NEC3 Engineering & Construction Contract

Between	**ESKOM HOLDINGS SOC Ltd (Reg No. 2002/015527/30)**
and	**[Insert at award stage] (Reg No. _____)**
for	**VRYBURG MAIN BUILDING ROOF REPAIR AND REINSTATEMENT PROJECT**

Contents:		**No of pages**
Part C1	**Agreements & Contract Data**	**[●]**
Part C2	**Pricing Data**	**[●]**
Part C3	**Scope of Work**	**[●]**
Part C4	**Site Information**	**[●]**

CONTRACT No.	**[Insert at award stage]**

Part C1: Agreements & Contract Data

Contents:		**No of pages**
C1.1	**Form of Offer and Acceptance** **[to be inserted from Returnable Documents at award stage]**	**[●]**
C1.2a	**Contract Data provided by the *Employer***	**[●]**
C1.2b	**Contract Data provided by the *Contractor*** **[to be inserted from Returnable Documents at award stage]**	**[●]**
C1.3	**Proforma Guarantees**	**[●]**

C1.1 Form of Offer & Acceptance

Offer

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

Vryburg Main Building Roof Repair and reinstatement Project: the project includes Floor finishes, Electrical work, Ceiling work, Asbestos confirmation, Roof assessment of the entire roof and provision of COC (electrical & Roof) for insurance purposes.

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 B	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		
	(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)*
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.

2. 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		
		B:	**Priced contract with Bills of Quantities**
	dispute resolution Option	**W1:**	**Dispute resolution procedure**
	and secondary Options		
		X2	**Changes in the law**
		X5:	**Sectional Completion**
		X7:	**Delay damages**
		X16:	**Retention**
		X17:	**Low performance damages**
		X18:	**Limitation of liability**
		Z:	***Additional conditions of contract***
	of the NEC3 Engineering and Construction Contract, April 2005 (ECC3) (with amendments June 2006)		

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**
	Represented By:	**Zwelakhe Mbolekwa** **014 523 7071** **MbolekZ@eskom.co.za**
10.1	The *Project Manager* is: (Name)	**Solly Gumede**
	Address	**Klerksdorp Area Office: 22 Goldenway Townlands,Klerksdorp.**
	Tel	**+27 11 800 2123**
	Fax	**[●]N/A**
	e-mail	**GumedeMS@eskom.co.za**
10.1	The *Supervisor* is: (Name)	**Emmanuel Koananane**
	Address	**Klerksdorp Area Office: 22 Goldenway Townlands,Klerksdorp.**
	Tel No.	**+27 53 830 5726**
	Fax No.	**[●]N/A**
	e-mail	**KoananEL@eskom.co.za**
11.2(13)	The *works* are	**Vryburg Main Building Roof Repair and reinstatement of the collapsed roof and impacted services (ceiling & Electrica): the project includes Floor finishes, Electrical work, Ceiling work, Asbestos confirmation, Roof assessment of the entire roof and provision of COC (electrical & Roof) for insurance purposes**
11.2(14)	The following matters will be included in the Risk Register	**The contractor will need to be aware that the site is currently not operational, and they are still expected to provide the necessary barricade around areas being worked.** **Further risks to be identified at the initial project meeting and on an ongoing basis**
11.2(15)	The *boundaries of the site* are	**Will be established during site handover.**
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	**The duration of this project will be informed by the project schedule that is signed & accepted by the Employer.**

11.2(9) The *key date*s and the *condition*s to be met are:

	***Condition* to be met**	***key date***
1	**Notice of construction be given to Department of Labour**	**Before Execution of works.**
2	**Security clearance of personnel and induction**	**Before Execution of works**
3	**Safety File Submission and induction**	**Before Execution of works.**
4	**Conditional Assessment report**	**As per approved program.**
5	**Design freeze**	**As per approved program.**
6	**Completion**	**As per approved program.**
7	**Handover**	**As per approved program.**

30.1 The *access dates* are:

	Part of the Site	**Date**
1	**Vryburg Main Building with all regulation approvals to access and work**	**Before Execution of works.**

31.1	The *Contractor* is to submit a first programme for acceptance within	**2 weeks of the Contract Date.**
31.2	The *starting date* is	**The date on which the site is handed over – to be given after contract award**

32.2	The *Contractor* submits revised programmes at intervals no longer than	**2 weeks.**
35.1	The *Employer* is not willing to take over the *works* before the Completion Date.	**All refurbishment work shall be completed before the *Employer* can take over the *works* – no sectional completion**
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	**2 weeks**
5	**Payment**	
50.1	The *assessment interval* is	**On completion of each task.**
51.1	The *currency of this contract* is the	**South African Rand.**
51.2	The period within which payments are made is	**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:	**Vryburg North West and surrounding areas to the site**
	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***
	Addition to the Scope of Works by Eskom for which proof is:	Written instruction issued by the Eskom Representative stipulated in this Contract document.
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*.**
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	**There are no additional risks**
84.1	The *Employer* provides these additional insurances	**as stated for "Format A" available on** *http://www.eskom.co.za/Tenders/InsurancePoliciesProcedures/Pages/EIMS_Policies_From_1_April_2014_To_31_March_2015.aspx* **(See Annexure B for basic guidance)**
84.1	The *Contractor* provides these additional insurances:	**as stated for "Format A"**
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	**[●]**

84.2	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*.**
84.2	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**	
B	**Priced contract with Bill of Quantities**	
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	**TBA**
	Tel No.	**TBA**
	Fax No.	**TBA**
	e-mail	**TBA**
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	**[North West] 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 is	CPI applicable if project is 12 months or more. Base date for indices confirmed where required and necessary		
X1.1(c)	The proportions used to calculate the Price Adjustment Factor are:	**Proportion**	**linked to index for**	**Index prepared by**
		0. [●]	**[●]**	**[●]**
		0. [●]	**[●]**	**[●]**
		0. [●]	**[●]**	**[●]**
		0. [●]	**[●]**	**[●]**
		0. [●]	**[●]**	**[●]**
		[●]	**non-adjustable**	
	Total	**1.00**		
X2	**Changes in the law**	**There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.**		
X5	**Sectional Completion**			
X5.1	The *completion date* for each *section* of the *works* is:	***Section***	**Description**	***Completion date***
		1	**Access & Temporary Works**	**As per accepted Contractor's schedule**
		2	**Assessment of the entire Roof assembly which is inclusive of rainwater goods and to ensure compliance with SANS & Asbestos Confirmation**	**As per accepted Contractor's schedule**
		3	**Replacement of southern end roof assembly which is**	**As per accepted Contractor's schedule**

			inclusive of rainwater goods as well as any defect to a SANS approved roofing system with future PV support	
		4	**Replacement of the whole ceiling grid/system and ceiling boards for the southern end of the roof.**	**As per accepted Contractor's schedule**
		5	**Internal Painting inclusive of floor finishes, installation of doors and provision of relevant COC's**	
		6	**Structural Works**	**As per accepted Contractor's schedule**
		7	**Electrical Works**	**As per accepted Contractor's schedule**
		8	**Provide drawings and details showing existing and updated changes**	**As per accepted Contractor's schedule**

X5 & X7	**Sectional Completion and delay damages used together**			
X7.1 X5.1	Delay damages for late Completion of the *section*s of the *works* are:	***Section***	**Description**	**Amount per day**
		1	**Section / phase to be agreed with the PM**	**R5000.00**
	The total delay damages payable by the *Contractor* does not exceed:	**Maximum of 20% of Contract Value**		
X16	**Retention (not used with Option F)**			
X16.1	The *retention free amount* is	**5% of contract value**		

	The *retention percentage* is	**5% deduction on assessment of each Payment Certificate**	
X17	**Low performance damages**		
X17.1	The amounts for low performance damages are:	**Amount** **R 200,000.00 or cost of low performance damages stated**	**Performance level** **for all sections of the building should they continue to experience water leaks**
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 described in the insurance policy format selected in the data for clause 84.1 above, which policy is available on** *http://www.eskom.co.za/Tenders/InsurancePoliciesProcedures/Pages/EIMS_Policies_From_1_April_2014_To_31_March_2015.aspx*	
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** • **10% 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 R15M first amount payable in terms of the *Employer*'s assets policy.**	

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) Seven (7) 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 Z12 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

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 or a judicial management 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 Subcontractors 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.

Z 12.1 A Committing Party may not take any Prohibited Action during the course of the procurement of this contract or in execution thereof.

Z 12.2 The *Employer* may terminate the *Contractor*'s obligation to Provide the Works if a Committing Party has taken such Prohibited Action and the *Contractor* did not take timely and appropriate action to prevent or remedy the situation, without limiting any other rights or remedies the *Employer* has. It is not required that the Committing Party had to have been found guilty, in court or in any other similar process, of such Prohibited Action before the *Employer* can terminate the *Contractor*'s obligation to Provide the Works for this reason.

