



NEC3 Engineering & Construction Contract

Between **ESKOM HOLDINGS SOC LIMITED**
(Reg No. 2002/015527/30)

and

for

**Design, Engineering, Supply, Construction,
Installation, Testing, Commissioning, Operation and
Maintenance (O&M) of a 75 MW Solar PV Facility at
Lethabo Power Station in Free State**

Contents:	page
Part C1 Agreements & Contract Data	2
Part C2 Pricing Data	30
Part C3 Scope of Work	31
Part C4 Site Information	72

CONTRACT No. _____

Part C1: Agreements & Contract Data

Contents:	page
C1.1 Form of Offer and Acceptance	3
C1.2a Contract Data provided by the <i>Employer</i>	6
C1.2b Contract Data provided by the <i>Contractor</i>	24
C1.3 Proforma Guarantees	N/A

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:

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) of a 75 MW Solar PV Facility at Lethabo Power Station in Free State

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 of 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.

Options A	The offered total of the Prices exclusive of VAT is	R [●]
Option E or F	The first forecast of the total Defined Cost plus the Fee exclusive of VAT is	R N/A
	Sub total	R [●]
	Value Added Tax @ 15% is	R [●]
	The offered total of the amount due inclusive of VAT is ¹	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 _____

Date

Tenderer's CIDB registration number (if applicable)

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*.

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

Eskom Holding SOC LTD
 Eskom Megawatt Park
 01 Maxwell Drive
 Sunninghill Ext 3, Sandton.

Name & signature of witness

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	[•]	[•]
4	[•]	[•]
5	[•]	[•]
6	[•]	[•]
7	[•]	[•]

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 _____
 Name & signature of witness _____
 Date _____

 Eskom Holding SOC LTD
 Eskom Megawatt Park
 01 Maxwell Drive
 Sunninghill Ext 3, Sandton.

C1.2a ECC3 Contract Data

Part one - Data provided by the *Employer*

Clause	Statement	Data
1	General	
	The <i>conditions of contract</i> are the core clauses and the clauses for main Option	
	<ul style="list-style-type: none"> dispute resolution Option and secondary Options of the NEC3 Engineering and Construction Contract, April 2013 (ECC3) 	<p>A: Priced contract with activity schedule</p> <p>W1: Dispute resolution procedure</p> <p>X1: Price adjustment for inflation</p> <p>X2: Changes in the law</p> <p>X3: Multiple currencies</p> <p>X4: Parent company guarantee</p> <p>X16: Retention</p> <p>X18: Limitation of liability</p> <p>Z: Additional conditions of contract</p>
10.1	The <i>Employer</i> 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
	Represented by: Tel No.	TBC +27 11 800
	e-mail	@eskom.co.za
10.1	The <i>Project Manager</i> is: TBC	
	Address: Eskom Holding SOC LTD Eskom Megawatt Park 01 Maxwell Drive Sunninghill Ext 3, Sandton	
	Email: @eskom.co.za	
	Tel: +27 11 800	

10.1	The <i>Supervisor</i> is: TBC Address: Eskom Holding SOC LTD Eskom Megawatt Park 01 Maxwell Drive Sunninghill Ext 3, Sandton. Tel No. +27 11 800 e-mail: @eskom.co.za	
11.2(13)	The <i>works</i> are	Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) of a 75 MW Solar PV Facility at Lethabo Power Station in Free State
11.2(14)	The following matters will be included in the Risk Register	Contract award is subjected to the acquisition of the appropriate licence from NERSA
11.2(15)	The <i>boundaries of the site</i> are	Part 4: Site Information
11.2(16)	The Site Information is in	Part 4: Site Information
11.2(19)	The Works Information is in	Part 3: Employer's requirements and all documents and drawings to which it refers.
12.2	The <i>law of the contract</i> is the law of	The Republic of South Africa
13.1	The <i>language of this contract</i> is	English
13.3	The <i>period for reply</i> is	Maximum twenty-four (24) hours for correspondence relating to health, safety, and environment correspondence and one (1) week for all other correspondence Notwithstanding the aforesaid the period for reply during commissioning is twenty-four (24) hours
2	The Contractor's main responsibilities	Provided to the Contractor in the contract, Works information and Employer's requirements and annexures.
3	Time	
11.2(3)	Construction Completion Date is: Operation and Maintenance Services-Completion Date is:	18 months duration from the <i>starting</i> date for Construction 24 months duration after Construction Completion Date
11.2(9)	The <i>key dates</i> and the <i>conditions</i> to be met are:	1. Detail Design Phase (Start & End) 2. Procurement (Start & End)

		<p>3. Construction (Start & End)</p> <p>4. Commissioning & Testing (Start & End)</p> <p>5. Taking Over Certificate Date (As applicable)</p> <p>These are contract dates that must be shown on the Contractor's baseline schedule and are binding on the Contractor and this contract.</p>
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30.1	The <i>access dates</i> are:	[•] Days after Contract Award
31.2	The <i>starting date</i> for Construction is The starting date for O & M Services is	[•]
32.2	The <i>Contractor</i> submits revised programmes at intervals no longer than	Within two weeks of contract start date the Contractor submitting a programme to Project manager for acceptance
35.1	The <i>Employer</i> is not willing to take over the <i>works</i> before the Completion Date.	[•]

4 Testing and Defects

42.2	The <i>defects date for Construction</i> is. The defects date for O&M Services is	52 weeks after Completion of Construction 52 weeks after the end of the Term
43.2	The <i>defect correction period</i> is except that the <i>defect correction period</i> for	One 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 1week.

5 Payment

50.1	The <i>assessment interval</i> is	between the 25th day of each successive month.
51.1	The <i>currency of this contract</i> is the	South African Rand.
51.2	The period within which payments are made is	60 days upon receipt of invoice f.

51.4 The *interest rate* is

(i) zero percent above the publicly quoted prime rate of interest (calculated on a 365 day year) charged from time to time by the Standard Bank of South Africa Limited (as certified, in the event of any dispute, by any manager of such bank, whose appointment it shall not be necessary to prove) for amounts due in Rands and

(ii) 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, whose appointment it shall not be necessary to prove.

6 Compensation events

60.1(13)	<p>The place where weather is to be recorded is:</p> <p>The <i>weather measurements</i> to be recorded for each calendar month are.</p> <p>The weather measurements are supplied by the weather data and are the records of past weather measurements for each calendar month which were recorded at Lethabo Power Station</p>	<p>Lethabo Power Station</p> <p>the cumulative rainfall (mm)</p> <p>the number of days with rainfall more than 10mm</p> <p>the number of days with minimum air temperature less than 0 degrees Celsius</p> <p>the number of days with snow lying at 08:00 hours South African Time the Contractor and verified by the Employer</p> <p>The weather station closest to the Lethabo Power Station the South African Weather Bureau and included in Annexure A to this Contract Data provided by the Employer</p>
60.1(13)	<p>Assumed values for the ten-year return <i>weather data</i> for each <i>weather measurement</i> for each calendar month are:</p>	<p>As stated in Annexure A to this Contract Data provided by the Employer.</p>

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 As per the 80.1 clause

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). 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) 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. Bidders to propose price adjustment formula for CPA calculation for period after the first twelve months.

X1.1(a) The *base date* for indices is: A month prior to the tender closing date.

X1.1(c)	The proportions used to calculate the Price Adjustment Factor are:	in Part C2: Pricing 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 <i>Employer</i> will pay for these items or activities in the currencies stated	Items & activities	Other currency	Maximum payment in other currency
		[•]	[•]	[•]
		[•]	[•]	[•]
		[•]	[•]	[•]
		[•]	[•]	[•]
X3.1	The <i>exchange rates</i> are those published in	[•] on [•] (date)		
		The items & activities will be paid in the other currency - to a foreign Bank account nominated by the <i>Contractor</i> - to a valid SARB approved CFC account in South Africa - in accordance with an alternative payment method agreed with the <i>Employer</i> before the Contract Date. (select one of the three methods as agreed with successful tenderer and delete the others and this note)		
X4	Parent company guarantee	There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.		
X5	Sectional Completion	Not Applicable		
X5.1	The <i>completion date</i> for each <i>section</i> of the <i>works</i> is:	Section	Description	Completion date
X7	Delay damages			
X7.1	Delay damages for late Completion of the Construction are:	Section	Description	Percentage (%) per day
		ALL	Completion of Construction	Not exceeding 10% of the total of the Prices for Construction at 0.03% per day

	The total delay damages payable by the Contractor for O&M Services does not exceed:		10% of the total of the Prices for O&M Services at 0.03% per day
X16	Retention (not used with Option F)		
X16.1	The <i>retention free amount</i> is	NIL	
	The <i>retention percentage</i> is	10 % of Contract Price for construction and 10% of Contract Price for O&M Services	
X18	Limitation of liability		
X18.1	The <i>Contractor's</i> liability to the <i>Employer</i> for indirect or consequential loss is limited to:	NIL	
X18.2	For any one event, the <i>Contractor's</i> liability to the <i>Employer</i> for loss of or damage to the <i>Employer's</i> property is limited to:	the amount of the deductibles relevant to the event	
X18.3	The <i>Contractor's</i> 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 <i>Contractor's</i> total liability to the <i>Employer</i> for all matters arising under or in connection with this contract, other than excluded matters, is limited to:	<p>The Total of the Prices other than for the additional excluded matters.</p> <p>The Contractor's total liability for the additional excluded matters is not limited.</p> <p>The additional excluded matters are amounts for which the Contractor is liable under this contract for</p> <p>Defects due to his design which arise before the Defects Certificate for Construction and O&M Services is issued,</p> <p>Defects due to manufacture and fabrication outside the Site,</p> <p>loss of or damage to property (other than the works, Plant and Materials),</p> <p>death of or injury to a person and</p> <p>infringement of an intellectual property right.</p>	
X18.5	The <i>end of liability date</i> is	<p>(i) Five years after the end of the Term for latent Defects and</p> <p>(ii) the date on which the liability in question prescribes in accordance with the</p>	

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 Confidentiality

Z4.1 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.

Z4.2 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*.

Z4.3 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.

Z4.4 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*.

Z4.5 The *Contractor* ensures that all his subcontractors abide by the undertakings in this clause.

Z5 Waiver and estoppel: Add to core clause 12.3:

Z5.1 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.

Z6 Health, safety and the environment: Add to core clause 27.4

Z6.1 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.

Z6.2 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.

Z7 Provision of a Tax Invoice and interest. Add to core clause 51

Z7.1 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 in accordance with the *Employer's* procedures stated in the Works Information, showing the amount due for payment equal to that stated in the payment certificate.

Z7.2 If the *Contractor* does not provide a tax invoice in the form and by the time required by this contract, the time by when the *Employer* is to make a payment is extended by a period equal in time to the delayed submission of the correct tax invoice. Interest due by the *Employer* in terms of core clause 51.2 is then calculated from the delayed date by when payment is to be made.

Z7.3 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's* VAT number 4740101508 on each invoice he submits for payment.

Z8 Notifying compensation events

Z8.1 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".

Z9 Employer's limitation of liability

Z9.1 The *Employer's* liability to the *Contractor* for the *Contractor's* indirect or consequential loss is limited to R0.00 (zero Rand)

Z9.2 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.

Z10

Termination: Add to core clause 91.1, at the second main bullet point, fourth sub-bullet point, after the words "against it":

Z10.1 The Employer may at any time terminate this Agreement with immediate effect by giving notice to the Contractor if:

The Repeated Availability Test Period Failure Limit is exceeded (the limit is defined as 3 x consecutive periods)

Z10.2 or had a business rescue order granted against it.

Z11 Addition to secondary Option X7 Delay damages (if applicable in this contract)

Z11.1 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.

Z12 Ethics

For the purposes of this Z-clause, the following definitions apply:

- Affected Party** means, as the context requires, any party, irrespective of whether it is the *Contractor* or a third party, such party’s employees, agents, or Subcontractors or Subcontractor’s employees, or any one or more of all of these parties’ relatives or friends,
- Coercive Action** means to harm or threaten to harm, directly or indirectly, an Affected Party or the property of an Affected Party, or to otherwise influence or attempt to influence an Affected Party to act unlawfully or illegally,
- Collusive Action** means where two or more parties co-operate to achieve an unlawful or illegal purpose, including to influence an Affected Party to act unlawfully or illegally,
- Committing Party** means, as the context requires, the *Contractor*, or any member thereof in the case of a joint venture, or its employees, agents, or Subcontractor or the Subcontractor’s employees,
- Corrupt Action** means the offering, giving, taking, or soliciting, directly or indirectly, of a good or service to unlawfully or illegally influence the actions of an Affected Party,
- Fraudulent Action** means any unlawfully or illegally intentional act or omission that misleads, or attempts to mislead, an Affected Party, in order to obtain a financial or other benefit or to avoid an obligation or incurring an obligation,
- Obstructive Action** means a Committing Party unlawfully or illegally destroying, falsifying, altering or concealing information or making false statements to materially impede an investigation into allegations of Prohibited Action, and
- Prohibited Action** means any one or more of a Coercive Action, Collusive Action Corrupt Action, Fraudulent Action or Obstructive Action.

