



NEC3 Professional Services Contract (PSC3)

Contract between Eskom Holdings SOC Limited
(Reg No. 2002/015527/30)

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

for Provision of structural engineering services for finite element modelling and associated engineering support for the requalification of the base isolation system of the Koeberg Nuclear Power Station.

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ESKOM HOLDINGS SOC LTD

CONTRACT NUMBER _____

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PART C1: AGREEMENTS & CONTRACT DATA

Document reference	Title	Page number
C1.1	<p>Form of Offer & Acceptance</p> <p>[to be inserted from Returnable Documents at award stage]</p>	4
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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:

Provision of structural engineering services for finite element modelling and associated engineering support for the requalification of the base isolation system of the Koeberg Nuclear Power Station

The tenderer, identified in the Offer signature block, has

<i>either</i>	examined the documents listed in the Tender Data and addenda thereto as listed in the Returnable Schedules, and by submitting this Offer has accepted the Conditions of Tender.
<i>or</i>	examined the draft contract as listed in the Acceptance section and agreed to provide this Offer.

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 *Consultant* 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.

The offered total of the Prices exclusive of VAT is	R
Value Added Tax @ 14% is	R
The offered total of the Prices inclusive of VAT is	R
(in words)	

If Option E or G apply, for each offered total insert in brackets, "(Not Applicable – Cost reimbursable)"

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 *Consultant* in the *conditions of contract* identified in the Contract Data.

Signature(s)

Name(s) _____

Capacity _____

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**For the
tenderer:**

Name & signature of witness	<i>(Insert name and address of organisation)</i>	Date

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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 *Consultant* 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: The Scope

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 and signed original copy of this document, including the Schedule of Deviations (if any).

Signature(s)

Name(s) _____

Capacity _____

for the Employer

Name & signature of _____ *(Insert name and address of organisation)* Date _____

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witness _____

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

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Schedule of Deviations

Note:

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

No.	Subject	Details
1		
2		
3		
4		
5		
6		
7		

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

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

For the tenderer:

For the Employer

Signature _____

Name _____

Capacity _____

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On behalf of _____
(Insert name and address of organisation)

_____ *(Insert name and address of organisation)*

Name & signature of witness _____

Date _____

EmployerEmployerEmployer

C1.2 PSC3 Contract Data

Part one - Data provided by the Employer

Clause	Statement	Data
1	General	
		G: Term contract
	dispute resolution Option	W1: Dispute resolution procedure
	and secondary Options	X1: Price adjustment for inflation
		X2 Changes in the law
		X3: Multiple currencies
		X7: Delay Damages
		X9: Transfer of rights
		X10: Employer's Agent
		X11: Termination by the Employer
		X18: Limitation of Liability
		Z: Additional conditions of contract
	of the NEC3 Term Service Contract (June 2005) ¹	
	The <i>Employer</i> is (name):	Eskom Holdings SOC Limited (Reg No: 2002/015527/06), a juristic person incorporated in terms of the company laws of the Republic of South Africa
	Address	Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg
	Represented by	Mr Sadika Touffie
	Tel No.	+27 (21) 550 1155
	Address	Off R27 West Coast Road Koeberg Power Station Melkbosstrand 7441

¹ Available from Engineering Contract Strategies Tel 011 803 3008 Fax 011 803 3009

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	Tel	+27 (21) 550 4900		
11.2(9)	The <i>services</i> are	Provision of structural engineering services for finite element modelling and associated engineering support for the requalification of the base isolation system of the Koeberg Nuclear Power Station.		
11.2(10)	The following matters will be included in the Risk Register	<ul style="list-style-type: none"> • Minutes of Early Warning Meetings • Decisions resulting from risk reduction meetings 		
11.2(11)	The Scope 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 (two) weeks		
13.6	The <i>period for retention</i> is	5 (five) years following Completion or earlier termination.		
2	The Parties' main responsibilities			
25.2	The <i>Employer</i> provides access to the following persons, places and things	access to	access date	
		1	Eskom Technical Lead	Contract Date
		2	Koeberg Site	Completion of Employer's FFD process
		3	Eskom documentation	On request
3	Time			
31.2	The <i>starting date</i> is.	June 2022		
11.2(3)	The <i>completion date</i> for the whole of the <i>services</i> is.	May 2024		
31.1	The <i>Consultant</i> is to submit a first programme for acceptance within	2 weeks of the Contract Date.		
32.2	The <i>Consultant</i> submits revised programmes at intervals no longer than	4 weeks, but before the end of the assessment interval.		
4	Quality			
40.2	The quality policy statement and quality plan are provided within	4 weeks of the Contract Date.		
42.2	The <i>defects date</i> is	52 weeks after Task Order completion.		
5	Payment			

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50.1	The <i>assessment interval</i> is	between the 25th and 24th day of each successive month.	
50.3	The <i>expenses</i> stated for Compensation Events by the <i>Employer</i> are	Item	Amount
		Accommodation	Domestic hotel accommodation may not exceed one thousand four hundred rands (R1 400), inclusive of VAT as per NT cost containment. Domestic hotel accommodation may not exceed the National Treasury approved amount, per night per person (including dinner, breakfast and parking).
		Flights	<ul style="list-style-type: none"> • Local flights –travel on economy class • International flights – travel on economy class • No business or first class travel is allowed.
		Car Hire	<p>Group B or an equivalent class. Group B vehicles contain the following specifications:</p> <ul style="list-style-type: none"> • 5 Doors • Manual • Air Conditioning • Radio/CD • Power Steering • Airbags • Central Locking • ABS
		Airport parking charges, toll fees and taxis	At cost

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		<p>The above is in terms of :</p> <ul style="list-style-type: none"> • Government Gazette No.37042 dated 15 November 2013, • Treasury Regulations (published under Government Notice R225 of 15 March 2005,as amended) • Eskom’s Directive for the Implementation of the National Treasury Cost Containment Instruction and Govt Gazette (Ref : 240-78635659, latest Revision)
51.1	The period within which payments are made is	4 weeks, after receipt of a valid TAX invoice.
51.2	The <i>currency of this contract</i> is the	South African Rand
51.5	The <i>interest rate</i> is	<p>(i) zero percent above the publicly quoted prime rate of interest (calculated on a 365 day year) charged by from time to time by the Standard Bank of South Africa (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 SA Rands and</p> <p>(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 <i>mutatis mutandis</i> 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.</p>
6	Compensation events	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.

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7	Rights to material	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	Indemnity, insurance and liability	
81.1	Insurance	Refer to Z12 - Insurance
82.1	The <i>Consultant's</i> total liability to the <i>Employer</i> for all matters arising under or in connection with this contract, other than the excluded matters, is limited to	The total of the Prices
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	
G	Term contract	
21.4	The <i>Consultant</i> prepares forecasts of the total Time Charge and <i>expenses</i> at intervals no longer than	4 weeks.
50.4	The <i>exchange rates</i> are those published in	National Treasury website
11	Data for Option W1	
W1.1	The <i>Adjudicator</i> is (Name)	The referring Party selects 2 (two) persons from the panel of NEC Adjudicators set up by the ICE-SA Division (or its successor body) of the South African Institution (see www.ice-sa.org.za) and whose availability he has confirmed to act as the Adjudicator. The other Party selects 1 (one) of the 2 (two) nominees to be the Adjudicator within 4 (four) days, failing which the person chosen by the first party will be the Adjudicator. The parties appoint the selected Adjudicator under the NEC3 Adjudicator's Contract. If the Parties do not agree on an Adjudicator, the Adjudicator will be appointed by the Arbitration Foundation of Southern Africa (AFSA).
W1.2(3)	The <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.

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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	Cape Town, South Africa		
	The person or organisation who will choose an arbitrator <ul style="list-style-type: none"> • if the Parties cannot agree a choice or • if the <i>arbitration procedure</i> does not state who selects an arbitrator, is 	the Chairman for the time being or his nominee of the Association of Arbitrators (Southern Africa) or its successor body.		
12	Data for secondary Option clauses			
X1	Price adjustment for inflation	The prices are fixed and firm for the first 12 months of the contract date, thereafter the prices will be subject to one annual adjustment.		
X1.1	The Base date for indices is			
	Local	1.00	People	SIEFSA Table C-3(a) Actual Labour Cost
	Foreign	1.00	People	
		<ul style="list-style-type: none"> • Staff rates are not variable with changes in salary paid to individuals. • The proven direct cost of modification of forward cover due to a change in the following is for the account of the <i>Consultant</i>, if the <i>Consultant</i> is the responsible Party for the change: <ol style="list-style-type: none"> a) The date of payment, b) The date of invoicing and c) The currency. The limit on the <i>Consultant's</i> financial liability to the <i>Employer</i> is included in the limit stated under secondary option X18 “(limitation of liability)”. 		
X2	Changes in the law			
X2.1	The law of the project is	the Law of the Republic of South Africa		
X3	Multiple currencies			

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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
				Prices calculated using the ROE portion where applicable
X3.1	The <i>exchange rates</i> are those published in	the Eskom Treasury website. The items & activities will be paid in the other currency <ul style="list-style-type: none"> • to a foreign Bank account nominated by the <i>Consultant</i>, • to a valid SARB approved CFC account in South Africa, and in accordance with an alternative payment method agreed with the <i>Employer</i> before the Contract Date.		
X7	Delay damages			
X7.1	Delay damages for late Completion of each <i>section</i> of the <i>services</i> are:	Delay damages are to be calculated at 0.2 % of the specific Task Order price per day and is limited to 15% of the task order prices.		
X9	Transfer of rights	There is no reference to Contract Data in this Option and terms in italics used in this Option are identified elsewhere in this Contract Data.		
X10	The <i>Employer's Agent</i>			
X10.1	The <i>Employer's Agent</i> is			
	Name:	Mrs B. Q. Mapumulo		
	Address	NUCLEAR Operating Unit (NOU) Generation Division, Eskom Holding SOC Ltd Koeberg Power Station, R27 off West Coast Road Melkbosstrand, Republic of South Africa, 7441		
	The authority of the <i>Employer's Agent</i> is	to carry out all the actions of the <i>Employer</i> in this contract with the exception of those required by clauses 51.1, and 81.1, and 90.3		