Z 12.3 If the *Employer* terminates the *Contractor*'s obligation to Provide the Works for this reason, the procedures and amounts due on termination are respectively P1, P2 and P3, and A1 and A3.

Z 12.4 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.

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.

Annexure B: Insurance provided by the Employer

These notes are provided as guidance to tendering contractors and the Contractor about the insurance provided by the Employer. The Contractor must obtain its own advice. Details of the insurance itself are available from the internet web link given below.

1. For the purpose of works contracts, insurance provided by Eskom (the *Employer*) has been arranged on the basis of "project" or "contract" value, where the value is the total of the Prices at Completion of the whole of the works including VAT.

   A "project" is a collection of contracts or work packages to be undertaken as part of a single identified capital expansion or refurbishment of a particular asset or facility.

   A "contract" is a single contract not linked to or being part of a "project".

2. For ECC3 there are three main "formats" of cover and deductible structure; Format A, Format B and Format Dx.

   Format A is for a project or contract value less than or equal to R350M (three hundred and fifty million Rand) inclusive of VAT.

   Format B is for a project or contract value greater than R350M. (three hundred and fifty million Rand) inclusive of VAT.

   In the case of contracts / packages within a project:

   - For a contract / package of R50M which is part of a R400M project, Format B will apply
   - For a contract / package of R250M which is part of a R6 billion project, Format B will apply;
   - For a contract / package of R120M which is part of a R350M project Format A will apply;

   For a contract which is not part of a project the same limits apply:

   - For a contract of R50M, Format A will apply
   - For a contract of R355M, Format B will apply.

   Format Dx applies only to Distribution Division projects and contracts. If a Distribution Division project or contract exceeds the Format A limit, the Eskom Insurance Management Services [EIMS] need to be contacted for advice on how to formulate the insurance cover. Cover and deductibles for Distribution Division are per the relevant policy available on the internet web link given below.

   Format A generally applies to Transmission Division projects and contracts. If a Transmission Division project or contract exceeds the Format A limit, the Eskom Insurance Management Services [EIMS] need to be contacted for advice on how to formulate the insurance cover.

3. Tendering contractors should note that cover provided by the *Employer* is only per the policies available on the internet web link listed below and may not be the cover required by the tendering contractor or as intended by each of the listed insurances in the left hand column of the Insurance Table in clause 84.2. In terms of clause 84.1 "the *Contractor* provides the insurances stated in the Insurance Table except any insurance which the *Employer* is to provide". Hence the *Contractor* provides insurance which the *Employer* does not provide and in cases where the *Employer* does provide insurance the *Contractor* insures for the difference between what the Insurance Table requires and what the *Employer* provides.

4. When the Marine Insurance is required the *Contractor* needs to obtain a copy of the latest edition of Eskom's Marine Policies Procedures found at internet website given below.

5. **Further information and full details of all Eskom provided policies and procedures may be obtained from:**

http://www.eskom.co.za/live/content.php?Item_ID=9248

Annexure C: The *Employer*'s Panel of Adjudicators

The following persons listed in alphabetical order of their surname have indicated their willingness to be included in the Eskom Panel of Adjudicators. Their CV's may be obtained by using the contact details provided.

Name	Location	Contact details (phone & e mail)
Nigel ANDREWS	Gauteng	+27 11 836-6760 nigela@quoin.net
Andrew BAIRD	Gauteng	+27 11 803 3008 andrewbaird@ecsconsult.co.za
Christopher BINNINGTON	Gauteng	+27 11 888-6141 cdb@bca.co.za
Peter HIGGINS	UK	+44 1293 873 868 peterhiggins@pdconsult.co.uk
Bruce LEECH	Gauteng	+27 11 290 4000 leech@counsel.co.za
Nigel NILEN	Gauteng	+27 11 465 3601; nilences@global.co.za
Peter THURLOW	Gauteng	+27 11 787 6226 info@thurlowassoc.com

Information about the Panel and appointment of the selected Adjudicator is available from Eskom Supply Chain Operations management, by contacting Leighton Itholeng (Tel.: +27 (0)11 800 4031)
(Fax :+27 (0)86 668 0419) E-mail: Leighton.Itholeng@eskom.co.za

C1.2 Contract Data

Part two - Data provided by the *Contractor*

Notes to a tendering contractor:

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

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

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

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

11.2(3)	The *completion date* for the whole of the *works* is			
11.2(14)	The following matters will be included in the Risk Register			
11.2(19)	The Works Information for the *Contractor*'s design is in:			
31.1	The programme identified in the Contract Data is			
A	**Priced contract with activity schedule**			
11.2(20) 11.2(30)	The *activity schedule* 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**		
B	**Priced contract with bill of quantities**	**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:	

C1.3 Forms of Securities

Pro formas for Bonds & Guarantees

For use with the NEC3 Engineering & Construction Contract (June 2005)

Option X16: Retention

The *Contractor* may provide a Retention Money Guarantee in the form stated here. When the *Employer* receives and accepts a Retention Money Guarantee exactly in the form stated he will instruct the *Project Manager* not to assess any amount be retained in terms of secondary Option X16.

PART 2: PRICING DATA

ECC3 Option B

Document reference	Title	No of pages
C2.1	Pricing assumptions: Option B	
C2.2	The bill of quantities	

C2.1 Pricing assumptions: Option B

The *conditions of contract*

How work is priced and assessed for payment

Clause 11 in NEC3 Engineering and Construction Contract, June 2005 (ECC3) Option B states:

Identified and defined terms	11 11.2	(21) The Bill of Quantities is the *bill of quantities* as changed in accordance with this contract to accommodate implemented compensation events and for accepted quotations for acceleration. (28) The Price for Work Done to Date is the total of • the quantity of the work which the *Contractor* has completed for each item in the Bill of Quantities multiplied by the rate and • a proportion of each lump sum which is the proportion of the work covered by the item which the *Contractor* has completed. Completed work is work without Defects which would either delay or be covered by immediately following work. (31) The Prices are the lump sums and the amounts obtained by multiplying the rates by the quantities for the items in the Bill of Quantities.

This confirms that Option B is a re-measurement contract and the bill comprises only items measured using quantities and rates or stated as lump sums. Value related items are not used. Time related items are items measured using rates where the rate is a unit of time.

Function of the Bill of Quantities

Clause 55.1 in Option B states, "Information in the Bill of Quantities is not Works Information or Site Information". This confirms that instructions to do work or how it is to be done are not included in the Bill, 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 Bill of Quantities. The Bill of Quantities is only a pricing document.

Guidance before pricing and measuring

Employers preparing tenders or contract documents, and tendering contractors are advised to consult the sections dealing with the bill of quantities in the NEC3 Engineering and Construction Contract (June 2005) Guidance Notes before preparing the *bill of quantities* or before entering rates and lump sums into the *bill*.

The NEC approach to the P & G bill assumes use will be made of method related charges for Equipment applied to Providing the Works based on durations shown in the Accepted Programme, fixed charges for the use of Equipment that is required throughout the construction phase, time related charges for people working in a supervisory capacity for the period required, and lump sum charges for other facilities or services not directly related to performing work items typically included in other parts of the bill.
The P & G section of the bill is not used for the assessment of compensation events.

Measurement and payment

Symbols

The units of measurement described in the Bill of Quantities are metric units abbreviated as follows:

Abbreviation	Unit
%	percent
h	hour
ha	hectare
kg	kilogram
kl	kilolitre
km	kilometre
km-pass	kilometre-pass
kPa	kilopascal
kW	kilowatt
l	litre
m	metre
mm	millimetre
m^2	square metre
m^2-pass	square metre pass
m^3	cubic metre
m^3-km	cubic metre-kilometre
MN	meganewton
MN.m	meganewton-metre
MPa	megapascal
No.	number
Prov sum[3]	provisional sum
PC-sum	prime cost sum
R/only	Rate only
sum	Lump sum
t	ton (1000kg)
W/day	Work day

General assumptions

Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance has been made in the quantities for waste.

The Prices and rates stated for each item in the Bill of Quantities shall be treated as being fully inclusive of all work, risks, liabilities, obligations, overheads, profit and everything necessary as incurred or required by the *Contractor* in carrying out or providing that item.

An item against which no Price is entered will be treated as covered by other Prices or rates in the *bill of quantities*.

[3] Provisional Sums should not be used unless absolutely unavoidable. Rather include specifications and associated bill items for the most likely scope of work, and then change later using the compensation event procedure if necessary.

The quantities contained in the Bill of Quantities may not be final and do not necessarily represent the actual amount of work to be done. The quantities of work assessed and certified for payment by the *Project Manager* at each assessment date will be used for determining payments due.

The short descriptions of the items of payment given in the *bill of quantities* are only for the purposes of identifying the items. Detail regarding the extent of the work entailed under each item is provided in the Works Information.

