NEC3 Engineering & Construction Contract

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

and **[Insert at award stage]**
(Reg No. _____)

for **Relocation of the National Security Co-ordination Centre at Megawatt Park**

Contents:		**No of pages**
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CONTRACT No. **[Insert at award stage]**

Part C1: Agreements & Contract Data

Contents: **No of pages**

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:

RELOCATION OF THE NATIONAL SECURITY CO-ORDINATION CENTRE AT MEGAWATT PARK

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.

Option A	The offered total of the Prices exclusive of VAT is	**R [●]**
	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: .....

(Insert name and address of organisation)

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 Holdings SOC Ltd, 1 Maxwell Drive Sunninghill, Sandton,2157 *(Insert name and address of organisation)*	
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	*(Insert name and address of organisation)*	*(Insert name and address of organisation)* Eskom Holdings SOC Ltd, 1 Maxwell Drive, Sunninghill, Sandton, 2157
Name & signature of witness		
Date		

C1.2 ECC3 Contract Data

Part one - Data provided by the *Employer*

[Instructions to the contract compiler: (delete these two notes in the final draft of a contract)

1. Please read the relevant clauses in the conditions of contract before you enter data. 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.

1. Some ECC3 options are always selected by Eskom Holdings SOC Ltd. The remaining ECC3 options are identified by shading in the left hand column. In the event that the option is not required select and delete the whole row. Where the following symbol is used "**[●]" -** data is required to be inserted relevant to the specific option selected.]

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

Clause	Statement	Data
1	**General**	
	The *conditions of contract* are the core clauses and the clauses for main Option	
		A: Priced contract with activity schedule
	dispute resolution Option	**W1: Dispute resolution procedure**
	and secondary Options	**X1: Price adjustment for inflation**
		X2: Changes in the law
		X7: Delay damages
		X12: Partnering
		X16: Retention
		X17: Low performance damages
		X18: Limitation of liability
		Z: *Additional conditions of contract*
	of the NEC3 Engineering and Construction Contract, April 2013 (ECC3)	
10.1	The *Employer* is (Name):	**Eskom Holdings SOC Ltd (reg no: 2002/015527/30), a state owned company incorporated in terms of the company laws of the Republic of South Africa**
	Address	**Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg**
10.1	The *Project Manager* is: (Name)	**[●]**

	Address	**Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg**
	Tel	**[●]**
	Fax	**[●]**
	e-mail	**[●]**
10.1	The *Supervisor* is: (Name)	**[●]**
	Address	**[●]**
	Tel No.	**[●]**
	Fax No.	**[●]**
	e-mail	**[●]**
11.2(13)	The *works* are	**Relocation of the National Security Co-Ordination Centre at Megawatt Park**
11.2(14)	The following matters will be included in the Risk Register	**1. Adverse weather conditions, such as heavy rainfall, snowfall, and strong winds, necessitate the contractor to exercise caution when organizing the schedule and resources for the project.** **2. Any harm to existing equipment and foundations is the responsibility of the Contractor to replace or reconstruct. All delays in construction and procurement of such equipment will be borne by the Contractor and will not be charged back to Eskom.** **3. Theft. The site and working areas are to be guarded to ensure that no theft can take place that will affect construction.** **4. Material suppliers. Suppliers to meet all Eskom requirements. The Employer will not handle any disputes between the Suppliers and the Contract.** **5. Time. This contract has to be completed within the contract period. The Employer shall not be liable for any delays caused by the Contractor.** **6. The contractor will need to be aware that the site will be operational during construction and should provide the necessary security measures to ensure that security is not compromised.** **7. Reputable OEM used with accredited installers, where required.** **8. Limited as-built, operation and maintenance information.** **9. The contractor will need to be aware of the Eskom security requirements and**

		standard that must be adhered to and comply with. **10. Additional risks will be identified during the initial project meeting and continuously assessed throughout the project duration.** **11. Conditional assessment to be conducted and accepted by Eskom representatives, prior to start on site. This includes designs**
11.2(15)	The *boundaries of the site* are	**Megawatt Park- Enerweb and basement**
11.2(16)	The Site Information is in	**Part 4: Site Information**
11.2(19)	The Works Information is in	**Part 3: Scope of Work and all documents and drawings to which it makes reference.**
12.2	The *law of the contract* is the law of	**the Republic of South Africa**
13.1	The *language of this contract* is	**English**
13.3	The *period for reply* is	**Five (5) working days**
2	**The *Contractor's* main responsibilities**	**Data required by this section of the core clauses is provided by the *Contractor* in Part 2 and terms in italics used in this section are identified elsewhere in this Contract Data.**
3	**Time**	
11.2(3)	The *completion date* for the whole of the *works* is	**9 months (post appointment)**
11.2(9)	The *key date*s and the *condition*s to be met are:	***Condition* to be met** / ***key date***
		1 Project Schedule — 2 weeks After Contract or appointment
		2 Notice of construction be given to Department of Labour — Before Execution of works.
		3 Security clearance of personnel and induction — Before Execution of Works
		4 Safety File Submission and induction — Before Execution of
		5 Design Approval — Before Execution of

		6	**Construction Phase**	**works.**
		7	**Commissioning and training**	**After Contract or appointment**
		8	**Handover**	**As per approved schedule**
				As per approved schedule
				As per approved schedule
30.1	The *access dates* are:	**Part of the Site**		**Date**
		1	**Eskom Megawatt Park with all regulation approvals to access and works**	**Before Execution of works.**
31.1	The *Contractor* is to submit a first programme for acceptance within	**Two (2) weeks after the Contract Date**		
31.2	The *starting date* is	**TBC**		
32.2	The *Contractor* submits revised programmes at intervals no longer than	**Two (2) weeks.**		
35.1	The *Employer* is not willing to take over the *works* before the Completion Date.	**All works shall be completed before the *Employer* can take over the *works***		
4	**Testing and Defects**			
42.2	The *defects date* is	**52 weeks after Completion of the whole of the *works*.**		
43.2	The *defect correction period* is	**One (1) week**		
5	**Payment**			
50.1	The *assessment interval* is	**On the 25th of each month**		
51.1	The *currency of this contract* is the	**South African Rand.**		

51.2	The period within which payments are made is	**Four (4) weeks.**
51.4	The *interest rate* is	**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)	The place where weather is to be recorded is:	**Megawatt Park**
	The *weather measurements* to be recorded for each calendar month are,	**the cumulative rainfall (mm)** **the number of days with rainfall more than 10 mm** **the number of days with minimum air temperature less than 0 degrees Celsius** **the number of days with snow lying at 09:00 hours South African Time** **and these measurements:**
	The *weather measurements* are supplied by	**The South African Weather Bureau at the nearest station next to the site.**
	The *weather data* are the records of past *weather measurements* for each calendar month which were recorded at:	

	and which are available from:	**the South African Weather Bureau and included in Annexure A to this Contract Data provided by the *Employer***
60.1(13)	Assumed values for the ten year return *weather data* for each *weather measurement* for each calendar month are:	**As stated in Annexure A to this Contract Data provided by the *Employer*.** **Note: If this arrangement is used, delete the rows above for 60.1(13) and delete this note.**
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	**1. Risks to be discussed during the execution of the projects**
84.1	The Employer provides these additional insurances	**as stated for "Format A" available on *http://www.eskom.co.za/Tenders/InsurancePolicies Procedures/Pages/EIMS_Policies_From_1_April_2014_To_31_March_2015.aspx***
84.2	The insurance against loss of or damage to the works, Plant and Materials is to include cover for Plant and Materials provided by the Employer for an amount of	
84.3	The minimum limit of indemnity for insurance in respect of loss of or damage to property (except the works, Plant, Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the Contractor) caused by activity in connection with this contract for any one event is	**whatever the Contractor deems necessary in addition to that provided by the Employer**
84.4	The minimum limit of indemnity for insurance in respect of death of or bodily injury to employees of the Contractor arising out of and in the course of their employment in connection with this contract for any one event is	**As prescribed by the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993 and the Contractor's common law liability for people falling outside the scope of the Act with a limit of Indemnity of not less than R500 000 (Five hundred thousand Rands**
9	**Termination**	**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.**

10	**Data for main Option clause**	
A	**Priced contract with activity schedule**	**There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.**
60.6	The *method of measurement* is	**Option A published by NEC 3 Engineering and Construction Contract of June 2005 and amended as stated in Part C2.1, Pricing Assumptions.**
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).**
	Address	**[●]**
	Tel No.	**[●]**
	Fax No.	**[●]**
	e-mail	**[●]**
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	**[●] 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**	
X1.1(a)	The base date for indices	

X1.1(c)	The proportions used to calculate the Price Adjustment Factor are:			
	Price Adjustment Factor are:	proportion	**Linked to index for**	**Index prepared by**
		0. [●]	**[●]**	**[●]**
		0. [●]	**[●]**	**[●]**
		0. [●]	**[●]**	**[●]**
		0. [●]	**[●]**	**[●]**
		0. [●]	**[●]**	**[●]**
			non-adjustable	
			Total 1.00	
X7	**Delay damages (but not if Option X5 is also used)**			
X7.1	Delay damages for Completion of the whole of the works are		**R20,000.00 per day up to a limit of 20% of the Contract Value.**	
X12	**Partnering**			
X12.1(1)	The *Client* is (Name)		**[●]**	
	Address		**[●]**	
X12.2(1) X12.1(4)	Tel		**[●]**	
	Fax		**[●]**	
	The *Client's* objective is.		**[●]**	
	The Partnering Information is in		**[●]**	
X16	**Retention (not used with Option F)**			
X16.1	**The retention free amount is R[●].** **The retention percentage is 10%**		**10 %** **50% to be paid immediately on completion and balance to be paid when the maintenance and support provisions stated in the contract Expires**	
X17	**Low performance damages**			
X17.1	The amounts for low performance damages are:		**Amount** **R 200,000.00 or cost of low performance**	**Performance level** **Including and not limited to the following: Poor workmanship, inferior material quality or failure**

		damages stated	**to follow accepted Method Statements and Quality Control Plans (QCP).**
X18	**Limitation of liability**		
X18.1	The *Contractor*'s liability to the *Employer* for indirect or consequential loss is limited to:	**R0.0 (zero Rand)**	
X18.2	For any one event, the *Contractor*'s liability to the *Employer* for loss of or damage to the *Employer*'s property is limited to:	**the amount of the deductibles relevant to the event**	
X18.3	The *Contractor*'s liability for Defects due to his design which are not listed on the Defects Certificate is limited to	**The greater of** • **the total of the Prices at the Contract Date** **and** • **the amounts excluded and unrecoverable from the *Employer*'s assets policy for correcting the Defect (other than the resulting physical damage which is not excluded) plus the applicable deductible as at contract date.**	
X18.4	The *Contractor*'s total liability to the *Employer* for all matters arising under or in connection with this contract, other than excluded matters, is limited to:	**the total of the Prices other than for the additional excluded matters.** **The *Contractor's* total liability for the additional excluded matters is not limited.** **The additional excluded matters are amounts for which the *Contractor* is liable under this contract for** • **Defects due to his design which arise before the Defects Certificate is issued,** • **Defects due to manufacture and fabrication outside the Site,** • **loss of or damage to property (other than the *works*, Plant and Materials),** • **death of or injury to a person and** • **infringement of an intellectual property right.**	
X18.5	The *end of liability date* is	**(i) Five (5) years after the *defects date* for latent Defects and** **(ii) the date on which the liability in question prescribes in accordance with the Prescription Act No. 68 of 1969 (as amended or in terms of any replacement legislation) for any other matter.** **A latent Defect is a Defect which would not have been discovered on reasonable inspection by the *Employer* or the**	

		Supervisor **before the** ***defects date*****, without requiring any inspection not ordinarily carried out by the** ***Employer*** **or the** ***Supervisor*** **during that period. If the** ***Employer*** **or the** ***Supervisor*** **do undertake any inspection over and above the reasonable inspection, this does not place a greater responsibility on the** ***Employer*** **or the** ***Supervisor*** **to have discovered the Defect.**
Z	**The *Additional conditions of contract* are**	**Z1 to Z15 always apply.**

Z1 Cession delegation and assignment

Z1.1 The *Contractor* does not cede, delegate or assign any of its rights or obligations to any person without the written consent of the *Employer.*

Z1.2 Notwithstanding the above, the *Employer* may on written notice to the *Contractor* cede and delegate its rights and obligations under this contract to any of its subsidiaries or any of its present divisions or operations which may be converted into separate legal entities as a result of the restructuring of the Electricity Supply Industry.

Z2 Joint ventures

Z2.1 If the *Contractor* constitutes a joint venture, consortium or other unincorporated grouping of two or more persons or organisations then these persons or organisations are deemed to be jointly and severally liable to the *Employer* for the performance of this contract.

Z2.2 Unless already notified to the *Employer*, the persons or organisations notify the *Project Manager* within two weeks of the Contract Date of the key person who has the authority to bind the *Contractor* on their behalf.

Z2.3 The *Contractor* does not alter the composition of the joint venture, consortium or other unincorporated grouping of two or more persons without the consent of the *Employer* having been given to the *Contractor* in writing.

Z3 Change of Broad Based Black Economic Empowerment (B-BBEE) status

Z3.1 Where a change in the *Contractor's* legal status, ownership or any other change to his business composition or business dealings results in a change to the *Contractor*'s B-BBEE status, the *Contractor* notifies the *Employer* within seven days of the change.

Z3.2 The *Contractor* is required to submit an updated verification certificate and necessary supporting documentation confirming the change in his B-BBEE status to the *Project Manager* within thirty days of the notification or as otherwise instructed by the *Project Manager*.

Z3.3 Where, as a result, the *Contractor's* B-BBEE status has decreased since the Contract Date the *Employer* may either re-negotiate this contract or alternatively, terminate the *Contractor*'s obligation to Provide the Works.

