



NEC3 Engineering & Construction Contract

Between **ESKOM HOLDINGS SOC Ltd**
(Reg No. 1990/006897/30)

and **XXXXXXXXXXXXXXXXXXXXX**
(XXXXXXXXXXXXXXXXXXXXX)

for **The provision of MV MOTOR Maintenance and Repairs
for 4 years**

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CONTRACT No.

Documentation prepared by:

Part C1: Agreements & Contract Data

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C1.1 Form of Offer & Acceptance

Offer

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

The provision of MV Motor Maintenance and Repairs for 4 years

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

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

Options A B, C or D	The offered total of the Prices exclusive of VAT is	As when required contract with rates
Option E or F	The first forecast of the total Defined Cost plus the Fee exclusive of VAT is	As when required contract with rates
	Sub total	As when required contract with rates
	Value Added Tax @ 15% is	As when required contract with rates
	The offered total of the amount due inclusive of VAT is ¹	As when required contract with rates
	Including VAT, and for the full 4 years term:	

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

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*.

Tenderer’s CIDB registration number (if applicable)

Acceptance

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

The terms of the contract, are contained in:

Part C1	Agreements and Contract Data, (which includes this Form of Offer and Acceptance)
Part C2	Pricing Data
Part C3	Scope of Work: Works Information
Part C4	Site Information

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

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

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

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

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

Signature(s)

Name(s)

Capacity

for the
Employer

Sizo Myeni: General Manager

Bulk Material Services

Eskom Rotek Industries SOC Ltd.
Lower Germiston Road
Cleveland
2022

(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:

- 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.
- 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.
- 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		Not applicable
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

xxxxxxx
xxxxxxxxxxx
xxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxx

Sizo Myeni: General Manager

Bulk Material Services

**Eskom Rotek Industries SOC Ltd.
Lower Germiston Road
Cleveland
2022**

Name &
signature
of witness

Date

C1.2 ECC3 Contract Data

Part one - Data provided by the *Employer*

Clause	Statement	Data
1	General	
	The <i>conditions of contract</i> are the core clauses and the clauses for main Option	
		A: Priced contract with price list
	dispute resolution Option and secondary Options	W1:
		X1: Price adjustment for inflation
		X2 Changes in the law
		X17: Low performance damages
	of the NEC3 Engineering and Construction Contract, April 2013 (ECC3)	
10.1	The <i>Employer</i> is (Name):	Eskom Rotek Industries SOC Ltd (Reg no: 1990/006897/30), a state owned company incorporated in terms of the company laws of the Republic of South Africa
	Address	Bulk Material Services Lower Germiston Road Cleveland 2022



10.1	The <i>Project Manager</i> is: (Name)	Kefentse Letsoko
	Address	Bulk Material Services Lower Germiston Road Cleveland 2022
	Tel	+27 13 693 2316
	Fax	+27 82 491 5718
	e-mail	LetsokKW@ eskom.co.za
10.1	The <i>Supervisor</i> is: (Name)	Lindiwe Nkonde
	Address	Bulk Material Services Lower Germiston Road Cleveland 2022
	Tel No.	+27 73 254 4041
	Fax No.	
	e-mail	NkondeL@eskom.co.za
11.2(13)	The <i>works</i> are	The provision of MV MOTOR MAINTENANCE AND REPAIRS SERVICES.
11.2(14)	The following matters will be included in the Risk Register	Not applicable
11.2(15)	The <i>boundaries of the site</i> are	Not applicable
11.2(16)	The Site Information is in	Part 3: Scope of the Work and all documents and drawings to which it makes references.
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 <i>law of the contract</i> is the law of	the Republic of South Africa
13.1	The <i>language of this contract</i> is	English
13.3	The <i>period for reply</i> is	2 days. However a 24 hour reply is required after any notification

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 <i>completion date</i> for the whole of the <i>works</i> is	4 years (Started on the XXXXXXXXXXXX)		
11.2(9)	The <i>key dates</i> and the <i>conditions</i> to be met are:	<i>Condition to be met</i>		<i>key date</i>
		1		
		2		
		3		
30.1	The <i>access dates</i> are:	Part of the Site		Date
		1	[•]	[•]
		2	[•]	[•]
		3	[•]	[•]
31.1	The <i>Contractor</i> is to submit a first programme for acceptance within	[•] weeks of the Contract Date.		
31.2	The <i>starting date</i> is	[•]		
32.2	The <i>Contractor</i> submits revised programmes at intervals no longer than	[•] weeks.		
35.1	The <i>Employer</i> is not willing to take over the <i>works</i> before the Completion Date.	[No data needed if this statement is included]		
4	Testing and Defects			
42.2	The <i>defects date</i> is	[•] weeks after Completion of the whole of the <i>works</i> .		
43.2	The <i>defect correction period</i> is	[•] weeks		
	except that the <i>defect correction period</i> for	[•] is [•] weeks		
	and the <i>defect correction period</i> for	[•] is [•] weeks		
5	Payment			
50.1	The <i>assessment interval</i> is	Upon completion of each individual service		
51.1	The <i>currency of this contract</i> is the	South African Rand.		
51.2	The period within which payments are made is	30 days after receipt of a tax compliant invioeces.		
51.4	The <i>interest rate</i> 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)	<p>The place where weather is to be recorded is:</p> <p>The <i>weather measurements</i> to be recorded for each calendar month are,</p> <p>The <i>weather measurements</i> are supplied by</p> <p>The <i>weather data</i> are the records of past <i>weather measurements</i> for each calendar month which were recorded at:</p> <p>and which are available from:</p>	<p>[•]</p> <p>the cumulative rainfall (mm)</p> <p>the number of days with rainfall more than 10 mm</p> <p>the number of days with minimum air temperature less than 0 degrees Celsius</p> <p>the number of days with snow lying at 09:00 hours South African Time</p> <p>and these measurements:</p> <p>[•]</p> <p>[•]</p> <p>the South African Weather Bureau and included in Annexure A to this Contract Data provided by the <i>Employer</i></p>
60.1(13)	Assumed values for the ten year return <i>weather data</i> for each <i>weather measurement</i> for each calendar month are:	<p>As stated in Annexure A to this Contract Data provided by the <i>Employer</i>.</p> <p>Note: If this arrangement is used, delete the rows above for 60.1(13) and delete this note.</p>
7	Title	There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.

8 Risks and insurance

80.1	These are additional <i>Employer's</i> risks	1. Not applicable
83.1	The employer provides these insurance from the insurance Table	2. As stated for "Format TSC3" available on http://www.eskom.co.za/Tenders/insurancepolicies/procedures/pages/EIMS_Policies_
83.1	The Contractor provides these additional insurance	3. Whatever the Contractor deems necessary to protect his assets.
83.1	The minimum amount of cover for insurance against loss and damage caused by the <i>Contractor</i> to the <i>Employer's</i> property is	The amount of the deductibles relevant to the event described in the 'Format TSC3' insurance policy available on http://www.eskom.co.za/Tenders/InsurancePolices/Procedures/Pages/EIMS_Policies_From 1 April 2014 To 31 March 2015.aspx
83.1	The insurance against loss of or damages to the <i>works</i> , Plant and Material is to include cove for Plant and Materials provided by the <i>Employer</i> for an amount of	The amount of the deductible relevant to the event described in the "Format TSC3" insurance policy available on http://www.eskom.co.za/Tenders/InsurancePolices/Procedures/Pages/EIMS_Policies_From 1 April 2014 To 31 March 2015.aspx
83.1	The minimum amount of cover for insurance in respect of loss of or damage to property (<i>except the Employer's</i> property, Plant and Materials and equipment) and liability for bodily injury to or death of a person (not an employee of a contractor) arising from or in connection with the <i>Contractor's</i> Providing the Service for any one event is:	Whatever the <i>Contractor</i> deems necessary, but to the minimum, as to what is required by Law.
83.1	The minimum limit of indemnity for insurance in respect of death of or bodily injury to employees of the <i>Contractor</i> arising out of and in the course of their employment in connection with this contract for any one event is:	As prescribed by the Compensation for Occupational Injuries and Diseases Act No.130 of 1993 and the <i>Contractor's</i> 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 Rand)

9 Termination

There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.

10 Data for main Option clause

A	Priced contract with activity schedule	There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.
B	Priced contract with bill of quantities	
60.6	The <i>method of measurement</i> is	[•] published by [•] and amended as stated in Part C2.1, Pricing Assumptions.
C	Target contract with activity schedule	

20.4	The <i>Contractor</i> prepares forecasts of Defined Cost for the <i>works</i> at intervals no longer than [●]weeks.		
50.6	The <i>exchange rates</i> are those published in [●] on [●] (date).		
53.1	The <i>Contractor's share percentages</i> and the <i>share ranges</i> are	<i>share range</i> less than [●] % from [●]% to [●]% from [●] to [●]% greater than [●]%	<i>Contractor's share percentage</i> [●]% [●]% [●]% [●]%
D	Target contract with bill of quantities		
20.4	The <i>Contractor</i> prepares forecasts of Defined Cost for the <i>works</i> at intervals no longer than [●] weeks.		
50.6	The <i>exchange rates</i> are those published in [●] on [●] (date).		
53.1	The <i>Contractor's share percentages</i> and the <i>share ranges</i> are	<i>share range</i> less than [●]% from [●]% to [●]% from [●]% to [●]% greater than [●]%	<i>Contractor's share percentage</i> [●]% [●]% [●]% [●]%
60.6	The <i>method of measurement</i> is	[●] published by [●] and amended as stated in Part C2.1 Pricing Assumptions.	
E	Cost reimbursable contract		
20.4	The <i>Contractor</i> prepares forecasts of Defined Cost for the <i>works</i> at intervals no longer than [●] weeks.		
50.7	The <i>exchange rates</i> are those published in [●] on [●] (date).		
F	Management contract		
20.4	The <i>Contractor</i> prepares forecasts of Defined Cost for the <i>works</i> at intervals no longer than [●] weeks.		
50.7	The <i>exchange rates</i> are those published in [●] on [●] (date).		
11	Data for Option W1		
W1.1	The <i>Adjudicator</i> is	the person selected from the ICE-SA Division (or its successor body) of the South African Institution of Civil Engineering Panel of Adjudicators by the Party intending to refer a dispute to him. (see www.ice-sa.org.za). If the Parties do not agree on an Adjudicator the	

		Adjudicator will be appointed by the Arbitration Foundation of Southern Africa (AFSA).			
	Address	[•]			
	Tel No.	[•]			
	Fax No.	[•]			
	e-mail	[•]			
W1.2(3)	The <i>Adjudicator nominating body</i> 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 <i>tribunal</i> is:		arbitration.		
W1.4(5)	The <i>arbitration procedure</i> is		the latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body.		
	The place where arbitration is to be held is		Johannesburg, South Africa		
	The person or organisation who will choose an arbitrator		the Chairman for the time being or his nominee of the Association of Arbitrators (Southern Africa) or its successor body.		
	- if the Parties cannot agree a choice or - if the arbitration procedure does not state who selects an arbitrator, is				
12	Data for secondary Option clauses				
X1	Price adjustment for inflation				
X1.1(a)	The <i>base date</i> for indices is		Will be at the current CPIX, on the anniversary date, of this contract, as declared by the National Treasure.		
X1.1(c)	The proportions used to calculate the Price Adjustment Factor are:		proportion	linked to index for non-adjustable	Index prepared by
	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.		