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X11	Termination by the <i>Employer</i>	There is no reference to Contract Data in this Option and terms in italics used in this Option are identified elsewhere in this Contract Data.
X18	Limitation of liability	
X18.1	The <i>Consultant's</i> liability to the <i>Employer</i> for indirect or consequential loss is limited to:	R0.00 (Zero Rand)
X18.2	The <i>Consultant's</i> liability to the <i>Employer</i> for Defects that are not found until after the <i>defects date</i> is limited to:	The total of the Prices for the specific Task Order
X18.3	The <i>end of liability date</i> is	five years after Completion of the whole of the <i>services</i>.
Z	The <i>Additional conditions of contract</i> are	

Z1 Cession delegation and assignment

- Z1.1 The *Consultant* 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 *Consultant* 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 *Consultant* 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 *Employer* within two weeks of the Contract Date of the key person who has the authority to bind the *Consultant* on their behalf.
- Z2.3 The *Consultant* 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 *Consultant* in writing.

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

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

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- Z3.2 The *Consultant* is required to submit an updated verification certificate and necessary supporting documentation confirming the change in his B-BBEE status to the *Employer* within thirty days of the notification or as otherwise instructed by the *Employer*.
- Z3.3 Where, as a result, the *Consultant's* B-BBEE status has decreased since the Contract Date the *Employer* may either re-negotiate this contract or alternatively, terminate the *Consultant's* obligation to Provide the Services.
- Z3.4 Failure by the *Consultant* 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 those stated in core clause 91. The payment on termination includes a deduction of the forecast of the additional cost to the *Employer* of completing the whole of the *services* in addition to the amounts due in terms of core clause 92.1.

Z4 Confidentiality

- Z4.1 The *Consultant* 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 *Consultant*, enters the public domain or to information which was already in the possession of the *Consultant* at the time of disclosure (evidenced by written records in existence at that time). Should the *Consultant* disclose information to Others in terms of clause 23.1, the *Consultant* ensures that the provisions of this clause are complied with by the recipient.
- Z4.2 If the *Consultant* is uncertain about whether any such information is confidential, it is to be regarded as such until notified otherwise by the *Employer*.
- Z4.3 In the event that the *Consultant* is, at any time, required by law to disclose any such information which is required to be kept confidential, the *Consultant*, 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 *Consultant* 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 *Employer's* project works or any portion thereof, in the course of Providing the Services and after Completion, requires the prior written consent of the *Employer*. All rights in and to all such images vests exclusively in the *Employer*.

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, 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 Provision of a Tax Invoice. Add to core clause 51

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Z6.1 The *Consultant* (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.

Z7 Notifying compensation events

Z7.1 Delete from the last sentence in core clause 61.3, "unless the *Employer* should have notified the event to the *Consultant* but did not".

Z7.2 Add to core clause 62.3, "The *Employer's Agent's* reply which is an acceptance of a quotation for a compensation event may require the due authority of the *Employer*."

Z7.3 Add to core clause 62.5, "The *Employer's Agent* notifies the *Contractor* if the *Employer's* authority is required and includes in his notification any extension to the period within which he is required to reply to the *Contractor's* quotation.

Z8 Employer's limitation of liability

Z8.1 The *Employer's* liability to the *Consultant* for the *Consultant's* indirect or consequential loss is limited to R0.00 (zero Rand)

Z9 Termination: Add to core clause 90.1, at the second main bullet point, fourth sub-bullet point, after the words "against it":

Z9.1 or had a business rescue order granted against it.

Z10 Delay damages: Addition to secondary Option X7 Delay damages (if applicable in this contract)

Z10.1 If the *Consultant'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 *Consultant's* obligation to Provide the Services.

Z10.2 If the *Employer* terminates in terms of this clause, the procedures on termination are those stated in core clause 91. The payment on termination includes a deduction of the forecast of the additional cost to the *Employer* of completing the whole of the *services* in addition to the amounts due in terms of core clause 92.1.

Z11 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 *Consultant* or a third party, such party's employees, agents, or Subconsultants or Subconsultant'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

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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 *Consultant*, or any member thereof in the case of a joint venture, or its employees, agents, or Subconsultants or the Subconsultant'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.

- Z11.1 A Committing Party may not take any Prohibited Action during the course of the procurement of this contract or in execution thereof.
- Z11.2 The *Employer* may terminate the *Consultant's* obligation to Provide the Services if a Committing Party has taken such Prohibited Action and the *Consultant* 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 *Consultant's* obligation to Provide the Services for this reason.
- Z11.3 If the *Employer* terminates the *Consultant'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.
- Z11.4 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 *Consultant* ensures that the Committing Party co-operates fully with an investigation.

Z12 Insurance

Z12.1 Replace core clause 81 with the following:

81.1 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.

81.2 The *Consultant* provides the insurances stated in the Insurance Table A 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	For the period following
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		Completion of the whole of the services or earlier termination
Liability of the <i>Consultant</i> for claims made against him arising out of his failure to use the skill and care normally used by professionals providing <i>services</i> similar to the <i>services</i>	Commercial and business to determine. [Delete this note after inserting]	Commercial and business to determine [Delete this note after inserting]
Liability for death of or bodily injury to a person (not an employee of the <i>Consultant</i>) or loss of or damage to property resulting from an action or failure to take action by the <i>Consultant</i>	<p><u>Loss of or damage to property:</u> The replacement cost where not covered by the <i>Employer's</i> insurance</p> <p>The <i>Employer's</i> policy deductible, as at Contract Date, where covered by the <i>Employer's</i> insurance</p> <p><u>Bodily injury to or death of a person:</u> The amount required by the applicable law.</p>	Commercial and business to determine [Delete this note after inserting]
Liability for death of or bodily injury to employees of the <i>Consultant</i> arising out of and in the course of their employment in connection with this contract	The amount required by the applicable law	Commercial and business to determine [Delete this note after inserting]

81.3 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 limit 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

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Nuclear Material Damage Terrorism	Per the insurance policy document
--------------------------------------	-----------------------------------

Z13 Nuclear Liability

- Z13.1 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.
- Z13.2 The *Employer* is solely responsible for and indemnifies the *Consultant* or any other person against any and all liabilities which the *Consultant* 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 *Consultant* or any other person or the presence of the *Consultant* or that person or any property of the *Consultant* 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*.
- Z13.3 Subject to clause Z13.4 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 *Consultant* or any other person, or the presence of the *Consultant* or that person or any property of the *Consultant* 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*.
- Z13.4 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.
- Z13.5 The protection afforded by the provisions hereof shall be in effect until the KNPS is decommissioned.

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C1.2 Contract Data

Part two - Data provided by the *Consultant*

1. The tendering *Consultant* is advised to read both the NEC3 Professional Services Contract, April 2013 and the relevant parts of its Guidance Notes (PSC3-GN)² in order to understand the implications of this Data which the tenderer is required to complete. An example of the completed Data is provided on pages 158 & 159 of the PSC3 April 2013 Guidance Notes.
2. The number of the clause in the PSC3 which requires the data is shown in the left hand column for each statement however other clauses may also use the same data.
3. Whenever a cell is shaded in the left hand column it denotes this data is optional in PSC3 and would be required in relation to the option selected. The *Employer* should already have made the selection and deleted the rows not required.

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

Clause	Statement	Data
10.1	The <i>Consultant</i> is (Name): Address Tel No. Fax No.	
22.1	The <i>key people</i> are: 1 Name: Job: Responsibilities: Qualifications: Experience: 2 Name: Job Responsibilities: Qualifications: Experience:	

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

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	<p>Please insert the name, job, responsibilities, qualifications and experience of its key people. Provide for additional key persons if necessary</p> <p>Note: Ensure that the key people listed have direct involvement with the contract (not CEO, MD, ED's of company or parent company unless the individual has an active role in the contract)</p>	<p>CV's (and further <i>key persons</i> data including CVs) are appended to Tender Schedule entitled _____ .</p>	
11.2(10)	<p>The following matters will be included in the Risk Register</p> <p>Note: The listing of risks on the Risk Register does not have the effect of fixing either of the parties with any particular risk.</p>		
11.2(13)	<p>The <i>staff rates</i> are:</p> <p>Either complete here or cross refer to a schedule in Part C2.2</p>	<p>name/designation</p>	<p>rate</p>
25.2	<p>The <i>Employer</i> provides access to the following persons, places and things</p>	<p>access to</p> <p>1</p> <p>2</p> <p>3</p>	<p>access date</p>
G	Term contract		
11.2(25)	The <i>task schedule</i> is in		

PART C2: PRICING DATA

PSC3 Option G

Document reference	Title	Page No
C2.1	Pricing instructions: Option G	27
C2.2	<i>Staff rates and the task schedule.</i>	30

C2.1 Pricing assumptions: Option G

How work is priced and assessed for payment

From Option G: Term contract

Identified and defined terms	11 11.2	<p>(17) The Price for Services Provided to Date is, for each Task, the total of :</p> <ul style="list-style-type: none"> • the Time Charge for work which has been completed on time based items on the Task Schedule and • a proportion of the lump sum price for each other item on the Task Schedule which is the proportion of work completed on that item.
		<p>(20) The Prices are</p> <ul style="list-style-type: none"> • the Time Charge for items described as time based on the Task Schedule and • the lump sum price in the Task Schedule for each other item.