Z3.4 Failure by the *Contractor* to notify the *Employer* of a change in its B-BBEE status may constitute a reason for termination. If the *Employer* terminates in terms of this clause, the

procedures on termination are P1, P2 and P3 as stated in clause 92, and the amount due is A1 and A3 as stated in clause 93.

Z4 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 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 Services 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 Services 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 minim limit of indemnity
Loss of or damage to the *work*s, Plant and Materials	The replacement cost where not covered by the *Employer*'s insuranc The *Employer*'s policy deductible, as Contract Date, where covered by the *Employer*'s insurance
Loss of or damage to Equipment	The replacement cost
Liability for loss of or damage to property (except the *work*s, Plant and Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the *Contractor*) caused by activity in connection with this contract	Loss of or damage to property *Employer*'s property The replacement cost where not covered by the *Employer*'s insuranc The *Employer*'s policy deductible, as Contract Date, where covered by the *Employer*'s insurance Other property The replacement cost Bodily injury to or death of a person The amount required by applicable l
Liability for death of or bodily injury to employees of the *Contractor* arising out of and in the course of their employment in connection with this contract	The amount required by the applicat 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 l 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 47 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 47 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.

Annexure A: One-in-ten-year-return *weather data* obtained from SA Weather Bureau for [weather station]

If any one of these *weather measurements* recorded within a calendar month, before the Completion Date for the whole of the *works* and at the place stated in this Contract Data is shown to be more adverse than the amount stated below then the *Contractor* may notify a compensation event.

	Weather measurement				
Month	Cumulative rainfall (mm)	Number of days with rain more than 10mm	Number of days with min air temp < 0 deg.C	Number of days with snow lying at 08:00 CAT	[Other measurements if applicable]
January	**[●]**	**[●]**	**[●]**	**[●]**	
February	**[●]**	**[●]**	**[●]**	**[●]**	
March	**[●]**	**[●]**	**[●]**	**[●]**	
April	**[●]**	**[●]**	**[●]**	**[●]**	
May	**[●]**	**[●]**	**[●]**	**[●]**	
June	**[●]**	**[●]**	**[●]**	**[●]**	
July	**[●]**	**[●]**	**[●]**	**[●]**	
August	**[●]**	**[●]**	**[●]**	**[●]**	
September	**[●]**	**[●]**	**[●]**	**[●]**	
October	**[●]**	**[●]**	**[●]**	**[●]**	
November	**[●]**	**[●]**	**[●]**	**[●]**	
December	**[●]**	**[●]**	**[●]**	**[●]**	

Only the difference between the more adverse recorded weather and the equivalent measurement given above is taken into account in assessing a compensation event.

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.

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

Clause	Statement	Data
10.1	The *Contractor* is (Name): Address Tel No. Fax No.	
11.2(8)	The *direct fee percentage* is The *subcontracted fee percentage* is	**%** **%**
11.2(18)	The *working areas* are the Site and	
24.1	The *Contractor's* key persons are: 1 Name: Job: Responsibilities: Qualifications: Experience: 2 Name: Job Responsibilities: Qualifications: Experience:	

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

		CV's (and further key persons data including CVs) are appended to Tender Schedule entitled .		
11.2(3)	The *completion date* for the whole of the *works* is			
11.2(14)	The following matters will be included in the Risk Register	• The contractor will need to be aware that the site will be operational during construction and should provide the necessary security measures to ensure that security is not compromised. • Further risks to be identified at the initial project meeting and on an ongoing basis. • The contractor will need to be aware of the Eskom security requirements to adhere to and standards to comply with. • Conditional assessment to be conducted and accepted by Eskom representatives, prior to start on site. This includes designs. • Reputable OEM used with accredited installers, where required.		
11.2(19)	The Works Information for the *Contractor*'s design is in:			
31.1	The programme identified in the Contract Data is			
A	**Priced contract with activity schedule**			
11.2(20) 11.2(30)	The *bill of quantities* is in The tendered total of the Prices is	**(in figures)** **(in words), excluding VAT**		
	Data for Schedules of Cost Components	***Note "SCC" means Schedule of Cost Components starting on page 60, and "SSCC" means Shorter Schedule of Cost Components starting on page 63 of ECC3 (April 2013).***		
A	**Priced contract with activity schedule**	**Data for the Shorter Schedule of Cost Components**		
41 in SSCC	The percentage for people overheads is:	**%**		
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:		
61 in SCC & 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 SCC & SSCC	The percentage for design overheads is	**%**	
63 in SCC & SSCC	The categories of design employees whose travelling expenses to and from the Working Areas are included as a cost of design of the *works* and Equipment done outside the Working Areas are:		

C1.3 Forms of Securities

Pro forma Retention Money Guarantee (may be used when Option X16 applies)

(to be reproduced exactly as shown below on the letterhead of the Bank providing the Guarantee)

Eskom Holdings SOC Limited
Megawatt Park
Maxwell Drive
Sandton
Johannesburg Date:

Dear Sirs

Reference No. **[●]** *[Drafting Note: Bank reference number to be inserted]*

Retention Money Guarantee: *[Drafting Note: Name of Contractor to be inserted]*

Project [ ] : Contract Reference: *[Drafting Note: Contractor contract reference number to be inserted]*

In this Guarantee the following words and expressions shall have the following meanings:-

"Bank" - means [●], [●] Branch, (Registration No. [●]); [Drafting Note: Name of Bank to be inserted]

"Bank's Address" - means [●]; [Drafting Note: Bank's physical address to be inserted]

"Contract" – means the written agreement relating to the Project, entered into between Eskom and the Contractor, on or about the [●] day of [●] 200[●] (Contract Reference No. ……. as amended, varied, restated, novated or substituted from time to time; [Drafting Note: Signature Date and Contract reference number to be inserted]

"Contractor" – means [●] a company registered in accordance with the laws of [●] under Registration Number [●]. [Drafting Note: Name and details of Contractor to be inserted]

"Eskom" - means Eskom Holdings SOC Limited, a company registered in accordance with the laws of the Republic of South Africa under Registration Number 2002/015527/30

"Expiry Date" - means the date on which the Defects Certificate is issued in terms of the Contract.

"Guaranteed Sum" - means the sum of R [●] ([●] Rand); [Drafting Note: Insert amount of Retention Money Guarantee.].

"Project" - means the……..

At the instance of the Contractor, we the undersigned _____ and _____, in our respective capacities as _____ and _____ of the Bank, and duly authorized thereto, confirm that we hold the Guaranteed Sum at the disposal of Eskom, as security for the proper performance by the Contractor of all of its obligations in terms of and arising from the Contract and hereby undertake to pay to Eskom, on written demand from Eskom received prior to the Expiry Date, any sum or sums not exceeding in total the Guaranteed Sum.

A demand for payment under this guarantee shall be made in writing at the Bank's address and shall:

be signed on behalf of Eskom by a director of Eskom or his authorised delegate.

state the amount claimed (“the Demand Amount’);

state that the Contractor has failed to carry out his obligation(s) to rectify certain defect(s) for which he is responsible under the Contract (and the nature of such defect(s)) alternatively that the Demand Amount is payable to Eskom in the circumstances contemplated in the Contract.

Notwithstanding the reference herein to the Contract the liability of the Bank in terms hereof is as principal and not as surety and the Bank’s obligation/s to make payment:

is and shall be absolute provided demand is made in terms of this bond in all circumstances; and

is not, and shall not be construed to be, accessory or collateral on any basis whatsoever.

The Bank’s obligations in terms of this Guarantee:

shall be restricted to the payment of money only and shall be limited to the maximum of the Guaranteed Sum; and

shall not be discharged and compliance with any demand for payment received by the Bank in terms hereof shall not be delayed by the fact that a dispute may exist between Eskom and the Contractor.

Eskom shall be entitled to arrange its affairs with the Contractor in any manner which it sees fit, without advising us and without affecting our liability under this Guarantee. This includes, without limitation, any extensions, indulgences, release or compromise granted to the Contractor or any variation under or to the Contract.

Should Eskom cede its rights against the Contractor to a third party where such cession is permitted under the Contract, then Eskom shall be entitled to cede to such third party the rights of Eskom under this Guarantee on written notification to the Bank of such cession.

This Guarantee:

shall expire on the Expiry Date until which time it is irrevocable;

is, save as provided for in **Error! Reference source not found.** above, personal to Eskom and is neither n egotiable nor transferable;

shall be returned to the Bank upon the earlier of payment of the full Guaranteed Sum or expiry hereof;

shall be regarded as a liquid document for the purpose of obtaining a court order; and

shall be governed by and construed in accordance with the law of the Republic of South Africa and shall be subject to the jurisdiction of the Courts of the Republic of South Africa.

Any claim which arises or demand for payment received after expiry date will be invalid and unenforceable.

The Bank chooses domicilium citandi et executandi for all purposes in connection with this Guarantee at the Bank’s Address.

Signed at _____ Date _____ Bank’s seal or stamp

For and behalf of the Bank

Bank Signatory: _____ Bank Signatory: _____

Witness: _____ Witness: _____

PART 2: PRICING DATA
ECC3 Option A

Document reference	Title	No of pages
C2.1	Pricing assumptions: Option A	
C2.2	The *activity schedule*	

C2.1 Pricing assumptions: Option A

How work is priced and assessed for payment

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

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

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

Function of the Activity Schedule

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

Link to the programme

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

Preparing the *activity schedule*

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

The *Employer*, in his Instructions to Tenderers or in a Tender Schedule, may have listed some items that

he requires the *Contractor* to include in his *activity schedule* and be priced accordingly.

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

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

C2.2 the *activity schedule*

ACTIVITY SCHUDULE SUMMARY

SUM	**DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE**	**AMOUNT**
1	PRELIMINARIES AND GENERAL	sum	1	R0.00	R0.00
2	PROFESSIONAL SERVICES	sum	1	R0.00	R0.00
3	REMOVAL OF EXISTING WORK	sum	1	R0.00	R0.00
4	PARTITIONS & CEILINGS	sum	1	R0.00	R0.00
5	DOORS	sum	1	R0.00	R0.00
6	FINISHES	sum	1	R0.00	R0.00
7	PLUMBING AND DRAINAGE	sum	1	R0.00	R0.00
8	FURNITURE	sum	1	R0.00	R0.00
9	INTEGRATED PHYSICAL SECURITY SYSTEM	sum	1	R0.00	R0.00
	TOTAL COST OF PROJECT (EXCL. VAT)				**R0.00**

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	The tenderer is advised that the bills of quantities must be read in conjunction with the technical specification, NEC Scope of works and layout drawing				
	BILL NO. 1				
1	**PRELIMINARIES AND GENERAL**				
1.1	Fixed P&G including Establishment	Sum	1		R -
1.2	Time related P&G (Earned value management)	Sum	1		R -
1.3	SHEQ requirements including environmental	Sum	1		R -
1.4	De-Establishment	Sum	1		R -
					R 0.00
	BILL NO 2				
2	**PROFESSIONAL SERVICES**				
2.1	Design including engineering and draughting services per discipline: Mechanical (HVAC), Control & Instrumentation (C&I), Electrical, Civil & Structural (including Architectural provisions), and Plumbing				
2.1.1	Design services and detailed drawings covering all relevant disciplines including Mechanical (HVAC), Control & Instrumentation (C&I), Electrical, Civil & Structural, Architectural and Plumbing.	sum	1		R -
2.2	Heating, Ventilation, and Air Conditioning				

2.2.1	Supply, installation, testing, commissioning and certification of a Heating, Ventilation and Air Conditioning (HVAC) system. This includes but is not limited to all associated ductwork, air handling units, ventilation fans, insulation, controls, cabling, bathroom fan extraction and supports as per the engineer's specifications and drawings.	sum	1		R -
	HVAC Components-Rate only(This component are deemed to be included in HVAC price)				
	Air Handling Unit (AHU) DX (55KW)	No	1.00		Rate only
	Condenser VRV/Inverter Type (55KW)	No	1.00		Rate only
	Liquid Pipe & Insulation (28.58 mm diameter @ 60 m Length material copper)	m	1.00		Rate only
	Gas Pipe & Insulation (28.58 mm diameter @ 60 m Length material copper)	m	1.00		Rate only
	Power Supply MCC Breakers for AHU & Condenser	No	1.00		Rate only
	Extraction Fan for Condenser Plant room (320m^3/min Fan including power supply)	No	1.00		Rate only
	Variable Air Volume Diffuser average of 200 L/S With Electric Heaters (electric powering for VAV)	No	1.00		Rate only
	Average of 913 mm by 913 mm externally insulated ducting with Total length of 100 m length	m	1.00		Rate only
	Power and communication cabling for air conditioning units, complete with conduit, terminations, and connections, average length of 40 m to AHU	m	1.00		Rate only
	Bathroom fan extraction	No	1.00		Rate only
	Return Fan Average of 5000 L/s	No	1.00		Rate only
	Return Ducting	m	1.00		Rate only
	HVAC COCs (Gas and Electrical)	No	1.00		Rate only

2.3	General electrical installation				
2.3.1	General electrical installation including Distribution boards, Cabling, UPS system, Small power and Lighting,Earthing,Testing and Commissioning.	sum	1.00		R -
	Electrical Components- Rate only (This component are deemed to be included in Electrical price)				
	Light Emitting Diode (LED) lights	No	1.00		Rate only
	Light switches: 16A complete with white cover plates.	No	1.00		Rate only
	Occupancy sensors: 10A / 240V 360° passive infra-red detectors.	No	1.00		Rate only
	Distribution boards	No	1.00		Rate only
	Standard 230 V socket outlets will be 16 A, 3-pin earthed switched outlets	No	1.00		Rate only
	10 KVA UPS complete with batteries, cabling, and all necessary accessories to ensure full functionality.	No	1.00		Rate only
	COC (Electrical)	No	1.00		Rate only
2.4	Fire detection installation, Fire protection installation, Smoke extraction installation				
2.4.1	Supply, installation, testing, and commissioning of the fire detection system, fire protection system and smoke extraction system.	sum	1.00		R -
					R 0.00
	BILL NO. 3				
3	**REMOVAL OF EXISTING WORK**				