- Z12.1 A Committing Party may not take any Prohibited Action during the course of the procurement of this contract or in execution thereof.
- Z12.2 The *Employer* may terminate the *Contractor’s* obligation to Provide the Works if a Committing Party has taken such Prohibited Action and the *Contractor* did not take timely and appropriate action to prevent or remedy the situation, without limiting any other rights or remedies the *Employer* has. It is not required that the Committing Party had to have been found guilty, in court or in any other similar process, of such Prohibited Action before the *Employer* can terminate the *Contractor’s* obligation to Provide the Services for this reason.
- Z12.3 If the *Employer* terminates the *Contractor’s* obligation to Provide the Works for this reason, the amounts due on termination are those intended in core clauses 92.1 and 92.2.
- Z12.4 A Committing Party co-operates fully with any investigation pursuant to alleged Prohibited Action. Where the *Employer* does not have a contractual bond with the Committing Party, the *Contractor* ensures that the Committing Party co-operates fully with an investigation.

Z13 Insurance

Z 13.1 Replace core clause 84 with the following:

Insurance cover **84**

84.1 When requested by a Party, the other Party provides certificates from his insurer or broker stating that the insurances required by this contract are in force.

84.2 The *Contractor* provides the insurances stated in the Insurance Table A.

84.3 The insurances provide cover for events which are at the *Contractor's* risk from the *starting date* until the earlier of Completion and the date of the termination certificate.

INSURANCE TABLE A

Insurance against	Minimum amount of cover or minimum limit of indemnity
Loss of or damage to the <i>works</i> , Plant and Materials	The replacement cost where covered by the <i>Employer's</i> insurance The <i>Employer's</i> policy deductible, at Contract Date, where covered by <i>Employer's</i> insurance
Loss of or damage to Equipment	The replacement cost
Liability for loss of or damage to property (except the <i>works</i> , Plant and Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the <i>Contractor</i>) caused by activity in connection with this contract	<u>Loss of or damage to property</u> <u>Employer's property</u> The replacement cost where covered by the <i>Employer's</i> insurance The <i>Employer's</i> policy deductible, at Contract Date, where covered by <i>Employer's</i> insurance <u>Other property</u> The replacement cost <u>Bodily injury to or death of a person</u> The amount required by applicable law
Liability for death of or bodily injury to employees of the <i>Contractor</i> arising out of and in the course of their employment in connection with this contract	The amount required by the applicable law

Z 13.2

Replace core clause 87 with the following:

The *Employer* provides the insurances stated in the Insurance Table B.

INSURANCE TABLE B

Insurance against or name of policy	Minimum amount of cover or minimum of indemnity
Assets All Risk	Per the insurance policy document
Contract Works insurance	Per the insurance policy document
Environmental Liability	Per the insurance policy document
General and Public Liability	Per the insurance policy document
Transportation (Marine)	Per the insurance policy document

Motor Fleet and Mobile Plant	Per the insurance policy document
Terrorism	Per the insurance policy document
Cyber Liability	Per the insurance policy document
Nuclear Material Damage and Business Interruption	Per the insurance policy document
Nuclear Material Damage Terrorism	Per the insurance policy document

Z14 Nuclear Liability

- Z14.1 The *Employer* is the operator of the Koeberg Nuclear Power Station (KNPS), a nuclear installation, as designated by the National Nuclear Regulator of the Republic of South Africa, and is the holder of a nuclear licence in respect of the KNPS.
- Z14.2 The *Employer* is solely responsible for and indemnifies the *Contractor* or any other person against any and all liabilities which the *Contractor* or any person may incur arising out of or resulting from nuclear damage, as defined in Act 44 of 1999, save to the extent that any liabilities are incurred due to the unlawful intent of the *Contractor* or any other person or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.
- Z14.3 Subject to clause Z14.4 below, the *Employer* waives all rights of recourse, arising from the aforesaid, save to the extent that any claims arise or liability is incurred due or attributable to the unlawful intent of the *Contractor* or any other person, or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.
- Z14.4 The *Employer* does not waive its rights provided for in section 30 (7) of Act 44 of 1999, or any replacement section dealing with the same subject matter.
- Z14.5 The protection afforded by the provisions hereof shall be in effect until the KNPS is decommissioned.

Z15 Asbestos

For the purposes of this Z-clause, the following definitions apply:

- AAIA** means approved asbestos inspection authority.
- ACM** means asbestos containing materials.
- AL** means action level, i.e. a level of 50% of the OEL, i.e. 0.1 regulated asbestos fibres per ml of air measured over a 4 hour period. The value at which proactive actions is required in order to control asbestos exposure to prevent exceeding the OEL.
- Ambient Air** means breathable air in area of work with specific reference to breathing zone, which is defined to be a virtual area within a radius of approximately 30cm from the nose inlet.
- Compliance Monitoring** Means compliance sampling used to assess whether or not the personal exposure of workers to regulated asbestos fibres is in compliance with the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.

- OEL** means occupational exposure limit.
- Parallel Measurements** means measurements performed in parallel, yet separately, to existing measurements to verify validity of results.
- Safe Levels** means airborne asbestos exposure levels conforming to the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.
- Standard** means the *Employer's* Asbestos Standard 32-303: Requirements for Safe Processing, Handling, Storing, Disposal and Phase-out of Asbestos and Asbestos Containing Material, Equipment and Articles.
- SANAS** Means the South African National Accreditation System.
- TWA** means the average exposure, within a given workplace, to airborne asbestos fibres, normalised to the baseline of a 4 hour continuous period, also applicable to short term exposures, i.e. 10-minute TWA.
- Z15.1 The *Employer* ensures that the Ambient Air in the area where the *Contractor* will Provide the Services conforms to the acceptable prescribed South African standard for asbestos, as per the regulations published in GNR 155 of 10 February 2002, under the Occupational Health and Safety Act, 1993 (Act 85 of 1993) ("Asbestos Regulations"). The OEL for asbestos is 0.2 regulated asbestos fibres per millilitre of air as a 4-hour TWA, averaged over any continuous period of four hours, and the short term exposure limit of 0.6 regulated asbestos fibres per millilitre of air as a 10-minute TWA, averaged over any 10 minutes, measured in accordance with HSG248 and monitored according to HSG173 and OESSM.
- Z15.2 Upon written request by the *Contractor*, the *Employer* certifies that these conditions prevail. All measurements and reporting are effected by an independent, competent, and certified occupational hygiene inspection body, i.e. a SANAS accredited and Department of Employment and Labour approved AAIA. The *Contractor* may perform Parallel Measurements and related control measures at the *Contractor's* expense. For the purposes of compliance the results generated from Parallel Measurements are evaluated only against South African statutory limits as detailed in clause Z15.1. Control measures conform to the requirements stipulated in the AAIA-approved asbestos work plan.
- Z15.3 The *Employer* manages asbestos and ACM according to the Standard.
- Z15.4 In the event that any asbestos is identified while Providing the Services, a risk assessment is conducted and if so required, with reference to possible exposure to an airborne concentration of above the AL for asbestos, immediate control measures are implemented and relevant air monitoring conducted in order to declare the area safe.
- Z15.5 The *Contractor's* personnel are entitled to stop working and leave the contaminated area forthwith until such time that the area of concern is declared safe by either Compliance Monitoring or an AAIA approved control measure intervention, for example, per the emergency asbestos work plan, if applicable.
- Z15.6 The *Contractor* continues to Provide the Services, without additional control measures presented, on presentation of Safe Levels. The contractually agreed dates to Provide the Services, including the Completion Date, are adjusted accordingly. The contractually agreed dates are extended by the notification periods required by regulations 3 and 21 of the Asbestos Regulations, 2001.
- Z15.7 Any removal and disposal of asbestos, asbestos containing materials and waste, is done by a registered asbestos contractor, instructed by the *Employer* at the *Employer's* expense, and conducted in line with South African legislation.
- Z16 SDL&I Performance Bonds**

Z16.1 The Contractor will provide the Employer with two (2) SDL&I Performance Bonds . One bond will be for 0,25% of the total of the Prices for Construction and the other bond for 0,25% of the total of the Prices the O&M Services. These bonds will be issued by the Contractor, one for Construction at the Contract Award before the Contract start date and the O&M Services SD&L Performance Bond at Completion of Construction

Z17 Local Production and Content (Designated Sector):

The scope of work contains products/goods, material, components and parts that are designated which means that they have stipulated minimum threshold for Local Production and Content that must be complied with before the contract is awarded, or the Tenderer should obtain an exemption from the Department of Trade, Industry and Competition

The Designated Sector applicable for this project is as follows:

Commodity	Components	Local Content Threshold
Steel products and components for construction	Racking	100%
Electrical cables	Cabling	90%
PPE	Reflector Vests, Jackets, Boots, G Textiles, Clothing, Leather & Footwear, etc.	100%
Solar PV	<ul style="list-style-type: none"> ✓ Laminated PV Modules ✓ Module Frame ✓ DC Combiner Boxes ✓ Mounting Structure ✓ Inverter 	15% 65% 65% 90% 40%
Transformers and Shunt Reactors		
	<ul style="list-style-type: none"> ✓ Class 0 ✓ Class 1 ✓ Class 2 ✓ Class 3 ✓ Class 4 	90% 80% 80% 60% 20%
Industrial Lead Acid Batteries		50%
	<ul style="list-style-type: none"> ✓ Lead ✓ Pasting Material ✓ Plastic ✓ Labels ✓ Labels ✓ Other Acid Content ✓ Final Battery Assembly ✓ 	100% 100% 100% 100% 100% 100% 100%
Air Insulated MV Switchgear components	Components	50%

	Instrument transformers	15%
	Busbars	5%
	Housing	25%
	Switching Devices	5%
Cement	Various Types of Cement as designated	100%

Required for Contract Award:

- (F1) - SBD 6.2 Declaration Form
- (F2) - Annexure C (Local Content Declaration-Summary Schedule
- (F3) - Annexure D-Imported Content Declaration – Supporting Schedule to Annexure C
- (F4) - Annexure E-Local Content Declaration- Supporting Schedule to Annexure C.

NB: If the required input materials cannot be sourced from South Africa, bidders should request and obtain a written exemption letter from the DTI. The exemption letter should then be submitted, and approvals obtained prior to Contractor Award. The DTI together with the procuring organ of state and the winning bidder will consider the exemption on a case-by-case basis.

Z18 Subcontracting and local to site procurement expenditure.

The Contractor subcontracts certain portion of the core scope to Original Equipment Manufacturers (OEMs).

There will always be opportunities for the OEMs to subcontract certain portion of the scope to small suppliers in the vicinity of the Project (Fezile Dabi and Emfuleni District Municipality). The Contractor subcontracts a minimum of 30% of the total of the Prices to Designated Group of Suppliers within the Fezile Dabi District Municipality and Emfuleni Local Municipality Areas The list of Designated Group of suppliers is as follows:

- an EME or QSE, which is at least 51% owned by Black people.
- an EME or QSE, which is at least 51% owned by Black people who are youth,
- an EME or QSE, which is at least 51% owned by Black people who are women.
- an EME or QSE, which is at least 51% owned by Black people with disabilities.
- an EME or QSE, which is 51% owned by Black people living in rural or underdeveloped areas or townships.