Departures from the *method of measurement*

Amplification of or assumptions about measurement items

For the avoidance of doubt the following is provided to assist in the interpretation of descriptions given in the *method of measurement*. In the event of any ambiguity or inconsistency between the statements in the *method of measurement* and this section, the interpretation given in this section shall be used.

C2.2 the *bill of quantities*

Cover page to the *bill of quantities*.

Please refer to the BOQ provided

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

1. BACKGROUND

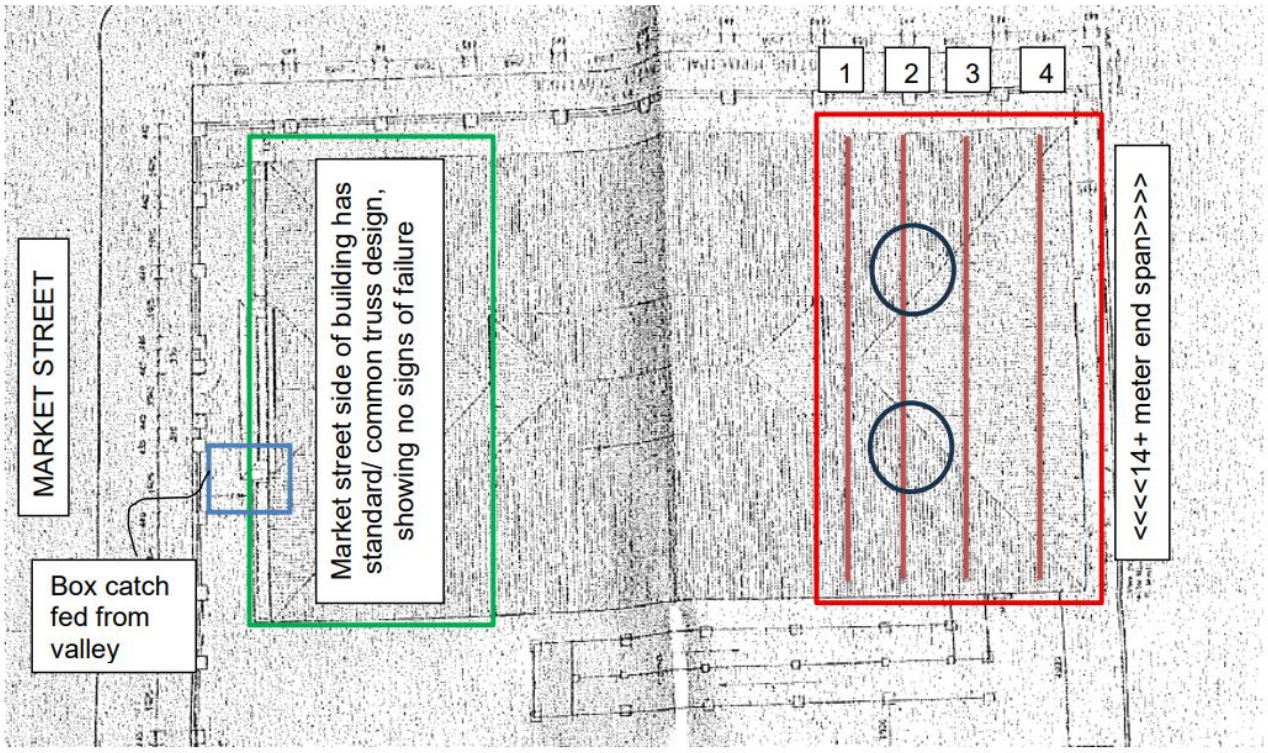
Eskom Real Estate Engineering conducted a visual inspection of the Eskom Vryburg Main Building (17 Market Street). The request was initiated due to a partial roof collapse that was localised to the southern end of the building. This visual inspection report provides information regarding the current condition of the Vryburg Main Building Roof.

It was identified that the area of failure of the roof, was different from the rest of the roof system. The southern roof did not follow conventional hip roof construction, and no truss was tied into the brickwork.

The End-span measured to be approximately 14.535m between supports with tie-beam dimensions of 108~111x38mm which is not adequate for this span, typically for 8m of span a tie beam truss of 152mm member size. The current tie beams have 2 juncture points by means of gang-nail plates which failed, and others are close to failure, all the gang-nail plates have failed, all the tie beams have collapsed.

It is noted that the webs have been strengthened possibly to remedy or prevent a collapse. Additional trusses have been fitted to create a '4-layer truss design' that has been bolted together, this would only be possible with the removal of the roof tiles.

In the figure below the Circled area is approximately where the collapse of roof tiles is evident, trusses numbered 1 to 4 all have failed at the gangnail plates



Eaves drop is evident, but this could be due to purlins not being adequately designed for on certain edges causing the cement tiles to shift down and out of place:

- Bird-proofing is not functional, various nesting infestation present in the eaves

- Public entrance valley box gutter has had repairs done on the box catch-pit and on the discharge pipe, not sure if it was adequate as signs of leaks is present in the area, perhaps this was not cleaned after repair, flood test to confirm.



POSSIBLE ROOT CAUSES:

Based on the visual findings, both the quality design philosophy of the southern end differs from the remaining quadrants. This indicates that a change had occurred, resulting in a defective roof solution. Structurally, it seen that one of the trusses had failed, resulting in the overloading of adjacent trusses, resulting in a domino effect of failing roof trusses and ultimately the roof collapse.

2. Description of the *works*

2.1. Executive overview

This project entails the following.

- Assessment of the entire Roof assembly which is inclusive of rainwater goods and to ensure compliance with SANS
- Replacement of southern end roof assembly which is inclusive of rainwater goods as well as any defect to a SANS approved roofing system with future PV support
- Ensuring that roof assembly complies with SANS10400-XA
- Replacement of ceiling for the southern end
- Provide drawings and details showing existing and updated changes
- Provide the documentation to allow for successful application to obtain the necessary occupancy certificate for the building

2.1 PROPOSED SCOPE OF WORK FOR ESKOM – VRYBURG SITE

2.1.1 Employer's design

The works entails the replacement of the roof and building refurbishment. Which entails the following, including the additional scope within the contractor's design (Section 2 - 8):

- Assessment of the entire Roof assembly, which is inclusive of rainwater goods and associated infrastructure, to ensure compliance with SANS
- Replacement of southern end roof system as well as any defect to a SANS approved roofing system with future PV support and Assessment of the entire Roof System to ensure compliance with SANS
    - Removal of the damaged portion of the roof and replaced with a SANS approved roof solution
    - Provide a detailed assessment of the undamaged roof
    - Provide a roof certificated for the entire roof
    - Ensuring that roof assembly complies with SANS10400-XA
    - Replacement of ceiling for the southern
- Replacement of the services impacted by the roof replacement and provide an appropriate CoC.
- Provide the documentation required for the occupancy certificate for the building

2.1.1.3 Roof work

Retain Existing Roof Tiles

- Replace only **damaged roof tiles**.
- Seal the whole Roof for leaks
- Repair underlay and battens where required.
- **Full roof painting**, including:
    - Roof tiles.
    - Gutters.
    - Fascias.

2.1.1.4 Gutters & Rainwater Goods

- **Remove and replace all existing gutters**.
- Ensure:
    - Install new gutters.
    - Proper fall and discharge to existing stormwater systems.

2.1.2 PARTS OF THE WORKS WHICH THE CONTRACTOR IS TO DESIGN

2.1.2.1 Architectural Scope

The architectural scope is an extension of the overview as per Employer's Design. The Contractor shall conduct and appointing a competent person to assess damages and provide repair methodology together with the necessary documentation to apply to the respective Local Authority for approval before any work commences.

- Provide detail roof design and layout drawing showing all structural members and components, fasteners, roofing, underlay, sisalation, insulation and bracing, suspension kits, ceilings and its cornices, a lighting layout together with the building management sensors and cable management trays and their fixing.
- The design to ensure material selection criteria is according to performance and efficiency that will meet the requirements to reach SANSXA for roof assembly as well as efficient lighting components and additional spare parts like drivers to be made available and no end of life/model/series components to be provided for. The material selection, drawings, specifications shall be accompanied by samples of said designed for material for approval.
- The design and drawings to be reflective of the exact materials and products used with supporting data sheets. The material selection to have confidence in SANS and its occupancy class and design. The overall design and final design solution to consider all materials and ensure that no adverse reactions are possible and to be the same information as the submitted documentation used to seek approval from the Local Authority.
- The design solution shall consider the existing fabric and shall not negatively affect the building.
- The solution be it full replacement or partial to have a complete solution taking all parts into account, an example of such is if full replacement of roof tiles is needed (after assessment proof shows need thereof) roof tile coating will not be needed, but if partial tile replacement is the design an appropriate coating to be provided for. This approach will be for all components of this project.
- If for whatever reason conduiting needs to be done, the contractor shall ensure no surface conduits are seen, routes ought to be detailed and accounted for
- During the works, existing floor's, walls and other possible areas to be protected and adequate roof covering to be provided for and to ensure no further damage due to ingress during construction occurs
- Provide for touch-ups as needed, with plaster work repair/refill and paint work.
- After the works all walls, floors, external façade, building apron to be clean the necessary care during construction to be followed to minimize cleaning that could cause adverse effects on existing property but as well as neighbouring property, sidewalk and public roads.
- The Contractor to ensure evidence is provided by means of photographs of any issues that arises and any supporting evidence for before and after comparisons aiding in hold accountable persons for any damage.
- Clear hold points to be adhered to and all unforeseen circumstances and discrepancies to be raised and approved before the next step.
- All snags to run consecutively as construction progress to minimize risk and liabilities on the project quality and final hand over

2.1.2.2 Structural Scope

- The Contractor assesses the roof trusses and replaces all damaged trusses at the southern end of the building.
- The Contractor ensures all works are approved by a Professional Engineer/Technologist.