3.1	Removal of existing works to make space for construction (civil alterations)	Sum	1.00		R -
3.2	Removal of existing plumbing works to make space for construction	Sum	1.00		R -
3.3	Decommissioning of existing HVAC and electrical system, make look good (Read scope of works & Pricing instructions)	Sum	1.00		R -
					R 0.00
	BILL NO 4				
4	**PARTITIONS & CEILINGS**				
	Partitions				
4.1	Supply and install drywall partitioning exc 3m and n.e 3,6m high taken from floor to underside of soffit to ensure minimal sound transfer including paint, glasswool cavity bat and "Fire Stop" boards complete with top and bottom track	sum	1.00		R -
	-				
4.2	Supply and install Toilet cubicles consisting of 20mm thick moist specified partitions, all framed in natural anodised aluminium channel section beading, top rails and fixing components and fitted with all necessary ironmongery comprising standard indicating bolts, combined coat hooks and door stops, and rubber buffers	sum	1.00		R -
	-				
4.3	Half brick wall in NFP bricks in class II mortar in building up openings including Cutting toothings and bonding new brickwork to existing and making good internal plaster and paint	sum	1.00		R -
	-				
4.4	Supply and install Frameless PVB interlayer(s) Glazing shopfronts to ceiling height with natural anodised aluminium top and bottom rails, with polished stainless steel patch fittings, approved floor spring hinges and locking bolts	sum	1.00		R -

4.5	COC (glazing)	sum	1.00		R -
	-				
4.6	Supply and install one-way mirror film n.e 3m high, including aluminium framing, sealant, and all necessary accessories.	sum	1.00		R -
	-				
	-				
	Ceilings				
4.7	Supply and install 10mm suspended ceiling complete with grid system (600 x 600mm) Lay-in acoustic ceiling tiles	sum	1.00		R -
4.8	Supply and install new 600x600mm suspended ceiling tiles	sum	1.00		R -
4.9	Supply and install horizontal 9.4mm "Rhino" gypsum plasterboard with supporting grid/brandering including 12.5mm shadowline shadowline cornice plugged and paint.	sum	1.00		R -
					R 0.00
5	**DOORS**				
5.1	Supply and install 40mm solid timber flush doors with veneer, hung to double rebated steel frames sizes 814x2400mm high including door closer, push plates,wc indicators, paint and suppliers ironmongery complete	Sum	1		R -
5.2	Supply and install single aluminium door as per system complete with ironmongery, frameless glass, sealing, etc and fixing to brickwork or concrete	sum	1		R -
5.3	Supply and install double aluminium door as per system complete with ironmongery, frameless glass, sealing, etc and fixing to brickwork or concrete	sum	1		R -
5.4	Supply and install custom design frosting on frameless class design	sum	1		R -
5.5	Supply and install Anodised standard sliding pocket door system, complete with subframes, ironmongery, glass, sealing, etc and fixing to brickwork or concrete	Sum	1		R -

					R 0.00
	BILL NO 6				
6	**FINISHES**				
	-				
	Floor finishes				
6.1	Supply and install floor tiles fixed with adhesive to bedding and flush pointed with tinted jointing compound On floors	sum	1.00		R -
6.2	Supply and install Carpet floor tiles fixed with adhesive to bedding and flush pointed with tinted jointing compound	sum	1.00		R -
	Wall finishes				
6.3	Supply and install wall tiles fixed with adhesive to plaster and flush pointed with tinted jointing compound On floors	sum	1.00		R -
					R 0.00
	BILL NO 7				
7	**PLUMBING AND DRAINAGE**				
	-				
	SANITARY FITTINGS				
7.1	Supply and install wash hand basin and mixer complete with plug and waste, trap, coring & connections	sum	1.00		R -
7.2	Supply and install WC pan with soft close toilet seat and water saving dual flushing mechanism and all connections complete	sum	1.00		R -
7.3	Supply and install wall urinal automatic flushing cistern with exposed flush pipe, spreader and waste union	sum	1.00		R -
7.4	Supply and install bathroom fittings (Read scope of works & Pricing instructions)	Sum	1.00		R -

	SANITARY PLUMBING				
	-				
7.5	Supply and install 50mm & 110mm diameter uPVC sewer pipe connected from toilet outlet to nearest inspection chamber or existing manhole all complete including trap, fittings, fixings and testing	sum	1.00		R -
	Sundries				
7.6	Connect plumbing for waste and water supplies, Testing waste pipe system including	sum	1.00		R -
7.7	COC (Plumbing)	sum	1.00		R -
					R 0.00
	BILL NO 8				
8	***FURNITURE***				
	-				
	Supply and install:				
8.1	Standard Office Desk and Cabinet 1800x735mm single office desk complete with lockable storage cabinet	sum	1.00		R -
8.2	1800x735mm 2-way connect workstation cluster, complete with dividing screen panels and individual lockable storage cabinets	sum	1.00		R -
8.3	1800x735mm 3-way connect straight workstation cluster, complete with dividing screen panels and lockable under-desk storage cabinets	sum	1.00		R -
8.4	1800x735mm 4-way connect straight workstation cluster, including dividing screen panels and lockable under-desk cabinets	sum	1.00		R -
8.5	L-shaped desk and lockable cabinet	sum	1.00		R -
8.6	Round table	sum	1.00		R -

8.7	Office chairs	sum	1.00		R -
8.8	Proprietary type shelving with standard powder coated finish Floor to ceiling shelving in storeroom walls, 3m high including all fixing	sum	1.00		R -
					R 0.00
	BILL NO 9				
9	**INTEGRATED PHYSICAL SECURITY SYSTEM**				
	-				
9.1	**Video walls including mounting brackets, fixtures, power supplies, with a GUI and behaviour models for the site.**				
	-				
9.1.1	Video wall including graphical user interface (GUI) and behaviour models for the site. MX55X2 Clarity Matrix G3 LCD Screens: Complete with 43-inch MX55X2 LCD video wall system panels, including mounting structure and system controller Comprising of eight (8) x 43" LCD screens arranged in a 4 x 2 configuration	sum	1		R -
9.1.2	Video wall including graphical user interface (GUI) and behaviour models for the site. MX55X2 Clarity Matrix G3 LCD Screens: Complete with 55-inch MX55X2 LCD video wall system panels, including mounting structure and system controller Comprising twelve (12) x 55" LCD screens arranged in a 6 x 2 configuration	sum	1		R -
9.1.3	Video wall including graphical user interface (GUI) and behaviour models for the site. MX55X2 Clarity Matrix G3 LCD Screens: Complete with 55-inch MX55X2 LCD video wall system panels, including mounting structure and system controller Comprising of eight (8) x 55" LCD screens arranged in a 4 x 2 configuration	sum	1		R -
9.2	**Access Control system**				
	Supply, delivery, installation, testing and commissioning:				
9.2.1	Access control with tailgating detection at Main entrance plus two rear entrances	Sum	1		R -

9.2.2	Face recognition access control system at internal and external doors	Sum	1		R -
9.2.3	Bi-directional biometric controlled access gate with face recognition and anti-pass back between balcony and walkway to parking	sum	1		R -
9.2.4	Walk-through metal detector and X-Ray machine at new security access control point to NSCC	sum	1		R -
9.2.5	Integrated Access Control System (IACS) for the integration of all systems	sum	1		R -
9.3	**Surveillance & Detection system**				
	-				
	Supply, delivery, installation, testing and commissioning:				R -
9.3.1	Camera Surveillance CCTV System with intruder detection including AI dome cameras at two access points	sum	1		R -
9.3.2	Intruder Detection System (IDS) and Intrusion Detection Controls (IDC) to prevent and detect unauthorised access	sum	1		R -
9.4	**Security management and Integration systems**				
	Supply, delivery, installation, testing and commissioning:				
9.4.1	Integrated Security Alarm System	sum	1		R -
9.4.2	Physical Security Information Management (PSIM) System including IT infrastructure	sum	1		R -
9.4.3	Visitor Management System	sum	1		R -
9.4.4	Security Management System integrating all subsystems and linking to existing MWP Public Address (PA) system	sum	1		R -
9.5	**Maintenance and Support**				
9.5.1	Extended Warranty: 36-months post-handover warranty covering materials, workmanship, and performance, including defect rectification	sum	1		R -

9.5.2	Maintenance for 36-months post-handover to ensure continuous system performance.	sum	1		R -
					R 0.00

PART 3: SCOPE OF WORK

Document reference	Title	No of pages
	This cover page	1
C3.1	*Employer*'s Works Information	
C3.2	*Contractor*'s Works Information	
	Total number of pages	

C3.1: EMPLOYER'S WORKS INFORMATION

Contents

Description of the *works*

Executive overview

To accommodate a bigger premises within the Megawatt Park complex, the National Security Co-ordination Centre (NSCC) is relocating to the old ENERWEB offices at MWP Ground Floor Block A. To ensure that the new site is safe, and access is controlled, security has been identified as one of the aspects that needs to be upgraded. The National Security Nerve Centre is part of the National Security Co-ordination Centre (NSCC) in Group Security and is currently located in Megawatt Park lower ground (Proto Room). It consists of a security nerve centre room, offices, and boardrooms.

The scope of work for this contract includes provision of a complete Integrated Physical Security System (IPSS) for the National Security Co-ordination Centre (NSCC) and the National Security Nerve Centre.

The remaining scopes of works includes the complete refurbishment and civil alterations of the Megawatt National Security Co-ordination Centre.

Proposed floor layout.

Office space #1 accommodates two hot seat arrangement offices for executive managers with their secretaries. Two separate offices with face recognition access control at both doors.

Office space #2 accommodates the MAJOC commander. With face recognition access control fitted to the door.

Office space #3 accommodates an open plan security desk for one person at the main entrance. Face recognition access control only at main entrance.

Office space #4 accommodates two offices and an informal meeting room with no access control at double entrance/exit door. The informal meeting room has seating for 3 people, and a printing station just outside the room. The office for the executive has face recognition access control fitted on the door and, the second office accommodates one person with two visitor seats and also has face recognition access control fitted to the door. Adjacent to this area there is a glass panel office accommodating one person with two visitor seats and no access control fitted to the door.

Area #5 houses the SBI and SAPS control room with seating for twenty (20) people and a video wall comprising of eight (8) x 43” LCD screens arranged in a 4 x 2 configuration. Entrance and exit by one sliding door and one normal door, none of the two doors fitted with access control.

Area #6 houses the MAJOC and NSCC control room with seating arrangements for sixteen (16) people and a video wall comprising of twelve (12) x 55” screens arranged in a 6 x 2 configuration. This is the main video for the NSCC which will display video footages and dashboards. Entrance and exit by one sliding door and one normal door, none of the two doors are fitted with access control.

Area #7 is the Fusion Centre. This area accommodates the fusion centre control room with seating for six people and a video wall comprising of eight (8) x 55” LCD screens arranged in a 4 x 2 configuration. It also houses two storerooms, an open plan office for six people and an office with seating for one detective and one visitor seat. All entrance and exit doors are access controlled with face recognition.

Area #8 is reserved for the lunchroom with a kitchenet and seating for twenty-four people. No access control on entrance and exit doors to the lunchroom area.

Area #9 houses the intelligence operational centre with seating for eight people and no video wall. Only the door leading to the data centre is access controlled with face recognition.

Secondary entrance/exit door is fitted with access control with face recognition.

A walk-through metal detector and X-Ray machine to be installed at the new security access control point to the NSCC.

Access control, with tailgating detection, to be installed at main and two back doors to the Centre.

Datacentre A is equipped with three (3) access control points and Datacentre B is equipped with one (1) access control point.

Employer’s objectives and purpose of the *works*

The Works is intended to provide a complete Integrated Physical Security System (IPSS) for the National Security Co-ordination Centre (NSCC) and the National Security Nerve Centre.

Interpretation and Terminology

The following definitions and abbreviations are used in this document:

Definitions	Description
Contractor/Tenderer	Refers to the corporation appointed to perform the engineering, procurement, and construction works required for the project
Employer	Refers to Eskom Holdings State Owned Company who will be represented by Eskom Real Estate (ERE) throughout the duration of the Project
Eskom Engineering	Refers to the Eskom Engineering team who will perform the reviews and provide technical assistance for the work performed by the appointed Contractor
Specification	The document/s forming part of the contract in which the methods of executing the various items of work to be done is described, as well as the nature and quality of the materials to be supplied
Client	The end user will be Eskom who will be represented by Eskom Real Estate (ERE) throughout the duration of the Project

Abbreviation	Meaning given to the abbreviation
DEOL	Department of Employment and Labour
ECM	Engineering Change Management
ECSA	Engineering Council of South Africa
ERE	Eskom Real Estate
IPSS	Integrated Physical Security System
LCD	Liquid Cristal Display
MDL	Master Document List
MDR	Multi-disciplinary Review
NEC	New Engineering Contract
NSCC	National Security Co-ordination Centre
OEM	Original Equipment Manufacturer
QCP	Quality Control Plan
SABS	South African Bureau of Standards
SANS	South African National Standards
SAQCC	South African Qualifications and Certification Committee
VMS	Video Management System

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	Weekly	Microsoft teams/Megawatt Park	*Employer*, *Contractor*
Weekly progress report, reporting on actual work completed.	Every Friday of the week, reporting on the previous week's progress		
Compensation events	When required	Megawatt Park	*Employer, Contractor*
Project Progress meetings	Weekly	Megawatt Park	*Employer*, *Contractor*
Overall contract progress	Weekly	Megawatt Park	*Employer*, *Contractor*
Look ahead schedule	Bi - Weekly	Megawatt Park	*Employer*, *Contractor*

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

All documents supplied by the *Contractor* are subject to Eskom's acceptance. The language of all documentation is English.

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 *Subcontractors*.

Drawing numbers are assigned by the *Employer* as drawings are developed.

All review documentation is submitted with transmittals. Any review information submitted without transmittals are considered rejected automatically.