Z19 Skills Development, Job Opportunities and Upskilling of Employees

The Contractor spends 0.25% of the total Prices for Construction on Contractor’s Skills Development Goals (CSDG) as required by the Construction Industry Development Board (CIDB). The types of Skills to be developed will be agreed upon, however, here with below is the proposed list of applicable skills:

Skills Type	Intake	Outcome	Number
Method 1 Graduates in Electrical Engineering	BSc Electrical Graduates	ECSA Candidates Registered	2
Method 1 Graduates in Electrical Engineering	S4	National Diploma electrical	5
Method 1 Graduates in Civil Engineering	S4	National Diploma Civil	3
Method 2 Artisans (Electrical)	N6/NCV Level 4 Electrical/TV ET Graduates	SETA Trade Test certificate	15
Solar PV Plant Operators (Ops & Maintenance)	Qualified Electrician	Certificate of Competence/Qualification	25
Total			50

These types of skills will be applicable for both Construction and Operations and Maintenance Services (O&M)

The Tenderer to indicate number of Jobs to be created and/or retained due to this contract for both Construction and O&M Services

The Contractor shall ensure that 100% of its General Workers, 70% Semi-Skilled Workers and at least 30% of the Skilled Workers and Supervisors are recruited from within Fezile Dabi District and Emfuleni Local Municipalities.

National Industrial Participation Programme (NIPP)

The government, through the Department of Trade, Industry and Competition (DTIC) requires Eskom to ensure that all tenders with an import content that is equal to or exceeds the threshold of US\$5 million complies with the NIPP requirements. The winning bidder shall be required to negotiate and enter into a NIPP obligation agreement or obtain a letter of exemption from with the DTIC before signing the contract with Eskom.

Best Practice Standards in terms of the Standard for Indirect Targeting for Enterprise Development as per regulation 22A of CIDB.

The aim of this best practice Standard for Indirect Targeting for Enterprise Development is to promote enterprise development by providing for a minimum Contract Participation Goal (CPG) of 5% of the total project value to be undertaken by joint-venture partners or to be sub-contracted to developing contractors that are also to be beneficiaries of enterprise development and support from the main contractor. The Contractor subcontracts 5% of the total of the Prices to CIDB registered contractors who are also to be beneficiaries of enterprise development and support.

Enterprise Development (ED)

The Contractor shall perform a needs analysis on all targeted enterprises and provide internal mentorship that improves the targeted enterprises performance in at least two developmental areas, such developmental areas should be guided by the requirements of the CIDB Best Practice Contractor Recognition Scheme as well as the NCDP exit requirements for accreditation of contractors. The developmental areas are listed in the GN.

The Contractor shall appoint an Enterprise Development Co-Coordinator who shall:

- Develop a project specific enterprise development plan to improve the targeted enterprise's performance in the identified developmental areas which allocate resources and monitors progress in relation to improved performance; and
- Submits to the employer's representative a monthly ED report that documents all mentoring activities that have taken place during that month and progress made in improving the targeted enterprise's performance in the development area, countersigned by the targeted enterprise.

Contractor's SDL&I Performance Management (Monitoring and Reporting)

- The Contractor submits on a quarterly basis a report to the Employer in accordance with Data Collection Template on their compliance with the SDL&I obligations described above.
- The Employer shall review the SDL&I reports submitted by the Contractor within 30 (thirty) days of receipt of the reports and notifies the Contractor in writing if their SDL&I obligations have not been met.
- Upon notification by Employer that the Contractor has not met its SDL&I obligations, the Contractor shall implement corrective measures to meet those SDL&I obligations before the commencement of the following reporting cycle, failing which the Employer calls on the SDL&I performance bond.

The Contractor submits a completed he SDL&I Implementation Schedule to the Employer's SDL&I representative for acceptance 60 days after contract award. The SDL&I Implementation Schedule is used as a reference document for monitoring, measuring, and reporting on the Contractor's 's progress in delivering on its stated SDL&I commitments.

The Tenderer MUST read all the SDL&I requirements in a comprehensive document Annexure K and commit to complying with those obligations.

Corporate Social Investments (CSI)

The Contractor shall submit a Corporate Social Investment (CSI) proposal equal to 1% of the contract amount for direct benefit of the communities from Fezile Dabi District and Emfuleni Local Municipalities

Z20 Addition to core clause 11.2

Insert the following additional definitions to core clause 11.2

Amend 11.2(6) as follows "(6) The Defects Certificate is either a list of Defects that the *Supervisor* or *Employer* has notified before the defects date which the *Contractor* has not corrected or, if there are no such Defects, a statement that there are none.

"Additional Services" is any services instructed by the *Employer* pursuant to Schedule 1, Part 4 (Additional Services) which relate to the Operation, Maintenance or performance of the Facility but do not form part of the Scheduled Maintenance Services, Corrective Maintenance Services or Monitoring Services.

"Ancillary Services" is such services relating to operation of the Interconnection Facilities required by *Employer* pursuant to the grid Codes.

"Authorisations" is any consent, authorisation, grant, acknowledgements, registration, filing, no objection certificates, agreement, notarisisation, certificate, permission, licence, approval, permit, authority or exemption required by law to be obtained from any Authority for the purposes of the *works*.

"Authority" is any ministry or department, any minister, any organ of state, any official in the public administration or any other governmental or regulatory department, commission, institution, entity, service

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

utility, board, agency, instrumentality or authority (in each case, whether national, provincial or municipal) or any court, each having jurisdiction over the matter in question.

"Availability" is defined and calculated in Schedule 2.

"Availability Liquidated Damages" is . R75000,00 (seventy five thousand Rand) per percentage point below the Minimum Guaranteed availability percentage, calculated monthly, capped at 10% of the monthly cost of the O&M Service .

"Availability Liquidated Damages Cap" is Is 10% of the total of the Prices for O&M Service

"Availability Test Period" is a 24-month period (calculated from when the Take Over Certificate is issued) where Availability is tested monthly .

"Available Capacity" is the available capacity of the Facility, as declared by the *Contractor* to the *Employer* pursuant to Clause Z37.1 (Reporting).

"Business Day" is a day, other than a Saturday or a Sunday or an official public holiday in South Africa.

"Codes" is any applicable code in respect of electricity generation, distribution or transmission as published by the applicable Electricity Regulator in the Relevant Jurisdiction from time to time.

Completion of Construction is when the *Contractor* has all done all the work which the Works Information states he is to do by Construction Completion Date and corrected notified Defects which would have prevented the *Employer* from using the works and Others from doing their work.
If the work which the *Contractor* is to do by the Completion Date is not stated in the Works Information, Completion is when the *Contractor* has done all the work necessary for the *Employer* to use the works and for Others to do their work.

Completion of O&M Services is when the *Contractor* has done all the work which the Works Information states he is to do by Operations and Maintenance Services Completion Date and corrected notified Defects which would have prevented the *Employer* from using the works and Others from doing their work.
If the work which the *Contractor* is to do by the Completion Date is not stated in the Works Information, Completion is when the *Contractor* has done all the work necessary for the *Employer* to use the works and for Others to do their work.

Commencement of O&M Services is when the Take Over Certificate is issued.

component part

Construction is work carried by the Contractor prior to the Commencement of the O&M Services.

Construction Completion Date is Provisional Acceptance.

"Contracted Capacity" is 75MW which the Facility must deliver

"Contract Price" is the price payable to the *Contractor* for its proper performance of the Operations and Maintenance Services also referred to as total of Prices for O & M Services.

Contractor's Documents" is drawings, designs, charts, specifications, plans, data, computer software or other documents or recorded information whatsoever acquired or brought into existence in any manner whatsoever by or on behalf of the *Contractor* for or in connection with the performance of the works including the O&M Services or the performance of its obligations under this contract, including the O&M Manuals.

"Contractor Outage Rescheduling Notice Period" is 3 days and means the minimum number of Business Days' notice, to be provided by the *Contractor* to the *Employer* in relation to a request under Clause Z.35.1 (c) (Annual Scheduled Maintenance).

"Corrective Maintenance Services" means the corrective maintenance services listed in Schedule 1, Part 2.

"Delivery Point" means the physical point at which the *Employer* accepts Energy from the Facility.

"Employer Outage Rescheduling Notice Period" is 3 Business Days, to be provided by the *Employer* to the *Contractor* in relation to a request under Annual Scheduled Maintenance.

"Energy" is electrical energy produced by the Facility measured in kWh.

Essential Spare Part" is any Spare Part which is essential in order to enable the Contractor to ensure that the Availability of the Facility is at all times greater than or equal to the Minimum Guaranteed Availability, as set out in Schedule 4.

"Facility" is the solar PV electricity generating plant with Installed Capacity of no greater than the Contracted Capacity located at the Site, and which the *Contractor* will have constructed in accordance with this contract, including all plant, machinery, equipment, Main Meter, and associated buildings, structures, roads on the Site that are not national, provincial or municipal roads, facilities and other appurtenances on the *Employer's* side of the Delivery Point, all as more particularly described in the Employer's Requirements together with all required interfaces to be constructed for the safe, efficient and timely operation of that facility, which Facility forms part of the works .

"Grid" is the electric transmission and distribution system including (a) all transmission and distribution lines and equipment, transformers and associated equipment, relay and switching equipment and protective devices and safety and communications equipment owned and/or operated by the Network Operator and required for the performance of the *Employer* of its obligations under this Agreement and (b) the Interconnection Facilities.

Installed Capacity is []

"Intellectual Property Rights" is:

- (a) patents, inventions, designs, copyright and related rights, database rights, trademarks and related goodwill, trade names (whether registered or unregistered) and rights to apply for registration;
- (b) proprietary rights in domain names;
- (c) knowhow and confidential information;
- (d) applications, extensions and renewals in relation to any of these rights; and
- (e) all other rights of a similar nature or having an equivalent effect anywhere in the world.

"Interconnection Facilities" is the connection equipment and transmission facilities including any substation and transmission line(s) which connect the Facility from the Delivery Point to the Grid and any required reinforcement works to the same.

"Main Meter" is the main meter used to measure and record Metered Energy at the Delivery Point and all associated equipment.

"Maintain" is to maintain in good working order and condition and as necessary, to inspect, refurbish, repair, replace, modify, reinstate, overhaul and test so that the plant, machinery, equipment or facility concerned may be Operated at all material times as required and the term "Maintenance" shall be construed accordingly.

Measured Availability" is defined in Schedule 2.

"Minimum Guaranteed Availability" is the percentage as identified in Schedule 2.

"Minimum Irradiance Threshold" is 100W/m2.

"Modules" are the photovoltaic modules being procured for the Facility by the *Contractor*.

"Monitoring Data" is any data that is recorded by the Monitoring System.

"Monitoring Portal" is the web-based reporting portal operated by or on behalf of such person as the *Employer* may notify to the *Contractor* that displays the Monitoring Data.

"Monitoring Services" is the remote monitoring services set out in Schedule 3.

"Monitoring System" is a system that can retrieve data from the Facility analysing performance, Performance Ratio and Availability of the Facility.

"Network Operator" is the applicable Transmission and /or Distribution network operator for the Site identified in Part C4 or its permitted successors or assigns.

"Non-essential Spare Part" is any Spare Part which is not essential to enable the *Contractor* to ensure that the Availability of the Facility is at all times greater than or equal to the Minimum Guaranteed Availability, which is not set out in Schedule 4 (Essential Spare Parts).

"

"O&M Manual" is the operation and maintenance manual provided by the *Contractor*.

"O&M Services" is the services to be performed by the *Contractor* in respect of the Operation and Maintenance of the Facility, comprising Scheduled Maintenance Services, Corrective Maintenance Services, Monitoring Services and Additional Services.

"O&M Services Commencement Date" is the date that the Project Manager certifies Completion of Construction.

"Operate" means to dispatch a Facility and the term "Operation or Operated " shall be construed accordingly.

"Operating and Dispatch Procedures" has the meaning given to it in Clause Z.36 (Operating and Dispatch Procedures).

"Peak Sunlight Months" is November to March every year.

"Performance Ratio" is the performance ratio of the Facility as calculated in accordance with Section 14.7.5.3 of the Employer's requirements document.

"Provisional Acceptance" is when the Take Over Certificate is issued.

"Reasonable and Prudent Operator" is a person seeking in good faith to perform its contractual obligations and in doing so and in the general conduct of its undertaking, exercising that degree of skill, diligence, prudence, responsibility and foresight which would have reasonably and ordinarily be expected from a skilled and appropriately experienced operator internationally who is complying with all applicable law and Authorisations, engaged in the same or a similar type of undertaking in the same or similar circumstances and conditions and any references in this Agreement to the standards of a "Reasonable and Prudent Operator" and "Prudent Practice" shall be construed accordingly.

"Repeated Availability Test Period Failure Limit" is three consecutive Availability Test Periods in which the *Contractor* incurs liability for Availability Liquidated Damages in excess of the Availability Liquidated Damages Cap.