From the Core Clauses:

Identified and defined terms	11.2	<p>(13) The Time Charge is the sum of the products of each of the <i>staff rates</i> multiplied by the total staff time appropriate to that rate properly spent on work in this contract.</p>
------------------------------	------	---

and

<p>Assessing the amount due</p>	<p>50.3</p>	<p>The amount due is</p> <ul style="list-style-type: none"> • the Price for Services Provided to Date, • the amount of the <i>expenses</i> properly spent by the <i>Consultant</i> in Providing the Services and • other amounts to be paid to the <i>Consultant</i> less amounts to be paid by or retained from the <i>Consultant</i>. <p>Any tax which the law requires the <i>Employer</i> to pay to the <i>Consultant</i> is included in the amount due.</p>
---------------------------------	-------------	---

In effect Option G is a cost reimbursable form of contract with work ordered by the *Employer* on a Task by Task basis using the Task Schedule to compile the cost of carrying out a Task.

Expenses are calculated separately and added to the amount due for the *services* provided.

Staff rates and expenses

Tendering *Consultants* are advised to consult the NEC3 Professional Services Contract (June 2005) Guidance Notes and Flow Charts page 28 before entering *staff rates* into Contract Data, or in section C2.2 which follows.

This is because *staff rates* can be established in one of three ways:

- rates for named staff,
- rates for categories of staff or

- rates related to salaries paid to staff.

Rate adjustment for inflation, if necessary, can be based either on actual salary adjustments or by using Option X1: Price adjustment for inflation. See pages 13, 14 and 28 of the Guidance Notes.

Expenses associated with employing a staff member in Providing the Services can be listed separately either by the *Employer* in Contract Data provided by the *Employer* or by the *Consultant* in Contract Data provided by the *Consultant*.

As only the *expenses* listed may be claimed by the *Consultant*, all other cost to the *Consultant* associated with Providing the Services must be included within the *staff rates*.

Rate adjustment for inflation of *expenses* is explained on page 13 of the PSC3 Guidance Notes.

The function of the Task Schedule

The Task Schedule may include items of work to be paid for on a rate (Time Charge) or on a lump sum price for the item. Any work ordered during the term of the contract – i. e. before the Completion Date – for which there is no priced item in the Task Schedule is priced using the compensation event procedure and the resulting Price is added into the Price List.

The *task schedule* is prepared by the *Employer* for the *Consultant* to price, or may be prepared jointly with the *Consultant*. It is typically priced in two parts as items of work to be carried out on a time basis and lump sum prices for other items of work. The task schedule must be as complete as possible and fully representative of all the work and *services* which the *Employer* may require the *Consultant* to carry out. The only unknown is when the work is to be carried out; the Task Order will be used to instruct when work is to be done.

C2.2 Staff rates, expenses & the task schedule
--

This section can be used when the staff rates and expenses are considerable in number and more conveniently located here than in the Contract Data. Entries in the Contract Data should refer to this section of Part 2.

The *staff rates* related to the scope of work in this contract are:

Category of staff member	Rate per hour excluding VAT (Foreign currency))	Rate per hour excluding VAT (ZAR)
Specialist		
Expert		
Senior		
Intermediate		
Junior		

NOTES:

- a) All the above rates exclude VAT;
- b) No upfront payments will be allowed for *services*.
- c) The *Consultant* shall at its own expense comply with the Basic Conditions of Employment Act No.75 of 1997. The *Consultant* indemnifies the *Employer* against any claims, proceedings, compensation, and cost arising from the *Consultants* transgression of the Act.
- d) Air tickets, accommodation, car hire, etc, shall be in line with the National Treasury Guideline.
- e) Prices must include *Employer's* FFD requirements if required. The *Consultant* will make provision in his planning and pricing for his personnel to undergo the induction training;
- f) All work under this contract will be carried out on a Task-order basis, as and when the *Employer* requires it, at its sole discretion.

C2.2.1 Work on lump sum basis (ZAR and foreign currency)

For further details please refer to Part 3 Scope of Work in this document, C3.1 *Employer’s* scope and Section 2 Scope of Services.

Task order 1				
No.	Items of work priced on a lump sum basis	Completion date / duration in months	Price (excluding VAT)	
			(ZAR portion)	Foreign currency portion
1.	<ul style="list-style-type: none"> Review and comment on the <i>Employer’s</i> investigation into the ageing mechanism of the aseismic bearings; Assist in the projection of bearing properties up to the end of the extended life i.e., 2045. Make proposals to <i>Employer</i> on how the approach could be enhanced and optimised. Compile and submit a review report for acceptance. 	To be agreed before the Contract Date		
2.	<ul style="list-style-type: none"> <i>Consultant</i> to familiarise themselves with the design and analysis of the Koeberg Nuclear Power Station Nuclear Island and supporting structures, regulatory requirements, and applicable codes and standards that governs the design Reproduce the original 2D stick model with its associated floor response spectra as documented in the Koeberg SAR. Produce working model as well as model V&V report in accordance with RG-0016. 	To be agreed before the Contract Date		
3.	<ul style="list-style-type: none"> Perform design basis structural response study. Produce study report for acceptance. 	To be agreed before the Contract Date		

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Task order 1				
No.	Items of work priced on a lump sum basis	Completion date / duration in months	Price (excluding VAT)	
			(ZAR portion)	Foreign currency portion
4.	Program management			
5.	Meetings and travel			
	Total for lump sum portion			

C2.2.2 Work based on rates.

These are *services* that will be required to be executed with inputs from Task Order 1 on section C2.2.1 above. Therefore, the detail scope involved for delivering these *services* will only become known during the execution of Task order 1.

For further details please refer to Part 3 Scope of Work in this document, C3.1 *Employer's* scope and Section 2 Scope of Services.

No.	Items of work to be carried out on a rate basis
1.	Work to be carried out on an as and when required basis
2.	Inspections, further investigations, etc.
3.	Construct a 3D FEM model of KNPS
4.	Review existing 3D structure model
5.	Develop new 3D structure model
6.	Beyond design basis 3D Structural response study
7.	PSA 3D structural response study.
8.	Program management
9.	Meetings and travel

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Consultant:

PRINT NAME

SIGNATURE

DATE

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PART C3: SCOPE OF WORK

Document reference	Title	Pages no
	This cover page	34
C3.1	<i>Employer's Scope</i>	35
C3.2	<i>Consultant's Scope</i>	43
	Total number of pages	84

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C3.1: EMPLOYER'S SCOPE**Table of contents**

Section	Description	Page number
1.	Description of the <i>services</i>	36
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4.	The Parties use of material provided by the <i>Consultant</i>	73
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8.	List of drawings	81

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1. Description of the services**1.1 Executive overview**

The scope of work is divided into two Phases. Phase A will consist of the development of a 2D model and use of this model to demonstrate continued plant operation. The outputs from this Phase will inform the scope of Phase B. Therefore, the requirements and scope of Phase B will only be known, compiled, and priced for, once the outputs from Phase A is known.

Koeberg Nuclear Power Station (KNPS) is in the process of applying to renew its license for an additional twenty years of operation. In doing so, several safety Systems, Structures and Components (SSCs) must be requalified or upgraded to perform their design basis intent. One of the most important features is the nuclear island base isolation system. The base isolation system consists of low damping laminated anti-seismic bearings (hereon referred to as the aseismic bearings) that are equipped with a sliding interface.

The KNPS Nuclear Island and all the SSCs important to safety supported by the raft has been seismically designed for a Safe Shutdown Earthquake (SSE) with Peak Ground Acceleration (PGA) of 0.3g to which all safety related SSCs should remain functional. The Operating Basis Earthquake (OBE) corresponds to a lesser earthquake which generally aligns to the ground motion of specific codes of practice and equates to half of the SSE at 0.15g.

The associated Floor Response Spectra (FRS) were originally developed by Dames and Moore (D&M) using a 2D stick model to represent the Nuclear Island as documented in the KNPS Safety Analysis Report (KSAR). Until the *Employer* completes new studies to characterise the seismic hazard for the plant, the D&M analysis will remain the design and licensing basis for the KNPS to which all plant modifications need to comply to.

As part of periodic safety reviews for nuclear power plants, it is common practice for nuclear power plants to re-evaluate their seismic hazard and plant seismic response to ensure plant safety, as changes to the expected ground motion could have a real impact on the response of the power plant. The seismic qualification of all important to safety SSCs on the nuclear island should be checked against the revised and current seismic hazard analysis. Methodologies, codes, and standards, for evaluating seismic hazards determining the plant response to seismic hazards have evolved since the original design and construction of KNPS. The assessment of the seismic qualification of safety related SSCs against newly modelled or revised FRS, is therefore due.

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KNPS is currently not in possession of the original 2D stick model developed by D&M and will require it to be reconstructed and updated using the latest modelling software. There have been previous attempts to reproduce the original 2D model, but these attempts have been unsuccessful. Due to the lack of information on the D&M stick model, the discrepancies between the models cannot be explained. The D&M stick model produces more conservative results, suggesting that conservatisms have been incorporated in the KNPS design basis floor response spectra through smoothing and peak broadening.