The *Contractor* compiles a Master Document List (MDL) which contains a list of all documents issued for review, document number, document title, transmittal number, date of submission, overall document review

status. The MDL is a live document, the contractor issues an updated MDL within the progress report to the Project Manager.

Drawing number (*Employer* and *Contractor's* number)

- Revision
- Approval status
- Location of drawing at that stage
- Drawing description
- Sheet number
- Transmittal number
- Date of submission

Health and safety risk management

The supplier/contractor/tenderer is expected to comply to the following documents when working at/rendering a service to Eskom but not limited to the following:

a. Occupational Health and Safety Act 85 of 1993 and its Regulations (OHS Act)

b. Disaster Management Act, no 57 of 2002.

c. Safety, Health and Environmental requirements contained in the SHE Specification for Contractors.

d. Eskom SHEQ Policy, Standards, Procedures, Guidelines, Specifications and Regulations as listed below:

i. Eskom Safety, Health, Environmental and Quality Policy: 32-727

ii. Eskom Lifesaving Rules, Directive: 32-421

iii. Eskom Procedure on Smoking: 32-36

iv. Eskom Incident Management Procedure 32-95 (latest revision)

v. Implementation of Occupational Hygiene management programme, Standard 240-42262670

vi. Eskom Life Saving Rules, Directive: 240- 62196227

vii. Eskom vehicle and driver safety management 32-93

viii. Eskom vehicle specification 32-345

ix. Eskom *Contractor* Health and Safety requirements standards 32-136

x. Employees' right of refusal to work in an unsafe situation 240-43848327

xi. Eskom Waste Management Standard 32-245

xii. Annexure B: Acknowledgement Form for Eskom SHE Rules and other Requirements

Appendix A, The *Contractor* requests all applicable Eskom procedures & requirements. The *Contractor* ensures safety awareness at all times through continuous training. The *Contractor*, at all times is responsible for the supervision of his employees, agents, Subcontractors and takes full responsibility and accountability for ensuring they are competent, compliant and aware of the legal requirements and other requirements and execute the *works* accordingly.

The *Contractor* ensures that all statutory appointments and appointments required by any Eskom Regulations are made in writing and that all appointees fully understand their responsibilities and are trained and competent to execute their duties.

The Divisional/Regional Safety Risk Manager or his representative having jurisdiction over the *works* must provide the relevant safety, health and environmental (SHE) criteria for incorporation into this Works Information. The SHE specification / scope must be signed off by the Divisional/Regional Safety Risk Manager or his representative confirming that the applicable safety criteria have been taken into account.

The Commodity Manager / Buyer must refer the tender to the Divisional/Regional Safety Risk Manager or his representative in order to evaluate against enquiry-specific safety criteria.

The Divisional Safety Risk Managers who will be responsible for the allocation of resources to assist P&SCM with the above processes are as follows:

- Generation: Roley McIntyre
- Transmission: Tony Patterson
- Distribution: Alex Stramrood
- Enterprises: Jace Naidoo
- Corporate: Kerseri Pather

The *Contractor* shall comply with the health and safety requirements.

Environmental constraints and management

All waste introduced and/or produced on the *Employer*'s premises by the *Contractor* for this contract is handled in accordance with the minimum requirements for the Handling and Disposal of Hazardous Waste in terms of Government Legislation as proclaimed by the Department of Water Affairs and Forestry and *Employer*'s environmental requirements.

All environmental incidents are reported to the *Employer* within 24 hours of such occurrence. All environmental incidents occurring on the Project Site (or on any other places, if any, as may be specified under the Contract as forming part of the Site) are recorded, detailing how each incident was dealt with in an Environmental Incident register.

The *Contractor* shall construct and/or implement all the necessary environmental protection measures in each area before any production work will be allowed to proceed. The *Employer* may suspend the Works at any time in terms the Conditions of Contract should the *Contractor*, in the *Employer*'s opinion, fail to implement, operate or maintain any of the environmental protection measures adequately.

The *Contractor* ensures that all goods, services or works supplied in terms of the Contract comply with all applicable environmental legislations (National Environmental Management Act, 1998 [Act No 107 of 1998]). The *Contractor* is responsible for keeping the work area clean of any environmental waste.

The *Contractor* shall comply with all relevant applicable laws, environmental legislation and regulations, conditions of environmental approvals, environmental management plans, and *Employer*s Policies and Procedures. The *Contractor* must submit an Environmental Policy demonstrating commitment to protection of the environment. The Environmental Policy shall form part of the SHE file submission. Upon the *Employer*'s approval, the *Contractor* shall immediately implement the policy and any amendments and keep it in operation for the full duration of the Contract. The policy shall be communicated to all personnel and copies of the policy shall be prominently displayed at all places of work.

The *Contractor* shall determine and develop the aspects and impacts register related to the scope of work. All aspects of the planning, manufacturing, pre-construction, construction and operational phases shall be considered. During the designing activity, the Contractor must always take into account the product's life cycle perspective in mind.

The *Contractor* shall comply with the environmental criteria and constraints.

Quality assurance requirements

The *Contractor* complies to the following documents when working at/rendering a service to Eskom but not limited to the following:

i. 240-12248652 - List of Tender Returnable/Quality Requirement Document

ii. 240-68099512 - FORM A: Tender & Contract Quality Requirements for QM 58 and Quality Requirements for ISO 9001 Standard

iii. 240-105658000 (QM 58)- Supplier Quality Management: Specification

iv. 240-109253698- Contract Quality Plan (CQP)

v. 240-109253302- Quality Control Plan (QCP)/ Inspection and Test Plan (ITP)

After the acceptance of the construction drawings the *contractor* submits the associated construction Method Statements and relevant QCP/ITP for acceptance and determination of intervention points prior to construction.

Failure to comply with an accepted Method Statement/QCP or ITP may result the issuing of a NCR, rejection of the works as well as the withholding of payment until the appropriate remedial actions have occurred.

1. The *Contractor* demonstrates, provide, and maintains a Quality Management System that is ISO 9001:2008 certified or compliant thereto. Compliance with the provisions of this clause in no way relieves the *Contractor* of the final responsibility to furnish an acceptable product and/or services.

2. The *Contractor* agrees to control and professionally preserve and store appropriate documents, records, and recordings for a period of at least 3 years after termination of the agreement to guarantee the traceability of the services rendered and inspection thereof.

3. The *Contractor* agrees to regularly update and implement all the latest technology available as well as the necessary improvements for the installation, production and organisation deemed necessary to meet the requirements of the agreement and in order to enhance all system capabilities and effectiveness to deliver high quality, cost-effective services.

4. The delivered product and / or services shall be uniform in Quality and condition, sound and free from defects or external copyright or intellectual property rights, consistent with good industry practices and adhere to requested Eskom requirements, without deviation.

5. Eskom shall have the right to conduct surveys and perform surveillance of the *Contractor's* and/or Sub-Contractor facilities to evaluate their capability to comply with the requirements necessary to conform to contractual requirements.

6. Eskom reserves the right to inspect, at reasonable times, any or all of the work included in the Works Information at the *Contractor's* or Sub-Contractor's premises or elsewhere. Verification by Eskom shall not absolve the *Contractor* of the responsibility to provide acceptable product and / or services, nor shall it preclude subsequent rejection by Eskom.

7. The services must comply with the agreed specifications and the applicable directives and technical standards set out in the contract and annexures. Defects notified by Eskom shall be remedied by the *Contractor* upon demand by Eskom without undue delay and at no extra cost. The *Contractor* shall continuously monitor and identify non-conformances, both internal and external, as signals of opportunities for improvement making process and other relevant changes to prevent recurrence.

8. The *Contractor* shall further identify potential problems before they occur by identifying deviations in patterns or trends in product, service or process performance.

9. Nothing contained in the contract and/or scope of work and /or W*orks* information shall relieve in any way the *Contractor* from the obligation of quality control thereof.

10. The *Contractor* guarantees that the quantity, quality and outward appearance of the delivered Product / services comply with the requirements of the contract and/or relevant specifications.

11. The *Contractor* shall, on request, prove its ability to relate to the proposed scope of work which establishes the manner in which the *Contractor* intends to perform the Contract.

12. The *Contractor* shall, on request, prove its organisational, logistics and support resources to ensure the requirements of the contract can and will be achieved.

13. Eskom reserves the right to assess and measure, during the existence of the agreement, the qualifications, capability and competence of the key staff (assigned personnel) in relation to the scope of work and to interview any / all *Contractors* to confirm the Quality evaluation.

14. The professional personnel who will be conducting the service will be available on a continuous basis until the conclusion of the project.

15. The *Contractor* shall demonstrate experience in comparable projects or specific aspects of the project and / or performance in similar projects, on request.

16. The Quality of the service / product and the contents thereof will always be in accordance with professional standards.

17. For the duration of the Contract, the professional staff rendering the service / product, must be and remain a member of his/her Professional Society (where available/applicable)

18. The *Contractor* must, at all relevant times, scrutinise and be aware of Eskom's requirements with specific focus on, inter alia, its philosophy, principles, strategies, practises, mission, vision, models, policies and practises.

19. It is the *Contractor's* obligation to ensure that their operations and the products and services it provides to Eskom comply with any applicable statutes and or regulations. Any non-compliance by the *Contractor* and the resultant corrective actions shall be the responsibility of the *Contractor*.

20. The *Contractor* shall ensure that he complies with the Works Information and that appropriate quality requirements (as in the main contract) are included in subcontracts placed by *Contractors* to ensure subcontractor's compliance with the Works Information.

21. The *Contractor* shall execute the Works in accordance with Eskom's Quality requirements set out in QM 58 document: Supplier Contract Quality Requirements Specification.

Programming constraints

A programme showing the key activities is to be submitted with the tender documents and once appointed within two weeks. The *Contractor* submits a single integrated programme that incorporates all the work to be performed including that of his Subcontractors.

The interfaces between Subcontractors as well as the interfaces between Subcontractors and the *Contractor* are clearly identified.

Project key dates are incorporated into the programme.

All critical path items are indicated and outlined on the programme.

The order and timing of operations which the *Contractor* plans in order to provide the *Works*. Strict adherence to the programme will be monitored and updated on fortnightly basis to achieve the completion dates and submitted to Eskom Project Co-ordinator. Non-conformance to the stated programme will be liable for delay damages. Any deviations on time and cost are subject to Eskom approval.

The *Contractor* provides the Project Programme in Microsoft Projects Format to the level 3 detail. The programme is to be updated weekly and submitted to the Project Manager for review.

Contractor's management, supervision and key people

The *Contractor* provides the *Employer* with a detailed organogram of all staff and management on the contract, showing their lines of authority / communication, within two weeks of contract award. This is revised monthly and reflects any changes to the staff and management structure. The *Employer* reserves the right to audit and verify the structure. The *Contractor* has a full-time Safety and Health Officers onsite.

Roles and responsibilities shall be as per the *Employer's* design review procedure 240-53113685.

Contracts Manager:

The contracts manager is responsible to incorporate this Technical Specification into a contract based on the NEC conditions of contract.

Architectural Practitioner:

The Architectural Practitioners are responsible to review the completed contract to ensure that this Technical Specification has been incorporated correctly.

Project Manager:

The project manager is responsible for facilitating and ensuring continuous coordination and management of the requirements during the design development, execution phase and closing out of the project.

Facilities Manager:

The facilities manager is responsible for ensuring continuous sustainable performance of facilities. During construction phase he/she ensures that there are smooth interactions with tenants and stakeholders where required.

***Contractor*:**

The *Contractor's* responsibility is to build the project according to the contract documentation within the required cost and time budgets and the specified standards.

The Contractor will play the role of the design authority ensuring the following:

i. The design satisfies the design requirements.

ii. All relevant Eskom design standards, procedures and guidelines have been adhered to.

iii. The design is suitable and correct calculations, philosophy, functionality, etc. have been applied.

iv. The design is integrated by identifying all interfaces with other packages/plant systems/assets and ensuring that these interfaces are catered for.

Eskom Engineering

Eskom Engineering will play the role of architect engineer and ensure that:

i. ▪ The design satisfies the stakeholder requirements (i.e., validation of design deliverables against stakeholder requirements).

ii. ▪ The design is integrated by identifying all interfaces with other packages/plant systems/ assets and ensuring that these interfaces are catered for.

iii. ▪ Foreseen technical risks are identified and addressed/challenged with the Design Authority

iv. ▪ General technical oversight is provided over the design.

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*

The *Contractor* familiarises themselves with the Eskom Insurance Format A as provided in the Contract Data and make provision for all items that they are liable for.

Contract change management

The *Employer* instructs changes to the scope at any time, each instruction sets out the change and the date on which it becomes effective; and is issued to the *Contractor* in writing to be valid.

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.

Records of Defined Cost, payments & assessments of compensation events to be kept by the *Contractor*

The **Contractor** to **keep accurate and detailed records** of:

1. **Defined Cost** – the actual costs the Contractor incurs (e.g. People, Equipment, Materials, Subcontractors)
2. **Payments received** – for completed work or milestones
3. **Compensation events** – including supporting evidence of time and cost impacts

Training workshops and technology transfer

After Completion of the contract, the *Contractor* is required to provide training and transfer system knowledge to the building owner/manager by submitting documented Design Intent, As-built drawings, Operational and Maintenance Manual, Commissioning Records, Commissioning Report and by providing

training on all the systems to the building management staff to ensure that they have all the information and understanding needed to operate and maintain the features and systems in the building.

The *Contractor* is to provide on-site training and training material to the Engineers, Operators and Maintenance personnel prior to taking-over of the *Works*. The training will preferable be offered during the commissioning and testing. The *Contractor* will, prior to handing over of the *Works*, satisfy the *Employer* or authorized representative that maintenance and operational personnel are competent and adequately trained to maintain and operate the Plant and Materials supplied.