"Response Time" is the times detailed in Schedule 3 (Response Times) representing:

(a) in relation to a fault, the time required for the *Contractor* to:

- (i) detect and understand the nature and the cause of a fault;
- (ii) report the nature and cause of the fault to the *Employer* in writing; and
- (iii) where necessary, mobilise to attend the Site;

measured from the earlier of the time that the Contractor detects the causes and circumstances of the fault or the time that the Employer (or a third party appointed by the Employer) notifies the Contractor of any fault; and

(b) in relation to a Spare Part, the time required for the Contractor to carry out the activities identified in the relevant row of the Spare Part table.

"Response Time Price Adjustment" is the sum identified in Schedule 3 which may be deducted by the Employer from the Price payable in the relevant monthly invoice pursuant to Clause 27 (Response Time) also referred to as delay damages for O&M Services.

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

"SCADA System" is the supervisory control and data acquisition system provided by the *Contractor* as part of the Facility and installed by the *Contractor*.

"Schedule" means any of the schedules attached to this Agreement and forming an integral part of the contract.

"Scheduled Maintenance Services" is the services listed in Schedule 1, Part 1 (Scheduled Maintenance Services).

"Scheduled Outage" is a full or partial interruption of the generating capability of the Facility which is included in the Scheduled Maintenance Services.

"Scheduled Outage Notification Deadline" is 30 Business days prior to the Commencement of the O & M Services the *Contractor* must submit its planned Scheduled Outages for the Term.

"Spare Parts" is any of the items comprising the Spares Stock

"Spares Stock" is the stock of Spare Parts to be maintained to the quantity specified in Schedule 4 (Spare Parts) or if no quantity is specified, at the quantity necessary for the performance of the O&M Services in accordance with the contract.

"Specifications" is contained in the *Employer's* Requirements document, including, but not limited to Annexure B.

"Term" is the twenty-four months duration of O&M Services which commences on Commencement Date of O&M Services.

Total of Prices is the total of Prices for O&M Services and the total of Prices for Construction.

"Unscheduled Outage" is any full or partial interruption of the Operation of the Facility which is not a Scheduled Outage.

Z21

Amend 11.2(6) as follows "(6) The Defects Certificate is either a list of Defects that the *Supervisor* or *Employer* has notified before the defects date which the *Contractor* has not corrected or, if there are no such Defects, a statement that there are none.

Z22

Add new clause 14.5

With the exception of functions of the *Project Manager* reflected in core clause 6, all other functions of the *Project Manager* may be carried out by the *Employer*.

Z23 Amend core clause 20.

Insert new clause 20.2

20.2(a) The *Contractor* carries out the works including the O&M Services:

(i) in accordance with the standards of a Reasonable and Prudent Operator, all applicable Authorisations and Codes (including as these may relate to synchronising, voltage and reactive power control) as they apply to the *Contractor* or to the Facility;

(ii) using all new Plant and Materials, components or parts that are of a quality and standard consistent with the standards of a Reasonable and Prudent Operator, of a standard or quality equivalent to or better than those in the Specification and the Codes and suitable for the purpose of carrying out the *works* under the contract;

(iii) so as to ensure the correct functioning of the Facility in compliance with the Specifications, Codes, O&M Manuals, manufacturer warranties and guarantees and the standards of a Reasonable and Prudent Operator;

(iv) so as to ensure the Availability of the Facility is at all times greater than or equal to the Minimum Guaranteed Availability;

(v) so as to ensure that Energy is capable of being delivered at the Delivery Point;

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

(vi) using best endeavours to ensure that the minimum amount of the Facility is worked on at one time and that O&M Services are not carried out when irradiance is above the Minimum Irradiance Threshold in Peak Sunlight Months

(vii) in compliance and co-operation with all reasonable requests of the *Employer* in relation to performing the obligations of the *Contractor* under this Agreement.

20.2 (b) The *Contractor* procures and maintains all Authorisations which are necessary for it to perform the *works*..

20.2(c) The *Contractor* does not carry out any works or repairs that would invalidate any manufacturer guarantees or warranties in relation to the *works* and or the Facility.

20.2(d) The *Contractor* provides the *Employer* with reasonable assistance, information, details and documentation as the *Employer* may from time to time request in connection with the *works* at no cost.

20.2(e) The *Contractor* provides all necessary labour, supervision, professional and technical assistance, Equipment, Plant and Materials, inspection, transportation and testing required for the proper performance of the *works* and services subject to and in accordance with the *law of the contract*.

20.2(f) In performing the *works*, the *Contractor* uses appropriately skilled and trained workmen having regard to the nature of the work being carried out subject to and in accordance with the *law of the contract*.

20.2(g) The *Contractor* keeps the Site free from an accumulation of used Materials, debris, refuse or waste generated as a result of the performance of the *works*

20.2 (h)The *Contractor* maintains the proper functioning of the security system installed at the Site to the extent required in accordance with Schedule 1 (O&M Services) in order to secure the *works* including the Facility and as far as reasonably practicable prevent trespass, theft and vandalism of the *works* including the Facility.

20.2 (i) The *Contractor* does not increase the Contracted Capacity without the prior written consent of the *Employer*.

20.2 (j) The *Contractor* maintains the settings of all protective relays installed in the Facility at levels notified by the *Employer* from time to time and not to change such settings without the prior written consent of the *Employer*.

20.2(k) The *Contractor* provides the *Employer* and its authorized representatives with access to the Facility and the Site at reasonable hours, subject to compliance with applicable health and safety and Site security requirements and upon reasonable notice for any reasonable purpose in connection with the contract or the Codes. Such access shall include to the Metering System for the installation of and collection of data from any SCADA System.

Z24

Add to core clause 27 Other Responsibilities:

27.5 Additional Services and Ancillary Services

(a) Additional Services and Ancillary Services, if required, will be dealt with under the core clause 6.

Z 27.6.1 The *Contractor* procures, manages, replaces and replenishes all Spare Parts and Plant and Materials used in performance of the Scheduled Maintenance Services, Corrective Maintenance Services and Monitoring Services, including where a relevant manufacturer does not perform in accordance with its obligations under its manufacturer warranty.

Z27.6.2 The *Contractor* uses Spare Parts taken from the Spares Stock for the performance of the O&M Services without being required to seek the consent of the *Employer* or the *Project Manager*.

Z27.6..3 If the quantity of any Spare Parts comprising the Spares Stock falls below the quantity specified in Schedule 4 (Spare Parts) (or where no such quantity is specified, at the quantity necessary for the performance by the *Contractor* of the Scheduled Maintenance Services, Corrective Maintenance Services and Monitoring Services in accordance with this Agreement) the *Contractor* replaces the Spare Part.

Z27.6.4 All Spare Stock is stored and maintained by the *Contractor* for the benefit of the Employer in a dry and secure location without exposure to loss or damage at the Site or at such other location as agreed by the Parties within a reasonable distance from the Site to ensure prompt transportation to Site.

Z27.6.5 The *Contractor* ensures that all Spare Parts are clearly labelled and identified in a log, updated when Spare Parts are received into or withdrawn from the Spares Stock and that all Spare Parts are clearly identifiable as belonging to the *Employer*.

Z27.6.6 The *Contractor* carries out a stock check of the Spares Stock at least quarterly.

Z27.6.7 The *Contractor* warrants to the *Employer* that each repair or replacement of a component part performed by the Contractor shall for a period of the longer of (i) twelve (12) months following the date of repair or replacement and (ii) the remaining term of the contract, be free of defects in workmanship and of a quality and standard required under the contract.

27.7 .1 The *Contractor* ensures that the Monitoring Data is available to view by the *Employer* or any person authorised by the *Employer* on the Monitoring Portal at all times during the Term, twenty-four (24) hours a day; and

27.7.2 if there is any failure or fault with the Monitoring System or Monitoring Portal or there is a gap in the Monitoring Data in respect of the Facility or the *Employer* is not able to view such Monitoring Data in the Monitoring Portal, the *Contractor* must:

- (A) recover all Monitoring Data that has been lost or that the *Employer* has not been able to view on the Monitoring Portal as a result of the fault or failure with the Monitoring System or Monitoring Portal; and
- (B) make such Monitoring Data available for the *Employer* to view in a suitable format, to ensure that the *Employer* or any person authorised by the *Employer*, always has access to all Monitoring Data in respect of the entire performance of the Facility and that there are no gaps in such Monitoring Data .

Z27.8.1

The *Contractor* carries out the O&M Services so as possible to meet the Response Times set out in Schedule 3 (Response Times) at all times, seven (7) days a week.

(b) If the *Contractor* fails to meet the Response Times set out in Schedule 3 (Response Times), the *Employer* shall be entitled to deduct the Response Time Price Adjustment from the amount payable to the *Contractor* in the relevant monthly invoice.

Z25 Amend core clause 35 as follows:

Insert new clause 35.4 to read as follows:

Notwithstanding anything to the contrary contained in this contract the use by the *Employer* of Energy produced by the Facility prior to the Commencement Date of O&M Services is not deemed take-over of the works by the *Employer*.

Z26 Add new clause 37

Failure to Carry Out O&M Services

If the *Contractor* fails to carry out any of the O&M Services in accordance with the contract, the *Employer* may:

- (a) notify the *Contractor* that it has 4 weeks to rectify its failure
- (b) if the *Contractor* fails to rectify its failure before the expiry of the period required in the notice of the *Employer*, the *Employer* shall be entitled to either procure an alternative operation and maintenance contractor to carry out such O&M Services at the cost of the *Contractor* and terminate the contract.

Z27 Add new clause 53

PRICE FOR O&M SERVICES

The Contract Price is inclusive of all costs incurred by the *Contractor* in relation to performing the Scheduled Maintenance Services, the Corrective Maintenance Services and the Monitoring Services.

Z28 Amend the TERMINATION TABLE in core clause 90.2 as follows:

Add R22 under "The Employer " Insert Procedure " P1, P2 and P3 " and Amount A1 and A3

Insert the following bullet point as bullet point three under 91.3 to read as follows:

- the *Contractor* incurs liability for Availability Liquidated Damages in excess of the Availability liquidated damages cap (R22)

Add R 23 under "The Employer " Insert Procedure " P1, P2 and P3 " and Amount A1 and A3
Repeated Availability Test Period Failure Limit

- The *Contractor* exceeds the *Repeated Availability Test Period Failure Limit*

Z29 Performance bond X13

X13.1 Substitute X13.1 for the following:

The *Contractor* gives the *Employer* two performance bonds, provided by a bank or insurer which the *Project Manager* has accepted, for the amount stated in the Contract Data and in the form set out in the Works Information. The performance bond for Construction is provided to the *Employer* at Contract Date and the performance bond for O & M Services is provided to the *Employer* at O&M Services Commencement Date. A reason for not accepting the bank or insurer is that its commercial position is not strong enough to carry the bond. If the performance bond for Construction was not given by the Contract Date, it is given to the *Employer* within four weeks of the Contract Date. If the performance bond for O&M Services was not given by the O&M Services Commencement Date, it is given to the *Employer* within four weeks of the O&M Services Commencement Date.

Z30 Amend core clause X16

Retention X16 - Construction

X16.1 Replace X16.1 and X16.2 as follows:

After the Price for Work Done to Date in respect of Construction has reached the retention free amount, an amount is retained in each amount due. Until the:

- Completion of Construction

the amount retained is the retention percentage applied to the excess of the Price for Work Done to Date above the retention free amount.

X16.2 The amount retained is halved

- in the assessment made at Completion of Construction or
- in the next assessment after the *Employer* has taken over the Facility if this is before Completion of Construction.

The amount retained remains at this amount until the Defects Certificate in respect of Construction is issued. No amount is retained in the assessments made after the Defects Certificate has been issued.

Z33.2 Add new clause X16.3

After the Price for Work Done to Date in respect of O&M Services has reached the retention free amount, an amount is retained in each amount due. Until the

- Completion of O&M Services

the amount retained is the retention percentage applied to the excess of the Price for Work Done to Date in respect of O&M Services above the retention free amount.