X3	Multiple currencies			
X3.1	The <i>Employer</i> will pay for these items or activities in the currencies stated	Items & activities	Other currency	Maximum payment in other currency
		[•]	[•]	[•]
		[•]	[•]	[•]
		[•]	[•]	[•]
		[•]	[•]	[•]
X3.1	The <i>exchange rates</i> are those published in	[•] on [•] (date)		
		The items & activities will be paid in the other currency - to a foreign Bank account nominated by the <i>Contractor</i> - to a valid SARB approved CFC account in South Africa - in accordance with an alternative payment method agreed with the <i>Employer</i> before the Contract Date. (select one of the three methods as agreed with successful tenderer and delete the others and this note)		
X4	Parent company guarantee	There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.		
X5	Sectional Completion			
X5.1	The <i>completion date</i> for each <i>section</i> of the <i>works</i> is:	Section	Description	Completion date
		1	[•]	[•]
		2	[•]	[•]
		3	[•]	[•]
X5 & X6	Sectional Completion and bonus for early Completion used together			
X6.1 X5.1	The bonuses for early Completion of the <i>sections</i> of the <i>works</i> are:	section	Description	Amount per day
		1	[•]	R[•]
		2	[•]	R[•]
		3	[•]	R[•]
	Remainder of the <i>works</i>			R[•]
X5 & X7	Sectional Completion and delay damages used together			
X7.1 X5.1	Delay damages for late Completion of the <i>sections</i> of the <i>works</i> are:	section	Description	Amount per day

		1	[•]	R[•]
		2	[•]	R[•]
		3	[•]	R[•]
	Remainder of the <i>works</i>			R[•]
	The total delay damages payable by the <i>Contractor</i> does not exceed:	R [•]		
X6	Bonus for early Completion (but not if Option X5 is also used)			
X6.1	The bonus for early Completion of the whole of the <i>works</i> is	[•] per day		
X7	Delay damages (but not if Option X5 is also used)			
X7.1	Delay damages for Completion of the whole of the <i>works</i> are	R[•] per day up to a limit of R[•]		
X12	Partnering			
X12.1(1)	The <i>Client</i> is (Name)	[•]		
	Address	[•]		
	Tel	[•]		
	Fax	[•]		
X12.2(1)	The <i>Client's</i> objective is.	[•]		
X12.1(4)	The Partnering Information is in	[•]		
X13	Performance bond			
X13.1	The amount of the performance bond is	R[•].		
X14	Advanced payment to the <i>Contractor</i>			
X14.1	The amount of the advanced payment is	R[•].		
X14.2	An advanced payment bond	is required.		
X14.3	The <i>Contractor</i> repays the instalments in assessments starting not less than	[•] weeks after the Contract Date.		
X14.3	The instalments are	R[•] (either an amount or a percentage of the payment otherwise due)		
	Limitation of the <i>Contractor's</i> liability for his design to reasonable skill & care	There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.		
	Retention (not used with Option F)			
X16.1	The <i>retention free amount</i> is	R[•].		
	The <i>retention percentage</i> is	[•]%		
X17	Low performance damages			

X17.1	The amounts for low performance damages are	Part 3, Scope of , of this Contract.	
X18	Limitation of liability		
X18.1	The <i>Contractor's</i> liability to the <i>Employer</i> for indirect or consequential loss is limited to:	R0.0 (zero Rand)	
X18.2	For any one event, the <i>Contractor's</i> liability to the <i>Employer</i> for loss of or damage to the <i>Employer's</i> property is limited to:	the amount of the deductibles relevant to the event described in the "Format TSC3" insurance policy available on <i>http://www.eskom.co.za/Tenders/Insurance Policies/Procedures/Pages/EIMS_Policies_From 1 April 2014 To 31 March 2015.aspx</i>	
X18.3	The <i>Contractor's</i> liability for Defects due to his design which are not listed on the Defects Certificate is limited to	Not applicable	
X18.4	The <i>Contractor's</i> total liability to the <i>Employer</i> for all matters arising under or in connection with this contract, other than excluded matters, is limited to:	the total of the Prices other than for the additional excluded matters. The <i>Contractor's</i> total liability for the additional excluded matters is not limited. The additional excluded matters are amounts for which the <i>Contractor</i> is liable under this contract for <ul style="list-style-type: none"> • Loss of or damage to property (other than the <i>Employer's</i> property, Plant and Materials). • Death of or Injury to a person and • Infringement of an intellectual property right. 	
X18.5	The <i>end of liability date</i> is	(i) 52 months after the completion of each individual and or repair Refer to clause Z9 (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 <i>Employer</i> or the <i>Supervisor</i> before the <i>defects date</i>, without requiring any inspection not ordinarily carried out by the <i>Employer</i> or the <i>Supervisor</i> 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.

X20	Key Performance Indicators (not used when Option X12 applies)
X20.1	The <i>incentive schedule</i> for Key Performance Indicators is in Annexure [●] to this Contract Data
X20.2	A report of performance against each Key Performance Indicator is provided at intervals of [●] months
Z	The <i>Additional conditions of contract</i> are Z1 to Z15 always apply.

Z1 Cession delegation and assignment

- Z1.1 The *Contractor* does not cede, delegate or assign any of its rights or obligations to any person without the written consent of the *Employer*.
- Z1.2 Notwithstanding the above, the *Employer* may on written notice to the *Contractor* cede and delegate its rights and obligations under this contract to any of its subsidiaries or any of its present divisions or operations which may be converted into separate legal entities as a result of the restructuring of the Electricity Supply Industry.

Z2 Joint ventures

- Z2.1 If the *Contractor* constitutes a joint venture, consortium or other unincorporated grouping of two or more persons or organisations then these persons or organisations are deemed to be jointly and severally liable to the *Employer* for the performance of this contract.
- Z2.2 Unless already notified to the *Employer*, the persons or organisations notify the *Project Manager* within two weeks of the Contract Date of the key person who has the authority to bind the *Contractor* on their behalf.
- Z2.3 The *Contractor* does not alter the composition of the joint venture, consortium or other unincorporated grouping of two or more persons without the consent of the *Employer* having been given to the *Contractor* in writing.

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

- Z3.1 Where a change in the *Contractor's* legal status, ownership or any other change to his business composition or business dealings results in a change to the *Contractor's* B-BBEE status, the *Contractor* notifies the *Employer* within seven days of the change.
- Z3.2 The *Contractor* is required to submit an updated verification certificate and necessary supporting documentation confirming the change in his B-BBEE status to the *Project Manager* within thirty days of the notification or as otherwise instructed by the *Project Manager*.
- Z3.3 Where, as a result, the *Contractor's* B-BBEE status has decreased since the Contract Date the *Employer* may either re-negotiate this contract or alternatively, terminate the *Contractor's* obligation to Provide the Works.

- Z3.4 Failure by the *Contractor* to notify the *Employer* of a change in its B-BBEE status may constitute a reason for termination. If the *Employer* terminates in terms of this clause, the procedures on termination are P1, P2 and P3 as stated in clause 92, and the amount due is A1 and A3 as stated in clause 93.

Z4 Confidentiality

- Z4.1 The *Contractor* does not disclose or make any information arising from or in connection with this contract available to Others. This undertaking does not, however, apply to information which at the time of disclosure or thereafter, without default on the part of the *Contractor*, enters the public domain or to information which was already in the possession of the *Contractor* at the time of disclosure (evidenced by written records in existence at that time). Should the *Contractor* disclose information to Others in terms of clause 25.1, the *Contractor* ensures that the provisions of this clause are complied with by the recipient.
- Z4.2 If the *Contractor* is uncertain about whether any such information is confidential, it is to be regarded as such until notified otherwise by the *Project Manager*.
- Z4.3 In the event that the *Contractor* is, at any time, required by law to disclose any such information which is required to be kept confidential, the *Contractor*, to the extent permitted by law prior to disclosure, notifies the *Employer* so that an appropriate protection order and/or any other action can be taken if possible, prior to any disclosure. In the event that such protective order is not, or cannot, be obtained, then the *Contractor* may disclose that portion of the information which it is required to be disclosed by law and uses reasonable efforts to obtain assurances that confidential treatment will be afforded to the information so disclosed.
- Z4.4 The taking of images (whether photographs, video footage or otherwise) of the *works* or any portion thereof, in the course of Providing the Works and after Completion, requires the prior written consent of the *Project Manager*. All rights in and to all such images vests exclusively in the *Employer*.
- Z4.5 The *Contractor* ensures that all his subcontractors abide by the undertakings in this clause.

Z5 Waiver and estoppel: Add to core clause 12.3:

- Z5.1 Any extension, concession, waiver or relaxation of any action stated in this contract by the Parties, the *Project Manager*, the *Supervisor*, or the *Adjudicator* does not constitute a waiver of rights, and does not give rise to an estoppel unless the Parties agree otherwise and confirm such agreement in writing.

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

- Z6.1 The *Contractor* undertakes to take all reasonable precautions to maintain the health and safety of persons in and about the execution of the *works*. Without limitation the *Contractor*:
accepts that the *Employer* may appoint him as the "Principal Contractor" (as defined and provided for under the Construction Regulations 2014 (promulgated under the Occupational Health & Safety Act 85 of 1993) ("the Construction Regulations") for the Site;
warrants that the total of the Prices as at the Contract Date includes a sufficient amount for proper compliance with the Construction Regulations, all applicable health & safety laws and regulations and the health and safety rules, guidelines and procedures provided for in this contract and generally for the proper maintenance of health & safety in and about the execution of *works*; and
undertakes, in and about the execution of the *works*, to comply with the Construction Regulations and with all applicable health & safety laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Contractor's* direction and control, likewise observe and comply with the foregoing.

- Z6.2 The *Contractor*, in and about the execution of the *works*, complies with all applicable environmental laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Contractor's* direction and control, likewise observe and comply with the foregoing.

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

- Z7.1 Within one week of receiving a payment certificate from the *Project Manager* in terms of core clause 51.1, the *Contractor* provides the *Employer* with a tax invoice in accordance with the *Employer's* procedures stated in the Works Information, showing the amount due for payment equal to that stated in the payment certificate.
- Z7.2 If the *Contractor* does not provide a tax invoice in the form and by the time required by this contract, the time by when the *Employer* is to make a payment is extended by a period equal in time to the delayed submission of the correct tax invoice. Interest due by the *Employer* in terms of core clause 51.2 is then calculated from the delayed date by when payment is to be made.
- Z7.3 The *Contractor* (if registered in South Africa in terms of the companies Act) is required to comply with the requirements of the Value Added Tax Act, no 89 of 1991 (as amended) and to include the *Employer's* VAT number 4740101508 on each invoice he submits for payment.

Z8 Notifying compensation events

- Z8.1 Delete from the last sentence in core clause 61.3, "unless the *Project Manager* should have notified the event to the *Contractor* but did not".

Z9 Employer's limitation of liability

- Z9.1.1 The *Employer's* liability to the *Contractor* for the *Contractor's* indirect or consequential loss is limited to R0.00 (zero Rand)
- Z9.1.2 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.

Z9.2 End of Liability date

For each individual services and or repair will be 52 weeks after the date of the signed and accepted taking over certificate, for that unit.

Z9.3 Termination

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

Z10 Legal Binding

- Z10.1 This Contract will only become legally binding on both parties upon receipt and acceptance of the *Employer's* purchase order by the *Contractor*.

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 <i>Contractor</i> 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 <i>Contractor</i> , or any member thereof in the case of a joint venture, or its employees, agents, or Subcontractor or the Subcontractor's employees,
Corrupt Action	means the offering, giving, taking, or soliciting, directly or indirectly, of a good or service to unlawfully or illegally influence the actions of an Affected Party,
Fraudulent Action	means any unlawfully or illegally intentional act or omission that misleads, or attempts to mislead, an Affected Party, in order to obtain a financial or other benefit or to avoid an obligation or incurring an obligation,
Obstructive Action	means a Committing Party unlawfully or illegally destroying, falsifying, altering or concealing information or making false statements to materially impede an investigation into allegations of Prohibited Action, and
Prohibited Action	means any one or more of a Coercive Action, Collusive Action Corrupt Action, Fraudulent Action or Obstructive Action.

- Z12.1 A Committing Party may not take any Prohibited Action during the course of the procurement of this contract or in execution thereof.
- Z12.2 The *Employer* may terminate the *Contractor's* obligation to Provide the Services if a Committing Party has taken such Prohibited Action and the *Contractor* did not take timely and appropriate action to prevent or remedy the situation, without limiting any other rights or remedies the *Employer* has. It is not required that the Committing Party had to have been found guilty, in court or in any other similar process, of such Prohibited Action before the *Employer* can terminate the *Contractor's* obligation to Provide the Services for this reason.
- Z12.3 If the *Employer* terminates the *Contractor's* obligation to Provide the Services for this reason, the amounts due on termination are those intended in core clauses 92.1 and 92.2.
- Z12.4 A Committing Party co-operates fully with any investigation pursuant to alleged Prohibited Action. Where the *Employer* does not have a contractual bond with the Committing Party, the *Contractor* ensures that the Committing Party co-operates fully with an investigation.
- Z12.5 Notwithstanding the provision of the core clause 90.2, the procedure on termination in terms of this clause are P1, P2 and P3 as stated in the core clause 92 and the amount due is A1 and A3 as stated in core clause 93

Z13 Insurance

Z 13.1 Replace core clause 84 with the following:

Insurance cover 84

- 84.1** When requested by a Party, the other Party provides certificates from his insurer or broker stating that the insurances required by this contract are in force.
- 84.2** The *Contractor* provides the insurances stated in the Insurance Table A.
- 84.3** The insurances provide cover for events which are at the *Contractor's* risk from the *starting date* until the earlier of Completion and the date of the termination certificate.