The training is to cover the following, however not limited to:

a. Information provided in the design intent report (including energy/environmental features)

b. Review of controls set up, programming, alarms and troubleshooting

c. Review of O&M manuals

d. Building operation (start up, normal operation, unoccupied operation, seasonal changeover, shutdown)

e. Measures that can be taken to optimise energy efficiency

f. Occupational health and safety (OH&S) issues

g. Maintenance requirements and sourcing replacements

h. Obtaining and addressing occupant satisfaction feedback Steps for Conducting On site Training are to include, but not limited to:

a. Preparation

b. Introduction

c. Explanation

d. Demonstration

e. Practice Under Supervision

f. Conclusion

The operating and maintenance manual must be available during the training of site staff. Site staff must also be made familiar with the contents of that manual.

Engineering and the *Contractor*'s design

Employer's design

The *Contractor* provides preliminary designs by registered engineers to the Project Manager for acceptance. These would have to be reviewed with possible amendments having to be made to comply with Eskom requirements. Adequate time is allowed for this. After acceptance of preliminary designs, the *Contractor* provides detailed designs.

The scope of works includes the detail design, drawings, procurement, manufacture, fabrication, quality control, supply, delivery, installation, commissioning, testing, handing over, training and maintenance during the guarantee period of all materials and equipment necessary for a complete Integrated Physical Security System (IPSS) for the National Security Co-ordination Centre (NSCC) and the National Security Nerve Centre.

The *Contractor* is a paid-up member of Private Security Industry Regulatory Authority (PSIRA) which is a South African government entity responsible for regulating and controlling the private security industry. Its primary objective is to ensure that security service providers operate professionally, ethically, and in the public interest.

As part of the tender returnable, the *Contractor* fills the Schedule A and B found in the Technical Evaluation Criteria for the Integrated Security System (240-170000257) referenced in section 6.5 (19) of this NEC contract. Without these schedules the tender cannot be evaluated and will be marked as “nonresponsive”.

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

3.2.1. Integrated Physical Security System (IPSS) Design

i. Video walls, including mounting brackets, fixtures and power supplies, for NSCC and Fusion Centre with a graphical user interface (GUI) and behaviour models for the site.

ii. Integrated security system, compliant with supplied standards, includes:

   a. Integrated Access Control System (IACS),

   b. Camera Surveillance CCTV System with intruder detection,

   c. Intruder Detection System,

   d. Integrated Security Alarm System for Protection of Eskom,

   a. Physical Security Information Management (PSIM) System (including IT Infrastructure),

   b. Visitor Management System,

   c. Security Management System integrating the above-mentioned systems with each other and to the existing MWP Public Address (PA) system forming an integrated security system,

   d. A walk-through metal detector and X-Ray machine installed at the new security access control point to the NSCC,

   e. Access control, with tailgating detection, to be installed at main and back doors to the Centre,

   f. Face recognition access control system at internal and external doors,

   g. Installation of CCTV cameras at the two access points to the NSCC. (Strategically placed AI dome cameras,

   h. A bi-directional biometric controlled access gate with face recognition and anti-pass back to be installed separating the balcony and the walkway leading to the parking area,

   i. Intrusion Detection Systems (IDC) to prevent unauthorised access.

iii. Creation of KKS Coding and cable numbers up to component level.

iv. Allocation of drawing numbers, based on the envisaged quantities of drawings to be produced by the Contractor, a block of drawing numbers will be supplied to the Contractor for allocation to individual drawings.

v. Labelling of plant to suit KKS and cable numbering.

vi. The project execution phase (detailed design, installation, calibration, commissioning, Handover) will be performed by the Contractor.

vii. The detailed handover documents include but are not limited to:

a. Operating manual/s

b. Layout and installation drawings – All systems

c. Assessments and reports

d. Maintenance Manuals and Maintenance Schedules

e. All statutory certificates including CoC's

f. All required software licences

viii. All network designs take into consideration cyber security requirements.

Materials shall be of high quality and approved by the Employer. The Contractor shall provide preliminary specifications for materials, fittings and equipment at the time of tender. The tender will not be considered if this information has not been included.

All materials shall be unconditionally guaranteed for a period of 36 months from the date of practical completion, which is first hand-over. Where supplier's guarantees are of a shorter duration than 36 months, the Contractor shall unreservedly agree to the extension of all warranties and guarantees.

The Contractor shall replace any materials that are found to be defective during the 12 months defects liability period.

3.2.2 Civil and Structural Design

All structural modifications are designed and supervised by a Professional Engineer/Technologist. These designs are accepted by the Project Manager prior to implementation. The existing structure (floor slab, walls and ceiling/soffit) is checked against all newly introduced loads of equipment and materials to be installed into the area.

The extension of the ablution facility and water recirculation for new installation are conducted by a professional person in accordance with SANS.

All architectural work and any quality inspections regarding to be carried out by registered Architectural Professional.

3.2.3 Electrical Design

The NSCC Lighting shall be replaced/upgraded to comply with SANS10114-1 & OSH Act requirements and that all material used are SABS approved. Any additional alteration on existing lighting and associated Distribution Boards shall be accompanied by a Certificate of Compliance (CoC)

Lighting control: Office facilities, small storerooms and ablution luminaires will be controlled by occupancy sensors to manage energy efficiency. Existing luminaires / lamps and light fittings shall be replaced with Light Emitting Diode (LED) lights in accordance with SANS 10114-1 (Interior Lighting-Part 1) and SANS 10142-1 (The wiring of premises-part 1) and SANS 60598-2-2. The Contractor shall provide a lighting simulation Report in Relux and submit to the Employer for review during the tender phase. The Contractor shall submit one (1) sample of all different luminaires proposed for interior design for testing at Eskom RT&D laboratories to verify the photometric, electrical and electromagnetic interference for approval prior installation. Emergency lighting shall be done in accordance with SANS 1464 part 22.

All existing Distribution boards installed within NSCC shall be replaced with new Distribution Boards rated the same capacity as the existing boards and ensure compliance to section 3.2.20 of 240-55714363 (Gx

Lighting and Small Power Installation Standard). The IP rating for Distribution Boards shall be IP55 and the finishing colour shall be Light Orange.

The installation shall be tested, and a certificate of compliance shall be issued per UPS distribution board.

Existing cables from the Main Low Voltage Board to the office Sub Distribution boards within NSCC shall be tested and report submitted to the Employer to assess if the cables can be reused or require replacement. All outgoing cables from the Sub Distribution Boards to the field equipment (luminaires, plug sockets, etc) are recommended to be replaced with new cables. The cable reticulation to the DBs will be by means of cable trays/ladders provided inside the ceiling void.

Replace the power outlets, standard 230 V socket outlets with a 16 A, 3-pin earthed switched outlets as per SANS 164-1 or Part 2 and replace power skirting. Provide 5A socket outlet for panel lights.

Light switches shall bear the SABS mark of approval. Specifications for each item priced shall be supplied by the tenderer to the client.

Light switches shall be rated at 16A, switches complete with white cover plates.

Light switches shall be installed in close proximity to each section DB to switch the lights in that section.

Occupancies sensors shall be installed as per the lighting layout. 10A / 240V 360° passive infra-red detectors shall be used for switching of light circuits.

Wiring and wire ways

Internal wiring shall be installed in PVC conduits mounted flush in walls and slabs, where appropriate. All exposed conduits shall be of galvanized steel or PVC. Cables shall be installed on galvanized steel cable ladders, trays, trunking and ducting.

All conductors shall be marked by suitable cable markers indicating the circuit (e.g. L1 on both line and neutral conductors) at either end.

Wiring sizes shall be indicated on the relevant single line diagrams. Where wiring sizes are not indicated the contractor shall inform the Employer. The Contractor shall submit samples and data sheets for acceptance of all types of wiring to the Engineer prior to the procurement thereof.

The office and all new electrical equipment shall be properly earthed according to SANS 10313 and SANS 62305. The existing earthing and lightning protection system for the buildings shall be inspected, repaired, tested and certified. Earthing for the electrical system shall be provided in accordance with SANS 10292.

All emergency lighting shall be done in accordance with SANS 1464 part 22.

Electrical Installation Regulations, 2009 as amended (Promulgated in terms of the Occupational Health and Safety Act by GNR 242 of 6 March 2009).

Equipment used shall originate from Suppliers which have been certified in accordance with SABS ISO 9001 (ISO 9001) or SABS ISO 9002 (ISO 9002) for quality assurance. Manufacturer's specifications and installation instructions and local by-laws.

The *Contractor* shall ensure that all safety regulations and measures are applied and enforced during construction, repair and maintenance work on cabling, wiring, distribution boards, luminaires and power outlets.

All materials supplied or utilised under this Contract shall be new and unused. Only materials of first-class quality and finish shall be utilised. All materials and equipment shall be subject to acceptance by the Employer before procurement. Specifications for each item priced shall be supplied by the Tenderer to the Employer.

All materials shall comply with the relevant SANS specifications, STANDARD SPECIFICATIONS, REGULATIONS AND CODES.

Materials shall be of high quality and approved by the Employer. The Contractor shall provide preliminary specifications for materials, fittings and equipment at the time of tender. The tender will not be considered if this information has not been included.

All materials shall be unconditionally guaranteed for a period of 12 months from the date of practical completion, which is first hand-over. Where supplier's guarantees are of a shorter duration than 12 months, the Contractor shall unreservedly agree to the extension of all warranties and guarantees.

The Contractor shall replace any materials that are found to be defective during the 12 months defects liability period.

All work shall be executed and supervised by suitably qualified staff. Only “ACCREDITED PERSONS” shall be permitted to carry out and supervise work.

The Contractor shall at all times have an adequate number of Employees available during the construction period to ensure that the work does not delay the construction programme.

The works shall be supervised by a full time registered “Installation Electrician”. All modifications are designed and supervised by a Professional Engineer/Technologist.

The Contractor shall allow for the removal, making safe, interim safe keeping and returning to the client, all existing electrical equipment, distribution boards, wiring, cabling, luminaires, socket outlets and isolators.

Distribution boards shall comply with the requirements of SANS 1973 for Type testing and Safety of distribution boards. Type testing certificates shall be made available and Routine test certificates shall be provided with each assembly.

All outlets, isolators and light switches shall be labelled with engraved labels on the cover plate. The label shall indicate the supply DB and circuit number (e.g. DB-GC-L5). Wiring inside the DB shall bear Gravoplast labels.

The *Contractor* design, procure and install a suitable standby power system, sized appropriately to handle the expected system load for the Integrated Physical Security System (IPSS) as well as emergency lighting of the NSCC area for a period of eight (8) hours. The envisaged load for this backup power UPS/Inverter is 10 kVA; however, the actual load requirements are to be calculated from the *Contractor’s* design as an input for sizing the final standby power system. Server applications are housed in the MWP main datacentre which is already equipped with redundancy to Tier Level 3.

Sizing of Uninterruptable Power Supplies shall be done in accordance with the Thyristor and Switch Mode Chargers, AC/DC to DC/AC Converters and Inverter/Uninterruptible Power Supplies Standard (240-53114248) or any other related SANS standards. Sizing of UPS batteries shall be done in accordance with 240-51999453 (Eskom Standard for Valve Regulated Lead Acid Batteries) or any other related SANS standards.

With reference to the redlined drawing number 0.50/4211, the Contractor scope of work includes the following as the minimum:

- Area 1:
  - Decommissioning and preservation of existing HVAC Motor Control Centre (MCC) Panel. Design, manufacture, factory acceptance testing, transportation and delivery to Site, off-loading, installation, perform site acceptance testing, commissioning and plant optimisation of new MCC Panel.
  - Replacement of existing loads (motors, variable speed drives, fans, etc) with new equivalent loads (motors, variable speed drives, fans, etc)’
  - The Contractor shall reuse the Employers existing circuits associated cables and cable rack servitudes.
  - The Contractor shall test existing power cable from the Employer’s existing 400V Main LV Switchgear suppling the existing HVAC Motor Control Panels as well as all the outgoing power cables from the existing HVAC Motor Control Panels. The Contractor shall produce a report for the Employers review and acceptance to

indicate the condition of the cables with recommendations which cables may be re-used, and which cables are recommended for replacement.
- ❖ The Contractor shall provide a cable assessment methodology for the Works inclusive of the proposed inspections, cable test acceptance criteria to validate the replacement or reuse of the cabling systems.
- ❖ The Contractor shall further make provision for new power cables for the scope of this project where existing cables cannot be re-used. Provision of new low voltage power cables shall be in accordance with SANS 1507 and SANS 1574.
- ❖ Where new cable racks are required, the Contractor shall be responsible for providing and installation of new cable racks

- ➢ Area 4: Outdoor unit is planned to be installed inside the existing AHU plant room. The Contractor shall be responsible to source the electrical point of supply from the nearest Distribution Board/s, provide new power cable, install and terminate power cables between the source and the outdoor unit to be installed.

For both area 1 and area 4, the Contractor shall ensure all new equipment installed as part of the works are bonded to existing earth math. Earthing of new equipment shall be done in accordance with and 240-56356396 (Earthing and Lightning Protection Standard) or any other SANS related standards.

The Contractor shall prepare as-built drawings as well as operating and maintenance manuals of the complete installation including schematic diagrams, cable routes and trenches, lighting and power layouts, earthing, conduits and wire ways. The drawings shall be produced on the latest version of AutoCAD and shall be copied onto a CD. A set of two CDs and two hard copies with all drawings and manuals shall be provided.

3.2.4 HVAC System Design

The scope to design, construct, test balancing and commission HVAC system for NSCC should cover all disciplines, including but not limited, Mechanical, Electrical, Electronics, civil and fire for the works. The design should conform to the requirements of 240-143112846 Heating Ventilation and Air Conditioning (HVAC) System Design Instruction, 240-70164623 Eskom Heating Ventilation and Air Conditioning (HVAC) Design Guideline, 240-102547991 General Technical Specification for HVAC Systems Standard.

The design shall be reviewed and approved by the Eskom Engineering before Procurement and Construction can begin, the following procedure will be followed during review 240-53113685 Design Review Procedure.

Decommission and remove existing HVAC system (Existing unit Including but not limited ducting, diffuser, Air Handling unit), areas that have plant been decommissioned must be repaired to be safe and astatically pleasing.