X16.2 The amount retained is halved

- in the assessment made at Completion of O&M Services

The amount retained remains at this amount until the Defects Certificate is issued. No amount is retained in the assessments made after the Defects Certificate in respect of O&M Services has been issued

Z31x New Z clause Amend X18.4

Add the following additional matters to the excluded matters under X 18.4

- in respect of any fraud or fraudulent misrepresentation perpetrated by the *Contractor* its officers, employees, agents or sub-contractors;
-
- indemnity claims brought by or on behalf of third-parties;
-
-
- any matter for which it would be illegal for it to exclude or attempt to exclude its liability

Z32 New Z Clause

Curtailment Period

Z32.1 The *Employer* may from time to time if notified by the Network Operator, by notice to the *Contractor* no later than 17:00 on the day prior to the day to which the curtailment instruction applies, curtail (in full or in part and for a specified period) the delivery of Energy from the Facility. The *Employer* will be deemed to have issued a curtailment instruction in respect of an hour for which it issues dispatch instructions for the delivery of less than the Energy forecast to be delivered by the Contractor in good faith in accordance with the Operating and Dispatch Procedures (such periods constituting Curtailment Periods).

Z32.2 Any Curtailment Period instructed by the *Employer* will be deemed an Prevention , for the duration of such Curtailment Period.

New Z clause Z33

Operating and Dispatch Procedures

Z33.1 The Parties use reasonable endeavours prior to the Commencement Date of O&M Services to agree upon a suite of operating and dispatch procedures and the reasonable requirements of the *Employer*, which procedures are the "Operating and Dispatch Procedures" and each Party complies with. The Operating and Dispatch Procedures are incorporated into the O&M Manual practices to be implemented by the *Contractor*.

Z33.2 In the event that no agreement is reached two weeks prior to the Commencement Date of O&M Services, the *Project Manager* gives an instruction stating the Operating and Dispatch Procedures will be followed. This instruction by the *Project Manager* is not a compensation event.

New Z clause Z34

Z34 Reporting

Z 37.2 The *Contractor* notifies the *Employer* immediately on becoming aware that any of the following events have occurred:

- (i) any health, safety or environmental event occurring at the Site;
- (ii) the Contractor identifies damage or defects to any of the Plant and Material, Equipment s of the Facility or Spare Parts;
- (iii) any disconnections of the Facility from the Grid or full loss of production and its return to full production;
- (iv) any significant reduction in Availability, Performance Ratio or Energy delivery;
- (v) any potential, threatened or actual disputes;
- (vi) all penalties or notices of violation issued by any Authority concerning the works
- (vii) any breach of an applicable law or Authorisation; or
- (viii) any circumstances which may cause a refusal to grant, renew or extend any Authorisation, and must provide the Employer with a daily update until such event has been resolved.

Z34.7.2 From the O&M Services Commencement Date (a) the Contractor must in good faith provide declarations of Available Capacity and Energy forecasts to the Employer each day.

Z34.7.3 The *Contractor* must provide the *Employer* with the reports detailed in Schedule 5 at the frequencies detailed in Schedule 5 (Reporting Requirements), in the electronic format required by the *Employer* or such other reports and formats as the *Employer* may from time to time require.

New Z clause

Z35 OUTAGES

Z35.1 Annual Scheduled Maintenance

- (a) Not later than the Scheduled Outage Notification Deadline the *Contractor* must submit its planned Scheduled Outages following consultation with the *Employer* together with an estimate of the net impact on Energy production from the Facility as a result of such plan.
- (b) The *Employer* may on giving notice of no less than the number of Business Days constituting an Employer Outage Rescheduling Notice Period, request the *Contractor* to reschedule a Scheduled Outage to an alternative month and the *Contractor* must use reasonable endeavours to accommodate such rescheduling provided it is consistent with the standards of a Reasonable and Prudent Operator.
- (c) The *Contractor* may on no less than the number of Business Days constituting a Contractor Outage Rescheduling Notice Period, reschedule a Scheduled Outage to an alternative month provided that such rescheduling is consented to in writing by the Employer, which consent may not be unreasonably withheld or delayed.

Z35.2 Monthly Scheduled Maintenance

- (a) No later than 7 days prior to the commencement of each month and following consultation with the *Employer*, the *Contractor* must submit to the *Employer* the planned Scheduled Outages for the month together with an estimate of the net impact on Energy production from the Facility as a result of such plan.
- (b) The *Employer* may, on no less than 7 days' notice to the *Contractor*, request the *Contractor* to reschedule a Scheduled Outage to an agreed time period and the *Contractor* must use all reasonable endeavours to accommodate such rescheduling if it is consistent with the standards of a Reasonable and Prudent Operator.
- (c) The *Contractor* may, on no less than 7 days' notice to the *Employer*, reschedule a Scheduled Outage to another time period provided that such rescheduling is consented to in writing by the *Employer*, which consent may not be unreasonably withheld or delayed by more than 7 days from receipt of notice by the *Contractor*.

Z35.3 Unscheduled Outages

If an Unscheduled Outage occurs, the *Contractor* must inform the *Employer* as soon as possible (and in any event within three (3) hours from the commencement of the Unscheduled Outage) of the cause and expected duration of the Unscheduled Outage.

Z35.4 Add the following to core clause 19.

For the avoidance of doubt, an Prevention will not relieve the Contractor of its obligations to safeguard the Facility or the Site

New Z36 clause

Z36. INTELLECTUAL PROPERTY

Z36.1 The *Contractor* grants (or if such a grant cannot legally take place until a later date, agrees to grant) to the *Employer* with effect from the signature date or in the case of any Intellectual Property Rights not yet in existence, with effect from the creation of such Intellectual Property Rights, an irrevocable, royalty free, non-exclusive licence (such licence to remain in full force and effect notwithstanding the completion of the *Contractor's* obligations or the termination of the contract or any dispute under the contract) to use the Intellectual Property Rights and to reproduce all the Contractor's Documents for the purpose of constructing, Operating, Maintaining, training, owning and decommissioning the Facility. Such licence will carry the right to grant sub-licences and will be transferable to third parties with the transfer of the Facility in whole or in part.

Z36.2 The *Contractor* shall indemnify and hold harmless the *Employer* and its agents from and against all losses which the *Employer* and its agents incur or suffer in respect of any claim by any third party of infringement of its Intellectual Property Rights.

Z36.3 The *Contractor* shall retain Intellectual Property Rights in the Contractor's Documents.

Z36.4 The *Contractor* shall use best endeavours to acquire from any third party such rights to any corresponding Intellectual Property Rights as are created by the third party for the purpose of assisting the *Contractor* to perform under the contract

Z36.5 The *Employer* retains all Intellectual Property rights in all documents made by or on behalf of the *Employer* including all documents and requirements provided prior to or during the execution of the works. The *Contractor* does not, without the written consent, of the *Employer*, copy, use or issue to a third party any of these document and requirements except for the purposes of executing the works.

Z36.6 In the event of any claims being made or actions brought against the *Employer* on the ground that the works provided by the *Contractor* to him hereunder or the use of same as specified hereunder constitutes an infringement of any patent, trademark or copyright, the *Contractor* shall be notified thereof and shall at its own expense conduct all negotiations in consultation with the *Employer* for the settlement of the claim and litigation that may arise from such alleged infringement .

Z36.7 The *Employer* shall not, before the *Contractor* shall have failed to take over the conduct of the negotiation or litigation, make any admission which might be prejudicial thereto. The *Employer* shall at the request of the *Contractor* afford him all technical assistance that the *Employer* is able to provide for the purpose of contesting any such claim or action.

Z36.8 Should it be held in any such action that any such protected rights has been infringed, as definitely stated by a judgment of the court before which the action is brought, the *Contractor*, at its own expense and in consultation with the *Employer*, shall either:

Z36.8.1 procure for *Employer* the right to continue to use the affected item or design, or

Z36.8.2 replace the said affected item or design with a non infringing item or

Z36.8.3. design of equivalent quality or modify such affected item or design so as to make it non-infringing without affecting the quality.

Z36.9 The provisions of this clause shall survive termination or expiry for whatever reason of this contract and be without limit in point of time.

New Clause

Z37 AVAILABILITY

Z37.1 The *Contractor* guarantees that the Measured Availability during each moth of the Term shall meet or exceed the Minimum Guaranteed Availability.

Z37.2 If for any month of the Term the Measured Availability is less than the Minimum Guaranteed Availability, the *Contractor* shall pay to the *Employer* the Availability Liquidated Damages.

Z40.3 On the anniversary of the Commencement Date of O&M Services , the *Contractor* shall calculate the amount of Availability Liquidated Damages payable in respect of the first year of the Term and must notify the same to the *Employer* as soon as reasonably practicable but no later than 10 Business Days following the first year of the Terms. If the *Contractor* fails to notify the *Employer* before the expiry of such timescale, the *Employer* shall be entitled to calculate the amount of Availability Liquidated Damages and notify the same to the *Contractor*. *This provision shall mutatis mutandis apply to the second year of the Term.*

Z40.4 No later than 10 Business Days following notification from the *Employer* that Availability Liquidated Damages are payable, the *Contractor* shall pay the same to the *Employer*, which may (irrespective of any default of payment by the *Employer*) be recovered by the *Employer* as a debt or setoff against any payment of the total of the Prices for O&M Services or any other payment due from the *Employer* to the *Contractor*.

Z40.5 The total aggregate liability of the *Contractor* to pay Availability Liquidated Damages in respect of the Availability Test Period shall not exceed the amount of the Availability Liquidated Damages Cap.

Z40.6 The *Contractor* agrees that the calculation of Availability Liquidated Damages reflects the legitimate commercial expectations of the *Employer*, is not unconscionable and is a genuine pre-estimate of the loss that would be suffered by the *Employer* as a result of the failure by the *Contractor* to meet the Minimum Guaranteed Availability.

Z40.7 The payment of Availability Liquidated Damages will not relieve the *Contractor* from its obligation to achieve the Minimum Guaranteed Availability or from any other duties, obligations or responsibilities that it may have under the Agreement.

Z40.8 If any of the provisions for the payment of Availability Liquidated Damages are held to be unenforceable, the *Contractor* agrees to pay the *Employer* all actual and reasonable damages and losses suffered by the *Employer* due to the circumstances giving rise to the liability to pay the relevant liquidated damages (had they been enforceable), provided that the liability per percentage shortfall of the Contractor shall be no greater than the rate of liquidated damages which would have been payable pursuant to Clause Z 40(Availability) for such percentage shortfall if the Availability Liquidated Damages had been enforceable. The maximum amount payable by the *Contractor* in respect of such Availability Liquidated Damages or pursuant to this clause will not exceed the Availability Liquidated Damages Cap.

New Clause

Z41 Criminal record clearance certificates

Z41.1 The *Contractor* provides, at the *Contractor's* cost, to the *Project Manager* criminal record clearance certificates for each employee of the *Contractor* before the *Project Manager* allows such employee on Site or any *Employer* premises.

Z41.2 The *Contractor* ensures that its *Subcontractors* or any of those *Subcontractors'* subcontractors provide to it criminal record clearance certificates for each employee of the *Subcontractor* or relevant other subcontractor before the Project Manager allows such employee on Site or any *Employer* premises.

Z41.3 The criminal record certificates are issued by a service provider accredited by the South African Police Services, are no older than four weeks and is valid until the completion date. If the completion date is extended through the operation of this contract, valid criminal record certificates are provided before their expiry.

Z41.4 If any such criminal record certificate is cancelled, withdrawn, invalidated, amended, or expires, or a criminal conviction is noted against any employee, the *Contractor*, the *Project Manager* may instruct the *Contractor* to ensure that such employee leaves the Site and the giving of this instruction is not a compensation event.

Z41.5 If the *Contractor* is unable to Provide the Works or a part thereof due only to the inability to provide the criminal record certificates, the Employer may terminate the *Contractor's* obligation to Provide the Works (R 22) and the consequences then will be the same as if the *Employer* is terminating for R1 – R15 and R18.

C1.2 Contract Data

Part two - Data provided by the *Contractor*

[Instructions to the contract compiler: (delete this notes before issue to tenderers with an enquiry)

Whenever a cell is shaded in the left hand column it denotes this data is optional. If not required select and delete the whole row, otherwise insert the required Data.]

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 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.
4. Contract award is subjected to the Employer acquire the NERSA licence.