INSURANCE TABLE A

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

- Z 13.2 Replace core clause 87 with the following:**
The *Employer* provides the insurances stated in the Insurance Table B.

INSURANCE TABLE B

Insurance against or name of policy	Minimum amount of cover or minimum of indemnity
Assets All Risk	Per the insurance policy document
Contract Works insurance	Per the insurance policy document
Environmental Liability	Per the insurance policy document
General and Public Liability	Per the insurance policy document
Transportation (Marine)	Per the insurance policy document
Motor Fleet and Mobile Plant	Per the insurance policy document
Terrorism	Per the insurance policy document
Cyber Liability	Per the insurance policy document
Nuclear Material Damage and Business Interruption	Per the insurance policy document
Nuclear Material Damage Terrorism	Per the insurance policy document

Z14 Nuclear Liability

- Z14.1 The *Employer* is the operator of the Koeberg Nuclear Power Station (KNPS), a nuclear installation, as designated by the National Nuclear Regulator of the Republic of South Africa, and is the holder of a nuclear licence in respect of the KNPS.
- Z14.2 The *Employer* is solely responsible for and indemnifies the *Contractor* or any other person against any and all liabilities which the *Contractor* or any person may incur arising out of or resulting from nuclear damage, as defined in Act 47 of 1999, save to the extent that any liabilities are incurred due to the unlawful intent of the *Contractor* or any other person or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.
- Z14.3 Subject to clause Z14.4 below, the *Employer* waives all rights of recourse, arising from the aforesaid, save to the extent that any claims arise or liability is incurred due or attributable to the unlawful intent of the *Contractor* or any other person, or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.
- Z14.4 The *Employer* does not waive its rights provided for in section 30 (7) of Act 47 of 1999, or any replacement section dealing with the same subject matter.
- Z14.5 The protection afforded by the provisions hereof shall be in effect until the KNPS is decommissioned.

Z15 Asbestos

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

- AAIA** means approved asbestos inspection authority.
- ACM** means asbestos containing materials.

AL	means action level, i.e. a level of 50% of the OEL, i.e. 0.1 regulated asbestos fibres per ml of air measured over a 4 hour period. The value at which proactive actions is required in order to control asbestos exposure to prevent exceeding the OEL.
Ambient Air	means breathable air in area of work with specific reference to breathing zone, which is defined to be a virtual area within a radius of approximately 30cm from the nose inlet.
Compliance Monitoring	means compliance sampling used to assess whether or not the personal exposure of workers to regulated asbestos fibres is in compliance with the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.
OEL	means occupational exposure limit.
Parallel Measurements	means measurements performed in parallel, yet separately, to existing measurements to verify validity of results.
Safe Levels	means airborne asbestos exposure levels conforming to the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.
Standard	means the <i>Employer's</i> Asbestos Standard 32-303: Requirements for Safe Processing, Handling, Storing, Disposal and Phase-out of Asbestos and Asbestos Containing Material, Equipment and Articles.
SANAS	means the South African National Accreditation System.
TWA	means the average exposure, within a given workplace, to airborne asbestos fibres, normalised to the baseline of a 4 hour continuous period, also applicable to short term exposures, i.e. 10-minute TWA.

Z15.1 The *Employer* ensures that the Ambient Air in the area where the *Contractor* will Provide the Services conforms to the acceptable prescribed South African standard for asbestos, as per the regulations published in GNR 155 of 10 February 2002, under the Occupational Health and Safety Act, 1993 (Act 85 of 1993) ("Asbestos Regulations"). The OEL for asbestos is 0.2 regulated asbestos fibres per millilitre of air as a 4-hour TWA, averaged over any continuous period of four hours, and the short term exposure limit of 0.6 regulated asbestos fibres per millilitre of air as a 10-minute TWA, averaged over any 10 minutes, measured in accordance with HSG248 and monitored according to HSG173 and OESSM.

Z15.2 Upon written request by the *Contractor*, the *Employer* certifies that these conditions prevail. All measurements and reporting are effected by an independent, competent, and certified occupational hygiene inspection body, i.e. a SANAS accredited and Department of Employment and Labour approved AAIA. The *Contractor* may perform Parallel Measurements and related control measures at the *Contractor's* expense. For the purposes of compliance the results generated from Parallel Measurements are evaluated only against South African statutory limits as detailed in clause Z15.1. Control measures conform to the requirements stipulated in the AAIA-approved asbestos work plan.

Z15.3 The *Employer* manages asbestos and ACM according to the Standard.

Z15.4 In the event that any asbestos is identified while Providing the Services, a risk assessment is conducted and if so required, with reference to possible exposure to an airborne concentration of above the AL for asbestos, immediate control measures are implemented and relevant air monitoring conducted in order to declare the area safe.

Z15.5 The *Contractor's* personnel are entitled to stop working and leave the contaminated area forthwith until such time that the area of concern is declared safe by either Compliance Monitoring or an AAIA approved control measure intervention, for example, per the emergency asbestos work plan, if applicable.

- Z15.6 The *Contractor* continues to Provide the Services, without additional control measures presented, on presentation of Safe Levels. The contractually agreed dates to Provide the Services, including the Completion Date, are adjusted accordingly. The contractually agreed dates are extended by the notification periods required by regulations 3 and 21 of the Asbestos Regulations, 2001.
- Z15.7 Any removal and disposal of asbestos, asbestos containing materials and waste, is done by a registered asbestos contractor, instructed by the *Employer* at the *Employer's* expense, and conducted in line with South African legislation.

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

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

Month	Weather measurement				
	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.

PART 2: PRICING DATA
ECC3 Option B

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

C2.1 Pricing assumptions: Option B

• How work is priced and assessed for payment

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

Identified and defined terms	11	
	11.2	(21) The Bill of Quantities is the <i>bill of quantities</i> 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 <ul style="list-style-type: none">• the quantity of the work which the <i>Contractor</i> 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 <i>Contractor</i> 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 specifications and descriptions of the work or any constraints on 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 Guidance Notes before preparing the *bill of quantities* or before entering rates and lump sums into the *bill*.

There is no general provision in Option B for payment for materials on Site before incorporation into the *works*. If secondary Option X14 Advanced payment has not been used then the tendering contractor may obtain the same effect by inserting appropriate items in the method related charges where the *method of measurement* allows, or alternatively making allowance in the rates of the *bill of quantities* for the financing of Plant and Materials until they are incorporated in the *works*.

When compensation events arise, the default position is that the Bill of Quantities is not used to calculate the cost effect of the event. Defined Cost and the resulting Fee is used and Defined Cost includes all components of cost which the *Contractor* is likely to incur, including so called P & G items. Rates and lump sums from the Bill of Quantities, or from any other source, may be used instead of Defined Cost and the Fee only if the *Contractor* and *Project Manager* agree. If they are unable to agree, then Defined Cost plus Fee is used.

- **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	meganeutron
MN.m	meganeutron-metre
MPa	megapascal
No.	number
sum	Lump sum
t	tonne (1000kg)

- **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*.
- 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**

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*

The rates and Prices entered for each item includes for all work and other things necessary to complete the item to maintain and repair MV Motors on a as and when required bases for a period of 4 years.

MOTOR INFORMATION

INSTALLATION SITE	WINTERSHOEK PUMP STATION	NOOITGEDAGHT PUMP STATION	VYGEBOOM PUMP STATION	BOSLOOP PUMP STATION HIGH LIFT	BOSLOOP PUMP STATION LOW LIFT
ORIGINAL MANUFACTURE	ALSTOM & GEC SQUIRREL CAGE	ALSTOM SQUIRREL CAGE	ALSTOM SQUIRREL CAGE	ALSTOM SQUIRREL CAGE	GEC SQUIRREL CAGE
VOLTAGE	3.3 KV	6.6KV	3.3 KV	3.3 KV	3.3 KV
AMPS	614.9A	86A	616A	873A	60A
SPEED	1189 RPM	1484 RPM	1489 RPM	1492 RPM	980 RPM
OUTPUT	3000 KW	830KW	3000KW	4200KW	298KW
MASS	11700KG	3540KG	12060KG	14260KG	
Bearings	White Metal	White Metal	White Metal	White Metal	MJR 5E C3 & MJ 5E C3

MOTOR SCOPE OF WORK

PRE – REFURBISHMENT, REMOVAL			
DESCRIPTION		COMMENT	DATE
1.1	Approved outage plan	Internal	
1.2	Request a Permit To Work	Internal	
1.3	Isolate Motor	Internal	
1.4	Prove positive isolation	Internal	
1.5	Disconnect Motor	Internal	
1.6	Uncouple and Remove motor	Internal	
1.7	Transport Motor to KWS Stores	Internal	

PRE – REFURBISHMENT, DISMANTLING AND TESTING			
DESCRIPTION		COMMENT	PRICE EXCLUDING VAT
2	TRANSPORT		
2.1	Collect Motor from site	Service Provider	R
3	STRIP & ROUTE		
3.1	Clean motor externally, Dismantle and mark all components	Service Provider	R
3.2	Clean all components and remove all debris from motor internal, ventilation paths, star point internal and cable terminal internal boxes.	Service Provider	R
3.3	Conduct Mechanical assessment by inspecting motor frame and noting all defects		R
3.4	Conduct Electrical assessment by inspecting the stator core, Windings, and stator winding wedges. By inspecting the rotor core for looseness, overheating, loose/cracked rotor & short circuit bars and clamping fingers.	Service Provider	R
3.5	Perform Stator Winding insulation test	Service Provider	R
3.6	Perform Stator watt loss test	Service Provider	R
3.7	Flux test	Service Provider	R
3.8	Complete Assessment Report	Service Provider	R

POSSIBLE REFURBISHMENT SCOPE OF WORK WITH STANDARD CLIENT REQUIREMENTS				
DESCRIPTION		PRICE EXCL. VAT	YES	NO
4	MOTOR TERMINAL BOXES/LEADS	R		
4.1	Inspect motor terminal bushings for cracks, signs of excessive damage and replace when necessary.	R		
4.2	Inspect motor leads for cracks, frays, signs of brittleness and swelling from oil contamination and replace when necessary.	R		
4.3	Inspect motor lead lugs for signs of overheating and perform a pull and turn check for loose crimp connections. Ensure that the insulation of the terminal wire is in touch with the lug. Fit new lugs	R		
4.4	Replace terminal box gaskets/seals. Use cork packing	R		
4.5	Mark motor leads for phasing	R		
5	SPACE HEATERS	R		
5.1	Inspect and test motor space heaters	R		
5.2	Replace defective heaters	R		
5.3	Replace Space heater terminal box gaskets/seals. Use cork packing	R		
6	PT100 MOTOR WINDING TEMPERATURE			
6.1	Test PT100 motor winding temperature to design specification	R		
6.2	Replace defective PT100 and wire to winding temperature terminal box	R		
6.3	Replace PT100 terminal box gaskets/seals. Use cork packing	R		
7	WHITE METAL BEARINGS DRIVE END & NON-DRIVE END			
7.1	Re-metal the bearing,	R		
7.2	Replace all labyrinth seals as per attached drawing. rubber seals and gaskets.	R		
7.3	Shot blast, clean and paint bearing housings	R		
7.4	Fit new oil site glasses with steel cover plate	R		
7.5	Fit new oil scoop bushes	R		
7.6	Fit new breathers	R		
7.7	Fit new locating pins	R		
7.8	Polish bearing journals	R		
8	STATOR HOUSING, WINDINGS AND CORE LAMINATIONS			