2.1.2.3 Electrical Scope

- **Illumination survey**

The Contractor shall conduct, appointing a competent person, a post illumination survey according to SANS 10114 part 1 and 2 - Interior lighting - Artificial lighting of interiors and Emergency lighting. The minimum Illuminance levels measured in each respective area shall be presented in a tabulated format for the Eskom Vryburg Main Building (17 Market Street) property.
The Contractor to perform this survey as per the mentioned stipulated standards, compile a comprehensive illumination survey formal report as part of work execution and submit it to the Employer.

Electrical Lighting (based on the results of the survey):

- Upgrade and replace:
    - **All light fittings throughout the entire building**.
- Include:
    - Energy-efficient LED fittings.
    - Testing and commissioning.

- **Electrical cables**
    - Tests

To assess the structural collapse impact on the electrical infrastructure, the contractor shall carryout insulation resistance and continuity tests on all building's associated power cables.
Conductor resistance/continuity test shall be performed and the result measured is to be compared against resistance value stipulated in the cable datasheet and it shall be ensured that the measured resistance value is well within the tolerance values provided.
Tests shall be in accordance with SANS 10142-1, 97, 1507, 1574, 1339, 10198-13 and other relevant standards.
The insulation resistance of each core to sheath or conduit and between cores of all cables shall be measured and recorded after the cable has been confirmed dead. Core to sheath or conduit implies phase to earth and core to core connotes phase to phase. For each cable termination, the person performing the testing activity shall ensure printing out their full name, indicate the test date and time, signing and records the readings in the appropriate place provided. A pass criterion shall be as per SANS 5526 and Table 9 of SANS 1507-3 (2020). All these standards shall be adhered to.

Table z: Insulation Resistance test phase to earth

DC Test Voltage	Check Test Voltage	Phase-Earth (Ω)	Cable location
500V	☐		
1000V	☐		
_____V	☐		

Comments:

Table a: showing Voltage Test results – Phase to neutral

Phase to neutral (V)	Phase to earth – B (V)	Neutral – earth (V)

Activity performed by

Name :_____ _____

Signature and date :

_____ _____

The Contractor replaces the failed cables and replaces them using size specified below, moreover, the contractor shall submit test results to the Employer. The intention is to reuse current electrical components such as cabling, switches etc should it be found compliant.

- Sizes

The Contractor ascertains the cabling in the property complies to the following requirements:
The minimum size of copper wire for the lighting circuits shall be 2.5 mm².
The minimum size of copper wire for the socket outlet circuits shall be 4.0 mm².
Sizes of conductors not specified must be determined in accordance with the SANS 10142-1.
Cables for voltage drop compliance shall be prioritised. The maximum voltage drop of 5% shall be used from the distribution board to the further luminaires on the circuit.
The Contractor assesses sizes on all circuits and submits a report to the Employer prior proceeding to the next step of complying the property.
It is noteworthy that functional cabling shall be reused whereas damaged shall be replaced with the corresponding specification above.

- **Conduit, saddles and power trunking**

The Contractor shall install conduits, and saddles to contain the above ceiling power cables.
Where required, power trunking shall also be used.
Install conduits for floating cabling, conduits shall comply with SANS 950.
The power trunking shall comply with SANS 61084-1.
Conduit in roof spaces shall be installed parallel or at right angles to the roof members and shall be secured at intervals not exceeding 1,5m by means of saddles screwed to the roof timbers.
All conduits shall be manufactured of mild steel with a minimum thickness of 1,2mm for plain-end conduit and 1,6mm in respect of screwed conduit and galvanised. All conduit and accessories used shall be galvanised to SANS 121.
Should power trunking, saddles and conduits be found non-compliant, the Contractor shall replace them as per the requirements set out in this specification and report latter.

- **Earthing**

The Contractor shall ensure that the electrical system is properly earthed, and conductive metallic parts bonded to SANS 10142-1.

2.1.3 ASBESTOS CONFIRMATION

- Confirmation with the engineers or stakeholders if there is any asbestos.

2.1.4 CEILING WORKS

Tile Replacement

- Retain existing grid on the unaffected area.
- Replace only damaged or stained tiles.
- For the affected area remove the existing grid and install the new grid and ceiling tiles.

2.1.5 INTERNAL PAINTING

2.1.5.1Internal Painting

- Paint:
    - All internal walls excluding office walls.
    - Roof, gutters, and fascias (if roof is retained).
    - Internal handrails and balustrades.

2.1.6 FIRE ESCAPE DOORS & BUILDING SIGNAGE (Prohibition, Warning, Mandatory, and Emergency/Safe Condition)

2.1.6.1Fire Exit Door

- Supply and install:
    - **Single fire exit door** with Automatic **hydraulic door closer.**
        - Install in accordance with **SANS 1253 (Class** , manufacturer specifications.
    - **single door**, complete with all associated components, fittings, and finishes. The door must be of **commercial-grade quality.** The Contractor must get preapproval of the door of the employer before supply and installation.

2.1.6.2 Signage

- Remove and replace:
    - All **old signage**.
- Install:
    - New signage where required.
- Renovate:
    - The **two existing external notice boards**.

2.2.7 FLOOR FINISHES

- Remove:
    - All existing carpet.
- Supply and install:

- New **carpet tiles throughout**.

2.2.8 COMPLIANCE & CERTIFICATION (COCS)

Upon completion of the Works, full verification testing shall be carried out on the installation(s) and the Employer's representatives shall be invited to witness at the testing phase. At least 12 types, according to the installation rules, of tests shall be performed and recorded on the recording sheets.
A certificate of compliance shall then be tendered to the Employer's representative prior or during commissioning for review and submitted for acceptance as part of the handover packages at the completion of the Works.
Provide all required **Certificates of Compliance (COCs)**, including but not limited to:

- Electrical COC.
- Structural sign-off (where applicable).
- Asbestos clearance certificate (if required).
- Plumbing COC (if impacted during works).

3. INTERPRETATION AND TERMINOLOGY

The following abbreviations are used in this Works Information:

Definition	Description
Acceptance	The *Employer* accept the condition or design but does not take responsibility from the Contractor
Approval	Written agreement or authorization by *Employer*. All requests for approval must be submitted in writing and any proposed deviation from specified requirements must be fully justified and agreed by *Employer*.
Contractor	Refers to the corporation appointed to perform the engineering, procurement, and construction Works required for the project.
Design freeze	Is a binding decision that defines the whole product, its parts or parameters and allows the continuation of the design based on that decision (no further changes can be made to the design, it is cut-off for the engineers)
Employer	Refers to Eskom Holdings State Owned Company
Interface	Interface in these document means either to hard wired or software interaction between the *Contractor*s and/or other Works
Maintenance	Maintenance can be defined as the function of keeping components or equipment in, or restoring them to a serviceable condition so that they comply with design and statutory requirements and *Employer* standards. Maintenance includes the cleaning, removal of contaminants and waste, correct adjustment and setting, tightening, testing, fixing, refill, lubrication, rust prevention, touch up, refrigeration charge, servicing, inspection, replacement, re-installation, troubleshooting, calibration, condition determination, repair, modification, overhaul and rebuilding of equipment. Maintenance can be either preventative or corrective of nature.
Maintenance Management	Maintenance Management can be described as the management (planning, organising, leading and control) actions needed to ensure effective maintenance execution to provide the most efficient and optimum availability (capable of being used) and reliability (consistent quality) of the equipment installed.
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 and it includes technical

	schedules and drawings attached thereto as well as all samples and patterns
System	A set of things working together as parts of a mechanism or network in an organised manner or method such that the requirements of the System are achieved.
The Client	The end user will be Eskom who will be represented by Eskom Real Estate throughout the duration of the Project.
Unequipped spare	A functional unit that does not house any electrical components, but is intended to be used in future by retrofitting/modifying the functional unit.
Registered asbestos contractor	Mandatory for contractors conducting demolition work, registered with the Chief Inspector

The following abbreviations are used in this Works Information:

Abbreviation	Description
CoE	Centre of Excellence
ECM	Engineering Change Management
ECSA	Engineering Council of South Africa
ERE	Eskom Real Estate
est.	Estimate
MDR	Multi-disciplinary Review
NEC	New Engineering Contract
OEM	Original Equipment Manufacturer
SABS	South African Bureau of Standards
SANS	South African National Standards

4. Management and start up.

4.1. Management meetings

Title and purpose	Approximate time & interval	Location	Attendance by:
Risk register and compensation events	Fortnightly	Vryburg Area Office	*Employer*, *Contractor*, *Supervisor*, and Consultants
Project Meetings	Weekly	Vryburg Area Office	*Employer*, *Contractor*, *Supervisor*, and Consultants
Stakeholder Forums	As required	Vryburg Area Office	*Employer*, *Contractor*, *Supervisor*, and Consultants
Technical Meetings	Fortnightly	Vryburg Area Office	*Employer*, *Contractor*, *Supervisor*, and Consultants

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.