Furthermore, following an update of the seismic hazard (currently scheduled to be completed in 2023), KNPS is required to verify that the seismic qualification of safety related SSCs is adequate to withstand a design basis earthquake, given the latest floor response spectra that will be produced from the latest seismic hazard inputs. The numerical model representing the nuclear island and seismic analysis methodology also need to reflect the current practice incorporated in the latest nuclear regulatory guidelines and standards. It is noted that modern nuclear power plants are modelled using a combination of 3D shell and stick models. Hence, where appropriate, the move to a 3D model is in line with international practice and 2D models may no longer be appropriate to develop the seismic design basis of a nuclear power plant.

However, for an existing plant such as KNPS the original 2D stick model could still be used for its design basis demonstration (where appropriately justified) and for Design Extension Conditions (DEC) / beyond design basis studies (i.e., PSRA and PSA) on safety related SSC, should then utilise a 3D Finite Element Model (FEM), the latest seismic hazard ground motion and conservative material properties of the base isolation system.

The *Employer* requires engineering *services* in line with the required quality assurance process, to seismically requalify the KNPS for an additional 20 years of operation, these *services* are critical to KNPS in its license extension programme for the plant.

1.2 Interpretation and terminology

Terminologies and abbreviations common in all the URSs are defined below.

Term	Definition
Classification	Generic term encompassing safety, seismic, quality, environmental, importance and management system level or the process of

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Term	Definition
	assigning these designations.
Confidential	The classification given to information that may be used by malicious/opposing/hostile elements to harm the objectives and functions of Eskom Holdings Limited.
Consultant	Responsible to Provide the Services.
Controlled disclosure	Controlled disclosure to external parties (either enforced by law, or discretionary).
Design:	The process of devising a system, component, or process to meet the <i>Employer's</i> requirements, as specified in the Scope of Work. It is a decision-making process, in which the basic science, mathematics and engineering sciences are applied to meet the objective for the <i>services</i> .
Design Authority:	The party responsible and accountable for the integrity of the design.
Include:	If "include" is followed by other, specific, words it will not be construed as limiting the meaning of the general words preceding it, save where the word "similar" precedes the word "include".
Including:	If "Including" is followed by other, specific, words will not be construed as limiting the meaning of the general words preceding it, save where the word "similar" precedes the word "including".
Non-Outage:	When the power station unit is operational.
Others:	<p>The main <i>Consultant</i>,</p> <p>National Nuclear Regulator (NNR),</p> <p><i>Employer's Agent's</i> Authorised Inspection Agency (AIA),</p> <p><i>Employer's Consultants</i> and</p> <p><i>Consultants</i>.</p> <p>The list is updated, by the <i>Employer's Agent</i>, each time a third parties contract is placed by the <i>Employer</i> or when Others change.</p>

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Term	Definition
Outage:	When the power station unit is shut down for maintenance and refuelling.
Public domain	Published in any public forum without constraints (either enforced by law, or discretionary).
Requirement	A condition or capability needed by a user to solve a problem or achieve an objective.
Scope of Work:	The sum of the <i>services</i> , <i>services</i> , and results to be provided as a project.
Shall, Should, May:	"Shall" is used to denote a requirement, "Should" a recommendation and "May" to denote permission in <i>Employer's</i> Scope of Work and relevant specifications.
Takeover:	Process of transfer of responsibility for all or part of a project or its deliverables to the <i>Employer's Agent</i> from the <i>Consultant</i> . Typically, this takes place at the end of task order or a major part thereof.
Technical Lead :	The provision of technical guidance, technical coordination and technical leadership to the project, to ensure the <i>service</i> is suited for its designated purpose as stated in the Scope of Service.
Trigramme:	The <i>Employer's</i> labelling system that consists of a unit number followed by three alphabetic characters identifying a system, followed by a three-digit number, followed by two letters (bigramme) indicating a component.

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1.3 Abbreviations

The following abbreviations are used in this Scope:

Abbreviation	Meaning given to the abbreviation
AME	Ageing Management Evaluation
CM	Configuration Management
CQMP	Contract Quality Management Plan
DDR	Design Base Documentation Change Request
DE	Design Engineering
D&M	Dames and Moore
ECSA	Engineering Council of South Africa
EQ	Environmental Qualification
IAEA	International Atomic Energy Agency
ISO	International Organisation for Standardisation
KNPS	Koeberg Nuclear Power Station
KSAR	Koeberg Safety Analysis Report
LTO	Long Term Operation
NO	Normal Operation
NOU	Nuclear Operating Unit

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Abbreviation	Meaning given to the abbreviation
NNR	National Nuclear Regulator
NSA	No Safety or Availability Function
NSF	No Safety Function
NSR	Non-Safety Related
OE	Operating Experience
OBE	Operating Basis Earthquake
OEM	Original Equipment Manufacturer
OHS	Occupational Health and Safety
PDF	Portal Document Format
PPE	Personal Protective Equipment
PGA	Peak Ground Acceleration
PSR	Periodic Safety Reviews
PSRA	Probabilistic Safety and Risk Assessment
P&ID's	Piping and Instrument Diagram
QA	Quality Assurance
QADP	Quality Assurance Data Package

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Abbreviation	Meaning given to the abbreviation
QCP	Quality Control Plan
SAP	Systems, Applications and Products in data processing
SSC	System, Structure, or Component
TLAA	Time Limited Aging Analysis
URS	User Requirements Specifications

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2. C3.2 Scope of services

2.1 Overview of services

The *services* are in two parts, Part 1 and Part 2.

2.1.1 Part 1

Includes, but is not limited to:

2.1.1.1 The *Consultant* is required to review the KNPS aseismic bearing test data; make proposals to the *Employer* on how the approach could be enhanced and optimised. Compile a review report.; assist in the projection of bearing properties up to the end of the extended life i.e. 2045.

2.1.1.2 The *Consultant* is required to familiarise themselves with the design and analysis of the Koeberg Nuclear Power Station nuclear island and supporting structures, regulatory requirements and applicable codes and standards that governs the design.

2.1.1.3 The *Consultant* is required to reproduce the original 2D stick model with its associated floor response spectra as documented in the KNPS SAR. This model is required to include safety related structures not situated on the nuclear island (e.g., Cask storage building and the essential cooling pumping station). The model should take into consideration a range of parameters that can affect the response of the plant and incorporate all the plant modifications performed to the nuclear island. The *Consultant's* model will be used to qualify all design basis criteria for SSC's situated on the nuclear island.

2.1.2 Part 2

The deliverables /outputs from Part 1 will then be used as an input to Part 2 of the *services*, which include, but is not limited to:

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2.1.2.1 The *Consultant* is required to construct a 3D FEM model of KNPS which incorporates the latest regulatory guidelines and standards, the latest seismic hazard ground motion and change in material properties of the base isolation system. The model should not be limited to the nuclear island structure but also include other structures which are important to the safe operation of the plant. These include structures, where their failure could have an adverse effect on radiation safety such as: radiation waste storage building, cask storage building, hardened storage building for Equipment used during external events; old steam generator storage building, and buildings used during any nuclear emergency) The Consultant's model will be used to perform any beyond design basis analysis that are required for plant life extension.

2.1.2.2 The *Consultant* shall compare the FRS from the original design basis model to the new 3D model and provide reasons / justification for any differences in the results obtained.

2.1.2.3 It is anticipated that the 2D model outputs could have less margin than the 3D model outputs, due to the added conservatisms in the inputs and the model construct. Best estimate modelling, as used in 3D model applications, normally have greater margins by virtue of the evaluation using deterministic methods that best represents the expected outcome with no optimism or conservatism.

2.1.2.4 The *Consultant* shall conduct a sensitivity analysis with the 3D model to evaluate the effect of current aseismic bearing properties on structure response.

2.1.2.5 The *Consultant* shall perform updated sensitivity analyses to evaluate the effect of future bearing properties on structure response, as input to Long Term Operation (LTO).

2.1.2.6 The *Consultant* shall perform analysis and extract demands (FRS, displacements).

2.1.2.7 The *Consultant* shall compare demands of current bearing properties vs. original bearing properties and/or original demands (licensing requirements).

2.1.2.8 The *Consultant* shall perform analysis calculations with seismic demand suitable for PSA studies.

2.1.2.9 The *Consultant* shall incorporate the current / interim seismic hazard input.

2.1.2.10 The *Consultant* shall account for bearing/structure/ soil property uncertainty and variability.

2.1.2.11 The *Consultant* shall perform analysis to output demands suitable for component fragility analysis and time limited ageing analysis.

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2.1.2.12 The *Consultant* is responsible for the verifying the correctness and suitability of all input assumptions, assessments, calculations, and analysis required to carry out the services. All assumptions shall be validated by the *Employer* prior to being incorporated into any analysis model.

2.1.2.13 The *Consultant* is required to schedule workshops throughout the duration of the work to presenting their findings to Koeberg.

2.1.2.14 The *Consultant* is required to schedule a minimum of two Site visits to Koeberg Nuclear Power station.

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2.1.3 Minimum experience requirements for the services

The *Consultant* meets the requirements for the *services* as stipulated below as a minimum:

The *Consultant* assigned lead engineering resource (s):

2.1.3.1 Is are professionally registered as a Professional Engineer(s) specialising in seismic and structural engineering.

2.1.3.2 Has a minimum of 20 years' relevant experience as a Professional Engineer in the field of seismic and earthquake engineering.

2.1.3.3 Has extensive knowledge on the design, analysis, monitoring and testing of base isolation systems and nuclear structures.

2.1.3.4 Has extensive knowledge/experience on the operation of Nuclear Power plants.

2.1.3.5 Has extensive knowledge/experience on finite element modelling of Nuclear Power plants.

2.1.3.6 Has extensive knowledge/experience on the requalification requirements for base isolation systems for Nuclear Power Plants.