8.1	Inspect, clean and dry stator housing and ensure that the air paths are clean and not contaminated by any foreign objects	R		
8.2	Overhaul canopy	R		
8.3	Re-tap all mounting holes on motor and fit new Jacking bolts	R		
8.4	Inspect and repair Drive End and Non- Drive End landings of the end shields	R		
8.5	Shot blast motor covers and paint	R		
8.6	Do full concentricity check, Skim feet, clean and polish spigot	R		
8.7	Inspect and repair stator core laminations for signs of arching, damaged lamination, and insulation failure	R		
8.8	Steam clean and bake Stator then spray with insulating varnish	R		
8.9	If stator winding has failed, burnt, or completely damaged, remove old windings, clean slots, and rewind stator completely	R		
8.10	Conduct IR and PI tests on stator winding	R		
8.11	Conduct stator core flux to determine hot spots on the motor stator core laminations	R		
9	MOTOR ROTOR			
9.1	Replace rotor bars and rotor short circuit rings	R		
9.2	Rotor bar to bar test	R		
9.3	Spectrum test on Rotor (ELCID)	R		
9.4	NDT Rotor shaft	R		
9.5	Balance rotor	R		
10	ASSEMBLE MOTOR			
10.1	Assemble motor completely before any mechanical tests checks and routine testing can	R		
10.2	Measure air gap between stator and rotor	R		
10.3	Mark magnetic centre and add motor weight on the name plate	R		
11	ROUTINE TESTS AND REQUIRED TESTS			
11.1	Carry out Tan – Delta test on stator	R		
11.2	Ultrasonic testing on white metal bearings	R		
11.3	Conduct no load test at full voltage- full bearing run (65 degrees Max) with temperature, winding	R		
11.4	Factory acceptance test (No oil leaks to be present) and data pack review	R		
12	SPECIAL CHARGES			
12.1	Emergency repair charge	R		
13	PAINTING OF MOTOR			
13.1	Clean and paint the motor	R		

14	DELIVER TO SITE			
14.1	Deliver motor back to site with new shaft locking device	R		
Total excluding VAT		R		

PART 3: SCOPE OF WORK

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

C3.1: EMPLOYER'S WORKS INFORMATION

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1 Description of the works

2 Executive overview

Put yourself in the position of the *Contractor's* senior management who need a high level overview of what is involved – the scope of work - so that they can decide when tendering whether they have the resources and capability to undertake the work. Include a description of the different services and disciplines of work involved within the *works* and the location where most of the work will be carried out

3 Employer's objectives and purpose of the works

Provide an outline of the *Employer's* business case for the delivered project / contract. Describe the purpose of the *works* in such a manner that a legal test of 'fitness for purpose' can be applied in the event of any dispute about overall performance of the *works*.

4 Interpretation and terminology

If required include here definitions additional to those used in the *conditions of contract* which are required only for the purpose of making the Works Information easier to draft and read. Also list abbreviations used and provide a full interpretation of each one, for example:

The following abbreviations are used in this Works Information:

Abbreviation	Meaning given to the abbreviation
AFC	Approved for construction
OBL	Outside battery limits

5 Management and start up.

6 Management meetings

The *conditions of contract* (e.g. Clause 16.2) require and other sections of the Works Information (e.g. safety risk management) may require (mandate) that a meeting shall be held. However the intention of all NEC contracts is that the Parties and their agents use the techniques of partnering to manage the contract by holding meetings designed to pro actively and jointly manage the administration of the contract with the objective of minimising the adverse effects of risks and surprises for both Parties. Depending on the size and complexity of the *works*, it is probably beneficial for the *Project Manager* to hold a weekly risk register meeting (Clause 16.2). This could be used to discuss safety, compensation events, subcontracting, overall co-ordination and other matters of a general nature. Separate meetings for specialist activities such as programming, engineering and design management, may also be warranted. Describe here the general meetings and their purpose. Provide particulars of approximate times, days, location, and attendance requirements, stipulating that attendees shall have the necessary delegated authority to make decisions in respect of matters raised at such meetings. The right to hold specialist meetings should be stated generically and in such a way that ambiguity with other parts of the Works Information is avoided. The following text could be used as a model for this section:

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

Title and purpose	Approximate time & interval	Location	Attendance by:
Risk register and compensation events	Weekly on Thursdays____ at 09h00	Service Provider's premises	Eskom Engineer, Project manager,

			Quality Coordinator & Technician
Overall contract progress and feedback	Monthly on _Thursdays_ at 09h00____	Service Provider's premises	<i>Employer, Contractor, Supervisor, and Engineer</i> ____

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.

7 Documentation control

Specify how documentation will be identified with an alpha numeric which indicates source, recipient, communication number etc. Provide details of any particular format or other constraints; for example that 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. State any particular routing requirements but note from ECC who issues what to whom.

8 Health and safety risk management

In addition to the requirements of the laws governing health and safety, Eskom may have some additional requirements particular to the *works* and the Working Areas for this contract. The text below provides for these being attached as an Annexure to this Works Information. PLEASE ALSO READ CORE CLAUSE 27.4 TOGETHER WITH Z7 IN THE ADDITIONAL CONDITIONS OF CONTRACT TO MAKE SURE THAT WHATEVER IS INCLUDED IN THE ANNEXURE FOLLOWS ON FROM THOSE CLAUSES.

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

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

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

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

The *Contractor* shall comply with the health and safety requirements contained in Annexure _____ to this Works Information.

9 Environmental constraints and management

Describe or cross refer to environmental constraints applicable to the *Contractor's* design and his activities on Site and how they should be managed. Include here or cross refer to an Annexure to the Works Information.

The *Contractor* shall comply with the environmental criteria and constraints stated in Annexure _____

10 Quality assurance requirements

Specify minimum requirements for the *Contractor's* Quality Plan and Work Procedures or provide the *Employer's* Quality Plan if that is to be used. Make sure witness and hold points are identified generally and describe any particular requirements for QA outside the *working areas*. Indicate how the *Contractor's* QA documentation is to be submitted for acceptance and any conditions that need to be imposed relating to acceptance. State whether ISO compliance is a condition and if so which ISO standard shall apply.

11 Programming constraints

Describe the programming system (application) to be used if it is necessary to dictate this for project coordination purposes. Read clause 31.2 first then state the work of the *Employer* and Others to be shown on the programme per 4th bullet of clause 31.2 and what additional information (if any) is to go in the programme per the last bullet of clause 31.2. Describe any particular constraints on the order and timing of the work which the *Contractor* must take into account in his programme.

12 Contractor's management, supervision and key people

State any additional constraining requirements on *Contractor's* supervision and key people that are not already stated in other sections such as for Health and Safety. This section could be used to solicit an organogramme from the *Contractor* showing his people and their lines of authority / communication. This would be essential if the *Contractor* is a Joint Venture.

13 Invoicing and payment

The Z clauses make reference to invoicing procedures stated here in this Service Information. Also include a list of information which is to be shown on an invoice.

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

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

- Name and address of the *Contractor* and the *Project Manager*;
- The contract number and title;
- *Contractor's* VAT registration number;
- The *Employer's* VAT registration number 4740101508;
- Description of service provided for each item invoiced based on the Price List;
- Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT;
- (add other as required)

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

14 Insurance provided by the Employer

First read ECC3 Core Clause 87.1 and then add anything necessary for the management of insurance related issues such as a cross reference to where procedures for making claims can be found. Also provide

contact details for persons capable of being able to answer any insurance related queries the *Contractor* may have, as well as to whom the information required by Marine Insurance may be addressed.

15 Contract change management

This section is intended to deal with any additional requirements to the compensation event clauses in section 6 of the core clauses; such as the use of standard forms. Not the same thing as documentation control.

16 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.

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

If Option C, D, E or F applies first read clause 52.2 and then state whether the *Contractor* is required to keep any other records. Include any other constraint which may be required in regard to format and filing of the records, and whether access for the *Project Manager* shall be provided in hard copy or electronically.

Could delete if Options A & B apply unless the *Employer* requires some form of control over the *Contractor's* record keeping.

18 Training workshops and technology transfer

Describe type and frequency of on job training workshops, as well as any obligation for technology transfer being included as part of the contract on Completion of the *works*.

19 Engineering and the *Contractor's* design

The content of this section will depend on whether the contract is for construction only with most of the design done by (or for) the *Employer* or whether it is a 'design and construct' contract. ECC provides for design by either Party in any proportion, which proportion done by the *Contractor* must be stated in this part of the Works Information.

20 *Employer's* design

Either

Describe what the *Employer* has designed for the *works* when the *Contractor* is mainly doing construction only. Could even state who has done or is doing the design for the *Employer* as this will give the *Contractor* an idea of the standard he may expect.

Or

Provide the *Employer's* operating philosophy / user requirement specification (URS) / performance specification to which the *Contractor* is to comply when he is required to design the *works*.

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

This is a mandatory requirement of core clause 21.1 and must be addressed in detail. Even when the contract is a traditional 'construction only' contract, the *Contractor* is probably still required to carry out workshop details from overall drawings provided by the *Employer* and to design temporary works.

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

This is a mandatory requirement of core clause 21.2 and must be addressed. Identify the extent of detail (the particulars) of the *Contractor's* design which is to be submitted to the *Project Manager* for his acceptance. This procedure may also include a design stage activity matrix or requirements for co-operation with Others on a multi party project. State requirements for drawings to be prepared by the *Contractor*.

23 Other requirements of the *Contractor's* design

Use this section to describe any particulars which must be taken into account by the *Contractor* in his design; for example codification (configuration management) of Plant and Materials.

24 Use of *Contractor's* design

First read core clause 22.1 and then include here the exceptions and other purposes if applicable. If there are none this section could be deleted leaving the core clause to stand.

25 Design of Equipment

On some complex projects requiring sophisticated temporary works, it could be in the Parties best interests that some details of the *Contractor's* design or proposed design of Equipment are shared with the *Project Manager*, not necessarily for his acceptance but as an assurance that the Equipment will be able to allow the *Contractor* to Provide the Works efficiently and without delay. For example a tunnel boring machine, or specialised shuttering for a bridge or caisson. Draft in such a way that there is no doubt that the liability for such design and use of the Equipment remains with the *Contractor*. Clause 23.1 is always available to the *Project Manager* if this section is not used.

26 Equipment required to be included in the *works*

The defined term 'Equipment' in core clause 11.2(7) makes a cross reference to the Works Information concerning any Equipment which the *Contractor* is required to include in the *works*. Complete here or if not applicable either delete the heading or retain the heading and state 'None'.

27 As-built drawings, operating manuals and maintenance schedules

Use this section to describe these requirements. Pay particular attention to when and in what form they are required. Consideration should be given to obtaining operating manuals and maintenance schedules before Completion of the whole of the *works* when there is still considerable financial incentive for the *Contractor* to do so.

28 Procurement

There is a cross reference from the definition of Disallowed Cost in Options C D and E to the Works Information regarding procurement procedures. This part of the Works Information MUST include any such procedures to be able to administer this procedure. Options A & B may also require constraints on procurement procedures.

29 People

30 Minimum requirements of people employed on the Site

Specify any constraints relating to people employed to Provide the Works; for example permits for foreigners, training (other than H & S), use of labour from designated areas and industrial relations.

31 BBBEE and preferencing scheme

Specify constraints which *Contractor* must comply with after contract award in regard to any Broad Based Black Economic Empowerment (B-BBEE) or preferencing scheme measures.

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

If the ASGI-SA requirements are to be included in this contract specify constraints which *Contractor* must comply with after contract award in regard to any ASGI-SA requirements. The ASGI-SA Compliance Schedule completed in the returnable tender schedules is reproduced here. If ASGI-SA does not apply, delete this paragraph.

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

[Insert the agreed ASGI-SA Compliance Schedule here]

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

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

33 Subcontracting

34 Preferred subcontractors

ECC does not make use of nominated subcontracting, but the *Employer* may list which subcontractors or suppliers the *Contractor* is required to enter into subcontracts with. This is usually only required where Plant and Materials need to be obtained from a particular supplier or group of suppliers in order to comply with operational standards.

35 Subcontract documentation, and assessment of subcontract tenders

Specify any constraints on how the *Contractor* is to prepare subcontract documentation, whether use of the NEC system is compulsory or not (compulsory is recommended) and how subcontract tenders are to be issued, received, assessed (using a joint report?) and awarded.

36 Limitations on subcontracting

The *Employer* may require that the *Contractor* must subcontract certain specialised work, or that the *Contractor* shall not subcontract more than a specified proportion of the whole of the contract.