HVAC should be designed to suit space planning layout, the estimated cooling load for the area is 55 kW, the contractor must do heat load calculation for sizing of the equipment.

AHU should be two Indoor (ideally should be in the lower ground floor to the same location as the existing) Dx unit for both heating and cooling, one standby and one in service.

The condenser should be of a matching Indoor Dx unit of inverter type; the condensers should be located on the lower ground floor on one of the plant rooms, ventilation should be provided for the condenser for heat rejection.

The ducting should be insulated externally.

The HVAC system should have humidifier/ dehumidifier.

The indoor condition should be according to 240-70164623 Eskom Heating Ventilation and Air Conditioning (HVAC) Design Guidelines Table 1 as outlined for control room and offices.

The HVAC design shall include:

Fresh air and return air dampers

Economy cycle exhaust connection

Mixing plenum

Washable primary air filters

Disposable secondary (bag type) air filters (to 85% Dust Spot Efficiency – EU7)

The diffuser shall be of variable air volume, with electric heating elements

The HVAC shall have standalone equipment controls, and be integrated to Central BMS system

The *Contractor* provides extraction systems for the bathrooms

Design shall be prepared and signed off by Professionally Registered Engineer/ Technologist for each discipline

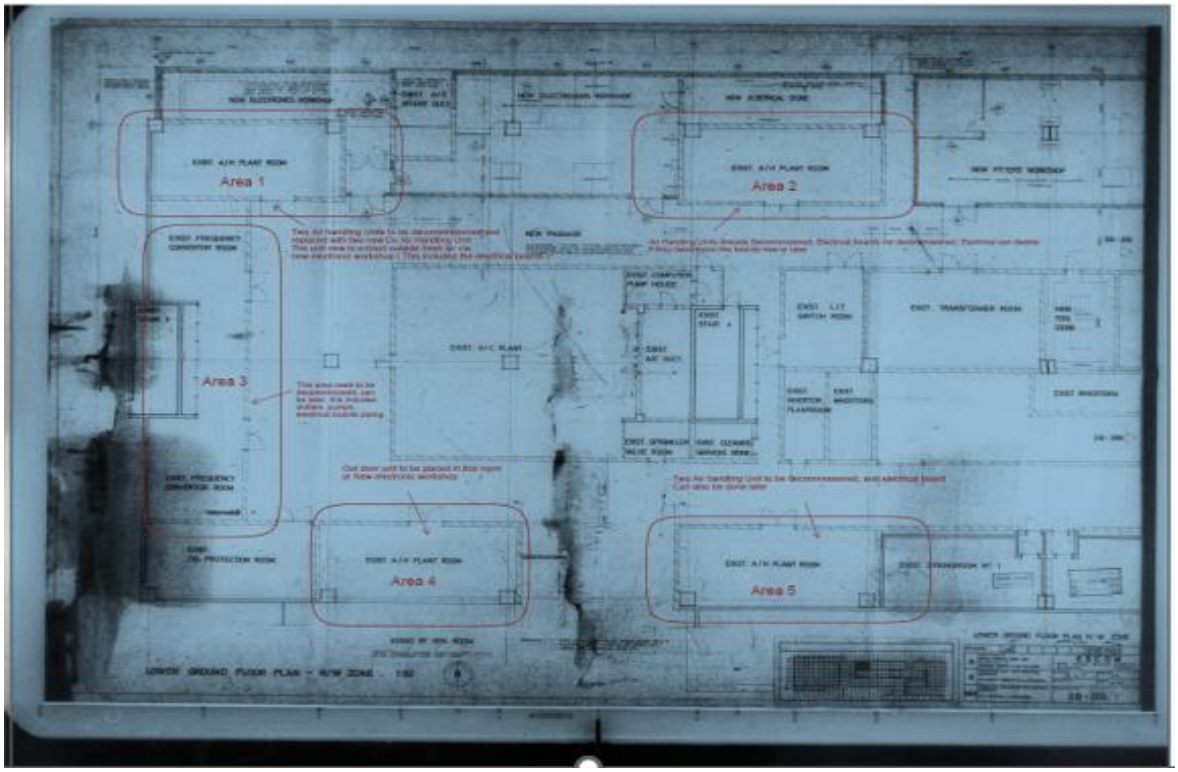
The Works is inclusive of provision of CoC's for all required installation, such as electrical installation, gas piping by Authorised Person.

Drawing 0.50/3943 Rev 2 shows original underfloor HVAC distribution system two at the top and two at the bottom, each have two air handling units, two HVAC distribution system has since been decommissioned, top left and bottom right units were decommissioned, hence as part of this works all air handling units will need to be decommissioned including piping and electrical boards even on areas that air handling units are decommissioned already.

Drawing 0.50/2514 is showing existing ducting drawing for the inner web between column 24 and 25.

Drawing 0.50/2482 is showing existing drawing for the computer section shilled water system which will need to be decommissioned.

Drawing 0.50/2760 is showing drawing for existing ducting initially for fresh air supply, ducting can be checked for internal insulation and if not insulated can be re-used cleaned before use, and external insulate and if internally insulated ducting will need to be replaced with new design.



Area 1: To be decommissioned including Air Handling Units, associated pipe work, electrical board to make space for new equipment

Area 2: Air Handling unit already decommissioned and removed, left with electrical board to be removed.

Area 3: Chiller plant, pumps and associated pipe work, electrical board need to be decommissioned.

Area 4: Earmarked for installation of outdoor unit however new electrical workshop can also be used since is close by.

Area 5 : Air handling Unit and electrical board needs to be decommissioned.

3.2.5 Other Designs by the *Contractor*

Procure, construct, test and commission above systems as per approved detail designs.

Refurbish the existing bathrooms to SANS 10400 compliant bathrooms with disability access.

Install shelves in the allocated storeroom areas of area #7 “Fusion Centre”.

Creation of KKS Coding and cable numbers up to component level.

Allocation of drawing numbers, based on the envisaged quantities of drawings to be produced by the *Contractor*, a block of drawing numbers will be supplied to the *Contractor* for allocation to individual drawings.

Labelling of plant to suit KKS and cable numbering.

The project execution phase (detail design, installation, calibration, commissioning, Handover) will be performed by the *Contractor*.

The detailed handover documents include but are not limited to:

a. Operating manual/s
b. Layout and installation drawings – All systems
c. Assessments and reports
d. Maintenance Manuals and Maintenance Schedules
e. All statutory certificates including CoC’s
f. All required software licences

All network designs take into consideration cyber security requirements.

Design, procure and install three additional optical smoke detectors in area #7 to render the area compliant with National Building Regulations and SANS 10139. The additional Fire Detection System equipment is interfaced with the existing site Ziton ZP3 Fire Detection System to have all fire alarms initiated at the MWP main control room.

By virtue of the Department of Employment and Labour (DEOL) mandate to the South African Qualifications and Certification Committee (SAQCC), any person designing, installing, commissioning or maintaining Fire Detection System needs to be certified by SAQCC at the appropriate level. The *Contractor* provides proof of certification as part of the tender returnable. In the absence of the main *Contractor’s* personnel being certified he/she can submit an agreement with a certified sub-contractor to perform the duties that require certification. In this case, proof of certification of sub-contractor and formal agreement shall be supplied.

The *Contractor* revamps the NSCC and Fusion Centre areas including ceilings, re-painting, carpet deep-cleaning and removing “SARS” branding.

The Contractor supply and install furniture including desks, chairs and lockable office cabinets for all people. The operator chairs and consoles shall be designed in accordance with the requirements outlined in ISO 11064 ergonomic standards, as well as the Eskom requirements.

The *Contractor* supplies all kitchen furniture e.g. microwave oven, kettle etc. as part of the Works.

All windows facing the parking area to be covered with a one-way mirror film.

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

All Documents are submitted to the *Project Manager* for review prior to implementation. All review documentation is submitted with transmittals. Any review information submitted without transmittals are considered rejected automatically.

At the end of each contracted design phase (e.g., Concept, Basic, detailed design phase), the *Contractor* provides an integrated design report which is reviewed at a Multi-Disciplinary Design Review (MDR) which will allow the project to move into the next design phase or allow for design freeze.

Construction may not begin prior to design freeze.

The following process will be followed during submission of documents:

a) The *Contractor* submits the documents/drawings to the *Employer*

b) The *Employer's* Document Controller registers the documents.

c) The *Employer's* Document Controller will supply the documents/drawings to all relevant parties within the *Employer's* project team.

d) The *Employer's* project team reviews the documents/drawings and will submit all comments or inputs to the *Contractor* for consideration.

e) If the *Employer* finds major deficiencies in the submitted documents/drawings, the *Contractor* revises the documents/drawings and resubmits to the *Employer*.

f) The *Employer* reviews the documents/drawings and if no major deficiencies are found, the *Contractor* organises a Review session.

g) The *Employer* and the *Contractor* conduct a Review.

h) If any fundamental errors were found in the works or further actions are required, the *Contractor* records all concerns raised and revises the designs.

i) The *Contractor* organises a review session once all works were revised according to the concerns raised by the *Employer*.

j) If no fundamental errors were found in the designs during the Design Review session, the *Contractor* compiles the Review minutes or report and submits it to the *Employer*

k) The *Employer's* Document Controller registers the report.

l) The *Employer's* project team reviews the *Contractor* report/minutes. If the report/minutes are not acceptable, the *Contractor* revises the report/minutes and resubmits to the *Employer's* Agent.

m) The *Employer's* Agent will accept the *Contractor* works once the report/minutes are accepted by the *Employer's* project team.

n) Work shall always be subject to full time supervision by a qualified and experienced site agent. This representative must be authorised and competent to receive instructions on behalf of the *Contractor*.

The following documents are supplied to the *Employer* by the *Contractor* as a minimum:

i. Detail Design
ii. Detail design report
iii. Detail calculations
iv. Coordination between services
v. Design including components data sheets and specification for selected components, distribution, electrical cabling and other associated component
vi. Dimensioned detailed drawings showing the general arrangement of all plant and component including isometrics and/or P&ID's where required. Sufficient views must be given to ensure clarity, and the drawing shall have at least a plan and two different elevations or sections giving overall dimensions.
vii. Detail design drawings. Dimensioned detail drawings showing proposed method of fixing of all the plant and component
viii. Detailed electrical wiring diagrams including schematic and control circuits.
ix. Detailed sequencing manner for installation procedure of Works
x. Detailed programme for the *Works* in sufficient detail as to represent the units of work to enable the representative to assess the progress of the Works
xi. Technical Specifications and Technical literature for all items of component that forms part of the complete installation
xii. List of recommended spares and technical specifications for the spares
xiii. Detailed structural & civil works for structural mounts
xiv. Detailed maintenance, reliability, control and operating philosophies
xv. Testing and commissioning procedures
xvi. Plant and material acceptance testing
xvii. Plant Codification Lists for each Section of the Works

Other requirements of the *Contractor*'s design

All the design solutions are developed by the relevant Professional Engineers at all design stages, the associated Professional Engineer will form part of the *Contractor's* supervision team and inspect and sign off the various quality documents.

The *Contractor* is to comply with all legislated safety requirements as well as Eskom's health and safety standards.

Use of *Contractor*'s design

The *Contractor* grants to the *Employer*, with effect from the starting date, an irrevocable royalty-free non-exclusive licence to use all of the documents provided to provide the Works (including, but not limited to calculations, drawings, manuals, models and other documents of a technical nature), for any purpose whatsoever, including for the purpose of operating, repairing, maintaining, dismantling, re-assembling and making adjustments to all parts of the Works.

Design of Equipment

a. The components are to be designed to facilitate efficient manufacture, inspection, transportation, installation, maintenance, cleaning and repairs.

b. The components are to be designed to ensure safe and satisfactory operation for a life expectancy of at least 15 years under the conditions prevailing at Eskom Megawatt Park.

c. The components are to be designed to prevent undue stresses being produced by expansion and contraction due to temperature change and other local natural and manmade conditions.

d. The components are to be designed to keep maintenance costs to a minimum.

e. The components are to be designed to comply with all the legal requirements in respect of safety and the prevention of environmental pollution.

f. The components are to be designed to satisfy any specific requirements contained in the relevant statutory codes and standards.

g. The components are to be designed for operation of 365 day per annum, 24hrs per day.

h. The components are to be designed such that all material from which the components are manufactured from is compatible with the intended duty and service conditions. All components are suitable treated and protected from corrosion.

Equipment required to be included in the *works*

As per the *Contractor's* approved design to satisfy the requirements stated in this document.

As-built drawings, operating manuals and maintenance schedules

At Take-over, the *Contractor* provides two full sets of as-built documentation as hard copies and electronic PDF and native CAD formats (. DGN or .DWG which must be compatible with Bentley MicroStation) to the *Employer*.

The Operating and Maintenance Manual and Schedules must describe how the plant is to be operated and by whom, as well as the desired level of training and orientation required for the building occupants. The operation and maintenance manuals are to consist of the following as a minimum:

i. List of Contents (Index)

ii. Introduction

iii. General description of the functions of each of the systems including detailed description of each element of each system, how it functions, how it operates and how to maintain it and what attic stock or tools to carry.

iv. Full as-built drawings and detailed drawings, brochures and catalogues for each system and each element of each system.

v. The format of the O & M documentations is to be A4 and be a specially bound document with hard cover and with metal ring binding. (All drawings and details are to be reduced to A3 format and folded into A4 format.)

vi. The names, addresses and telephone/fax numbers/email addresses of all responsible persons and manufacturers/suppliers are to be listed in the O& M manual.

vii. A full list with reference numbers is to be included to enable the O&M staff to order materials and spares.

viii. Colour diagrams are be provided to illustrate the operation and function of each system with reference to the relevant as-built drawings or brochures of Plant and Materials. These diagrammatic drawings must also indicate the locations of installed equipment with their generated codification.

ix. Outlines all the required maintenance activities for the complete works as well as the frequency of such activities and by whom.

x. Proposed maintenance schedules and activities to complete during maintenance activities.