4.2. 2.2 Documentation control

All contractual communications will be in the form of properly compiled letters or forms attached to e-mails and not as a message in the e mail itself. All of which will be copied to the Principal Agent/ Project Manager.

The Contractor will submit the following documents to the Employer for review, the Employer will review the documents for acceptance and inform the Contractor if the documents have been accepted or if it is not accepted and stating the reasons of not the accepting the documentation. The Employer will give the Contractor reasonable time which will be agreed to between the Contractor and the Employer to respond or re-submit the documents.

The documents are as follows:

Title and purpose	**Frequency**
Weekly plan	Every Monday of the week
Weekly progress report, reporting on actual work completed.	Every Friday of the week, reporting on the previous week's progress
Three weeks look ahead plan – detailing planned activity during the period	Monthly
Risk Register	Monthly
Permit to perform work related to civil engineering	When required

All correspondences of either commercial or technical nature, whether hard copy or email, either to Contractor or from Contractor shall clearly include the following information: contract number, subject matter, and document/ correspondence number.
All documents shall be drawn as specified by the Eskom Engineering Drawing Standard – Common Requirements, the document number is **240-8697350**. In addition, a document list shall be delivered in Microsoft Excel format that contains the following fields: "document name", "document type", "version number", "date created" and "created by".

4.3. Health and safety risk management

The *Contractor* shall comply with the health and safety requirements Attached to this tender

4.4. Environmental constraints and management

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

4.5. Quality assurance requirements

Quality Control

The Contractor shall control activities and processes in accordance with **240-105658000**: Eskom Supplier Quality Management Specification (QM58)

The Contractor will be responsible for the verification and signing of the quality inspection / verification points by all parties, the records must be maintained by the Contractor and presented to Eskom on request.

General Quality Requirements to be used during the contract duration

The *Contractor* shall comply with the quality standard conditions as stipulated in section 3.8 of Supplier Quality Management Specification **240-105658000 (QM58)** including but not limited to:

a) The Contractor shall demonstrate, provide and maintain a Quality Management System (QMS) that is ISO 9001 compliant.

b) The contractor shall develop and implement the Quality Method Statement and Contract Quality Plan (CQP)).

c) The Contractor agrees to control and professionally preserve and store appropriate documents, records and recordings to guarantee the traceability of the services rendered and inspection thereof.
d) The delivered services shall be uniform in Quality and condition, consistent with good industry practices and adhere to requested Eskom requirements, without deviation.
e) Eskom shall have the right to conduct surveys and perform surveillance of the Contractor's facilities.
f) Eskom reserves the right to inspect any or all of the work. Verification by Eskom shall not absolve the Contractor of the responsibility to provide acceptable services, nor shall it preclude subsequent rejection by
g) The services must comply with the agreed specifications and the applicable directives set out in the agreement. 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, relating to the scope of work, as signals of opportunities for improvement making process and other relevant changes to prevent recurrence
h) The Contractor shall further identify potential problems before they occur by identifying deviations in patterns or trends in service or process performance.
i) Nothing contained in the Contract shall relieve in any way the Contractor from the obligation of Quality control thereof.
j) The Contractor guarantees that the quantity, Quality and outward appearance of the delivered services will comply with the requirements of the contract and/or relevant specifications.
k) The Contractor shall prove its ability, on request, to relate to the proposed scope of work which establishes the way the Contractor / Consultant intends to perform the Contract.
l) The Contractor shall, on request, prove its organisational, logistics and support resources to ensure the requirements of the contract can be achieved.
m) Eskom reserves the right to assess and measure, in the selection process, the qualifications, capability and competence of the key staff (assigned personnel) in relation to the scope of work and to interview any / all Contractor / Consultant to confirm the Quality evaluation

4.6. Programming constraints

A programme showing the key activities is to be submitted with the tender documents or once appointed within two weeks showing the following:

· Provide Bar Chart outlining start and completion date for construction activities on site. All critical path items must be identified and outlined on the Bar Chart.

· 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 a 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.

4.7. 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 *Employe*r reserves the right to audit and verify the structure. The *Contractor* has a full-time Safety and Health Officers onsite

4.8. 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* submits his claim as per the NEC Payment Certificate format with supporting Activity Schedule on the assessment day. The Contract Number must be clearly visible on the NEC Payment Certificate. The *Employer* assesses the Payment certificates on actual work completed. Any issues regarding the claim are addressed by the *Employer* to the *Contractor*.

On acceptance of the Payment Certificate by the *Employer* the *Contractor* submits his invoice as agreed upon with the *Employer*. Payment will take place as per the NEC Conditions of Contract.

In terms of core clause 50 the *Contractor* assesses the amount due and applies to the *Employer* for payment. The *Contractor* applies for payment with a tax invoice addressed to the *Employer* as follows:

The *Contractor* includes the following information on each tax invoice:

- 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;
- The total Price for Work Done to Date which the Contractor has completed; excluding VAT, the VAT and the invoiced amount including VAT;
- Other amounts to be paid to the Contractor;
- Less amounts to be paid by or retained from the Contractor

The *Contractor* shall address the tax invoice to Eskom Holdings SOC Ltd
Email all invoices to: invoiceseskomlocal@eskom.co.za copies of all invoices shall be forwarded to the *Project Manager*

4.9. Insurance provided by the Employer

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.

4.10. 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.

4.11. 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.

4.12. Training workshops and technology transfer

Contractor shall provide training to Eskom's technical team on how the installed equipment and systems must be operated. This training must be recorded.

4.13. Normative/Informative References

Parties using this document apply the most recent edition of the documents listed in the following paragraphs.

Normative

[1] ISO 9001 Quality Management Systems.

[2] Construction Regulations, 2014

[3] 32-727 - Eskom Safety, Health, Environment and Quality (SHEQ) Policy

[4] Occupational Health and Safety Act No. 95 of 1993,

[5] SANS 9001, Quality management systems

[6] SANS 10400, The Application of the National Building Regulations

[7] 240-56364535, Architectural Design and Green Building Compliance Manual

[8] 240-56364545, Structural Design and Engineering Standard

[9] 240-107981296, Constructability Assessment Guideline

[10] Asbestos Abatement Regulations, 2020

[11] SABS 0228, Code of practice for the Identification and Classification of dangerous substances and goods

[12] SABS 0229, Code of practice for the Packaging of dangerous goods for Road and rail transportation in South Africa

[13] 240-105658000: Supplier Quality Management Specification (QM58)

Informative

[14] 240-53113685, Design Review Procedure

4.14. The Contractor provides:

- A competent supervisor available on site during the execution of the works. Such supervisor acts for and represents the *Contractor* and therefore, all instructions given to him/her by the Employer in writing are binding.
- Design solution in line with the requirements of the technical specification.
- Design solutions are developed by a professional engineer at all design levels.
- Provide methodology for the design execution.
- Provide an integrated schedule for the demolition, design and rebuild construction period.
- Provide cost estimate for the full execution of the works.
- The design and construction are completed in accordance with the *Contractor's* accepted detailed design.

4.14.1. 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:

- The design satisfies the design requirements.
- All relevant Eskom design standards, procedures and guidelines have been adhered to.
- The design is suitable and correct calculations, philosophy, functionality, etc. have been applied.
- The design is integrated by identifying all interfaces with other packages/plant systems/assets and ensuring that these interfaces are catered for.

4.14.2. Eskom Engineering

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

- The design satisfies the stakeholder requirements (i.e., validation of design deliverables against stakeholder requirements);
- The design is integrated by identifying all interfaces with other packages/plant systems/ assets and ensuring that these interfaces are catered for;
- Foreseen technical risks are identified and addressed/challenged with the Design Authority
- General technical oversight is provided over the design.