37 Attendance on subcontractors

State requirements for attendance on Subcontractors, if any

38 Plant and Materials

39 Quality

Quality is usually designed in or specified in the technical specifications referred to in section 6 of this Works Information. However to cover circumstances where quality may not be prescribed, this sub-paragraph could be used as an overarching default requirement. It could also be used to deal with how repairs are carried out after a Defect has been notified; for example can the item be fixed up or must it be replaced by a new one. See also SANS 1200A, sub-paragraph 3.1

40 Plant & Materials provided “free issue” by the *Employer*

State arrangements for collection by *Contractor* or delivery by others on behalf of the *Employer*, off loading, inspection, storage, care custody and control, return of unused Plant and Materials, etc. State whether any samples are to be provided by the *Employer* and if so how, where and when. Always include a statement to the effect that ‘all other Plant and Materials are to be provided by the *Contractor*’.

41 *Contractor*’s procurement of Plant and Materials

Specify any constraints on how the *Contractor* is to order, codify, expedite, freight, import, transport to Site and any other requirements for delivery and storage before installation. The *Employer* may require warranties from suppliers to be in favour of the *Employer* and not just to the *Contractor* during the life of the contract. Also include requirements for vendor data which the *Employer* may need after Completion of the whole of the *works*. THIS IS A VERY IMPORTANT SECTION IN PROCESS PLANT AND UTILITY PROCUREMENT CONTRACTS.

42 Spares and consumables

Some contracts may need to include provision for the supply of a minimum category of spares, fuel, oil or other feed stock and consumables which the *Employer* may need at or just after take over and that it is best the *Contractor* provide these initially as part of his Providing the Works.

43 Tests and inspections before delivery

Core Clauses 40 and 41 both make reference to the Works Information regarding tests and inspections. Specify any requirements here for any tests and inspections that are to be done by the *Supervisor* or Others before delivery to the Working Areas, particularly if such tests and inspections are to be carried out by agents of the *Employer* overseas.

44 Marking Plant and Materials outside the Working Areas

Core clauses 70.1 and 71.1 require the Works Information to state how the *Contractor* is to “mark” Plant and Materials which is outside the Working Areas if they are to be paid for before delivery to the Working Areas. Specify here how the *Contractor* is to mark the Plant and Materials.

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

In contracts which require the *Contractor* to procure sophisticated or highly specialised Equipment that could have a major influence on the progress of the works, the *Employer* may wish to exercise constraints or include witness and hold points during manufacture, assembly or delivery of such Equipment. Include these constraints here taking care not to imply that the *Employer* or the *Project Manager* take on any liability as a result. See also section 3.6 above relating to the design phase of the *Contractor's* Equipment.

46 Cataloguing requirements by the *Contractor*

State whether cataloguing is applicable, if it is, reference the requirements for cataloguing that need to be satisfied by the *Contractor* (consult Procurement Instruction Number 1 of 2018 – Incorporating Cataloguing into the Procurement Environment, Unique Identifier 240-1289988974).

47 Construction

This part of the Works Information addresses constraints, facilities, services and rules applicable to the *Contractor* whilst he is doing work on the Site during the construction and maintenance phase. It does not specify the work itself as that is included in Section 6 of the Works Information.

For contracts involving civil works the approach may be to incorporate SANS1200A or SANS 2000 into the contract. Whilst many of the headings below address the same issues, the list of headings below is more comprehensive. If the headings below are used, it may be prudent to delete paragraphs 3, 4 and 5 from 1200A after checking that their requirements have been included below as necessary. A similar approach can be used in contracts involving building works where the Model Trade Preambles are incorporated. Care should be taken to avoid inconsistency or ambiguity between this part of the Works Information and standard specifications incorporated by reference.

48 Temporary works, Site services & construction constraints

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

Sites such as Sasol Secunda and Koeberg Nuclear Power Station have very strict entrance requirements which tenderers need to allow for in their prices, and the *Contractor* has to comply with. State these or similar requirements here.

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

In addition to the above there may be other restrictions once on the Site, plus rules relating to roads, walkways and the provision of barricades

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

Restrictions and hours of work may apply on some Sites. It is very important that the *Contractor* keeps records of his people on Site, including those of his Subcontractors which the *Project Manager* or *Supervisor* have access to at any time. These records may be needed when assessing compensation events.

52 Health and safety facilities on Site

Section 8 deals with contractual H & S requirements in addition to those of the OHSA Act. This section allows the *Employer* to state what measures are to be taken on Site against disease and epidemics and in emergencies. Also describe where First Aid facilities provided by the *Employer* are located and any other emergency arrangements. Do not use if already addressed in 2.3. The cross reference from Clause 27.4 applies.

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

This sub-paragraph may not be required if these matters are dealt with in the general environmental requirements referred to in paragraph 2.4 above.

54 Title to materials from demolition and excavation

Clause 73.2 states that the *Contractor* has title to materials from excavation and demolition (e. g. copper) only as stated in the Works Information. Hence state here any special arrangements regarding such title. If nothing is stated then the default position is the *Contractor* has no such title.

55 Cooperating with and obtaining acceptance of Others

This sub-paragraph could be used to deal with two issues.

- 1) The cross reference from core clause 25.1 about cooperation generally as well as details about Others with whom the *Contractor* may be required to share the working areas. See clause 11.2(10) for the definition of Others.
- 2) Requirements for liaison with and acceptance from statutory authorities or land owners.

56 Publicity and progress photographs

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

57 *Contractor's* Equipment

This sub-paragraph is intended to address how records are to be kept of Equipment on Site including whether it is owned or hired. Include any constraints about scaffolding, rigs, heavy lifts and cranes, including removal from the Working Areas. Also silencing similar to Clause 4.1 in SANS 1200 A

58 Equipment provided by the *Employer*

Provide details of equipment made available for use by the employer and set out conditions relating thereto.

59 Site services and facilities

This is a mandatory cross reference from clause 25.2 in ECC3. State what the *Employer* will provide in the way of power, water, waste disposal, telecomms, ablutions, fire protection, lighting etc. Give hook up locations and any constraints on how the hook up is to be done. Always conclude by stating that the *Contractor* shall provide everything else necessary for Providing the Works.

60 Facilities provided by the *Contractor*

Describe what the *Contractor* is to provide in the way of Site accommodation, laboratories, storage, vehicles and office equipment etc for the *Project Manager* and the *Supervisor*, and any restrictions or minimum requirements concerning the *Contractor's* own facilities. State requirements for facilities to be provided by the *Contractor* such as construction camps. Also state what happens to these facilities upon completion of the contract. Set out constraints, if any, as to the location by the *Contractor* of such facilities on the Site and requirements for drawings of Site facilities, as necessary.

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

Details under this sub-paragraph are very contract specific and may be quite extensive in some cases. State requirements for the inspection with the owners of adjacent buildings and properties and representatives of local authorities before commencing with the *works* that have the potential to damage surrounding buildings and property. State whether *Contractor* is required to inspect the work of Others to which he is required to connect and if so by when to avoid delays to his work.

62 Survey control and setting out of the *works*

Provide information on survey controls established by the *Employer*, if any, and state requirements for survey control and the setting out of the *works*.

63 Excavations and associated water control

State any particular requirements for handling deep foundations and controlling water from excavations.

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

Describe known services making reference to drawings containing known services and state requirements for locating, marking and recording such services.

State requirements for the treatment of existing services i.e. their termination, diversion or continued use, either temporarily or permanently, and set out the procedures relating thereto.

State requirements, as necessary, for the use and availability of detection equipment for the location of underground services.

State responsibility for damage to services, known and unknown, and requirements for working in close proximity to services etc.

State requirements and reinstatement procedures for the notification and repair of damage to services and any penalties applicable to the damage of services.

65 Control of noise, dust, water and waste

State requirements, if any.

66 Sequences of construction or installation

Only prescribe sequences of work where absolutely necessary such as when *Contractor* has to give access to Others (without take over) and for technical reasons such as under tidal conditions and in rivers.

67 Giving notice of work to be covered up

State the procedure for notifying the *Supervisor*

68 Hook ups to existing works

State any constraints

69 Completion, testing, commissioning and correction of Defects

70 Work to be done by the Completion Date

This is mandatory. Core clause 11.2(2) defines Completion as when the *Contractor* has done all the work which the Works Information states he is to do by the Completion Date. Rather than list all work to be done by the Completion Date, state that all work is to be done by the Completion Date except for [●]. For example:

On or before the Completion Date the *Contractor* shall have done everything required to Provide the Works except for the work listed below which may be done after the Completion Date but in any case before the

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

	Item of work	To be completed by
	As built drawings of	Within days after Completion
	Performance testing of the <i>works</i> in use as specified in paragraph of this Works Information.	See performance testing requirements.

71 Use of the *works* before Completion has been certified

Clause 35.2 in ECC3 provides that the *Employer* may use any part of the *works* before Completion has been certified but if he does so he takes over the part of the *works* except if the use is for a reason stated in the Works Information. State the reason here if this applies.

72 Materials facilities and samples for tests and inspections

State what materials facilities and samples for tests and inspections the *Contractor* and the *Employer* are to provide, per core clause 40.2.

73 Commissioning

Required mainly for contracts including mechanical and electrical work. Would typically refer to detailed commissioning procedure attached as an Annexure. Confirm whether commissioning is to be done before or after Completion. If after Completion, include this item of work in the list in sub-paragraph 70 above.

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

In order to put the *works* into operation the *Employer* may require the *Contractor* to either do this for him or be in attendance whilst he does it, depending on who is the responsible person. State requirements of the *Contractor* here together with any special arrangements associated with operating plant and machinery.

75 Take over procedures

Take over is after or at the same time as Completion. The *Employer* may require the *Contractor* to provide assistance, security personnel on a temporary basis etc.

76 Access given by the *Employer* for correction of Defects

Clause 43.4 requires that the *Project Manager* arranges for the *Employer* to allow the *Contractor* access to and use of a part of the *works* which has been taken over if needed to correct a Defect. After the *works* have been put into operation, the *Employer* may require the *Contractor* to undertake certain procedures before such access can be granted (for example barricading a motorway or in a nuclear power station). Include these here.

77 Performance tests after Completion

Many design and build or turnkey projects require the *Contractor* to demonstrate that the *works* can operate as guaranteed by the *Contractor* (in *Contractor's Works Information*) or specified by the *Employer* either here or elsewhere in this Works Information. State here the procedures for carrying out such proving tests. These details should link up with any performance levels stated in Contract Data if secondary Option X17 in ECC3 applies.

78 Training and technology transfer

Include if the *Employer* requires the *Contractor* to provide training in the use and maintenance of the *works* or any associated transfer of technology from him to the *Employer*.

79 Operational maintenance after Completion

The *Employer* may require the *Contractor* before the *defects date* to perform certain duties after Completion and take over which relate to maintenance of the *works*. (Not to be confused with Defect correction) For example oil and filter changes

80 Plant and Materials standards and workmanship

This section of the Works Information contains all the specifications for the work which is left behind; the permanent works. It is likely to be the largest section by far and may even be compiled in volumes, e. g. Section 6 Volume 1: Civil Engineering Works. In design and construct contracts, it may be compiled in accordance with systems within the *works*; e. g. Section 6 Volume 4: Crushers.

Because practice varies widely between employers it is not practical in a general template such as this to deal with all arrangements. Only the discipline based section subheadings are provided below in the order the *works* are likely to be constructed together with some notes of a general nature.

81 Investigation, survey and Site clearance

Some contracts may require the *Contractor* to carry out further investigation of existing facilities or of the Site before commencing final design. There could be constraints on Site clearance especially in pipeline or transmission grid servitudes.

82 Building works

Reference could be made to the latest Model Trade Preambles published by the Association of South African Quantity Surveyors. However these have been developed for use with the JBCC series of contracts and an approach where description of the work is made part of the bill of quantities, which is not the case in other forms of contract. Only parts of the Model Trade Preambles could be referenced by an ECC contract, with a covering note dealing with the changes in terminology. Further changes are required depending on which parts are to be selected.

This subsection would typically comprise

- a) Particular specifications provided by the *Employer*
- b) List of standardised specifications applicable to the *works* and
- c) Variations to the standardised specifications

83 Civil engineering and structural works

Reference could be made to the SANS1200 series of specifications developed and published by South African National Standards. However these are now very out of date and originally developed for use with SAICE general conditions of contract for works of civil engineering which have themselves been superseded twice.