² Available from Engineering Contract Strategies Tel 011 803 3008, Fax 011 803 3009 or see www.ecs.co.za

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

Clause	Statement	Data
10.1	The <i>Contractor</i> is (Name): Address Tel No. Fax No.	
11.2(8)	The <i>direct fee percentage</i> is The <i>subcontracted fee percentage</i> is	% %
11.2(18)	The <i>working areas</i> are the Site and	
24.1	The <i>Contractor's</i> 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 <i>completion date</i> for the whole of the <i>works</i> is	
11.2(14)	The following matters will be included in the Risk Register	
11.2(19)	The Works Information for the <i>Contractor's</i> design is in:	
31.1	The programme identified in the Contract Data is	
A	Priced contract with activity schedule	
11.2(20)	The <i>activity schedule</i> is in	
11.2(30)	The tendered total of the Prices is	(in figures) (in words), excluding VAT

	Data for Schedules of Cost Components	<i>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).</i>		
A	Priced contract with activity schedule	Data for the Shorter Schedule of Cost Components		
41 in SSCC	The percentage for people overheads is:	%		
21 in SSCC	The published list of Equipment is the last edition of the list published by The percentage for adjustment for Equipment in the published list is	Minus %		
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 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	Category of employee	Hourly rate	
62 in SSCC	The percentage for design overheads is	%		
63 in SSCC	The categories of design employees whose travelling expenses to and from the Working Areas are included in Defined Cost are:			

PART 2: PRICING DATA

ECC3 Option A

Document reference	Title Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State	No of pages
C2.1	Pricing assumptions: Option A	
C2.2	The <i>activity schedule</i>	

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 <i>activity schedule</i> unless later changed in accordance with this contract. (27) The Price for Work Done to Date is the total of the Prices for <ul style="list-style-type: none"> • each group of completed activities and • each completed activity which is not in a group. <p>A completed activity is one which is without Defects which would either delay or be covered by immediately following work.</p> (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.
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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

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

C2.2 the *activity schedule*

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

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

PART 3: SCOPE OF WORK

Document reference	Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State	No of pages
	This cover page C3.1 <i>Employer's Works Information</i> C3.2 <i>Contractor's Works Information</i>	1
	Total number of pages	

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

C3.1: EMPLOYER'S WORKS INFORMATION

Refer to Lethabo Solar PV Facility Employer's Requirements (375-172742).

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, operation and maintenance (O&M) 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 near the Lethabo Coal Power Station, in the Free State province.

This document must be read in conjunction with the requirements as specified in the Lethabo Solar PV Facility Employer's Requirements (375-172742).

Employer's objectives and purpose of the works

Eskom's participation in renewables supports the three pillars of corporate sustainability, while supporting government's commitment to mitigate climate change. This project feeds into bigger renewables plan to provide a foundation for continued reliable supply while moving towards compliance with carbon and particulate emissions targets in an increasingly competitive environment.

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

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

SHEQ	Safety, Health, Environment and Quality
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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.		<i>Employer and Contractor (incl. risk management personnel from both parties)</i>
Overall contract progress and feedback	Monthly at progress and management meetings.		<i>Employer (or representatives) and Contractor</i>
Design review progress	Weekly during design phase		<i>Employer (or representatives) and the Contractor (incl. Lead Design Engineer).</i>
Site construction progress	Weekly during construction and commissioning phase		<i>Employer (or representatives) and Contractor (incl. Site Supervisor, construction foreman, SHEQ personnel.)</i>

Please refer to the Lethabo Solar PV Facility Employer’s Requirements (375-172742) for requirements relating to project administration requirements, including, but not limited to, section 6.

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.

Documentation control

Please refer to the Lethabo Solar PV Facility Employer’s Requirements (375-172742) for Project Documentation requirements, including, but not limited to, section 6.4.

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

Documents for providing the Works

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

All documents supplied by the *Contractor* shall be subject to *Employer's* approval. The language of all documentation shall be in English. Metric/SI units shall be used throughout the *Contractors'* Documentation. 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 *Contractor* shall prepare and submit information to complete the Definition of the works and Services at Pre-Construction Stage, Pre-Commissioning stage, post Commissioning stage and Handover phase.
- Where entries are shown in both stages, First Stage information shall be regarded as provisional and shall be updated and finalized in the Last Stage. Where entries are not shown in both stages, information is required only at that stage and the information shall be regarded as finalized at the relevant stage.
- 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 Engineering Query 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.
- All drawings must comply with the *Employer's* CAD Standard.
- The *Contractor* ensures that the Microsoft Office 2019, and Microsoft Project 2010 or earlier software and suitable 'IT' Infrastructure are in place to support the electronic transmission of documentation.

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

- 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*.

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

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-*Contractors*. 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:edrmshareservices@eskom.co.za" edrmshareservices@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

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

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.

ITEM	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
'A'	No comment	The <i>Contractor</i> may proceed.

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

'B'	Comments as noted	The <i>Contractor</i> may proceed at their own risk, incorporating the comments in a timely manner, and resubmit.
'C'	Re-submit before	The <i>Contractor</i> 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)

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

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). All *Contractors* are required to submit electronic drawings in Micro Station (DGN) format, and scanned drawings in pdf format. No drawings in TIFF, AUTOCAD or any other electronic format will be accepted. Drawings issued to the *Employer* may not be “Right Protected” or encrypted.

Engineering Change Management

All Design change management shall be performed in accordance to the latest revision of the Eskom Project Engineering Change Management Procedure (240-53114026). and the *Employer* shall ensure that *Contractor* is provided with latest revisions of this procedure. Any uncertainty regarding this procedure should be clarified with the *Employer*. All design reviews will be conducted according to the Design Review Procedure (240-53113685).

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 section 5 and elsewhere in the Lethabo Solar PV Facility Employer's Requirements (375-172742), the risk management requirements stated in section 6 and elsewhere in the Lethabo Solar PV Facility Employer's Requirements (375-172742), as well as the requirements as specified in the OHS Requirements for Lethabo 75 MW Solar Project (240-166050797).

Environmental constraints and management

The *Contractor* shall comply with the environmental criteria and constraints stated in the Lethabo Solar PV Facility Employer's Requirements (375-172742), including, but not limited to, section 5.

Quality assurance requirements

The *Contractor* shall comply with the quality assurance requirements of the Lethabo Solar PV Facility Employer's Requirements (375-172742), including, but not limited to, sections 2.2 and 7, as well as the requirements as specified in the document Quality Requirements for the Contractor Appointed to the Design, Supply, Install and Commission Lethabo Power Station Solar PV plant (375-172743).

Programming constraints

The Project programme shall comply with all programming constraints of the Lethabo Solar PV Facility Employer's Requirements (375-172742), including, but not limited to, sections 6.2 and 6.4.3.

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

Contractor's management, supervision and key people

Please refer to the Lethabo Solar PV Facility Employer's Requirements (375-172742) including, but not limited to, sections 2.2, 5.3 and 6.1. 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.

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

Training workshops and technology transfer

Please refer to the Lethabo Solar PV Facility Employer's Requirements (375-172742) for training related requirements, including, but not limited to, sections 8.14 and 17.6.

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

Engineering and the *Contractor's* design

***Employer's* design**

The *Employer's* design requirements are provided in the Lethabo Solar PV Facility Employer's Requirements (375-172742).

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 Lethabo Solar PV Facility Employer's Requirements (375-172742) 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 Lethabo Solar PV Facility Employer's Requirements (375-172742).

A detailed design phase shall precede the construction phase of the Project during which the design drawings are submitted to the *Employer* for acceptance.

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 *Employer* in adherence with the applicable requirements stated in the relevant section of the Lethabo Solar PV Facility Employer's Requirements (375-172742).

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

Subcontracting

Preferred subcontractors

It is preferred that adequate Subcontractors and consulting Engineers be appointed for execution of the following scope:

- Grid Connection Works as described in Lethabo Solar PV Facility Employer's Requirements (375-172742), section 16.
- Physical Security as described in Lethabo Solar PV Facility Employer's Requirements (375-172742), section 10.10.

Subcontract documentation, and assessment of subcontract tenders

The Sub Contractor responsible for executing the Grid Connection Works shall be Eskom Approved. This is also applicable to the Grid Connection Works Consulting Engineer.

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 Lethabo Solar PV Facility Employer's Requirements (375-172742), including, but not limited to, section 4.1.

Please refer to the requirements for Site Establishment in the Lethabo Solar PV Facility Employer's Requirements (375-172742), including, but not limited to, section 4.3.

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 Lethabo Solar PV Facility Employer's Requirements (375-172742), including, but not limited to, section 8.16.7.

Tests and inspections before delivery

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

Please refer to the applicable section(s) of the Lethabo Solar PV Facility Employer's Requirements (375-172742) for the various tests and inspection requirements prior to delivery, including, but not limited to, section 14.

Marking Plant and Materials outside the Working Areas

Please refer to the Lethabo Solar PV Facility Employer's Requirements (375-172742), including, but not limited to, sections 4.1, 4.3, and 8.16.

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

Please refer to the applicable section(s) of the Lethabo Solar PV Facility Employer's Requirements (375-172742) 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 such as section 14 Inspection and Testing.

Cataloguing requirements by the *Contractor*

Please refer to the Lethabo Solar PV Facility Employer's Requirements (375-172742), including, but not limited to, section 8.16.

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

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 requirements of the Lethabo Solar PV Facility Employer's Requirements (375-172742), including, but not limited to, section 5.3.

Restrictions to access on Site, roads, walkways and barricades

Please refer to Lethabo Solar PV Facility Employer's Requirements (375-172742), including, but not limited to, section 5.6.

People restrictions on Site; hours of work, conduct and records

Please refer to the Lethabo Solar PV Facility Employer's Requirements (375-172742) for requirements relating to the Site access restrictions, including, but not limited to, sections 5.1 and 5.6.

Health and safety facilities on Site

Please refer to the Lethabo Solar PV Facility Employer's Requirements (375-172742), including, but not limited to, section 5 as well as the requirements specified in the OHS Requirements for Lethabo 75 MW Solar Project (240-166050797).

Publicity and progress photographs

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

The *Contractor* is responsible to maintain accurate records of all plant and equipment, including scaffolding, rigs, cranes etc., which are brought on to the working areas. The *Contractor* controls and manages the access of such plant and equipment to the working areas.

Please refer to the Lethabo Solar PV Facility Employer's Requirements (375-172742) with respect to the record requirements relating to the *Contractor's* Equipment on Site.

Site services and facilities

Please refer to the Lethabo Solar PV Facility Employer's Requirements (375-172742), including, but not limited to, sections 3.14 and 13.4.5.

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

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

Facilities provided by the *Contractor*

Please refer to the Lethabo Solar PV Facility Employer's Requirements (375-172742), including, but not limited to, sections 2 and 13.4.5.

Survey control and setting out of the *works*

Please refer to the Lethabo Solar PV Facility Employer's Requirements (375-172742), including, but not limited to, section 10.

Excavations and associated water control

Please refer to the applicable provisions in the Lethabo Solar PV Facility Employer's Requirements (375-172742), including, but not limited to, section 10.

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

Please refer to the Lethabo Solar PV Facility Employer's Requirements (375-172742), including, but not limited to, sections 10.1, 10.2, 10.3, and 10.4.

Control of noise, dust, water and waste

Please refer to the Lethabo Solar PV Facility Employer's Requirements (375-172742), regarding dust control management and waste management, including, but not limited to, sections 2.5 (2.5.12 and 2.5.13).

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.

Hook ups to existing works

The hook ups to the potable water will be dependent on opportunity provided by the *Employer* for the tie in.

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

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 *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
	Operation and Maintenance of the Plant during the 2-year Defects Liability Period	End of Defects Liability Period

Materials facilities and samples for tests and inspections

Please refer to the Lethabo Solar PV Facility Employer’s Requirements (375-172742), including, but not limited to, sections 14 and 16.

Commissioning

Please refer to the Lethabo Solar PV Facility Employer’s Requirements (375-172742), including, but not limited to, section 14.

Take over procedures

Please refer to the Lethabo Solar PV Facility Employer’s Requirements (375-172742), including, but not limited to, sections 14 and 16.

Performance tests after Completion

Please refer to the Lethabo Solar PV Facility Employer’s Requirements (375-172742), including, but not limited to, sections 14 and 16.

Training and technology transfer

Please refer to the Lethabo Solar PV Facility Employer’s Requirements (375-172742) for the respective training and technology transfer requirements.

Operational maintenance after Completion

Refer to the attached O&M scope.

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

Plant and Materials standards and workmanship

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.

- a) The *Contractor* shall ensure appropriate certification and independent testing has been carried out on any materials and products proposed.
- b) The *Contractor* shall ensure materials and products used are suitable for the service conditions.
- c) The *Contractor* shall ensure that all *Works*, materials, parts, components etc. supplied shall be new.
- d) 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.
- e) The *Contractor* shall follow manufacturers' instructions on the use of materials and products.
- f) 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.
- g) The *Contractor* shall ensure that materials and components are transported and stored in accordance with manufacturer's guidelines.
- h) 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.
- i) 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.