4.14.3. Contractor’s Design

General

a) Design, engineering, manufacture, quality control, procurement, handling, shipment and transport to/from site, storage, offloading, construction and erection, finishing, installation, commissioning, testing, optimisation and handover of equipment, tools and materials for the *works*.

b) The *Contractor* constructs and erects the *works* in accordance with the *Contractor’s* accepted design and takes cognisance of SANS 2001 and SANS 1200.

c) All *works* are designed for constructability, reliability, and maintainability.

d) The *Contractor* designs and procures all construction material and equipment required to perform the *works*.

e) The *Contractor* identifies and includes all items required to form a complete, reliable, fit for purpose operating *works*, which complies with the requirements as stipulated in this Works Information.

f) The *Contractor* provides all engineering calculations, drawings (hard and soft copy) models, inspection/quality reports, construction records, commissioning test reports, and other documentation as required by the scope of works.

g) The *Contractor* provides dimensioned general arrangement drawings of the designed remedial works and detailed drawings of all components of the *works*, sufficiently detailed for the preparation of maintenance and operating procedures.

h) The *Contractor* supplies drawings and documentation as specified in the Works Information. This includes, but is not limited to, GA drawings, fabrication drawings, construction drawings, as built drawings, maintenance and operating manuals for the fabrication and installation of the *works*.

i) The *Contractor’s* appointed *Professional Engineer* provides technical oversight during fabrication and construction.

j) Other Plant and Materials or items associated with this *works* is utilised with prior approval from the *Project Manager*.

k) The *Contractor* performs Factory Acceptance Testing (FAT) and Site Acceptance Testing (SAT) of the Plant and Materials.

l) The *Contractor* designs and provides all falsework and formwork and any other necessary temporary works for the safe execution of the *works*.

SAFETY

The contractor is expected to exercises/conduct work in accordance with the approved Health and Safety submission, particularly in windy conditions. Should work be interrupted for any reason, all loose roof tiles and incomplete sections are adequately secured against possible movement by wind and gravity.

INSTALLATION

Every precaution is taken to prevent damage to roof structure and Roof tiles during all stages of construction. Roof tiles which has become deformed or damaged in any way is replaced.

HANDLING AND STORAGE

The contractor ensures that all materials used on site for roofing/cladding, be transported, handled and stored in accordance with the manufacturer's recommendations. Material damaged is rejected and replaced with undamaged material at the contractor's expense. Repair of damaged material will not be permitted.

QUALITY ASSURANCE

The manufacturer is assessed and certified as complying with ISO 9001:2015 Quality Management System. A post-installation inspection and certification by the manufacturer is also required for quality assurance.

4.15. Civil and Structural Works

General:

Prior to the execution of the *works*, all design documentation and detailed method statements from the *Contractor* are to be submitted to the *Project Manager* for review and acceptance by the *Employer's* design office.

The *works* comply with but not limited to following codes and standards:

- 240-56364545, Structural design and engineering standard
- 240-56364535, Architectural Design and Green Building Compliance Manual
- SANS 10160, Basis of structural design and actions for buildings and industrial structures
- SANS 10400, The application of the National Building Regulations
- SANS 1200, Standardised specification for civil engineering construction
- SANS 2001, Construction Works
- 0.00/2901, Eskom Standard Stair and Handrail Details
- 240-99527377, Inspection Manual for Civil Works

4.16. Procedure for submission and acceptance of Contractor's design

Configuration Management

Documents Submission

All documents shall be submitted to the Eskom Documentation Centre. The *Contractor* is required to submit the Contractor Document Submission Schedule VDSS as per agreed dates to the Eskom Documentation

Centre. Eskom will pre-allocate document numbers on the VDSS and send back to the *Contractor*. The VDSS is revisable, and changes must be discussed and agreed upon by all parties and properly documented. Changes in the VDSS can be additional documentation to be submitted, changes in submission dates or corrections in documentation descriptions, document numbers, etc. The Contractor Document Submission Schedule VDSS shall indicate the format of documents to be submitted. Eskom shall be responsible to manage the schedule i.e. creates a document register that will be used to track submission progress of documentation by the *Contractor* as per the committed dates on the VDSS.

The *Contractor* lists all project documents (soft copies and hard copies) for submittal on the transmittal with the following metadata fields:

- Title of the document
- Document Unique Identification number
- Revision number
- Name of Discipline
- Reason for issuing/submission
- Sender's detail
- Sent date
- Recipient's Details
- Date received
- Quantity of documentation referenced on the transmittal
- Number of copies
- Format/medium submitted (eg: paper, DVD, etc)
- Sender signature
- Recipient signature, once submitted, to acknowledge receipt

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 Design Review session.
g. The Employer and the *Contractor* conduct a Design Review.
h. If any fundamental errors were found in the designs or further actions are required, the *Contractor* record all concerns raised and revises the designs.
i. The *Contractor* organises a Design Review session once all designs 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 Design 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* design once the report/minutes are accepted by the *Employer's* project team.

n. *Work* shall at all times 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:

Detail Design

- Detail design report
- Coordination between services
- Detail design drawings, including structural steel connection/joining details. Dimensioned detail drawings showing proposed method of fixing and welding together of all the components
- Detailed sequencing manner for waterproofing procedure of works
- 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
- Proposed corrosion protection systems, including data sheets for coating all the steel columns
- Detailed structural sections for complete roof refurbishment work
- Detailed maintenance, reliability, control and operating philosophies
- Testing, balancing and commissioning procedures
- Plant and material acceptance testing
- Detailed Works Information

Structural Detail Design

Detail design of the following is completed in sufficient detail for procurement and manufacture:

- Supports (Steel or Concrete)
- Component specifications
- Corrosion protection

Documentation and Configuration Management

Document identification

All documents supplied by the *Contractor* are subject to the *Employer's* acceptance. The language of all documentation is in 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 his Sub-Contractors. Drawing numbers are assigned by the *Employer* as drawings are developed.
The *Contractor* is required to submit the Vendor Document Submission Schedule (VDSS) as per agreed dates to the delegated *Employer's* Representative. The *Employer* pre-allocates document numbers on the VDSS and sends back to the *Contractor* through the delegated *Employer's* Representative. The VDSS is revisable and changes are discussed and agreed upon by all parties. The *Contractor's* VDSS indicates the format of documents submitted.

Document Submission

All project documents are submitted to the delegated *Employer's* Representative with transmittal note according to Project / Plant Specific Technical Documents and Records Management Work Instruction **(240-76992014).** In order to portray a consistent image it is important that all documents used within the project follow the same standards of layout, style and formatting as described in the Work Instruction.

The *Contractor* is required to submit documents as hard copies and electronic copies in PDF and native CAD formats (.DGN or .DWG which must be compatible with Bentley Microstation). Both copies must be delivered to the *Employer's* Representative with a transmittal note.

Email Subject

The *Contractor* submits all documentation to the *Employer's* Representative in the following media:

- Electronic copies are submitted to Eskom Documentation Centre through generic email address (drmsharedservices@eskom.co.za). The email subject as a minimum has the following: (Station_Project Name_Discipline_Subject). Electronic copies that are too large for email are delivered on USB, large file transfer protocol and/or hard drives to the Project Documentation Centre. In a case where USB/hard drive has been submitted, a notification email, with the transmittal note attached, is sent to the project generic email address. The *Employer's* Representative is copied on the email as well.
- Hard copies are submitted to the *Employer's* Representative accompanied by the Transmittal Note.

As-built drawings, operating manuals and maintenance schedules

The *Contractor* is responsible for the compilation and the supply of all the documentation required during the various project stages and to provide the documentation programmed to link with the milestone dates. Documentation and drawings are programmed for delivery to meet the milestone dates and in accordance with the agreed VDSS.

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*.

All documentation, including reports, manuals, etc. is in the English language.

Documentation System

The *Contractor's* document system is comprehensive in the management and control of the documentation based on a master document. Automatic prevention of duplication of numbering or ambiguity is built into the system.

All documentation submitted, by the *Contractor*, is accompanied by a signed documentation transmittal note.

The *Contractor* provides the following three weeks before the commissioning

- As-built revision of all the design documents;
- Operating and maintenance manuals where applicable.
- Inspections and test records for the tests and inspections required.

Documentation Control

The *Contractor* implements a comprehensive document control of all documents, their revision status and of the document status in relation to the 'as built' and 'as designed' or commonly known as "Approved for Construction" status. Procedures, document control, flow diagrams and indexes are included in this system. The drawing register contains the following information and is submitted monthly in a Microsoft Excel format to the *Employer*:

- 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

Material Certificates

The *Contractor* provides a copy of the Materials Test certificates for all components included in the Data Books.

Final Data Book

The *Contractor* is responsible for the provision of a final data book.