2.1.3.7 Is/are capable of processing large amount of data for the required analyses.

2.1.3.8 Has experience in PSA, PSRA and Time Limited Aging Analysis (TLAA) analyses.

2.1.3.9 Has extensive knowledge with the respect the to ageing mechanisms of base isolation systems.

2.1.3.10 Has experience with nuclear regulatory requirements, codes and standards required for plant life extension.

2.1.3.11 Has experience with licensing of composite base isolation systems for nuclear power plants with a nuclear regulator

2.1.3.12 Shall provide experience of the above mentioned requirements to the *Employer* as part of this submission.

2.1.3.13 Is able and willing to teach and share industry best practice principles to the *Employer's* representative engineers.

2.1.3.14 knowledge on the seismic behavior of nuclear structures (concrete and steel).

2.2 Categories of labour required

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2.2.1 The *Consultant* and his representatives appointed to perform the engineering services are competent in the field for which they are appointed. The *Consultant* and his representatives are professionally registered.

2.2.2 The *Consultant* provides the *Employer* with a list of similar projects demonstrating his competency, experience and accreditation. The *Employer* reserves the right to examine the certification of appointed personnel. The *Consultant* ensures that all staff is qualified and certified.

2.3 General requirements for the services

2.3.1 All calculations submitted by the *Consultant* to the *Employer* are in Metric units.

2.3.2 Native files of calculations, assessments and analyses are submitted together with the final reports to the *Employer*. The native files show all equations and formulae that were used to develop the calculation, assessments, or analysis.

2.3.3 The *Consultant's* services include the services which, although it may not be expressly stated herein, can be reasonably inferred from the Scope and the *Employer's* objectives.

2.3.4 The *Consultant* is required to provide the services in accordance with sound engineering principles and prudent best industry practice.

2.3.5 *Consultant* is required to make use of appropriately accredited software for analysis

2.3.6 The methodologies to be applied to the execution of the services are reliant on:

2.3.6.1 Sound engineering judgement,

2.3.6.2 Extensive nuclear design, analysis, construction and performance of nuclear structures and base isolation system experience,

2.3.6.3 The *Consultant* shall demonstrate awareness of Nuclear Safety Culture practices in their implementation of the scope of work in this contract.

2.3.6.4 The *Consultant* and his subconsultants perform the services in compliance with legislation, rules and regulations, applicable national and international engineering codes, environmental standards, other applicable standards, and statutory requirements.

2.3.6.5 When required to carry out engineering services, the *Consultant* is responsible to make the necessary calculations, assessments, analysis, and informed assumptions for cases where required existing information from Site is not available. The *Consultant* is responsible for the

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correctness and suitability of all assumptions, assessments, calculations, and analysis required to carry out the services.

2.3.6.6 Assumptions, philosophy of the engineering approach, assessments, calculations, and analysis made by the *Consultant* to proceed with carrying out the services are subject to the *Employer's* acceptance. The *Consultant* does not commence with carrying out services based on assumptions or an engineering approach that has not been accepted by the *Employer*.

2.3.6.7 The *Consultant* develops reports for all services completed, which include a narrative of the engineering problem, a description of the engineering theories and design philosophies applied, a list of assumptions made, a reference list that lists all codes, literature and standards used, a professional interpretation of results, a conclusion on the recommended way forward and demonstrate use of the *Consultant's* analyses/ reports/ deliverables/ drawings.

2.3.6.8 The *Consultant*, when carrying out the services, ensures that:

- 2.3.6.8.1 The design/deliverable satisfies the *Employer's* requirements;
- 2.3.6.8.2 Foreseen technical risks are identified and addressed;
- 2.3.6.8.3 All relevant standards, procedures and guidelines have been adhered to;
- 2.3.6.8.4 The *Employer's* interests are protected;
- 2.3.6.8.5 The design/deliverable is suitable and correct (calculations, philosophy, functionality);
- 2.3.6.8.6 Industry best practice was applied;
- 2.3.6.8.7 Assumptions made is reasonable and adequate;
- 2.3.6.8.8 The structure can operate safely and reliably within the specified design margins;
- 2.3.6.8.9 All interfaces with other plants or systems have been identified and catered for;
- 2.3.6.8.10 Design methodologies and philosophies are stated and verified as acceptable to the *Employer* and its stakeholders;
- 2.3.6.8.11 All designs and deliverables are subject to the *Employer's* acceptance. Acceptance of the *Consultant's* deliverables, by *Employer*, does not in any way or form transfer liability from the *Consultant* to the *Employer*. The *Consultant* remains fully liable for the deliverable in all aspects.
- 2.3.6.8.12 The design / analysis, compiled by the *Consultant*, is fit for purpose;

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2.3.6.8.13 The governing engineering national and international standards are adhered to as a minimum;

2.3.6.8.14 The design criteria and approach, used by the *Consultant* is suitable and correct;

2.3.6.8.15 The correct equations (i.e. most accurately reflecting the behaviour of physical systems) were used by the *Consultant* in the calculations;

2.3.6.8.16 The *Consultant's* design does not expose the *Employer* to risk, or alternatively the *Consultant* makes the *Employer* aware of the risks associated with its design.

2.3.6.8.17 The *Consultant* provides all required software, software licenses and analytical tools required to carry out the services.

2.3.6.8.18 The *Consultant* does not cause work interruption resulting in schedule changes due to his Equipment or personnel.

2.3.6.8.19 The *Consultant's* personnel have a valid identification document or passport. The *Consultant's* personnel are cleared to commence any work on the Site by the South African authorities, prior to being screened for Site work access (Fitness for Duty).

2.4 Minimum requirements for the methodology (technical action plan) in delivering the service by the *Consultant*

2.4.1 The *Consultant* submits a methodology to demonstrate to the *Employer* that the *Consultant* can provide the Services and meet the *Employer's* objectives regarding the services.

2.4.2 The *Consultant* describes and provides in his methodology, sufficient information to show conformity to all requirements of the *Employer's* specification. This includes, but is not limited to:

2.4.2.1 Description of the organisation on site (where required) and of the support from the main office.

2.4.2.2 Needs for facilities such as offices, power, and internet, to be supplied or performed by Koeberg.

2.4.2.3 Measure and precaution to guarantee availability of Equipment and personnel.

2.4.2.4 Organisation with co- and sub-consultants (if relevant).

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2.4.3 The *Consultant* describes and provides in the methodology the following information as a minimum:

2.4.3.1 Possible challenges to complete the services.

2.4.3.2 The *Consultant's* engineering team list, organogram, and contact details for each person.

2.4.3.3 A description of the tools and systems that will be used to carry out the services.

2.4.3.4 A risk register which addresses the key risks and constraints of the Scope, including the risk of inadequate skills transfer. The register includes a clear description of the risk, the root cause, a risk ranking and a mitigation plan, including a rating on the effectiveness of the mitigation plan.

2.4.3.5 A list of exclusions and deviations from the Scope. This list explains the proposed exclusion/deviation, the rationale for the exclusion/deviation, any technical data supporting the exclusion/deviation and historical experience supporting the exclusion/deviation.

2.4.4 The methodology is submitted as part of the *Consultant's* tender and resubmitted 14 calendar days after contract award to the *Employer* for acceptance.

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2.5 Calculations and Analysis report requirements

Minimum requirements for calculations and analysis reports

2.5.1 The analysis/calculation report, compiled by the *Consultant*, includes all detailed calculations used to perform the analysis. The *Consultant's* report must contain validation and verification requirements in accordance with RG-0016 (Guidance on the Verification and Validation of Evaluation and Calculation Models used in Safety and Design Analyses)

2.5.2 The *Consultant's* analysis/calculation report includes, as a minimum where applicable, the following:

2.5.2.1 A narrative of the engineering problem.

2.5.2.2 Design Basis criteria statement and general information:

2.5.2.3 Analytical philosophy, including a narrative that explains the Analytical approach,

2.5.2.4 List of applicable standards, codes and literature that was used in the analysis,

2.5.2.5 List of assumptions made regarding the analysis (verified and unverified),

2.5.2.6 Mitigations for unverified assumptions are included,

2.5.2.7 Occupancy category (where applicable).

2.5.2.8 Calculation of loads: NB the loads that are not required for the analysis will be disproved by the *Consultant's* designer

2.5.2.9 All the applicable loads as required are calculated and shown in the report, by the *Consultant* including but not limited to permanent loads and variable loads,

- Imposed loads on structure and platforms,
- All operational conditions are considered,
- Dynamic loads,
- Fatigue loads and limits,
- Crane Induced loads, and
- Transportation induced loads,
- Transient loads,
- Wind load calculations,
- Provide the *Consultant's* calculations showing the development of wind pressures for the main wind force resistance design,

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- Provide the *Consultant's* calculation of total base shear from wind loading that a structure will experience (indicate if load factors are included or not included),
- Internal pressure,
- Accidental loads,
- Seismic load,
- Any other loads as applicable for the *Consultant's* design/analysis.
- Load combinations are in accordance with applicable codes and standard, original design documentation where applicable.

2.5.2.10 Primary superstructure analysis (Analysis input and output for structural analysis models: This is the data that would be produced, by *Consultant* from its structural analysis model. Any information that can be supplemented by a graphical images as it is preferred and beneficial.