Please refer to the Lethabo Solar PV Facility Employer's Requirements (375-172742), including, but not limited to, section 10 for detailed requirements.

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

Standards and Specifications

Please refer to the Lethabo Solar PV Facility Employer's Requirements (375-172742), including, but not limited to, Annexure B.

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

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

PART 4: SITE INFORMATION

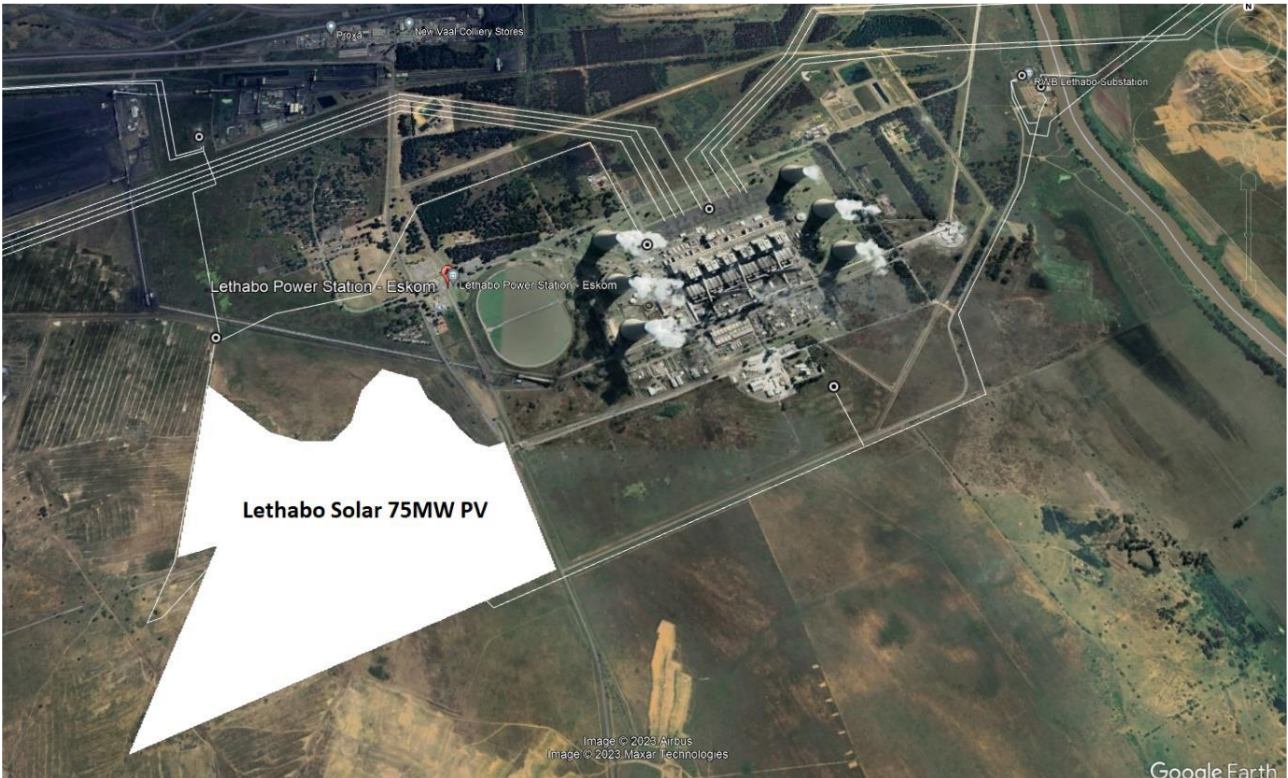
Document reference	Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State	No of pages
	This cover page	1
C4	Site Information	3
	Total number of pages	3

PROVISION FOR THE DESIGN, ENGINEERING, PROCUREMENT, CONSTRUCTION, CONSTRUCTION MANAGEMENT, START-UP, COMMISSIONING, PERFORMANCE TESTING, OPERATOR AND MAINTENANCE TRAINING OF SOLAR PV

PART C4: SITE INFORMATION

General description

For the general description of the Project, please refer to section 1.2 of the Lethabo Solar PV Facility Employer’s Requirements (375-172742).



The Solar PV Facility boundaries and Overhead line route are defined below:

Northern Section

26° 44' 47.544" S	27° 57' 17.312" E
26° 44' 49.085" S	27° 57' 18.997" E
26° 44' 52.455" S	27° 57' 21.404" E
26° 44' 54.574" S	27° 57' 26.749" E
26° 44' 55.055" S	27° 57' 31.130" E
26° 44' 54.814" S	27° 57' 35.800" E
26° 44' 52.937" S	27° 57' 38.256" E
26° 44' 50.914" S	27° 57' 39.700" E
26° 44' 48.892" S	27° 57' 39.748" E
26° 44' 46.340" S	27° 57' 42.011" E
26° 44' 47.159" S	27° 57' 47.548" E
26° 44' 48.940" S	27° 57' 49.185" E
26° 44' 51.251" S	27° 57' 52.652" E
26° 44' 53.611" S	27° 57' 54.096" E

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

26° 44' 56.066" S	27° 57' 56.744" E
26° 44' 56.066" S	27° 57' 58.766" E
26° 44' 55.296" S	27° 58' 00.981" E
26° 45' 12.743" S	27° 58' 09.218" E
26° 45' 15.469" S	27° 58' 01.607" E
26° 45' 02.277" S	27° 57' 46.007" E
26° 45' 10.369" S	27° 57' 22.266" E
26° 45' 10.982" S	27° 57' 17.387" E

Southern Section

26° 45' 12.111" S	27° 57' 22.175" E
26° 45' 03.729" S	27° 57' 45.577" E
26° 45' 16.481" S	27° 58' 00.837" E
26° 45' 34.390" S	27° 57' 16.028" E

Overhead line Route

26° 45' 17.278" S	27° 57' 58.783" E
26° 45' 15.054" S	27° 58' 06.917" E
26° 45' 11.720" S	27° 58' 15.171" E
26° 45' 08.386" S	27° 58' 23.424" E
26° 45' 05.052" S	27° 58' 31.678" E
26° 45' 01.717" S	27° 58' 39.931" E
26° 44' 58.383" S	27° 58' 48.184" E
26° 44' 55.049" S	27° 58' 56.437" E
26° 44' 51.714" S	27° 59' 04.690" E
26° 44' 48.003" S	27° 59' 12.186" E
26° 44' 39.952" S	27° 59' 10.967" E
26° 44' 32.916" S	27° 59' 09.079" E
26° 44' 25.805" S	27° 59' 13.457" E
26° 44' 18.682" S	27° 59' 17.810" E
26° 44' 11.397" S	27° 59' 21.804" E
26° 44' 03.635" S	27° 59' 23.852" E
26° 43' 55.582" S	27° 59' 22.644" E
26° 43' 53.679" S	27° 59' 24.735" E

Existing buildings, structures, and plant & machinery on the Site

The HV powerline servitude and a water pipeline valve station are the only existing building, structures, and plant & machinery on the Site.

Please refer to drawing R00000014-MPA-XX-DR-C-0002 for the powerline servitude route.

Subsoil information

For subsoil information relating to the Project area, please refer to the Geotechnical Report (Document Reference Number: RN-0723-03), Environmental Site Assessment at a Portion of Lethabo PV Power Plant (Document Reference Number: 22-0464), and Environmental Impact Assessment Report (DEA REF NO.: 14/12/16/3/3/2/753).

Hidden services

For information relating to hidden services in the Project area, please refer to the Geotechnical Report (Document Reference Number: RN-0723-03), Environmental Site Assessment at a Portion of Lethabo PV Power Plant (Document Reference Number: 22-0464), and Environmental Impact Assessment Report (DEA REF NO.: 14/12/16/3/3/2/753).

Other reports and publicly available information

For information relating to the Site's hydrological aspects, please refer to the Hydrological Impact Assessment of Lethabo Power Station for proposed Solar PV Project (Document Reference Number: Lethabo-HA).

For information relating to the Site's topographical details, please refer to the LIDAR Survey Report: Topographical airborne LIDAR and High-Resolution Photography Survey for LETHABO POWER STATION, SOLAR PV.

For information relating to the Site's environmental authorisations and studies conducted in support of it, please refer to:

- PV Facility Environmental Authorization (14/12/16/3/3/2/753)
- Overhead line Environmental Authorisation (14/12/16/3/3/1/2805)

For information relating to the grid connection of the Project, please refer to the Lethabo Solar Energy Facility Grid Connection Impact Study (Document Reference Number: R00000014 | GS01 | B) and Eskom Cost Estimate Letter.

SCHEDULES

Schedule 1 – O&M Services

PART 1 - SCHEDULED MAINTENANCE SERVICES

EQUIPMENT	TASK	FREQUENCY
Modules	Integrity inspection and replacement Thermographic inspection Measurements inspection Check tightening of clamps Modules cleaning Visually inspect junction boxes on panels Check cable terminals and cable management Check cable connectors Verify 1% of modules for Short-Circuit current and Open-Circuit voltage of a set of strings	6-monthly Yearly Yearly Yearly As per local conditions to reach minimum guaranteed PR and Availability figures 6-monthly 6-monthly 6-monthly 6-monthly
Electrical cabinets and switchboards Array/string junction box Generator junction box AC switchboards AUX switchboard General utilities switchboard Weather station’s cabinet Monitoring system cabinet Communication cabinet Security system board Other cabinets	Integrity check and cleaning Documentation package inspection Check labelling and identification Electrical protections visual inspection and functional test Check fuse status Check surge protection status Check integrity of cables & state of terminals Sensor functional verification Measurements inspection Thermographic inspection Check tightening Lubrification of locks Monitoring operation test	As per local conditions Yearly Yearly Yearly Yearly Yearly Yearly Yearly Yearly 6-monthly Yearly Yearly Yearly
Cables DC / AC cables Cables in switchboards, cabinets, inverters	Integrity inspection Check labelling and identification Check cable terminals Measurements inspection	Yearly Yearly Yearly Yearly

<p>Inverters</p>	<p>Integrity check and cleaning Documentation package inspection Check labelling and identification Electrical protections visual inspection, check correct operations Check fuses Check surge protections Thermographic inspection Sensors functional verification Measurements inspection Check parameters Functional test of ventilation system Check batteries Replace batteries Replace fans Safety equipment inspection Clean filters Replace filters</p>	<p>As per local conditions Yearly Yearly Yearly Yearly 6-monthly Yearly Yearly Yearly 6-monthly As per OEM As per OEM As per OEM 6-monthly 6-monthly 2-Yearly</p>
<p>Transformer Power transformer Auxiliary transformer</p>	<p>Integrity check and cleaning Check labelling and identification Thermographic inspection Functional verification of sensors and protection relays Check parameters Check oil level (if applicable) Check of cooling system (if applicable) Inspect oil leaks (if applicable) Check and replace Silica gel Perform oil sampling (Moisture, kV and DGA) Documentation package inspection</p>	<p>Yearly Yearly 6-monthly Yearly Yearly 3-monthly Yearly Yearly 3-monthly 6-monthly Each inspection</p>
<p>Switchgear (including protection devices) LV Switchgear MV Switchgear HV Switchgear DC Switchgear (if applicable) Voltage transformers Current transformers Surge arrestors</p>	<p>Integrity check and cleaning Safety equipment inspection Check labelling and identification Electrical protections visual inspection Thermographic inspection (where possible) Sensors functional verification Measurements inspection Check correct operation Check fuse status Check cables terminals Verify DC supply Mechanical lubrication Replace certain mechanical parts Battery replacement Check protection parameters Functional check of protection devices Documentation package inspection</p>	<p>As per local conditions Yearly Yearly Yearly 3-monthly Yearly Yearly Yearly Yearly Yearly Yearly Yearly Yearly As per OEM As per OEM As per OEM Yearly Yearly Each inspection</p>