Shop Drawings

Shop drawings are to indicate all Plant and Materials, distribution systems, testing/inspection/instrumentation positions, access requirements and builder's work requirements.

The *Contractor* is to review, stamp all shop drawings to confirm that co-ordination with building and services drawings have taken place before submitting to the *Employer* for Acceptance.

The *Contractor's* drawings are to be prepared in accordance with SANS 10111 (Engineering drawing practice) and 240-86973501 (Eskom Engineering Drawing Standard Common Requirements). General arrangement and detailed drawings are to be cross referenced using codification system.

Procurement

The *Contractor* provides the following procurement services in performing the Works:

i. Preparation of *Employer* approved supplier and Sub-Contractor's lists for equipment and contracts to be submitted to the *Employer* for review and approval.

ii. Follows the most cost and time saving procurement strategies.

iii. Contract management services for the selection, appointment, and management of Sub-Contractors, where required to execute the scope.

iv. Obtains delivery dates from Sub-Contractors and suppliers in order to realize the Completion Date;

v. Receiving of invoices, verification thereof in terms of purchase orders and contract provisions, certification of invoices as being correct and payable and supply of correct invoices to the *Employer*

vi. Management of and negotiating of all suppliers and Sub-Contractors compensation events and recommendations to the *Employer* as to the validity, amount and payment of such events.

vii. Determination of penalties payable by suppliers and Sub-Contractors and recommendation to the *Employer* as to the enforcement of such penalties prior to any communication to suppliers and *Contractors*.

viii. Ensuring that all suppliers and Sub-Contractors, from whom the *Contractor* procures equipment and materials do not retain, encumber or reserve title to such items.

People

Minimum requirements of people employed on the Site

All the *Contractors* personnel are subjected to access control conditions as per Eskom requirements.

i. All workers employed on site comply with Eskom's health and safety standards. Workers are not allowed to be transported on the back of vans or bakkies.

ii. Workers are restricted to the area of activity in close proximity to the construction.

iii. The *Contractor* recruits within the immediate District Municipality for general labour/ skills to execute the project.

BBBEE and preferencing scheme

The *Contractor* is required to achieve or maintain BBBEE Level 4 rating in accordance with SD&L requirements.

Accelerated Shared Growth Initiative – South Africa (ASGI-SA)

The *Contractor* complies with and fulfils the *Contractor's* obligations in respect of the Accelerated and Shared Growth Initiative - South Africa in accordance with and as provided for in the *Contractor*'s ASGI-SA Compliance Schedule stated below

.

[Insert the agreed ASGI-SA Compliance Schedule here]

The *Contractor* shall keep accurate records and provide the *Project Manager* with reports on the *Contractor*'s actual delivery against the above stated ASGI-SA criteria. [Elaborate on access to and format of records and frequency of submission etc.]

The *Contractor*'s failure to comply with his ASGI-SA obligations constitutes substantial failure on the part of the *Contractor* to comply with his obligations under this contract.

Subcontracting

Preferred subcontractors

The *Contractor* notifies the Project Manager in the event of using any Sub-contractor and provides the Project Manager with a list of all sub-contractors on the project. Subcontractors cannot subcontract work to another subcontractor. The choice of the proposed sub-contractor is subject to the Project Manager's approval before using the services of such subcontractor. The Subcontractor must be familiar with the required work and should submit CV's of past experience and have the necessary statutory accreditations.

The *Contractor* provides the Project Manager with the Health and Safety plans of all the sub-contractors on the project, before commencing the project.

Subcontract documentation, and assessment of subcontract tenders

The *Contractor* uses the NEC subcontractor agreements. All subcontractor quotations for which provisional sums or budgets have been allowed, is first approved by the *Employer* or his representative with documentary proof. This is done well in advance of the planned scheduling of the work.

Limitations on subcontracting

As per Eskom requirements, subcontracting will be limited not to more than 50% as far as possible. The *Employer* is notified where subcontracting exceeds the 50% threshold prior to commencement of the specific subcontracting works.

Attendance on subcontractors

The *contractor* attends to the activities of all subcontractors including direct subcontractors

Plant and Materials

Quality

The *Contractor* will not use Plant or Materials which are generally recognised as being unsuitable or otherwise to be avoided for the purpose for which they are intended.

Only components of high reliability will be utilised, with a proven operating history, to enable the Plant to achieve required reliability and availability. Plant and Material design, engineering and manufacture will accord with the best modern practice applicable to high-grade products of the type to be furnished, so as to ensure the efficiency and reliability of the Works and the strength and suitability of the various parts for the Works.

Plant and Materials withstands ambient conditions and the variations of temperature arising under working conditions without distortion, deterioration or undue strains in any part.

All parts are made accurately, and where practicable, to standard gauges so as to facilitate replacement and repairs. Like parts are interchangeable.

No repair of defective Plant and/or Materials will be permitted without the Project Manager's Acceptance and any such repair, if accepted, will be carried out to the satisfaction of the *Employer*.

The Project Manager is free to specify hold and witness points during the installation and on-site testing stages of the project. The *Contractor* issues preliminary notification of such hold and witness points by fifteen working days advance notice to the Project Manager and confirms such hold and witness points at least seven working days prior to the activity.

Typical hold points are listed below:

i. Design Review
ii. Factory Acceptance Test
iii. Delivery to Site
iv. Erection and configuration
v. Site Acceptance Test
vi. All manuals and drawings (in the specified format)
vii. Commissioning

In addition to maintaining appropriate inspection and test records to substantiate conformance to requirements, the following records are safely stored for a minimum period of seven years following the final Completion of the Works:

i. Construction, layout and component Acceptances
ii. Type and routine test certificates
iii. Construction drawings and Acceptances

After this period, the *Contractor* offers these records to the *Employer* (in writing) and obtains a disposal instruction.

Documentation regarding quality procedures is submitted within thirty days of Contract Award. The *Employer* will review and comment on the acceptability of these documents in a time frame as per the requirements of the contract for contractual correspondence. If controlled copies of these documents have been submitted to the *Employer*, then the controlled copy numbers may be quoted in the submission.

The *Contractor* adheres to:

Vendor Document Submittal Schedule (the schedule to be issued to the *Contractor* by the *Employer*)

Plant & Materials provided "free issue" by the *Employer*

None, all Plant and Materials are to be provided by the *Contractor*.

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

The *Contractor* is responsible for ensuring that all products are preserved in their appropriate manner as described in their specifications or in Eskom preservation, shipping and transportation procedures as applicable. The *Contractor* shall submit the preservation, shipping and transportation procedures to the *Employer* for review and acceptance. The *Employer* may choose to witness the packaging, loading and offloading of the products depending on their criticality, this will be indicated in the intervention points on the QCP / ITP document. The *Contractor* shall ensure that all storage requirements for products are properly implemented to preserve the products against adverse conditions, deterioration, damages, etc. Storage and preservation procedures for the different products must be submitted to the *Employer* for review and acceptance. The *Employer* may request to inspect the stored products at any given point during the storage period of the product. Requirements for preservation, shipping and transportation are addressed in 240-105658000

Spares and consumables

The *Contractor* provides as part of the tender proposal, a recommended parts list as well as a proposal for the execution there of:

i. The *Employer* is responsible for purchasing of recommended spares.
ii. The *Contractor* is responsible for ensuring that consignment spares are available in time of need.

Each recommended spare part is to be uniquely identified with a part number, which can be cross referenced to a part list and associated drawing. The *Employer* prefers that support from the OEM is available locally in South Africa.

Tests and inspections before delivery

The *Employer* carries out quality inspections at his own discretion. The *Employer* will inspect and approve stages of manufacture of all Plant and Materials necessary to ensure the correct quality of Plant and Materials as prescribed in the accepted project quality plan.

All inspections and testing are to be performed in accordance with the Quality Control Procedure (QCP) developed by the *Contractor* after Acceptance by the *Employer*.

The *Contractor* must provide facilities for inspection of all items of Plant and Materials at the place of the manufacture and this requirement must extend to all sub-contractors and suppliers if applicable. All material labour or assistance, tools, gauges, articles or apparatus that the *Employer* may require for the purpose of testing, gauging and inspection, must be provided by the *Contractor*. The *Contractor* must provide all such facilities for testing and the contract price must include for this.

The *Employer* reserves the right to reject items that do not conform to the *Employer's* requirements. When the plant has passed the prerequisite tests, the *Employer* will furnish to the *Contractor* a certificate or endorse the *Contractor's* test certificate to that effect. Examination by the *Employer* does not relieve the *Contractor* from the responsibility of carrying out all tests which may be necessary to ensure the required standard of manufacture or from any obligations in terms of the contract.

The achievement of adequate standards during the tests at the place of manufacture, if performed, is only the first requirement. The final criterion will be performance onsite, and any of the requirement which proves defective due to bad workmanship or material must be replaced forthwith by the *Contractor* at his own cost on the instruction of the *Employer*.

The following tests are conducted by the *Contractor* and are to be witnessed by the *Employer* at the manufacturer's works or *Contractor's* premises as a minimum requirement:

i. Visual inspection of the Plant and Materials
ii. Review of the certification requirements
iii. Inspection of paint work and corrosion protection.
iv. Verification that all components are delivered to the *Contractor's* premises.
v. Verification that all power plugs is correct.
vi. Verification that components installed is correct.
vii. Verification that all labels are correct.

Marking Plant and Materials outside the Working Areas

All Material paid for by the *Employer* is clearly labelled as being the *Employer's* property.

Contractor's Equipment (including temporary works).

The *Contractor* provides the following in order to complete the Works:

i. All scaffolding required
ii. Any Equipment necessary to complete the Works
iii. Lifting facilities

The *Contractor* supplies, installs, maintains and removes all temporary construction facilities and utilities necessary to Provide the Works.

Cataloguing requirements by the *Contractor*

Unique Identifier 240-1289988974 to be provided on request

Construction

The *Contractor* is required to:

i. Submit a comprehensive method statement of the entire Works to the Project Manager for acceptance prior to the start of the Works

ii. Submit a project specific safety file to the *Employer* for comments / acceptance.

iii. Prepare earthworks for craneage access and working rigging areas if required.

iv. Manage his activities on site to ensure that no interference takes place between his work and that of others.

v. Complete "Contract Activities Daily Reports".

vi. Liaise with the Project Manager regarding utilities and telephone facilities required for his Site establishment.

vii. Liaise with the Project Manager regarding the location of waste disposal sites and rubbish dumps,

viii. Maintain and promotes labour harmony on the Site and in the working environment.

ix. Immediately report any potential labour disharmony to the Project Manager.

x. Not recruit or employ any personnel from the *Employer* and Others, without prior acceptance of the Project Manager.

xi. The *Contractor* submits a fully detailed Quality Control Plan (QCP) for acceptance within one week of the Contract Date.

xii. The *Contractor* submits a schedule of unpriced orders to be placed and this is updated regularly.

Temporary works, Site services & construction constraints

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

The site is located in a part of an existing campus, with existing buildings all around, most buildings are currently occupied.

i. The *Contractor* attends the site clarification meeting prearranged by the *Employer* prior to submitting tender.

ii. The *Contractor* ensures that he familiarizes himself with site conditions.

iii. *Contractor's* access is limited to the areas as indicated in the scope and *Contractor's* staff is prohibited from roaming in the rest of the facility.

iv. Eskom Holdings indemnifies themselves from any negligent events by the *Contractor* relating to the scope of the works within the contract period

v. The *Contractor*, his staff and the Sub-contractors maintain identification at all times e.g. Uniforms etc.

vi. The *Contractor* is deemed to execute Safety Procedures to ensure the safety of his staff, Sub-contractors, Eskom staff during the Contract Period.

vii. Use of power and loud tools to be controlled and/or managed with Eskom office management team.

viii. The safety of the *Contractors* Employees, Subcontractors and building's tenants takes preference over the scope of the Works of this project.

ix. All site instructions to be approved and authorised in writing by the *Project Manager*. If this directive is not adhered to it could result in non-payment.

Restrictions to access on Site, roads, walkways and barricades

The *Employer* provides the *Contractor* with an Access Certificate to formally provide access to the site.

The *Contractor* ensures that he is familiar with conditions of access to the buildings, which includes constraints to limited parking and no goods lift is available in some of the blocks.

The *Contractor* adheres to all the requirements which include, but not restricted to:

i. Identity cards with photographs

ii. Cooperation in order to help Eskom provide the customer with a project schedule reflecting the period during which the construction and commissioning activities will take place.

The Contractor will be responsible for external disputes which may occur regarding the Works.

The *Contractor* is when necessary or needed, required to make all the necessary arrangements with the Local Authorities via the Building Manager and or Eskom Representative.

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

Working after normal working hours and on weekends requires special permission. The *Contractor* shall give the *Employer* adequate notice if this is planned.

Health and safety facilities on Site

Refer to SHE Specification issued.

Environmental controls, fauna & flora, dealing with objects of historical interest

The *Contractor* shall ensure that all fauna and flora is preserved and protected during his activity on site. All such fauna and flora will be reinstated after completion of the work

Title to materials from demolition and excavation

The Client (Employer) retains ownership and may require the materials to be returned, reused, or disposed of in a specified way,

Cooperating with and obtaining acceptance of Others

Two weeks look-ahead schedule to be developed and submitted to Project Manager on a fortnight basis in order to make timeous arrangements for access into occupied buildings with the occupants concerned.

Publicity and progress photographs

The *Contractor* requests approval from Project Manager for any photography and progress photographs prior to undertaking.

***Contractor*'s Equipment**

The *Contractor* keeps an inventory of equipment brought to site. This is verified and acknowledged by Eskom security to allow removal of such equipment when required by the *Contractor*

The *Contractor* provides own security on site and is held liable for excess of insurance in case of theft or loss.

Storage and security of material is the responsibility of the *Contractor* until the Final Completion Certificate is issued.