2.5.2.11 Design basis criteria input to the model,

2.5.2.12 Grade of materials,

2.5.2.13 End fixity conditions,

2.5.2.14 Member input,

2.5.2.15 Unbraced lengths and factors,

2.5.2.16 Load combinations,

2.5.2.17 Type of members used, i.e. beam tension member, plates, etc.,

2.5.2.18 Report on the reactions, deflections, member forces, moments and stresses in the structure,

2.5.2.19 Other important inputs or outputs.

2.5.2.20 Secondary analysis (Secondary calculations are completed by the *Consultant*, to check secondary members that are not included in the structural analysis model. These could be hand calculations, machine aided calculations, or software developed calculations.),

- Wall girts,
- Purlins,
- Cladding specification,
- Other secondary and miscellaneous items as required.
- Fasteners

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- Anchors
- Crack width calculation checks,
- Structural stability check,
- Bending, axial and shear calculations,
- Baseplates and anchor rods,
- Fatigue verification,
- Foundation – specifically related to Unit 1 with two legs on the soil cement sub-foundation
- Stiffener spacing calculations,
- Detailed connection calculations,
- Vibration,
- Dynamic analysis (if applicable),
- The *Consultant's* report clearly states the conclusions that are made from its analyses.
- A professional interpretation of results and concluding summary in terms of the way forward, which includes recommendations to fix all deficiencies in the structure (if any).
- The *Consultant's* report to show design margins of the nuclear island structures.

2.6 Use of the *Consultant's* analyses/reports/deliverables/drawings

All documentation which forms part of the Scope is supplied to the *Employer* by the *Consultant* and forms part of the *services* which the *Consultant* has been compensated for. The *Employer* reserves the right to issue the *Consultant's* analyses/drawings/reports to Others for purposes of maintenance, construction, spares, verifications, modifications in future or any other purposes required by the *Employer*. The *Employer* has total rights to use the *Consultant's* designs as the *Employer* requires. The *Consultant* notes that all drawings and other documentation, including the model constructed by the *Consultant* become the property of the *Employer* upon final transfer.

The *Consultant* disclaims upfront whether the use of his Intellectual Property is required to carry out *services*, for which case the *Employer* has permission to use the information forming part of the *services* without incurring any royalties.

2.7 Documentation formats for the deliverables

The *Consultant* shall submit deliverables in the following format/software latest version in use by *Employer* at the time of delivery):

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Item	Format	Access	Comments
Lists	Microsoft Excel	Open sheets and Locked sheets for QADP	Signed cover page, brief report with a summary of the results and justifications
Documents/Reports	Microsoft Word and PDF	Searchable PDF	Signed cover page
Project Scheduling	Primavera P6 Professional R15.2 and PDF	Searchable PDF	Both formats submitted to <i>Employer</i>
Digital photographs	JPEG format	N/A	
Process flow diagrams and P&ID's	Electronic files compatible with MicroStation	N/A	
Photogrammetry 3D drawings	Electronic files compatible with MicroStation	N/A	
Database	SAP	N/A	
Large Files	Large file transfer link and/or flash drive	N/A	Signed by both parties' documents transmittals

2.8 Constraints on how the *Consultant* Provides the Services.

2.8.1 Limit of authority

The *Consultant* has no authority to undertake work or expense without authorisation from the *Employer's Agent* to whom the *Consultant* reports directly.

2.8.2 Management meetings

Regular meetings of a general nature may be convened and chaired by the *Employer's Agent* as follows:

2.8.2.1 Task Order Kick-off meeting

Interval	Location	Attendance by:
Once-off for each Task Order	NOU / MS Teams (Virtual)	<i>Employer, Employer's Agent, Employer's engineering representatives, Consultant and Others as required</i>
<p>Project Kick-off meeting will be held to discuss:</p> <ul style="list-style-type: none"> • <i>Employer and Consultant</i> team introduction • Project details explanations • Clarify Roles and Responsibilities • High-level project schedule, including any Key Dates 		

2.8.2.2 Operational meetings

Interval	Location	Attendance by:
Monthly	NOU / MS Teams (Virtual)	<i>Employer's Agent, Employer's engineering representatives, Consultant and Others as required</i>

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Interval	Location	Attendance by:
<p>Operational meetings will be held to discuss:</p> <ul style="list-style-type: none"> • Project progress (against the accepted Programme) as prescribed in PSC Core Clause 31 and 32. • Project issues and associated recovery plans • Risk reduction discussions relating to items as prescribed in PSC Core Clause 15.3. • Where applicable the Risk Register is updated by the <i>Employer's Agent</i> and distributed within five days of the meeting. • Review of Actions List; • Review of Communications (formal letters) 		

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2.8.2.3 Meetings of a specialist nature

Interval	Location	Attendance by:
Adhoc	Any	<i>Employer's</i> personnel, the <i>Employer's Agent</i> , the <i>Consultant</i> and Others as required
<p>Meetings of a specialist nature may be meetings such as e.g. NNR engagement session.</p> <p>No matters mentioned in this meeting are considered as formal contractual communication and each matter is communicated separately.</p> <p>Meetings of a specialist nature may be convened as specified elsewhere in this Scope or if not so specified by persons and at times and locations to suit the Parties, the nature and the progress of the <i>services</i>. Records of these meetings shall be submitted to the <i>Employer's Agent</i> by the person convening the meeting within five days of the meeting.</p>		

2.8.2.4 Technical workshops

Interval	Location	Attendance by:
As required	NOU / MS Teams(Virtual)	<i>Employer's Agent</i> , <i>Employer's</i> engineering representatives, <i>Consultant</i> and Others as required
<p>Technical workshops will be held to discuss:</p> <ul style="list-style-type: none"> • Technical issues and resolution • Review comments • Knowledge sharing <p>No matters mentioned in this meeting are considered as formal contractual communication and each matter is communicated separately.</p>		

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.

2.9 Consultant's key persons

The *Consultant* ensures that all key personnel requiring access to site meet the requirements of the *Employer's* security and medical qualifications, as well as training and experience generally required by similar utilities elsewhere in respect of similar work.

The *Consultant* provides orientation for all key personnel requiring access to site in accordance with the requirements of the *Employer's* Radiological Safety Regulations, the *Employer's* Industrial Safety Programme, Covid-19 public health guidelines, and in general, the whole framework of plant rules (as applicable) and regulations which may be in force at the site from time to time, which is available on request.

The *Consultant* shall in addition also submit an organogram indicating the proposed management structure proposed for this contract. The *Consultant* will provide an organogram showing his people and their lines of authority and communication. This organogram would be updated for any key person's personnel changes.

The technical *key persons* are expected to render their service located at the *Employer* site offices.

2.10 Emergency mustering, accountability and evacuation (applicable to the two site visits)

Due to the nature of the Affected Property, the *Consultant* is required to have full accountability of personnel on site at all times. It is therefore required that the *Consultant* has and maintains a current status and accountability list of all his personnel on the Affected Property. The accountability list is handed to the *Service Manager* each time a change occurs.

The *Consultant* ensures that his site representative takes full responsibility of this requirement and that he and his personnel are fully conversant with the mustering requirements as detailed in the *Employer's* procedure KAA-611 Revision 5.

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2.11 Documentation control and retention

2.11.1 Communication and information exchange with Others

2.11.1.1 All communication is addressed to the *Employer's Agent*. All communication is in accordance with the contract requirements and the procedure agreed with the *Employer's Agent*. All communication makes reference to:

- The contract number that is issued by the *Employer* i.e. 46000.....;
- The title of the contract;
- The specific PSC clause under which the communication is issued; and
- A unique letter reference number.

2.11.1.2 The unique reference numbers to be used for written correspondence between the *Employer's Agent* and *Consultant* and vice versa is as follows:

- From the *Employer's Agent* to the *Consultant*: 46000..... E/C 0xxx; and
- From the *Consultant* to the *Employer's Agent*: 46000.... C/E 0xxxwith 46000..... referring to the contract number and the next sequential letter (channel) number.
- All documents transmitted to the *Employer's Agent* for review / acceptance / record / information are transmitted under cover of a document transmittal note with a completed and signed transmittal cover sheet.
- The title of each letter clearly summarise the purpose of the letter.

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2.11.1.3 All documents transmitted to the *Employer's Agent* for review/acceptance/record/information are transmitted under cover of a document transmittal note with a completed and signed transmittal cover sheet as prescribed by the procedure agreed with the *Employer's Agent*, to facilitate the capture of relevant document attributes within the *Employer's* documentation management system.

2.11.1.4 The title of each letter clearly summarise the purpose of the letter. In accordance with PSC Core Clause 13.7, each notification deals with only one specific issue at a time and where letters are submitted electronically, the title of the letter is reflected in the subject line and only one letter is submitted per e-mail.

2.11.1.5 The *Employer* and the *Consultant* keep a Document Control Ledger (DCL) of all transmittals between the two, whilst the *Consultant* keeps a DCL for each Sub-consultant.

2.11.1.6 All formal contractual communications shall be on a letterhead and bear as a minimum the date, subject, reference number, identities of sender and receiver and signature of sender and shall be delivered as attachments in the case of emails and not as a message in the email itself.

2.11.1.7 Correspondence on a day-to-day basis may be directed to other parties within the *Employer's* organisation but care must be taken not to violate contract conditions and other provisions in terms of the contract. The *Employer's Agent* as well as the *Consultant's* contractual lead will be copied in on all e-mail correspondence related to the *services* between the *Consultant's* and *Employer's* personnel.

2.11.1.8 Contractual communications such as notification of Compensation Events or instructions to deliver *services* which are not directed at/received from the *Employer's Agent* shall not be acknowledged by the *Employer* and decisions or actions taken or omitted as a result thereof shall be at the *Consultant's* own risk.

2.11.1.9 All documents transmitted to the *Employer's Agent* for review / acceptance / record / information are transmitted under cover of a document transmittal note with a completed and signed transmittal cover sheet.