All SANS 1200 specifications are in the process of being updated to make them more compatible with a wider range of contracts, including NEC, and users should check availability of the new SANS 2000 series of specifications.

Sections 3, 4 and 5 of SANS1200A are probably already covered in section 5 of this Works Information.

This subsection would typically comprise

- a) Particular specifications provided by the *Employer*
- b) List of standardised specifications applicable to the *works* and
- c) Variations to the standardised specifications

If use is made of the 1200 series, users should include a covering note dealing with the changes in terminology, such as the one provided below. Further changes are required depending on which specifications in the 1200 series are selected.

84 Electrical & mechanical engineering works

These specifications are usually project specific and developed by the *Employer* to suit his operations. Either include these specifications here, or refer to them in attached Annexure.

Check the specifications for inconsistencies in terminology and that they do not contain any provisions already dealt with in the chosen NEC *conditions of contract* or clash with them in any way.

85 Process control and IT works

These specifications are usually project specific and developed by the *Employer* to suit his operations. Either include these specifications here, or refer to them in attached Annexure.

Check the specifications for inconsistencies in terminology and that they do not contain any provisions already dealt with in the chosen NEC *conditions of contract* or clash with them in any way.

86 Other [as required]

87 List of drawings

88 Drawings issued by the Employer

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

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

Drawing number	Revision	Title
N/A		

C3.2 *CONTRACTOR'S* WORKS INFORMATION

This section of the Works Information will always be contract specific depending on the nature of the *works*.

It is most likely to be required for design and construct contracts where the tendering contractor will have proposed specifications and schedules for items of Plant and Materials and workmanship, which once accepted by the *Employer* prior to award of contract now become obligations of the *Contractor* per core clause 20.1.

Typical sub headings could be

- a) *Contractor's* design
- b) Plant and Materials specifications and schedules
- c) Other

This section could also be compiled as a separate file.

PART 4: SITE INFORMATION

Document reference	Title	No of pages
C4	This cover page	1
	Scope of work	
Total number of pages		

C3.1: EMPLOYER'S WORKS INFORMATION

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89 Description of the works

90 Executive overview

Put yourself in the position of the *Contractor's* senior management who need a high level overview of what is involved – the scope of work - so that they can decide when tendering whether they have the resources and capability to undertake the work. Include a description of the different services and disciplines of work involved within the *works* and the location where most of the work will be carried out

91 Employer's objectives and purpose of the works

Provide an outline of the *Employer's* business case for the delivered project / contract. Describe the purpose of the *works* in such a manner that a legal test of 'fitness for purpose' can be applied in the event of any dispute about overall performance of the *works*.

92 Interpretation and terminology

If required include here definitions additional to those used in the *conditions of contract* which are required only for the purpose of making the Works Information easier to draft and read. Also list abbreviations used and provide a full interpretation of each one, for example:

The following abbreviations are used in this Works Information:

Abbreviation	Meaning given to the abbreviation
AFC	Approved for construction
OBL	Outside battery limits

93 Management and start up.

94 Management meetings

The *conditions of contract* (e.g. Clause 16.2) require and other sections of the Works Information (e.g. safety risk management) may require (mandate) that a meeting shall be held. However the intention of all NEC contracts is that the Parties and their agents use the techniques of partnering to manage the contract by holding meetings designed to pro actively and jointly manage the administration of the contract with the objective of minimising the adverse effects of risks and surprises for both Parties. Depending on the size and complexity of the *works*, it is probably beneficial for the *Project Manager* to hold a weekly risk register meeting (Clause 16.2). This could be used to discuss safety, compensation events, subcontracting, overall co-ordination and other matters of a general nature. Separate meetings for specialist activities such as programming, engineering and design management, may also be warranted. Describe here the general meetings and their purpose. Provide particulars of approximate times, days, location, and attendance requirements, stipulating that attendees shall have the necessary delegated authority to make decisions in respect of matters raised at such meetings. The right to hold specialist meetings should be stated generically and in such a way that ambiguity with other parts of the Works Information is avoided. The following text could be used as a model for this section:

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

Title and purpose	Approximate time & interval	Location	Attendance by:
Risk register and compensation events	Weekly on _____ at _____		

Overall contract progress and feedback	Monthly on ____ at ____		Employer, Contractor, Supervisor, and ____

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.

95 Documentation control

Specify how documentation will be identified with an alpha numeric which indicates source, recipient, communication number etc. Provide details of any particular format or other constraints; for example that 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. State any particular routing requirements but note from ECC who issues what to whom.

96 Health and safety risk management

In addition to the requirements of the laws governing health and safety, Eskom may have some additional requirements particular to the *works* and the Working Areas for this contract. The text below provides for these being attached as an Annexure to this Works Information. PLEASE ALSO READ CORE CLAUSE 27.4 TOGETHER WITH Z7 IN THE ADDITIONAL CONDITIONS OF CONTRACT TO MAKE SURE THAT WHATEVER IS INCLUDED IN THE ANNEXURE FOLLOWS ON FROM THOSE CLAUSES.

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

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

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

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

The *Contractor* shall comply with the health and safety requirements contained in Annexure _____ to this Works Information.

97 Environmental constraints and management

Describe or cross refer to environmental constraints applicable to the *Contractor's* design and his activities on Site and how they should be managed. Include here or cross refer to an Annexure to the Works Information.

The *Contractor* shall comply with the environmental criteria and constraints stated in Annexure _____

98 Quality assurance requirements

Specify minimum requirements for the *Contractor's* Quality Plan and Work Procedures or provide the *Employer's* Quality Plan if that is to be used. Make sure witness and hold points are identified generally and describe any particular requirements for QA outside the *working areas*. Indicate how the *Contractor's* QA documentation is to be submitted for acceptance and any conditions that need to be imposed relating to acceptance. State whether ISO compliance is a condition and if so which ISO standard shall apply.

99 Programming constraints

Describe the programming system (application) to be used if it is necessary to dictate this for project coordination purposes. Read clause 31.2 first then state the work of the *Employer* and Others to be shown on the programme per 4th bullet of clause 31.2 and what additional information (if any) is to go in the programme per the last bullet of clause 31.2. Describe any particular constraints on the order and timing of the work which the *Contractor* must take into account in his programme.

100 *Contractor's* management, supervision and key people

State any additional constraining requirements on *Contractor's* supervision and key people that are not already stated in other sections such as for Health and Safety. This section could be used to solicit an organogramme from the *Contractor* showing his people and their lines of authority / communication. This would be essential if the *Contractor* is a Joint Venture.

101 Invoicing and payment

The Z clauses make reference to invoicing procedures stated here in this Service Information. Also include a list of information which is to be shown on an invoice.

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

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

- Name and address of the *Contractor* and the *Project Manager*;
- The contract number and title;
- *Contractor's* VAT registration number;
- The *Employer's* VAT registration number 4740101508;
- Description of service provided for each item invoiced based on the Price List;
- Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT;
- (add other as required)

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

102 Insurance provided by the *Employer*

First read ECC3 Core Clause 87.1 and then add anything necessary for the management of insurance related issues such as a cross reference to where procedures for making claims can be found. Also provide

contact details for persons capable of being able to answer any insurance related queries the *Contractor* may have, as well as to whom the information required by Marine Insurance may be addressed.

103 Contract change management

This section is intended to deal with any additional requirements to the compensation event clauses in section 6 of the core clauses; such as the use of standard forms. Not the same thing as documentation control.

104 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.

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

If Option C, D, E or F applies first read clause 52.2 and then state whether the *Contractor* is required to keep any other records. Include any other constraint which may be required in regard to format and filing of the records, and whether access for the *Project Manager* shall be provided in hard copy or electronically.

Could delete if Options A & B apply unless the *Employer* requires some form of control over the *Contractor's* record keeping.

106 Training workshops and technology transfer

Describe type and frequency of on job training workshops, as well as any obligation for technology transfer being included as part of the contract on Completion of the *works*.

107 Engineering and the *Contractor's* design

The content of this section will depend on whether the contract is for construction only with most of the design done by (or for) the *Employer* or whether it is a 'design and construct' contract. ECC provides for design by either Party in any proportion, which proportion done by the *Contractor* must be stated in this part of the Works Information.

108 *Employer's* design

Either

Describe what the *Employer* has designed for the *works* when the *Contractor* is mainly doing construction only. Could even state who has done or is doing the design for the *Employer* as this will give the *Contractor* an idea of the standard he may expect.

Or

Provide the *Employer's* operating philosophy / user requirement specification (URS) / performance specification to which the *Contractor* is to comply when he is required to design the *works*.

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

This is a mandatory requirement of core clause 21.1 and must be addressed in detail. Even when the contract is a traditional 'construction only' contract, the *Contractor* is probably still required to carry out workshop details from overall drawings provided by the *Employer* and to design temporary works.

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

This is a mandatory requirement of core clause 21.2 and must be addressed. Identify the extent of detail (the particulars) of the *Contractor's* design which is to be submitted to the *Project Manager* for his acceptance. This procedure may also include a design stage activity matrix or requirements for co-operation with Others on a multi party project. State requirements for drawings to be prepared by the *Contractor*.

111 Other requirements of the *Contractor's* design

Use this section to describe any particulars which must be taken into account by the *Contractor* in his design; for example codification (configuration management) of Plant and Materials.

112 Use of *Contractor's* design

First read core clause 22.1 and then include here the exceptions and other purposes if applicable. If there are none this section could be deleted leaving the core clause to stand.

113 Design of Equipment

On some complex projects requiring sophisticated temporary works, it could be in the Parties best interests that some details of the *Contractor's* design or proposed design of Equipment are shared with the *Project Manager*, not necessarily for his acceptance but as an assurance that the Equipment will be able to allow the *Contractor* to Provide the Works efficiently and without delay. For example a tunnel boring machine, or specialised shuttering for a bridge or caisson. Draft in such a way that there is no doubt that the liability for such design and use of the Equipment remains with the *Contractor*. Clause 23.1 is always available to the *Project Manager* if this section is not used.

114 Equipment required to be included in the *works*

The defined term 'Equipment' in core clause 11.2(7) makes a cross reference to the Works Information concerning any Equipment which the *Contractor* is required to include in the *works*. Complete here or if not applicable either delete the heading or retain the heading and state 'None'.

115 As-built drawings, operating manuals and maintenance schedules

Use this section to describe these requirements. Pay particular attention to when and in what form they are required. Consideration should be given to obtaining operating manuals and maintenance schedules before Completion of the whole of the *works* when there is still considerable financial incentive for the *Contractor* to do so.

116 Procurement

There is a cross reference from the definition of Disallowed Cost in Options C D and E to the Works Information regarding procurement procedures. This part of the Works Information MUST include any such procedures to be able to administer this procedure. Options A & B may also require constraints on procurement procedures.

117 People

118 Minimum requirements of people employed on the Site

Specify any constraints relating to people employed to Provide the Works; for example permits for foreigners, training (other than H & S), use of labour from designated areas and industrial relations.

119 BBBEE and preferencing scheme

Specify constraints which *Contractor* must comply with after contract award in regard to any Broad Based Black Economic Empowerment (B-BBEE) or preferencing scheme measures.

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

If the ASGI-SA requirements are to be included in this contract specify constraints which *Contractor* must comply with after contract award in regard to any ASGI-SA requirements. The ASGI-SA Compliance Schedule completed in the returnable tender schedules is reproduced here. If ASGI-SA does not apply, delete this paragraph.

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

[Insert the agreed ASGI-SA Compliance Schedule here]

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

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

121 Subcontracting

122 Preferred subcontractors

ECC does not make use of nominated subcontracting, but the *Employer* may list which subcontractors or suppliers the *Contractor* is required to enter into subcontracts with. This is usually only required where Plant and Materials need to be obtained from a particular supplier or group of suppliers in order to comply with operational standards.

123 Subcontract documentation, and assessment of subcontract tenders

Specify any constraints on how the *Contractor* is to prepare subcontract documentation, whether use of the NEC system is compulsory or not (compulsory is recommended) and how subcontract tenders are to be issued, received, assessed (using a joint report?) and awarded.

124 Limitations on subcontracting

The *Employer* may require that the *Contractor* must subcontract certain specialised work, or that the *Contractor* shall not subcontract more than a specified proportion of the whole of the contract.

