixes for list and details on relevant drawings. | | |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Standards and Specifications**

Standards and Specifications are as detailed in this Works Information including the Arnot Solar PV Plant Functional Specification.

It is the *Contractor’s* responsibility to ensure that they are in possession of the latest revision of these documents.

|  |  |
| --- | --- |

**Part 4: Site Information**

|  |  |  |
| --- | --- | --- |
| **Document Reference** | **Information** | **Number of Pages** |
| For relevant Site Information documentation please refer to the Arnot Solar PV Plant Functional Specification. | | |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| Total number of pages | | 1 |

**Part C4: Site Information**

1. This total is required by the *Employer* for budgeting purposes only. Actual amounts due will be assessed in terms of the *conditions of contract*. [↑](#footnote-ref-2)
2. Available from Engineering Contract Strategies Tel 011 803 3008, Fax 011 803 3009 or see [www.ecs.co.za](http://www.ecs.co.za) [↑](#footnote-ref-3)