Equipment provided by the *Employer*

The *Contractor* provides all equipment and tools required to complete the *Works.*

Site services and facilities

The *Employer* will provide power and water. The *Contractor* shall make provision of waste disposal and submit proof in a form of Waste Disposal Certificates to the *Employer* for approval. The *Contractor* shall provide everything else necessary for providing the Works

Facilities provided by the *Contractor*

A clearly demarcated site establishment area will be provided by the *Contractor* for the following:

i. Suitable facilities for *Contractor* to store all material and equipment
ii. Suitable facilities for his employees for changing
iii. Facilities for the consumption of food
iv. Site offices
v. Toilet/Ablution facilities
vi. Other temporary facilities required by the *Contractor*

Existing premises, inspection of adjoining properties and checking work of Others

The *Contractor* is to investigate existence of any services before commencement of work. Care is to be taken when *Contractor* is doing demolitions so as not to damage the work of Others

Survey control and setting out of the *works*

It is the *Contractor's* responsibility to ensure accuracy when performing setting out of the Works. The *Contractor* shall provide adequate fastening to existing connection points.

Excavations and associated water control

Where excavation is required, the *Contractor* takes the necessary precautions not to damage any existing services.

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

There is no information regarding existing underground services.

Should the need arise for the *Contractor* to work on underground services, the *Contractor* is required to conduct scanning to determine the existing/underground services and provides this information as As-Build drawings to the *Employer*.

Control of noise, dust, water and waste

The *Contractor* takes all precautions necessary to prevent any noise and dust whilst carrying out the work.

Sequences of construction or installation

The *Contractor* sequences execution in order of priority as per the sectional completion schedule and ensures all interfaces are coordinated and carried out without causing any disruptions

Giving notice of work to be covered up

The *Contractor* to advise at least 4 weeks prior to starting work at that particular section so that proper notification is provided, including relevant authorisation to proceed.

Hook ups to existing works

The *Contractor* stipulates methodology for hooking-up when working in heights and provides notification to the SHE Officer in advance and obtain permission to proceed. The *Contractor* cannot not hook up for lifting, supporting or for any other reason to any position or existing works in the plant without a written approval by the Project Manager.

Completion, testing, commissioning and correction of Defects

Work to be done by the Completion Date

The contract is deemed complete when the following have been completed in accordance with the scope of work:

i. The Plant is erected, and commissioned
ii. Signed erection and safety clearance certificates have been submitted.
iii. The final drawings have been submitted.
iv. All documentation has been submitted including testing reports and the associated certificates received. All Quality Control Plan (QCP) documentation received. Final Draft of the Technical, Operating, Maintenance manuals have been delivered
v. The Plant and all documentation / drawings are coded and labelled.
vi. All special tools / spares have been supplied.

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 last commissioned systems	Within 10 days after Completion

Use of the *works* before Completion has been certified

On completion, commissioning and testing of plant, the *Contractor* may hand over completed section of the Works for certification and operation.

Materials facilities and samples for tests and inspections

The *Contractor* provides all Materials, facilities and/or samples required for tests and inspections.

The *Employer* reserves the right to call for samples of the Equipment offered to inspect the workmanship as the work proceeds and to either accept or reject the Equipment or workmanship.

The *Employer's* Acceptance of the workmanship or Equipment must in no way reduce the *Contractor's* liability to provide complete solutions.

The purpose of these inspections is to reduce the risk of non-compliant Equipment and Materials being transported to site. The presence of the *Employer* at the inspections does not reduce the *Contractor's* responsibility to comply with the contract.

The *Contractor* is to make arrangements that these inspections are carried out within the boundaries of South Africa. Should any tests or inspections be required outside of the Gauteng Area, the *Contractor* is to allow in his Tender price for all costs (travel, accommodation, subsistence, etc) for two persons to attend such tests or inspections. Accommodation and subsistence arrangements are to be submitted to the *Employer* for Acceptance in writing

Commissioning

When the system is ready for service; commissioning shall take place to check whether the correct quantities of equipment have been delivered and the installation is in accordance with the specifications. Commissioning shall be performed in co-operation with the *Contractor* and representatives of the *Employer* and Supervisor.

Practical Completion certificates will only be issued once the whole of the system installation satisfies the operational performance requirements of the contract and the Supervisor is satisfied that all systems are capable of operating effectively.

Performance and acceptance testing to determine whether the system achieves the required level of performance will only be undertaken after all routine testing, adjusting, commissioning, approvals and building work associated with the contract are complete and the work have been fully tested and commissioned by the *Contractor*.

Details of the testing required for each system and equipment shall be included in the *Contractor's* quality plan.

The *Contractor* shall supply all labour, materials and equipment required to fully commission and test the installation.

All costs associated in demonstrating that the system performs as required by the contract, shall be borne by the Contractor. Equipment which fails to operate correctly or is found to be installed incorrectly shall be repaired or replaced by the *Contractor*. Where any test is unsuccessful the defective equipment shall be repaired appropriately and subjected to retesting.

Start-up procedures required to put the *works* into operation

In order to put the Works into operation the *Contractor* demonstrates that the systems comply with all standards and regulations referenced and specified in this document.

Take over procedures

The *Contractor* shall do his own complete commissioning tests before the actual first take-over tests are done. This is to satisfy himself that everything is working and is in accordance with the specification.

Access given by the *Employer* for correction of Defects

The Project Manager arranges the date and access to site for the *Contractor* to correct defects. The *Contractor* updates the site safety file and the records contained inside as per construction regulations. The *Contractor* will be responsible for ensuring that the area is barricaded before correcting any defects.

Performance tests after Completion

In accordance with clause X17, performance test will be conducted on completion.

Training and technology transfer

After Completion of the contract, the *Contractor* is required to provide training and transfer system knowledge to the building owner/manager by submitting documented Design Intent, As-built drawings, Operational and Maintenance Manual, Commissioning Records, Commissioning Report and by providing training on all the systems to the building management staff to ensure that they have all the information and understanding needed to operate and maintain the features and systems in the building.

The *Contractor* is to provide on-site training and training material to the Engineers, Operators and Maintenance personnel prior to taking-over of the Works. The training will preferable be offered during the commissioning and testing. The *Contractor* will, prior to handing over of the Works, satisfy the *Employer* or authorized representative that maintenance and operational personnel are competent and adequately trained to maintain and operate the Plant and Materials supplied.

Steps for Conducting On-site Training are to include, but not limited to:

i. Preparation
ii. Introduction
iii. Explanation
iv. Demonstration
v. Practice Under Supervision
vi. Conclusion

The *Contractor* shall accordingly take into the Works an agreed number of members of the *Employer's* staff for an agreed period. The *Contractor* shall give the staff workshop hands-on training as fitter-erectors on the plant and shall give instruction in the assembly, adjustment and works testing of main items of plant.

Subsequently the *Contractor* will have the assistance of *Employer's* staff in commissioning of the plant and shall give appropriate instruction during these periods. Whilst the personnel allocated by the *Employer* can be expected to contribute in some measure to the erection work, the *Contractor* shall, in the Tender and when determining the programme, take into account that these personnel are involved only for training purposes.

The *Contractor* shall include attendance of the *Employer's* staff during testing and witnessing and for key works inspections.

The *Contractor* shall provide detailed proposals setting out the key aspects of training which will be provided for the *Employer's* personnel, both in the manufacturers' works and on the Site, including the proposed training programmes.

Maintenance and Support

The *Contractor* will be fully responsible for the maintenance and support of the installed systems throughout the 36-month contract period. This includes preventive maintenance, which entails scheduled inspections, system testing, and servicing to ensure optimal performance and reduce the likelihood of failures.

The *Contractor* is also expected to provide corrective maintenance by addressing system faults and restoring functionality within agreed timeframes. In addition, the *Contractor* must implement system upgrades as needed, incorporating relevant technology updates and improvements to maintain the system's effectiveness.

As part of the support scope, the *Contractor* will also be required to provide ongoing training services, ensuring that relevant stakeholders are adequately equipped and certified to operate and manage the system by the end of the contract period, facilitating a seamless handover.

Plant and Materials standards and workmanship

The drawings include final general arrangements. Drawings include sections and details to fully identify design concepts, design loadings and any other special features.

Drawings are fully dimensioned and the dimension figures on the drawing are deemed to be correct, even if the drawings are not to scale. No dimensions are obtained from a drawing by scaling.

All drawings show full endorsement by a Professional Engineer.

Investigation, survey and Site clearance

The *Employer* shall instruct the *Contractor* to conduct additional investigations of existing facilities within the building if required for interfacing purposes.

Building works

All building works to be compliant with SANS building standards.

Other than brackets and equipment mounted to civil structures, no major civil work is envisaged for this contract.

Civil engineering and structural works

1 240-56364545 Structural Design and Engineering Standard (Rev 4)
2 National Building Regulations and Building Standards Act No. 103 of 1977.
3 SANS 10400 The application of the National Building Regulations All Parts.

Electrical & mechanical engineering works

4 240-118870219 Standby power systems topology and autonomy for Eskom sites.
5 SANS 10142-1 (The Wiring of Premises - Part 1: Low-voltage Installations)
6 240-53114214, Cabling and racking standard.
7 240-56227443, Requirements for Control and Power Cables for Power stations Standard.
8 240-56356396, Earthing and lightning protection standard
9 Compulsory specification for plugs, socket-outlets, and socket-outlet adaptors, as published by Government Notice No. R. 1075 (Government Gazette 33763) of 19 November 2010. (VC 8008)
10 SANS 62040-1/IEC 62040-1, Uninterruptible power systems (UPS) – Part 1: General and safety requirements for UPS
11 240-53114248, Thyristor and Switch Mode Chargers, AC/DC to DC/AC Converters and Inverter/Uninterruptible Power Supplies Standard
12 Electrical Installation Regulations, 2009 as amended (Promulgated in terms of the Occupational Health and Safety Act by GNR 242 of 6 March 2009).
13 All statutory certificates including CoC's.

Security System, Process control and IT works

14 240-102220945, Specification for Integrated Access Control System (IACS) for Eskom Sites.
15 240-91190304, Specification for CCTV Surveillance with Intruder Detection.
16 240-86738968 Specification for Integrated Security Alarm System for Protection of Eskom Installations and its Subsidiaries
17 240-170000096 Physical Security Integration Standard
18 240-170000086 Roles and Accountabilities for Lifecycle Management of Physical Security Systems in the Transmission Division
19 240-170000257 Technical Evaluation Criteria for the Integrated Security System

20 240-60725641 Specification for Standard (19-inch) Equipment Cabinets
21 240-55410927, Cybersecurity standard for Operational Technology
22 DEM2412993 & 2425114 LAD (Logical Architecture Definition) PAC (Physical Application Component) for Physical Security Information Management System (PSIM)
23 Business Requirement Specification DEM_2412993 & 2425114 Tx and ET Security Monitoring System
24 240-170000691, Standard for Intrusion Pre-Detection Systems Used at Eskom Sites
25 240-170000723 Generic Technical Requirements for Physical Security Technologies Contracts
26 240-78980848 Specification for Non-Lethal Energised Perimeter Detection System (NLEPDS) for Protection of Eskom Installations and its Subsidiaries
27 240-171000171 Commissioning Guideline for Secondary Plant Physical Security System
28 240-180100001 Secondary Plant Security Systems Maintenance Procedure
29 SANS 2220-2-5 Access Control Systems Part 2-5: Biometric readers
30 ERE-MS-006: Megawatt Park Access Control Procedure
31 240-157602340, Universal Access Specifications
32 240-79537982, Security Threat and Risk Assessments

Other

33 ISO 9001 Quality Management Systems.
34 Construction Regulations, 2014
35 32-727 - Eskom Safety, Health, Environment and Quality (SHEQ) Policy
36 Occupational Health and Safety Act No. 95 of 1993,
37 240-103414344, Corporate Identity Manual
38 240-53113685, Design Review Procedure

List of drawings

Drawings issued by the *Employer*

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

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

Drawing number	Revision	Title
	July 2025	MWP NSCC Relocation Prelim Layout Rev 08 - 25 July 2025

PART 4: SITE INFORMATION

Document reference	Title	No of pages
	This cover page	1
C4	Site Information	
	Total number of pages	

PART 4: SITE INFORMATION

Core clause 11.2(16) states

“Site Information is information which

- describes the Site and its surroundings and
- is in the documents which the Contract Data states it is in.”

In Contract Data, reference has been made to this Part 4 of the contract for the location of Site Information.

General description

Megawatt Park (MWP) serves as Eskom’s corporate Head Office and currently accommodates approximately 3,500 employees. Located in the upmarket suburb of Sandton, Johannesburg, the original facility was constructed in 1975, with Blocks C & D and the Link section added in 1983. Sporting facilities were also established during the initial development phase.

MWP is currently undergoing a significant upgrade aligned with Eskom’s future strategic vision for the site. This modernisation aims to ensure full compliance with national standards and statutory regulations.

The complex comprises Blocks A, B, C, and the Link section, and supports a wide range of operations, including data centres, canteen and restaurant services, conference centres, a swimming pool, gymnasium, tennis courts, football fields, ICT services, security systems, and general office functions. On-site amenities also include banking ATMs, medical facilities, and a library.

The building’s basement houses extensive electrical and mechanical plant infrastructure responsible for distributing power and supporting key services such as small power lighting, lifts, HVAC systems, and more. Electrical loads at MWP are supplied and managed via an 11kV/400V electrical reticulation network, which includes 11kV main switchgear, 400V switchgear substations, mini-substations, kiosks, distribution boards, and sub-distribution boards.

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

The complex comprises Blocks A, B, C, and the Link section, and supports a wide range of operations, including data centres, canteen and restaurant services, conference centres, a swimming pool, gymnasium, tennis courts, football fields, ICT services, security systems, and general office functions. On-site amenities also include banking ATMs, medical facilities, and a library.

Subsoil information

No information available.

Hidden services

As Built information is unavailable therefore the contractor will need to conduct tests for hidden services.

Other reports and publicly available information

N/A