The final data book is broken down in two main categories:

- Technical category
- Cost and planning category

The document contains all the relevant documentation, designs, drawings including as-built drawings, materials certificates, and product specifications on all products used, tests and results etc. which were applicable during the contract. The *Contractor* ensures that all relevant documentation is traceable and cross referenced where applicable.

All planning, scheduling, bar charts, milestones, detailed cost breakdown information, packing and transport are included in the final document.

The content is laid out in a logical manner with main and sub-sections where all the relevant documentation is grouped.

The contents are presented in a hard cover file or files.

The data packages are prepared on a daily basis for all completed work.

Two hard copies and one soft copy of the Data Book are handed to the *Employer* for acceptance.

Civil Structural Drawings

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 Civil Engineer (including Pr. Eng. Number and signature evident on all civil and structural drawings).

4.17. Other requirements of the Contractor’s design

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

4.18. 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*.

4.19. Design of Equipment

The minimum general components design criterion that is to be met is as follows:

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 20 years under the conditions prevailing at Vryburg Area Building.
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 days 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.

4.20. Equipment to be included in the works

The *Contractor* is required to provide *Equipment* required for the execution of the complete *Works* as detailed by the scope of work.

4.21. As-built drawings, operating manuals and maintenance schedules

The operating and maintenance manuals are to be detailed enough to operate, maintain, dismantle, reassemble, adjust and repair all newly installed finishes, equipment and all other Materials.

As-built Drawings

The *Contractor* is to provide “As Built” drawings based on the shop drawings embodying all modifications made during construction. The “As Built” drawings are to include layout and sections of all works designed for execution as per the scope the of work. Safety and operation drawings must also be included “. Two hard copies (A1 size) as well as PDF copies saved on a memory stick - of “As Built” drawings are to be submitted to the *Employer* for *Acceptance*.

4.22. Procurement

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

- Preparation of Employer approved supplier and Sub-Contractor’s lists for equipment and contracts to be submitted to the Employer for review and approval.
- Follows the least cost and time saving procurement strategies.
- Contract management services for the selection, appointment and management of Sub-Contractors, where required to execute the scope.
- Obtains delivery dates from Sub-Contractors and suppliers in order to realize the Completion Date;
- 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 within.
- 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.
- 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.
- 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.

4.22.1. People

4.22.1.1. Minimum requirements of people employed on the Site

- All Contractors personnel are subjected to access control conditions as per Eskom requirements.
- 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.
- Workers are restricted to the area of activity in close proximity to the construction/refurbishment area.
- The Contractor recruits within the immediate District Municipality for general labour/ skills to execute the project.

4.22.1.2. BBBEE and preferencing scheme

Contractors has a minimum BBBEE Level 4 rating.

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

Not applicable for this Contract

4.23. Subcontracting

4.23.1. 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.

The *Contractor* coordinates his activity with other subcontractors who would be directly employed by the *Employer* for parts of the work not included in the scope of work

4.23.2. 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.

4.23.3. Limitations on subcontracting

As per Eskom requirements, subcontracting will be limited to 30% as far as possible. The *Employer* is notified where subcontracting exceeds the 30% threshold prior to commencement of the specific subcontracting works.

4.23.4. Attendance on subcontractors

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

4.24. Plant and Materials

4.24.1. Quality

The *Contractor* will not use 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 buildings to achieve required reliability and availability. 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*.
Materials shall withstand ambient conditions and the variations of temperature arising under working conditions without distortion, deterioration or undue strains in any part.

No repair of defective 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 construction 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:

a. Design Review
b. Factory Acceptance Test
c. Delivery to Site
d. Erection
e. Site Acceptance Test
f. All manuals and drawings (in the specified format)
g. 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*:

a. Construction, layout and component *Acceptance*s
b. Type and routine test certificates
c. Construction (and as-built) drawings and *Acceptance*s

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)

4.24.2. Plant & Materials provided "free issue" by the Employer

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

4.24.3. Contractor's procurement of Plant and Materials

The *Contractor* takes all necessary steps to ensure that all Materials are adequately protected against damage during shipping, transport and storage.
Hoarding should be provided / erected around all material stored on site

4.24.4. Spares and consumables

None – no spares required

4.25. 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 Materials necessary to ensure the correct quality of 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 *Employer* reserves the right to reject items that do not conform to the *Employer's* requirements.

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:

a. Inspection of paint work and corrosion protection.
b. Verification that the waterproofing material is correct.
c. Verification that all components installed are correct.
d. Verification that all labels are correct.
e. All required concrete strength tests

4.26. Marking Plant and Materials outside the Working Areas

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

4.27. Contractor's Equipment (including temporary works).

The *Contractor* provides the following in order to complete the *works*:
a. All scaffolding required
b. Any *Equipment* necessary to complete the *works*
c. Lifting facilities
d. All material to be used for hoarding purposes

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

5. Construction

General
The *Contractor* is required to:

a) Adhere to the South African Environment Protection Act, the waste management code of practice and the South African Occupational Health and Safety Act No. 85 of 1993, the regulations promulgated thereunder and Eskom Safety, Health, Environment and Quality (SHEQ) Policy 32-727 for all *works*.

b) Submit a comprehensive method statement of the entire *works* to the *Project Manager* for acceptance prior to the start of the *works*

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

d) Submit a detailed level 3 schedule for the *works* to the *Project Manager* for acceptance 2 weeks after contract award.

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

f) Dispose of all rubble at a waste disposal site to be approved by the *Employer*. The waste disposal site is selected to suit the classification of the materials to be disposed of. Certificates of disposal are submitted to the *Employer*.

g) Continuously monitor the condition in demolition areas and surrounding areas for any hazardous substances and in such case, the *Contractor* is takes necessary precautionary measures.

h) Manage his access to the working areas and the Site.

i) Manage his activities on Site to ensure that no interference takes place between his work and that of others.

j) Complete "Contract Activities Daily Reports".

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

l) Liaise with the *Project Manager* regarding the location of waste disposal sites and rubbish dumps,

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

n) Immediately report any potential labour disharmony to the *Project Manager*.

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

Construction and Erection

a) The *Contractor* is responsible for the safety of all personnel involved in the *works* as well as the safety of all personnel at Vryburg Main Building who shall be affected by the construction of the *works*.

b) The *Contractor* is responsible for the design, erection, maintenance and removal of all temporary or falsework required for the execution of the *works*.

c) The *Contractor* takes all necessary precautions to ensure that none of the existing structures and services that are not in the scope of *works* is damaged during any demolition required. In the event that structures and services which are not in the scope of work is damaged, the *Contractor* is liable to repair or replace the damaged items at their own cost.

d) All construction works complies with SANS 1200 standardised specification for civil engineering construction.

Quality Management

1. The *Contractor* submits a fully detailed Quality Control Plan (QCP) for acceptance within one week of the Contract Date.
2. The *Contractor* submits a schedule of unpriced orders to be placed and this is updated regularly.
3. The *Contractor* is responsible for defining the level of QA/QC (intervention Points) or inspection to be imposed on his *Subcontractors* and suppliers of material in the Quality Control Plans (QCPs). This level is based on the criticality of plant and materials and is submitted to the *Employer* for acceptance.
4. Product data sheets and product samples are submitted for review and acceptance by the *Project Manager* after contract award and prior to the commencement of work.
5. All quality control documentation is submitted to the *Project Manager* within 7 days of Contract Date.

Handover

The *Contractor* is responsible for the provision of a final data book. The document contains all the relevant documentation, designs, drawings including as-built drawings, materials certificates, and product specifications on all products used, tests and results etc. which were applicable during the contract. The *Contractor* ensures that all relevant documentation is traceable and cross referenced where applicable.

Data Book

a) Apart from any statutory data packages required, the *Contractor* also compiles a data package of the relevant drawings, test certificates etc. which he submits to the *Project Manager* for acceptance. These include, but are not limited to:

- Document List
- Instruction for Work/Purchase Order
- Approved ITP’s, QCP’s
- Method statements and specification adhered to

- Rigging studies (if applicable)
- Risk assessments
- Approved Drawings
- Fabrication Drawings
- Material Certificates
- Approved NDT procedure
- NDT Reports / Results
- Certificate of Manufacture
- Inspection Reports
- Corrosion Protection Consumables Certificates
- Calibration Certificates
- Notifications
- Modifications
- Concessions
- TQ's, ER's and communication with Employer
- Non-conformance reports
- Internal Release Notes
- Transport notifications
- Additional
- Calculations for any temporary works that may be required for the safe execution of the works.
- Concrete cube test results and reports
- Welding procedure specifications
- Welder qualifications
- Non-destructive weld test results
- Weld test certificates
- Steel grade certificates
- Concrete test results
- As-built data and drawings of the completed *works* upon handover. As-built drawings are submitted in PDF and native CAD formats (.DGN)
- Structural Certificate signed by the Professional Civil Engineer confirming that *works* have been constructed in accordance with the design.