125 Attendance on subcontractors

State requirements for attendance on Subcontractors, if any

126 Plant and Materials

127 Quality

Quality is usually designed in or specified in the technical specifications referred to in section 6 of this Works Information. However to cover circumstances where quality may not be prescribed, this sub-paragraph could be used as an overarching default requirement. It could also be used to deal with how repairs are carried out after a Defect has been notified; for example can the item be fixed up or must it be replaced by a new one. See also SANS 1200A, sub-paragraph 3.1

128 Plant & Materials provided “free issue” by the *Employer*

State arrangements for collection by *Contractor* or delivery by others on behalf of the *Employer*, off loading, inspection, storage, care custody and control, return of unused Plant and Materials, etc. State whether any samples are to be provided by the *Employer* and if so how, where and when. Always include a statement to the effect that ‘all other Plant and Materials are to be provided by the *Contractor*’.

129 *Contractor’s* procurement of Plant and Materials

Specify any constraints on how the *Contractor* is to order, codify, expedite, freight, import, transport to Site and any other requirements for delivery and storage before installation. The *Employer* may require warranties from suppliers to be in favour of the *Employer* and not just to the *Contractor* during the life of the contract. Also include requirements for vendor data which the *Employer* may need after Completion of the whole of the *works*. THIS IS A VERY IMPORTANT SECTION IN PROCESS PLANT AND UTILITY PROCUREMENT CONTRACTS.

130 Spares and consumables

Some contracts may need to include provision for the supply of a minimum category of spares, fuel, oil or other feed stock and consumables which the *Employer* may need at or just after take over and that it is best the *Contractor* provide these initially as part of his Providing the Works.

131 Tests and inspections before delivery

Core Clauses 40 and 41 both make reference to the Works Information regarding tests and inspections. Specify any requirements here for any tests and inspections that are to be done by the *Supervisor* or Others before delivery to the Working Areas, particularly if such tests and inspections are to be carried out by agents of the *Employer* overseas.

132 Marking Plant and Materials outside the Working Areas

Core clauses 70.1 and 71.1 require the Works Information to state how the *Contractor* is to “mark” Plant and Materials which is outside the Working Areas if they are to be paid for before delivery to the Working Areas. Specify here how the *Contractor* is to mark the Plant and Materials.

133 Contractor's Equipment (including temporary works).

In contracts which require the *Contractor* to procure sophisticated or highly specialised Equipment that could have a major influence on the progress of the works, the *Employer* may wish to exercise constraints or include witness and hold points during manufacture, assembly or delivery of such Equipment. Include these constraints here taking care not to imply that the *Employer* or the *Project Manager* take on any liability as a result. See also section 3.6 above relating to the design phase of the *Contractor's* Equipment.

134 Cataloguing requirements by the Contractor

State whether cataloguing is applicable, if it is, reference the requirements for cataloguing that need to be satisfied by the *Contractor* (consult Procurement Instruction Number 1 of 2018 – Incorporating Cataloguing into the Procurement Environment, Unique Identifier 240-1289988974).

135 Construction

This part of the Works Information addresses constraints, facilities, services and rules applicable to the *Contractor* whilst he is doing work on the Site during the construction and maintenance phase. It does not specify the work itself as that is included in Section 6 of the Works Information.

For contracts involving civil works the approach may be to incorporate SANS1200A or SANS 2000 into the contract. Whilst many of the headings below address the same issues, the list of headings below is more comprehensive. If the headings below are used, it may be prudent to delete paragraphs 3, 4 and 5 from 1200A after checking that their requirements have been included below as necessary. A similar approach can be used in contracts involving building works where the Model Trade Preambles are incorporated. Care should be taken to avoid inconsistency or ambiguity between this part of the Works Information and standard specifications incorporated by reference.

136 Temporary works, Site services & construction constraints

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

Sites such as Sasol Secunda and Koeberg Nuclear Power Station have very strict entrance requirements which tenderers need to allow for in their prices, and the *Contractor* has to comply with. State these or similar requirements here.

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

In addition to the above there may be other restrictions once on the Site, plus rules relating to roads, walkways and the provision of barricades

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

Restrictions and hours of work may apply on some Sites. It is very important that the *Contractor* keeps records of his people on Site, including those of his Subcontractors which the *Project Manager* or *Supervisor* have access to at any time. These records may be needed when assessing compensation events.

140 Health and safety facilities on Site

Section 8 deals with contractual H & S requirements in addition to those of the OHSA Act. This section allows the *Employer* to state what measures are to be taken on Site against disease and epidemics and in emergencies. Also describe where First Aid facilities provided by the *Employer* are located and any other emergency arrangements. Do not use if already addressed in 2.3. The cross reference from Clause 27.4 applies.

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

This sub-paragraph may not be required if these matters are dealt with in the general environmental requirements referred to in paragraph 2.4 above.

142 Title to materials from demolition and excavation

Clause 73.2 states that the *Contractor* has title to materials from excavation and demolition (e. g. copper) only as stated in the Works Information. Hence state here any special arrangements regarding such title. If nothing is stated then the default position is the *Contractor* has no such title.

143 Cooperating with and obtaining acceptance of Others

This sub-paragraph could be used to deal with two issues.

- 1) The cross reference from core clause 25.1 about cooperation generally as well as details about Others with whom the *Contractor* may be required to share the working areas. See clause 11.2(10) for the definition of Others.
- 2) Requirements for liaison with and acceptance from statutory authorities or land owners.

144 Publicity and progress photographs

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

145 *Contractor's* Equipment

This sub-paragraph is intended to address how records are to be kept of Equipment on Site including whether it is owned or hired. Include any constraints about scaffolding, rigs, heavy lifts and cranes, including removal from the Working Areas. Also silencing similar to Clause 4.1 in SANS 1200 A

146 Equipment provided by the *Employer*

Provide details of equipment made available for use by the employer and set out conditions relating thereto.

147 Site services and facilities

This is a mandatory cross reference from clause 25.2 in ECC3. State what the *Employer* will provide in the way of power, water, waste disposal, telecomms, ablutions, fire protection, lighting etc. Give hook up locations and any constraints on how the hook up is to be done. Always conclude by stating that the *Contractor* shall provide everything else necessary for Providing the Works.

148 Facilities provided by the *Contractor*

Describe what the *Contractor* is to provide in the way of Site accommodation, laboratories, storage, vehicles and office equipment etc for the *Project Manager* and the *Supervisor*, and any restrictions or minimum requirements concerning the *Contractor's* own facilities. State requirements for facilities to be provided by the *Contractor* such as construction camps. Also state what happens to these facilities upon completion of the contract. Set out constraints, if any, as to the location by the *Contractor* of such facilities on the Site and requirements for drawings of Site facilities, as necessary.

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

Details under this sub-paragraph are very contract specific and may be quite extensive in some cases. State requirements for the inspection with the owners of adjacent buildings and properties and representatives of local authorities before commencing with the *works* that have the potential to damage surrounding buildings and property. State whether *Contractor* is required to inspect the work of Others to which he is required to connect and if so by when to avoid delays to his work.

150 Survey control and setting out of the *works*

Provide information on survey controls established by the *Employer*, if any, and state requirements for survey control and the setting out of the *works*.

151 Excavations and associated water control

State any particular requirements for handling deep foundations and controlling water from excavations.

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

Describe known services making reference to drawings containing known services and state requirements for locating, marking and recording such services.

State requirements for the treatment of existing services i.e. their termination, diversion or continued use, either temporarily or permanently, and set out the procedures relating thereto.

State requirements, as necessary, for the use and availability of detection equipment for the location of underground services.

State responsibility for damage to services, known and unknown, and requirements for working in close proximity to services etc.

State requirements and reinstatement procedures for the notification and repair of damage to services and any penalties applicable to the damage of services.

153 Control of noise, dust, water and waste

State requirements, if any.

154 Sequences of construction or installation

Only prescribe sequences of work where absolutely necessary such as when *Contractor* has to give access to Others (without take over) and for technical reasons such as under tidal conditions and in rivers.

155 Giving notice of work to be covered up

State the procedure for notifying the *Supervisor*

156 Hook ups to existing works

State any constraints

157 Completion, testing, commissioning and correction of Defects

158 Work to be done by the Completion Date

This is mandatory. Core clause 11.2(2) defines Completion as when the *Contractor* has done all the work which the Works Information states he is to do by the Completion Date. Rather than list all work to be done by the Completion Date, state that all work is to be done by the Completion Date except for [●]. For example:

On or before the Completion Date the *Contractor* shall have done everything required to Provide the Works except for the work listed below which may be done after the Completion Date but in any case before the

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

	Item of work	To be completed by
	As built drawings of	Within days after Completion
	Performance testing of the <i>works</i> in use as specified in paragraph of this Works Information.	See performance testing requirements.

159 Use of the *works* before Completion has been certified

Clause 35.2 in ECC3 provides that the *Employer* may use any part of the *works* before Completion has been certified but if he does so he takes over the part of the *works* except if the use is for a reason stated in the Works Information. State the reason here if this applies.

160 Materials facilities and samples for tests and inspections

State what materials facilities and samples for tests and inspections the *Contractor* and the *Employer* are to provide, per core clause 40.2.

161 Commissioning

Required mainly for contracts including mechanical and electrical work. Would typically refer to detailed commissioning procedure attached as an Annexure. Confirm whether commissioning is to be done before or after Completion. If after Completion, include this item of work in the list in sub-paragraph 70 above.

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

In order to put the *works* into operation the *Employer* may require the *Contractor* to either do this for him or be in attendance whilst he does it, depending on who is the responsible person. State requirements of the *Contractor* here together with any special arrangements associated with operating plant and machinery.

163 Take over procedures

Take over is after or at the same time as Completion. The *Employer* may require the *Contractor* to provide assistance, security personnel on a temporary basis etc.

164 Access given by the *Employer* for correction of Defects

Clause 43.4 requires that the *Project Manager* arranges for the *Employer* to allow the *Contractor* access to and use of a part of the *works* which has been taken over if needed to correct a Defect. After the *works* have been put into operation, the *Employer* may require the *Contractor* to undertake certain procedures before such access can be granted (for example barricading a motorway or in a nuclear power station). Include these here.

165 Performance tests after Completion

Many design and build or turnkey projects require the *Contractor* to demonstrate that the *works* can operate as guaranteed by the *Contractor* (in *Contractor's Works Information*) or specified by the *Employer* either here or elsewhere in this Works Information. State here the procedures for carrying out such proving tests. These details should link up with any performance levels stated in Contract Data if secondary Option X17 in ECC3 applies.

166 Training and technology transfer

Include if the *Employer* requires the *Contractor* to provide training in the use and maintenance of the *works* or any associated transfer of technology from him to the *Employer*.

167 Operational maintenance after Completion

The *Employer* may require the *Contractor* before the *defects date* to perform certain duties after Completion and take over which relate to maintenance of the *works*. (Not to be confused with Defect correction) For example oil and filter changes

168 Plant and Materials standards and workmanship

This section of the Works Information contains all the specifications for the work which is left behind; the permanent works. It is likely to be the largest section by far and may even be compiled in volumes, e. g. Section 6 Volume 1: Civil Engineering Works. In design and construct contracts, it may be compiled in accordance with systems within the *works*; e. g. Section 6 Volume 4: Crushers.

Because practice varies widely between employers it is not practical in a general template such as this to deal with all arrangements. Only the discipline based section subheadings are provided below in the order the *works* are likely to be constructed together with some notes of a general nature.

169 Investigation, survey and Site clearance

Some contracts may require the *Contractor* to carry out further investigation of existing facilities or of the Site before commencing final design. There could be constraints on Site clearance especially in pipeline or transmission grid servitudes.

170 Building works

Reference could be made to the latest Model Trade Preambles published by the Association of South African Quantity Surveyors. However these have been developed for use with the JBCC series of contracts and an approach where description of the work is made part of the bill of quantities, which is not the case in other forms of contract. Only parts of the Model Trade Preambles could be referenced by an ECC contract, with a covering note dealing with the changes in terminology. Further changes are required depending on which parts are to be selected.

This subsection would typically comprise

- a) Particular specifications provided by the *Employer*
- b) List of standardised specifications applicable to the *works* and
- c) Variations to the standardised specifications

171 Civil engineering and structural works

Reference could be made to the SANS1200 series of specifications developed and published by South African National Standards. However these are now very out of date and originally developed for use with SAICE general conditions of contract for works of civil engineering which have themselves been superseded twice.