2.11.1.10 The *Consultant* performs the following:

- Handles all formal communication between the *Consultant* and the *Employer* through the *Employer's Agent*, or other person designated in writing by the *Employer's Agent*,

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- Conducts informal day-to-day oral communications with Others as necessary for the purpose of Providing the Services; and
- Maintains an up to date record of the receipt and delivery of any communication required for the purposes of the *services*.

2.11.1.11 Retention of documents

The *Consultant* retains copies of drawings, specifications, reports and other documents which record the *services* in the form stated in the Contract. The time period for which the *Consultant* is to retain such documents is the period for retention stated in the Contract Data. Upon reaching the end of the period for retention, the *Consultant* destroys all documentation submitted to him by the *Employer's Agent* and/or Others.

2.12 The Employer's SAP Task Order System

2.12.1 A SAP task order is the *Employer's* notice to the *Consultant* to carry out a Task.

2.12.2 The *Consultant* does not perform any work without a SAP task order.

2.12.3 The *Consultant* performing work without a SAP task order is done at the risk of non-payment by the *Employer*.

2.12.4 The *Employer* may not issue a SAP task order after the completion date.

2.12.5 To enable payment the *Employer's Agent* and the *Consultant* signs next to each line of the *services* on the applicable SAP generated task order. The signed copy of this SAP-generated task order is emailed to the contracts administrator section of NuclCommsStratAssess@eskom.co.za.

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2.12.6 Invoicing and Payment

2.12.6.1 The *Consultant* ensures that the requirement in terms of Section 20(4) (C) of the Value Added Tax Act, no 89 of 1991 (as amended by the Revenue Laws Amendment Act 45 of 2003), that the VAT registration number of the recipient of the tax invoice, appears on the said tax invoice in order for the invoice to fully comply with the requirements of a valid invoice for VAT purposes as contained in the said Section 20(4) (C), is adhered to. The *Employer* requires adherence by the *Consultant* to this requirement, applicable from 1 June 2004. No payment will be made on tax invoices not fully meeting the requirement.

2.12.6.2 The *Consultant* delivers an original Tax Invoice to the *Employer's* Financial Accounting group. The payment period will start from the date and time at which the invoice and all relevant documentation were received.

2.12.6.3 The *Employer's* VAT Registration Number is: 4740101508

2.12.6.4 Particulars included on the *Consultant's* Tax Invoice

- The words "Tax Invoice" in a prominent place
- The name, address and VAT registration number of the *Consultant*
- The name, address and VAT registration number of the *Employer*
- An invoice serial number
- The date of issue of the invoice
- The quantity or volume of goods or *services* supplied
- The price & VAT or a statement that VAT is included @ 14% or zero-rate
- Reference to Contract and/or SAP order number
- The amount paid to date
- A descriptive title of the service covered by the Invoice and/or the Contract's assessment number
- The value of the invoice split into payments as per the activity schedule
- A copy of the Assessment Certificate/Signed Task order

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- Abridged tax invoice (section 20(5)). Where the amount (incl. VAT) is less than R3 000. The same requirements as above, except that: -the Name, address and VAT registration number of the *Employer*; and the quantity or volume does not need to be specified.
- To enable payment against each applicable SAP generated Task Order the *Employer's Agent* and the *Consultant* must sign next to each line acceptance of the service, Plant and Materials or goods delivered on the applicable SAP generated Task Order. The signed copy of this SAP generated Task Order is promptly returned to the *Employer's Agent*
- Payment is made by means of electronic transfer. The *Consultant* therefore provides his banking details to the *Employer's Agent* within one week of the Contract Date.

2.12.7 Details on how to submit invoices:

2.12.7.1 Ensure that the *Employer's* Purchase Order is clearly indicated on your invoice together with the line number the order you are billing for.

2.12.7.2 All electronic invoices must be sent in PDF format only, to invoiceseskomlocal@eskom.co.za. The payment period will start from the date and time at which the invoice and all relevant documentation were received.

2.12.7.3 Each PDF should contain 1 invoice, or 1 debit note or 1 credit note only as Eskom's SAP system does not support more than 1 PDF being linked into workflow at a time

2.12.7.4 If there is Cost Price Adjustment (CPA) on your invoice we recommend that supplier issue a separate invoice for CPA so that if there are any issues on the CPA the rest of the invoice can be paid while resolving the CPA issues and the signed CPA calculation sheet must be attached.

2.12.7.5 Payment/Assessment Certificate signed by both the *Employer* and the *Consultant* must be attached to the Goods Received (GR).

2.12.7.6 The *Consultant* must send through the statements at the end of each month and it must be dated end of the month.

2.12.8 Records and Forecasting of Expenses and Time Charges

2.12.8.1 The *Consultant* shall submit forecasts of time charges for each assessment period and maintain records thereof.

2.12.8.2 *Consultant's* time management system should also allow for remote allocation, the timesheets need to be internally approved by the *Consultant's* technical lead prior to issuing it to the *Employer's Agent*.

2.12.8.3 Clear records of hours worked or time sheets in respect of all time charges shall be kept by the *Consultant* and shall indicate the resource utilised, location, duration and times, associated expenses incurred and a summary of the *services* rendered which shall be cross-referenced to deliverables rendered. In addition, the *Consultant* shall provide proof of how he is managing his staff working remotely due to COVID-19 related restrictions. The records of hours shall indicate the *Employer's Agent* to whom *services* were delivered. The *Employer's Agent* shall review all time sheets during Assessment and the *Consultant* shall obtain signed timesheets and assessment documentation from the *Employer's Agent* and submit the assessment package to the *Employer's* Contract Management function for processing.

2.12.8.4 The *Consultant* shall maintain records of all documentation and make available to the *Employer* any or all such documentation on request.

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2.13 Contract change management

2.13.1 Compensation events

2.13.1.1 Notification

If the *Consultant* believes an event to be a Compensation Event, it notifies the *Employers Agent* which event under PSC Clause 60.1 it believes it to be.

2.13.1.2 Quotations

The *Consultant* provides quotations for compensation events detailing the following items as a minimum:

2.13.1.3 Introduction

2.13.1.4 Executive summary

2.13.1.5 Contractual basis of compensation event (Refer to PSC Core Clause 60.1)

2.13.1.6 Details of the compensation event

2.13.1.7 Assessment of compensation event (PSC Core Clause 63)

2.13.1.8 Conclusion

2.13.1.9 Accepted programme showing impact of delay (PSC Core Clause 62.2) – If the programme for remaining work is altered by the Compensation Event

2.13.1.10 Appendices:

- Early Warning (PSC Core Clause 15.1) - if applicable
- Notification (PSC Core Clause 61.3)
- Instruction to submit quotation (PSC Core Clause 61.1 or 61.2)
- Instruction to submit alternative quotation (PSC Core Clause 62.1) or to submit a revised quotation (PSC Core Clause 62.4) - if applicable
- Any extension of time under (PSC Core Clause 62.5) - if applicable
- Any other document(s) the *Consultant* may consider applicable.

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For compensation events to be implemented, the *Employer* requires the *Consultant* to sign a compensation event register form. For any payments required as a result of the compensation event, the *Consultant* is required to submit the signed compensation event register form, at latest, prior to the 15th of the month in which any associated amount should be assessed. This is to allow sufficient time for the *Employer* to load the associated costs onto its SAP system.

It is specifically stated that the *Employer* will not accept any forecasted payments relating to compensation event acceptance.

2.14 Inclusions in the programme

2.14.1 Plan constraints and requirements

The *Consultant* prepares and submits at the stated intervals, all programming documentation described in this section, the layout of which is subject to the *Employer's* agent's acceptance.

2.14.2 The Programme

2.14.2.1 The *Consultant* shows on each Programme which he submits for acceptance the information as stated in PSC Clause 31.2 and 32.1.

2.14.2.2 In addition, the *Consultant* shows the following:

- *Services* and work (programmes) of the *Sub-Consultant(s)*.
- Interfaces between Sub-consultant(s) as well as the interfaces between Sub-Consultant and the *Consultant*.
- All activities defined in the Task Order.
- The Plan's revision number.

2.14.2.3 Networks are constructed to reflect the possible (instead of probable) sequences of activities, using resource scheduling to stagger the performance of activities into the most probable sequence.

2.14.2.4 For the sake of compatibility, the *Consultant* prepares his programme on Primavera P6 Professional R15.2 (.xer file format) (No later than 85 version to be submitted and no earlier version than Professional RB) computerised planning software and utilises it for all planning, progress monitoring and reporting.

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2.14.3 Reporting on progress and remaining duration

The method for reporting on activities in progress is by remaining duration, i.e. the time, in working days, needed to complete the activity from the report date. Once an activity has started, the remaining duration is assessed for each update.

Automatic reduction of remaining duration as the report date moves forward is not accepted.

2.14.4 Actual dates

When Completion of any activity is confirmed by quoting document numbers, these numbers are given in the notes and are appended, e.g. letters of acceptance, suborders, drawings, inspection certificates, delivery notes, etc. The actual start and finish of all activities are reported and included in the Plan.

2.14.5 Time Now Date

The 'Time Now Date', unless otherwise agreed between the *Employer's* agent and the *Consultant* is the assessment date of each month.

2.14.6 Planning constraints and review process

2.14.6.1 The *Consultant* does not plan for any *Employer* or NNR activities during the period of week 51, week 52 and week 1 of each year. Should any reviews be planned during this period, then the review periods need to be agreed, upfront, with the *Employer's* agent.