Power Analyser	Integrity check and cleaning Check labelling and identification Measurements inspection Software maintenance Monitoring operation test Check parameters	Yearly Yearly Yearly Yearly Yearly Yearly
Energy Meter	Integrity check and cleaning Check labelling and identification Check values and parameters Check of communication devices	Yearly Yearly Yearly Yearly
Power Control Unit	Check batteries Replace batteries Functional verification Integrity check and cleaning	Yearly As per OEM Yearly Yearly
UPS	Integrity check and cleaning Check labelling and identification Inspect cooling system Verify settings Inspect batteries Replace batteries	Yearly Yearly Yearly Yearly 3-monthly As per OEM
Emergency Generator	Integrity check and cleaning General maintenance Check correct operation Replacement of filters Documentation package inspection	As per OEM As per OEM As per OEM As per OEM Every inspection
Lights and domestic circuits	Inspection Verify labelling Cleaning Testing	Yearly Yearly Yearly Yearly
HVAC	Integrity check and cleaning Functional verification Change of air filters	As per OEM As per OEM As per OEM
Fire Detection	Integrity check & cleaning Check correct operation Battery inspection Sensors functional verification Cleaning of sensors Documentation package inspection	As per OEM and local requirements As per OEM and local requirements As per OEM and local requirements As per OEM and local requirements As per OEM and local requirements As per OEM and local requirements Every inspection
Earthing and Lightning protection	Visual inspection Earth Continuity testing	Yearly 2-Yearly
Fences and gates	Integrity inspection Lubrication of locks	6-monthly 6-monthly

Vegetation	Vegetation control	As per local conditions
Drainage System	General inspection and cleaning	6-monthly
Buildings and Substations	Integrity check and cleaning	6-monthly
	Lubrication of locks	6-monthly
	Documentation package inspection	6-monthly
	Check fire extinguishers, first aid and safety equipment	6-monthly
PV support structure	Integrity inspection	Yearly
	Check tightening	Yearly
Tracker system	Integrity check and cleaning	Yearly
	Check correct operation	As per OEM
	Check tightening	As per OEM
	General maintenance	As per OEM
	Mechanical lubrication	As per OEM
Weather station	Integrity check and cleaning	As per OEM
	Functional test of sensors	Yearly
	Check correct operation	Yearly
	Check batteries or UPS	6-monthly
	Replace batteries	As per OEM
	Monitoring operation test	Yearly
Irradiation sensors	Integrity check & cleaning	Yearly
	Calibration	Yearly
	Monitoring operational test	Yearly
Energised Perimeter detection system	Visual inspection	Monthly
	Functional verification of intrusion detection	Monthly
	Functional verification of alarming	Monthly
	Functional verification of cameras	Monthly
	Specific maintenance	As per OEM
Spare parts	Inventory of stock	Monthly
	Visual inspection of stock conditions	Monthly

Schedule 1 – O&M Services

PART 2 - CORRECTIVE MAINTENANCE SERVICES

Corrective Maintenance Services corresponds to any activity performed to restore the PV plant system, equipment or component to a functioning state, and occurs after a failure detection by remote monitoring or during an on-site inspection.

Corrective Maintenance Services includes Fault Diagnosis, Temporary Repair and Permanent Repair and are divided into 3 levels of intervention:

- Intervention without the need of substitution,
- with the need of substitution,
- and with the need to intervene on the software of a device

The Contractor will be responsible for all three levels of intervention.

The Contractor will be required to track failures to their root cause and is expected to keep a database of failures, corrective actions and root cause. This shall include a root cause analysis (RCA) and preparation of an RCA report once the issue has been resolved.

The Contractor is expected to have all the tools and equipment (including specialised equipment) available to assist with fault-finding and repairs.

Unless where specifically stated, the Contractor will be responsible for all the Corrective Maintenance Services within the boundaries of the Lethabo Solar PV plant at the Point of Utility Connection (PUC).

Schedule 1 – O&M Services

PART 3 - MONITORING SERVICES

Monitoring Services entails the following:

- Reporting on PV plant performance (down to String level)
- Reporting on O&M performance
- Reporting on incidents
- Reporting on overall site conditions
- Any additional services required to provide the reports as listed in Schedule 5

Schedule 1 – O&M Services

PART 4 – ADDITIONAL SERVICES

Additional Services are not included in the standard O&M scope and includes the following:

- Additional panel cleaning
- Extraordinary Maintenance
- Ancillary services. This includes the operation of the interconnecting plant (Dx HV breaker and isolator only). Please note: Operation of the Gx HV Switchgear included as standard contract scope.

Extraordinary Maintenance services includes, but are not limited to, interventions required for:

- Damages that are a consequence of a Force Majeure event
- Damages because of theft or fire
- Modifications required by regulatory changes
- Modifications to improve equipment performance or to reduce the equipment failure rate

Please note:

The following services are not seen as Additional Services and must be included as part of the standard O&M Scope:

- Pest Control
- Waste Disposal (Domestic, Sewage and Hazardous)
- Road management
- Perimeter fence repairs
- Building Maintenance
- Gx HV Switchgear

Schedule 2 - Availability

Availability ("AVA")

Availability is then defined and calculated as:

$$A[\%] = \frac{\sum T_{useful} - \sum T_{down} + \sum T_{excluded}}{\sum T_{useful}} \times 100$$

where:

Tuseful [h] = period of time with irradiation above MIT.

Tdown [h] = period of **Tuseful** when the system is down (no energy production).

Texcluded [h] = part of **Tdown** to be excluded because of presence of an Prevention.

Normally only the time where irradiance is above the Minimum Irradiance Threshold ("MIT") is considered and this is noted above as **Tuseful**, where **Tuseful** = **Ttotal** – **T(irr<MIT)**.

In practice, it is often required to measure Availability on the level of a subcomponent i.e. (for example, inverter) and to weight availability of the subcomponents **A(i)** according to their respective installed DC power **Pdc(i)**.

In this case Availability of the total Facility (**Atotal**) with an installed total DC power of **Pdc(total)** can be defined as follows:

$$A_{total} [\%] = 100 \times \sum (A(i) \times \frac{P_{dc}(i)}{P_{dc}(total)})$$

For the calculation of Availability typically fifteen (15) min irradiation and production data are taken as basis, if granularity of components remains at the level of inverter or higher. Anything below the level of inverter is reflected by the response time guarantee.

MINIMUM GUARANTEED AVAILABILITY

The Minimum Guaranteed Availability is the percentage indicated by the Contractor during the tender phase (Section 2.4 of the Technical Evaluation Criteria)

Availability liquidated damages will be charged R75k per percentage point below the Minimum Guaranteed Availability percentage, calculated monthly however availability liquidated damages will be deducted yearly.

MEASURED AVAILABILITY

Measured Availability represents the time in which the Facility is operating over the total possible time it is able to operate.

Schedule 3 - Response Times

Schedule 3 - Response Times and Response Time Price Adjustment

Fault	Response Times	Response Time Price Adjustment
The entire Facility is not generating Energy (i.e. one hundred percent (100%) generation loss)	Twenty-four [(24)] hours	0.03% per day
Thirty percent (30%) or more Energy generation loss	Twenty-four [(24)] hours	0.03% per day
Less than thirty percent (30%) Energy generation loss	Thirty-six [(36)] hours	0.03% per day

Note: The 0.03% is calculated as per clause 7.1 (Delay damages)

Spare Part	Response Times
Spare Part	Response Times

<p>Essential Spare Part that is an Included Spare Part</p>	<p>Replace the Essential Spare Part no later than [<i>Left for Contractor to Manage</i>] from the time that the shortfall arose.</p>
<p>Non-Essential Spare Part</p>	<p>Place the order for the Non-Essential Spare Part no later than [<i>Left for Contractor to Manage</i>] from the time or date that the shortfall arose and replenish the Spares Stock as soon as practicable following receipt</p>

Schedule 4 - Spare Parts

PART 1 – SPARES STOCK

The Contractor shall define and be responsible to procure and provide the minimum stock of spare parts required for the O&M of the Plant, taking into account the OEM’s recommendations, Site location, and lead time. The minimum level of spare parts shall be at least as per manufacturers’ recommendations (the Contractor shall provide written confirmation from each manufacturer in relation to the recommended spare parts) and shall take into account the minimum specific requirements below:

- PV modules – Minimum of 0.5 % of the total installed PV modules
- Inverter (including cooling mechanism):
 - Central inverters: the Contractor shall request the manufacturer to provide a recommended list of spares/bill of quantities that shall take into consideration the number of inverters and Project’s location. This recommended spare part list by the manufacturer shall specify proper equipment information, such as manufacturer’s unit code, name, description, and total quantity to be considered.
 - String inverter: Minimum 30, or as recommended by the manufacturer.
- Tracker (module) mounting structure:
 - Posts: Minimum 0.5 % of total quantity

Design, Engineering, Supply, Construction, Installation, Testing, Commissioning, Operation and Maintenance (O&M) 75 MW Solar PV Facility at Lethabo Power Station in Free State

- Module mounting rails: 0.5 % of total quantity
 - Torque tube/beam: 0.5 % of total quantity
 - Motors and associated complete drive-unit mechanisms: Minimum 0.5 % of total quantity
 - Power supply source: 0.5 % of total quantity
 - Power backup supply source: 0.5 % of total quantity
 - Inclinometers: Minimum 0.5 % of total quantity
 - Controllers/control-units: Minimum 0.5 % of total quantity
 - Structural components, bolts, nuts, washers, flanges, bearings, mounting brackets, beam splices, etc.: Minimum 0.2 % of total quantity.
 - Complete table: Minimum 0.5 % of total quantity
- Fixed tilt (module) mounting structure:
 - Posts: Minimum 0.5 % of total quantity
 - Module mounting rails and cross beams: 0.5 % of total quantity
 - Structural components, bolts, nuts, washers, flanges, mounting brackets, beam splices, etc.: Minimum 0.2 % of total quantity; and,

- Complete table: Minimum 0.5 % of total quantity.
- DC Cable: Minimum 0.5 % of total quantity per size (mm²)
 - LV connector MC4 (male and females): Minimum 0.5 % of total quantity.
- AC Cables: Minimum 0.5 % of total quantity per size (mm²).
- Cable Trays (if applicable): Minimum 0.5 % of total quantity;
- Communication cables: Minimum 0.5 % of total quantity:
 - LV connector MC4 (male and females): Minimum 0.5 % of total quantity.
- PV String Combiner Box (if applicable): Minimum 0.5 % of total quantity;
- PV String Combiner Box communication card (if applicable): Minimum 5 % of total quantity;
- LV fuses: Minimum 4 % of total quantity;
- LV Switchgear: Minimum 0.5 % of total quantity;
- MV/LV transformers: Minimum three (3) units;
- MV switchgear/RMU: Minimum three (3) units;
- Auxiliary Transformer: Minimum one (1) unit;
- Meteorological station: Minimum one (1) unit;
- Soiling stations: Minimum one (1) unit;
- SCADA system: Minimum 0.5 % of total quantity of all components comprising the SCADA system (e.g., relays, server hard drives, network cables, etc.);
- PPC system: Minimum 0.5 % of total quantity of all components comprising the PPC system;
- UPS system and components: Minimum 3 % of total quantity;
- CCTV system (including all cameras, poles, fixtures, etc.). The Contractor shall request to the manufacturer a recommended list of spares/bill of quantities that shall take into consideration the size of the CCTV system, the number of CCTV cameras, poles, fixtures, etc., and the Project's location. The manufacturer-recommended spare parts list will be the minimum level of spares that shall be held on Site;
- Lights – The Contractor shall request to the manufacturer a recommended list of spares/bill of quantities that shall take into consideration the type of light, the number of lights, and the Project's location. The manufacturer-recommended spare parts list will be the minimum level of spares that shall be held on Site.

Spares part list to be updated prior to Contract Award.

PART 2 – INCLUDED SPARE PARTS

All spare parts are included in the contract

PART 3 – ESSENTIAL (CRITICAL) SPARE PARTS

To be agreed upon prior to Contract award

Schedule 5 - Reporting Requirements

As a minimum, the Contractor is to provide the following reports on a Monthly basis to the Employer:

Type of Data	Indicator
Raw Data Measurements	Irradiation Active Energy Produced Active Energy Consumed Temperature
PV Power Plant KPIs	Reference Yield Specific Yield Performance Ratio Temperature-corrected Performance Ratio Energy Performance Index Uptime Availability Energy-based Availability
O&M service provider KPIs	Acknowledgement time Intervention time Response time Resolution time
Equipment KPIs	Mean Time Between Failures (MTBF) Inverter Specific Energy Losses Inverter Specific Efficiency Module Soiling Losses
Environmental KPIs	Environmental and Biodiversity KPIs may vary depending on the geography, the micro-climate and the conditions of each site
Incident Reporting	Main incidents and impact on production (including lightning events, industrial action/strike, curtailment, theft) Warranty issues SHE issues Spare parts stock levels and status Physical and Cyber Security Issues Preventive Maintenance tasks performed Corrective Maintenance tasks performed with Root cause Analyses