All SANS 1200 specifications are in the process of being updated to make them more compatible with a wider range of contracts, including NEC, and users should check availability of the new SANS 2000 series of specifications.

Sections 3, 4 and 5 of SANS1200A are probably already covered in section 5 of this Works Information.

This subsection would typically comprise

- a) Particular specifications provided by the *Employer*
- b) List of standardised specifications applicable to the *works* and
- c) Variations to the standardised specifications

If use is made of the 1200 series, users should include a covering note dealing with the changes in terminology, such as the one provided below. Further changes are required depending on which specifications in the 1200 series are selected.

172 Electrical & mechanical engineering works

These specifications are usually project specific and developed by the *Employer* to suit his operations. Either include these specifications here, or refer to them in attached Annexure.

Check the specifications for inconsistencies in terminology and that they do not contain any provisions already dealt with in the chosen NEC *conditions of contract* or clash with them in any way.

173 Process control and IT works

These specifications are usually project specific and developed by the *Employer* to suit his operations. Either include these specifications here, or refer to them in attached Annexure.

Check the specifications for inconsistencies in terminology and that they do not contain any provisions already dealt with in the chosen NEC *conditions of contract* or clash with them in any way.

174 Other [as required]

MOTOR SCOPE OF WORK

DESCRIPTION		COMMENT
1.1	Approved outage plan	Internal
1.2	Request a Permit To Work	Internal
1.3	Isolate Motor	Internal
1.4	Prove positive isolation	Internal
1.5	Disconnect Motor	Internal
1.6	Uncouple and Remove motor	Internal
1.7	Transport Motor to KWS Stores	Internal
DESCRIPTION		COMMENT
2	TRANSPORT	
2.1	Collect Motor from site	Service Provider
3	STRIP & ROUTE	
3.1	Clean motor externally, Dismantle and mark all components	Service Provider
3.2	Clean all components and remove all debris from motor internal, ventilation paths, star point internal and cable terminal internal boxes.	Service Provider

3.3	Conduct Mechanical assessment by inspecting motor frame and noting all defects	
3.4	Conduct Electrical assessment by inspecting the stator core, Windings, and stator winding wedges. By inspecting the rotor core for looseness, overheating, loose/cracked rotor & short circuit bars and clamping fingers.	Service Provider
3.5	Perform Stator Winding insulation test	Service Provider
3.6	Perform Stator watt loss test	Service Provider
3.7	Flux test	Service Provider
3.8	Complete Assessment Report	Service Provider

DESCRIPTION		YES	NO
4	MOTOR TERMINAL BOXES/LEADS		
4.1	Inspect motor terminal bushings for cracks, signs of excessive damage and replace when necessary.		
4.2	Inspect motor leads for cracks, frays, signs of brittleness and swelling from oil contamination and replace when necessary.		
4.3	Inspect motor lead lugs for signs of overheating and perform a pull and turn check for loose crimp connections. Ensure that the insulation of the terminal wire is in touch with the lug. Fit new lugs		
4.4	Replace terminal box gaskets/seals. Use cork packing		
4.5	Mark motor leads for phasing		
5	SPACE HEATERS		
5.1	Inspect and test motor space heaters		
5.2	Replace defective heaters		
5.3	Replace Space heater terminal box gaskets/seals. Use cork packing		
6	PT100 MOTOR WINDING TEMPERATURE		
6.1	Test PT100 motor winding temperature to design specification		
6.2	Replace defective PT100 and wire to winding temperature terminal box		
6.3	Replace PT100 terminal box gaskets/seals. Use cork packing		
7	WHITE METAL BEARINGS DRIVE END & NON-DRIVE END		
7.1	Re-metal the bearing,		
7.2	Replace all labyrinth seals as per attached drawing. rubber seals and gaskets.		
7.3	Shot blast, clean and paint bearing housings		
7.4	Fit new oil site glasses with steel cover plate		
7.5	Fit new oil scoop bushes		
7.6	Fit new breathers		
7.7	Fit new locating pins		
7.8	Polish bearing journals		
8	STATOR HOUSING, WINDINGS AND CORE LAMINATIONS		
8.1	Inspect, clean and dry stator housing and ensure that the air paths are clean and not contaminated by any foreign objects.		
8.2	Overhaul canopy		

8.3	Re-tap all mounting holes on motor and fit new Jacking bolts		
8.4	Inspect and repair Drive End and Non- Drive End landings of the end shields		
8.5	Shot blast motor covers and paint		
8.6	Do full concentricity check, Skim feet, clean and polish spigot		
8.7	Inspect and repair stator core laminations for signs of arching, damaged lamination, and insulation failure		
8.8	Steam clean and bake Stator then spray with insulating varnish		
8.9	If stator winding has failed, burnt, or completely damaged, remove old windings, clean slots, and rewind stator completely		
8.10	Conduct IR and PI tests on stator winding		
8.11	Conduct stator core flux to determine hot spots on the motor stator core laminations		
9	MOTOR ROTOR		
9.1	Replace rotor bars and rotor short circuit rings		
9.2	Rotor bar to bar test		
9.3	Spectrum test on Rotor (ELCID)		
9.4	NDT Rotor shaft		
9.5	Balance rotor		
10	ASSEMBLE MOTOR		
10.1	Assemble motor completely before any mechanical tests checks and routine testing can		
10.2	Measure air gap between stator and rotor		
10.3	Mark magnetic centre and add motor weight on the name plate		
11	ROUTINE TESTS AND REQUIRED TESTS		
11.1	Carry out Tan – Delta test on stator		
11.2	Ultrasonic testing on white metal bearings		
11.3	Conduct no load test at full voltage- full bearing run (65 degrees Max) with temperature, winding		
11.4	Factory acceptance test (No oil leaks to be present) and data pack review		
12	SPECIAL CHARGES		
12.1	Emergency repair charge		
13	PAINTING OF MOTOR		
13.1	Clean and paint the motor		
14	DELIVER TO SITE		
14.1	Deliver motor back to site with new shaft locking device		

MOTOR NAMEPLATES

WINTERSHOEK MOTORS 5-9

GEC SQUIRELL CAGE MOTOR			
OUTPUT	2490 KW 3338 HP	RISE	65 0C
VOLTAGE	3300V	ALTITUDE	1600M
AMPS	494A	INSULATION	CLASS F
RPM	1488	RATING	CMR
HZ	3PH. 50HZ	ENCLOSURE	SP/DP
SIZE	IK10780	MASS	
SPEC	BS2613-70	D.E BEARING	6" SLEEVE
N.D.E BEARING	6" SLEEVE	LUBRICATION	BP HLP65

SERIAL NUMBERS: 2LM2812/01; 2LM2812/02, 2LM2813/01; 2LM2813/02, 2LM2813/03 WINTERSHOEK MOTORS 1-4

ACTOM SQUIRELL CAGE INDUCTION MOTOR			
Contract Number	C00S140/01	Spec	IECB0034
Size	UCX750/155	Output	3000KW
Stator Voltage	3300V	Stator Current	614.9 A
Speed	1189 r/min	Temperature Rise	65K
Insulation	CLASS F		0 0C ST Ambient 40 0C
Frequency	3 Ph. 50HZ	Altitude	1650 m.a.s.l
Motor Mass	11700Kg	Duty Type	S1
Stator Mass	7100Kg	Enclosure	IP 23
Rotor Mass	2050Kg	Cooling	IC01
Power Factor	0.88	Mounting	IM 1001

VYGEBOOM MOTORS

ACTOM SQUIRELL CAGE INDUCTION MOTOR			
Contract Number	C005393/01	Spec	IEC60034
Size	UCX750/155	Output	3000KW
Stator Voltage	3300V	Stator Current	616 A
Speed	1489 r/min	Temperature Rise	65K by resistance (P)
Insulation	CLASS F		0 °C ≤T Ambient ≤ 40 °C

Frequency	3 Ph. 50HZ	Altitude	1650 m.a.s.l
Motor Mass	12060Kg	Duty Type	S1
Stator Mass	7180Kg	Enclosure	IP 23
Rotor Mass	2420Kg	Cooling	ICO1
Power Factor	0.88	Mounting	IM 1001
Rotation	Bi-directional	Number of stator slots	60
		Number of rotor slots	50

Permissible starting intervals (Hour)

2 starts from hot – Motor runs to rest after each start
3 starts from cold – Motor runs to rest after each start

BOSLOOP PUMP STATION MOTORS

BOSLOOP HIGHLIFT MOTOR 1 -3

ACTOM SQUIRELL CAGE INDUCTION MOTOR			
Contract Number	C005532/02	Spec	IEC60034
Size	UCX630/150	Output	3991KW
Stator Voltage	3300V	Stator Current	832 A
Speed	1492 r/min	Temperature Rise	65K by resistance (P)
Insulation	CLASS F		0 °C ≤T Ambient ≤ 40 °C
Frequency	3 Ph. 50HZ	Altitude	1600 m.a.s.l
Motor Mass	11760Kg	Duty Type	S1
Stator Mass	6100Kg	Enclosure	IP 23
Rotor Mass	2665Kg	Cooling	IC21
Power Factor	0.865	Mounting	IM 1001
Rotation	Bi-directional	Number of stator slots	72
Efficiency	97.0%	Number of rotor slots	58

BOSLOOP HIGHLIFT MOTOR 4 -6

ACTOM SQUIRELL CAGE INDUCTION MOTOR			
Contract Number	C005525/03	Spec	IEC60034
Size	UCX710/215	Output	4200 KW
Stator Voltage	3300V	Stator Current	873 A
Speed	1492 r/min	Temperature Rise	65K by resistance (P)
Insulation	CLASS F		0 °C ≤T Ambient ≤ 40 °C
Frequency	3 Ph. 50HZ	Altitude	1600 m.a.s.l
Motor Mass	14260Kg	Duty Type	S1

Stator Mass	6900Kg	Enclosure	IP 23
Rotor Mass	2665Kg	Cooling	IC21
Power Factor	0.87	Mounting	IM 1001
Rotation	Bi-directional	Number of stator slots	60
Efficiency	96.8%	Number of rotor slots	68

BOSLOOP LOWLIFT MOTOR 1-4

GEC SQUIRELL CAGE INDUCTION MOTOR			
<u>Contract Number</u>	<u>T/2LM 221/01</u>	<u>Output</u>	<u>298 KW</u>
<u>Stator Voltage</u>	<u>3300V</u>	<u>Stator Current</u>	<u>60 A</u>
<u>Speed</u>	<u>1000 r/min</u>	<u>Insulation</u>	<u>CLASS F</u>
<u>Frequency</u>	<u>3 Ph. 50HZ</u>	<u>Mounting</u>	<u>Vertically Mount</u>
<u>Motor Mass</u>		<u>Bearings</u>	<u>Roller & Ball Bearings</u>

T/2LM 221/01/02/03/04

NOOITGEDAGHT MOTOR

ALSTOM SQUIRELL CAGE INDUCTION MOTOR			
Contract Number	B004779/03	Spec	IEC60034
Size	UC355/112	Output	830 KW
Stator Voltage	6600V	Stator Current	86 A
Speed	1484 r/min	Temperature Rise	80K by resistance (P)
Insulation	CLASS F		0 °C ≤T Ambient ≤ 40 °C
Frequency	3 Ph. 50HZ	Altitude	1600 m.a.s.l
Motor Mass	3540Kg	Duty Type	S1
Stator Mass	2020Kg	Enclosure	IP 23
Rotor Mass	930Kg	Cooling	IC21
Power Factor	0.88 P.U	Mounting	IM 1001
Rotation	Bi-directional	Motor Heaters	700W @240V
Year	2007		

175 List of drawings

176 Drawings issued by the Employer

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

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

Drawing number	Revision	Title

C3.2 ***CONTRACTOR'S*** WORKS INFORMATION

This section of the Works Information will always be contract specific depending on the nature of the *works*.

It is most likely to be required for design and construct contracts where the tendering contractor will have proposed specifications and schedules for items of Plant and Materials and workmanship, which once accepted by the *Employer* prior to award of contract now become obligations of the *Contractor* per core clause 20.1.

Typical sub headings could be

- a) *Contractor's* design
- b) Plant and Materials specifications and schedules
- c) Other

This section could also be compiled as a separate file.