The contents are presented in a hard cover file or files.

The data packages are prepared on a daily basis for all completed work.

Two hard copies and one soft copy of the Data Book are handed to the *Employer* for acceptance.

Data Books are submitted for review and acceptance before completion of the *works* to the *Employer.*

5.1. Temporary works, Site services & construction constraints

5.1.1. Employer's Site entry and security control, permits, and Site regulations

The two sites are in a part of an existing campus, with existing buildings all around, some buildings are currently occupied.

1. The *Contractor* attends the **Compulsory site clarification meeting** prearranged by the *Employer* prior to submitting tender.
2. The *Contractor* to ensure that he familiarizes himself with entire Vryburg Main Building site conditions.
3. *Contractor* access is limited to the Vryburg Main Building areas and *Contractor's* staff is prohibited from roaming in the rest of the facility.
4. Eskom Holdings indemnifies themselves from any negligent events by the *Contractor* relating to the scope of the works within the contract period
5. The *Contractor*, his staff and the Sub-contractors maintain identification at all times e.g. Uniforms etc.
6. The *Contractor* is deemed to execute Safety Procedures to ensure the safety of his staff, Sub-contractors, Eskom staff during the Contract Period.
7. Use of power and loud tools to be controlled and/or managed with Eskom office management team.
8. The safety of the *Contractors Employees*, Subcontractors and building's tenants takes preference over the scope of the works of this project.
9. 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.

5.1.2 Restrictions to access on Site, roads, walkways, and barricades

1. The *Employer* provides the *Contractor* with an Access Certificate to formally provide access to the site.
2. The *Contractor* ensures that he is familiar with conditions of access to the buildings, which includes constraints to damaged access road, limited parking and no goods lift is available.
3. The *Contractor* adheres to all the requirements which include, but not restricted to:
    a. Identity cards with photographs
    b. 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.
4. The Contractor will be responsible for external disputes which may occur about the *works*.
5. 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.

5.1.3 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 a*dequate notice if this is planned.

5.1.4 Health and safety facilities on Site

Refer to SHE specifications issued.

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

The *Contractor* will 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.

5.1.6 Title to materials from demolition and excavation

None.

5.1.7 Cooperating with and obtaining acceptance of Others

The Vryburg Main Building is a stand-alone building on the site, therefore access onto this area does not require any coordination with other Contractors on site. The building / site is currently un-occupied and access into certain parts of the building will have to be pre-arranged and agreed upon beforehand.

5.1.8 Publicity and progress photographs

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

5.1.9 Contractor's Equipment

The C*ontractor* 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.

Security of materials on sites:

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

Material and Bill of Quantities

- Storage and security of material is the responsibility of the *Contractor* until the Final Completion Certificate is certified. The *Contractor* is responsible for all costs involved to expedite lost, damaged or stolen material.

5.1.10 Equipment provided by the Employer

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

5.1.11 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.

5.1.12 Facilities provided by the Contractor

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

- Suitable facilities for *Contractor* to store all material and equipment

- Suitable facilities for his employees for changing
- Facilities for the consumption of food
- Site offices
- Toilet/Ablution facilities
- Other temporary facilities required by the *Contractor*

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

Contractor is to investigate existence of any underground services before commencement of work

5.1.14 Survey control and setting out of the works

It is the *Contractors* responsibility to ensure accuracy when performing setting out of the *works*,
The *Contractor* shall provide adequate fastening to existing connection points.

5.1.15 Excavations and associated water control

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

5.1.16 Above ground services, other existing services, cable and pipe trenches and covers

There is limited information regarding existing roof finishes
The *Contractor* is required to conduct Scanning to determine the existing services in the roof slab and provide this information as As-Build drawings to the *Employer*

5.1.17 Control of noise, dust, water and waste

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

5.1.18 Sequences of construction or installation

N/A.

5.1.19 Giving notice of work to be covered up

All communication shall be in writing

5.1.20 Hook ups to existing works

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*.

5.2 Completion, testing, commissioning, and correction of Defects

5.2.1 Work to be done by the Completion Date

The following is mandatory.

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

a. Signed waterproofing and safety clearance certificates have been submitted.
b. The final as-built drawings have been submitted.
c. All documentation has been submitted including testing reports and the associated certificates received. All Quality Control Plan (QCP) documentation received.
d. Technical, Operating, Maintenance manuals have been delivered.
e. All documentation *and* as-built drawings are coded and labelled.

5.2.2 Use of the works before Completion has been certified

N/A

5.2.3 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 buildings.
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 North West 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

5.2.4 Commissioning

Commissioning shall be done after Completion

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

No alterations or adjustments will be made to the *Works* after functional checks are done without the *Employer's* written permission.
At this stage the following must have been achieved:

a. Installation and pre-commissioning completed.
b. Testing report and the associated certificates received.
c. Signed erection and safety clearance certificates received.
d. Final Draft of the Technical, Operating, Maintenance manuals delivered.
e. All Quality Control Plan (QCP) documentation received.

5.2.6 Take over procedures

The *Employer* takes over the *Works* on *Completion Date* of the Accepted Program.

5.2.7 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

5.2.8 Performance tests after completion

The *Project Manager* arranges the date and access to site for the Contractor to do water leak tests on all the new roofs. All work to be witnessed and accepted by *Employer* - to be free of leaks or any visual defects

5.2.9 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 preferably be offered during the commissioning and testing for a minimum of ten (10) personnel. 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. Measures that can be taken to optimise energy efficiency
d. Occupational health and safety (OH&S) issues
e. Maintenance requirements and sourcing replacements
f. 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.

5.2.10 5.2.10 Operational maintenance after Completion

N/A

6. Plant and Materials standards and workmanship

Refer to Technical Specification document - 363-ERE-AABZ18-PN0012-2

6.1 Investigation, survey, and Site clearance

Contractor shall investigate underground services before commencement of any excavation work
All existing services shall be sufficiently protected before commencement of any excavation work

6.2 Civil engineering and structural works

Refer to Technical Specification document - 363-ERE-AABZ18-PN0012-2

Codes and Standards

The design complies with the following codes and standards

Number	Title
240-56364535	Architectural Design and Green Building Compliance Manual
240-56364545	Structural Design and Engineering Standard
240-99527377	Inspection Manual for Civil Works
240-76992014	Project / Plant Specific Technical Documents and Records Management Work Instruction
240-86973501	Engineering drawing Standard
AWS D1.1	American Welding Society - Structural Welding Code - Steel
SANS 10044-1	Welding Part 1: Glossary of terms
SANS 10064	The preparation of steel surfaces for coating
SANS 10100-1	The Structural Use Of Concrete Part 1 – Design
SANS 10100-2	The Structural Use Of Concrete Part 2 – Materials and execution of work
SANS 10160	Basis of structural design and actions for buildings and industrial structures
SANS 10162-1	The structural use of steel Part 1: Limit-states design of hot- rolled steelwork
SANS 10162-2	The structural use of steel Part 2: Cold-formed steel structures
SANS 10313	Lightning protection
SANS 10400	The Application of the National Building Regulations
SANS 1200	Standardised specification for civil engineering construction
SANS 121	Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods

Number	Title
SANS 2001	Construction *Works*
SANS 2001-CS1	Construction *works* Part CS1: Structural steelwork
SANS 2553	Welded, brazed and soldered joints - Symbolic representation on drawings
SANS 50025 series	Hot rolled products of structural steels Parts 1-6
SANS 9606-1	Approval testing of welders - Fusion welding Part 1: Steels

Other [as required]

7. List of drawings and Documents

7.1 Drawings and Documents 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/Document number	Revision	Title
240-56364545	**3**	Structural Design and Engineering Standard
240-56364535	**3**	Architectural Design and Green Building Compliance Manual
240-99527377	**2**	Inspection Manual for Civil Works at Eskom's Power Stations
0.00/2901	**9**	Standard stair and handrail details
Drawing		Vryburg Main Building layout of existing building (architectural floor plans)

C3.2 *CONTRACTOR*'S WORKS INFORMATION

The *Contractor* conducts all other assessments including the Structural Conditional Assessment of the existing structures as deemed necessary for the execution of the roof replacement.

The *Contractor* develops detailed design and construction drawings in accordance with the *Employers* concept information, Specifications and Standards.

The construction is completed in accordance with the *Contractor's* accepted detailed design

The *Contractor* provides a methodology and schedule for the execution of the *works*.

The *Contractor* provides a cost for the full execution of the *works*.

The *Contractor* is responsible for obtaining any permission, approval, concession, permit, or licence required prior to commencement of the *works*

The Contractor to produce as built drawings to be submitted to the *Employer* at the end of the project

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

Description of the Site and its Surroundings

Hidden services

All services whether underground or above ground and on the roof shall be verified and confirmed by the contractor before starting with the work. This shall also be discussed with the project team to plan accordingly and confirm before starting with the work.