2.14.6.2 The *Consultant* makes allowance for two review cycles for each submitted deliverable for the *Employer's* review, then one cycle for finalisation and acceptance. See table below:

Acceptance Management Periods [<i>Employer</i> Review and <i>Consultant's</i> response]					
Type of deliverable	1 st acceptance review period	<i>Consultant's</i> response & re-submission	2 nd acceptance review period	<i>Consultant's</i> response & re-submission	Final acceptance review period
Interim/draft submission for	5 days	Not Applicable	Not anticipated	Not Applicable	Not anticipated

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Acceptance Management Periods [<i>Employer Review and Consultant's response</i>]					
Type of deliverable	1 st acceptance review period	<i>Consultant's</i> response & re-submission	2 nd acceptance review period	<i>Consultant's</i> response & re-submission	Final acceptance review period
influence					
Lists	10 days	7 days	5 days	5 days	7 days
Reports, manuals, strategies and templates	10 days	7 days	5 days	5 days	7 days
QADP and EIR	15 days	7 days	10 days	5 days	7 days
Scheduling Programme	5 days	2 days	4 days	2 days	2 days

*Days refers to working days

2.14.6.3 The *Employer's Agent* shall have the above stipulated durations to review the *Consultant's* submissions, utilising suitably qualified and experienced individuals, and to issue all comments on a consolidated Document Comment and Resolution Form (DCRF) to the *Consultant* containing:

- Comments that are categorised.
- No repeated nor conflicting comments.
- Detailed reasons for withholding acceptance.

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2.14.6.4 The *Consultant* shall have above stipulated durations to analyse and address the *Employer's Agent's* DCRF and to submit his responses to the comments on the DCRF and updated document to the *Employer's Agent*.

2.14.6.5 If *Consultant* intervention is required to address NNR comments, the *Employer's Agent* will instruct the *Consultant* within 5 working days after receipt of the NNR comments to:

- Either perform re-work and correct Defects or
- Provide support.

2.14.7 Monthly progress reporting

The *Consultant* submits to the *Employer Agent* a monthly report following the assessment date, but by no later than the last day of each month. The report contains the following information as a minimum requirement:

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2.14.7.1 Executive summary. (Narrative identifying major movement within the reporting period.)

2.14.7.2 A four-week look ahead work window focussing on *Employer* activities due to start and due for Completion.

2.14.7.3 Revised programme for *Employer's Agent* acceptance indicating, actual progress of work against last Accepted Programme.

2.14.7.4 Updated "Project List of Applicable Documents" which is a list (table) indicating the "current accepted" revision as well as the status of any later revisions of the specific document. Documentation to be covered by the Task List of Applicable Documents (TLAD) include the following as a minimum:

2.14.7.5 Contract Quality Management Plan / Task Quality Plan

2.14.7.6 List of activities which:

- were completed during current reporting period, (including the activities of the *Employer* and Others),
- are in progress (including the activities of the *Employer* and Others),
- are to be undertaken during the next reporting period per discipline, (including the activities of the *Employer* and Others),
- Are behind schedule together with an action plan on how the delays are to be rectified.

2.14.7.7 Shows results obtained, range of application and validation.

2.14.7.8 Shows the relationship of results to previous findings/theories/technological developments.

2.14.7.9 Identifies the description of apparatus, operations and data gathering activities.

2.14.7.10 Provides descriptions of significant problems that occurred.

2.14.7.11 Provides a summary of work performed including recommendations and description of possible impacts.

2.14.7.12 Indicates deviations from plan, recorded and analysed.

2.14.7.13 Proposed monthly assessment information for the current reporting period.

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2.14.7.14 Revised activity schedule which indicates projected future cash flow.

2.14.7.15 Key issues/items of concern and corrective actions.

2.14.7.16 Progress curves.

2.14.7.17 Early warning log.

2.14.7.18 Compensation event log.

2.14.7.19 Critical activities.

2.14.7.20 Updated resource schedule and histogram (If changed).

3. Quality Management requirements

3.1 Quality Assurance Requirements

PSC Clause 40.1 requires that the *Consultant* operates a quality management system as stated in the Scope.

The scope of work is classified Q1/L2. The *Consultant* complies with the general quality requirements of 238-102 Revision 2. The *Consultant*'s implements a Quality Management System, which is certified to ISO9001:2015 and meets the requirements of ASME NQA2-1 or equivalent.

The *Consultant*'s quality assurance system is subject to the acceptance by the *Employer*.

The *Consultant* ensures that any sub-consultant employed by him has and implements a Quality Assurance Programme to meet the quality assurance requirements of the *Employer*.

The *Consultant* controls and supervises his sub-consultant's quality plans (including manufacturing quality plans if applicable). The *Consultant* reviews and accepts all plans, prior to submission to the *Employer's Agent*, for his acceptance. All sub-consultant components (if applicable) are verified by the *Consultant*'s technical representative(s) before use or installation.

If the sub-consultant has to perform work in terms of the *Consultant* compiled quality plans, the sub-consultant also reviews and accepts the use thereof.

The *Employer* reserves the right to at any time audit and/or monitor the control between the *Consultant* and sub-consultant, as well as the performance of the *Consultant*'s sub-consultant. Such audits are done by prior notification and in liaison with the *Consultant*.

The *Consultant* ensures that his staff and sub-consultants are conversant with the content of the Scope of Work as defined by the Scope of Work quality control plans/work plans and work instructions.

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Consultant's authorisation of personnel (including sub-consultant personnel), applied for providing the Scope of Work, is made available to the *Employer's Agent* prior to the start of the work for which the authorisation is done.

The *Consultant* retains records of internal reviews performed by its personnel. The records provide objective evidence of who performed the review and the level of detail of the review. This requirement is also applicable to review of sub-consultant deliverables. Where considered necessary, the *Employer's Agent* may request such review records and the *Consultant* provides such information without limitation.

Where considered necessary, the *Employer's Agent* may request the root cause analysis and associated corrective action plan that the *Consultant* has established to deal with non-conformances / issues and / or Defects related to providing the Scope of Work. The *Consultant* provides such information without limitation.

3.2 *Consultant* informs the *Employer* in writing of any proposed changes to the quality management system, staff or resources in order to obtain the *Employer's* agreement prior to implementation of these changes.

3.3 The *Consultant's* authorisation of personnel (including Sub-consultant personnel), as applied in Providing the Services, is made available to the *Employer's Agent*.

3.4 The *Consultant* ensures that his staff and Sub-consultant are conversant with the content of the *services* as defined by the Scope, quality plans, processes, procedures and work instructions and specifications.

3.4.1 The *Consultant* submits the names of its Sub-consultant(s), as required by PSC core clause 24.2, to the *Employer's Agent*, for acceptance at least 4 weeks prior to commencement of work by the Sub-consultants.

3.4.2 The *Employer* reserves the right to, at any time, audit and/or monitor the control between the *Consultant* and Sub-consultant, as well as the performance of the *Consultant's* Sub-consultant. Such audits are done by prior notification to the *Consultant* and in liaison with the *Employer's Agent*.

3.4.3 On instruction by the *Employer's Agent*, the duly authorised representatives of the *Employer* or the regulatory body are granted access to the *Consultant's* and his Sub-*Consultant* premises/records to monitor compliance with quality requirements and to participate in surveillances and inspections.

4. The Parties use of material provided by the *Consultant*

4.1 *Employer's* purpose for the material.

- 4.1.1** All work ('deliverables'), with the possible exception of pre-existing intellectual property such as analysis techniques, created by the *Consultant* for the *Employer*, is deemed to be part of the *services* for the benefit of the *Employer*, for purposes of copyright law. Accordingly, the *Employer* has the exclusive right, title and interest therein.
- 4.1.2** The *Employer* is granted an irrevocable, royalty-free, and non-exclusive licence to use all documents delivered to it by the *Consultant* for purposes necessary for *Employer's* use.
- 4.1.3** Deliverables, created by *Consultant*, does not include any material existing prior to commencement of *Consultant's* performance of the *services* under this Contract.
- 4.1.4** Except as set out above, neither Party is precluded from developing anything, whether in tangible or non-tangible form, which is competitive with, or similar to, the deliverables created by *Consultant*.
- 4.1.5** The *Consultant* may not use any documents (and the copyright therein and all intellectual property rights relating thereto), which are owned by the *Employer* and/or Others and provided to the *Consultant*, for any other purpose than to Provide the Services.
- 4.1.6** *Consultant*, at its own expense and control, defend, or at its option, settle any suit or proceeding brought against the *Employer* in respect of any *services* or deliveries, or any part thereof, or use thereof for their intended purpose, constitute(s) an infringement of any intellectual property right, including patent, copyright, trademark, and trade secret; and said allegations of infringement would apply to such intellectual property right and set forth a cause of action for infringement under the laws of *Consultant's* country had the alleged infringement taken place in the *Consultant's* country; provided that *Consultant* is notified in writing within fifteen (15) days of the *Employer's* knowledge of the suit or proceedings and given information, and assistance by the *Employer* in a timely manner for the defence of said suit or proceeding.
- 4.1.7** The *Consultant* shall not be responsible for any settlement of such suit or proceeding made without its prior written consent. If, as a result of any suit or proceeding so defended, any *services* or deliveries, or any part thereof, are held to constitute infringement or their use by the *Employer* is enjoined, *Consultant* shall, at its option and its expense, either (a) procure for the *Employer* the right to continue using said *services* or deliveries, or part thereof, (b) replace them with a substantially equivalent non-infringing

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services or deliveries, as the case may be; or (c) modify the *services* or deliveries so it becomes non-infringing.

4.2 Restrictions on the *Consultant's* use of the material for other work**4.2.1 Confidentiality and Publicity**

4.2.1.1 The exchange between the Parties or the disclosure to third parties of information is subject to the provisions of the Nuclear Energy Act 92 of 1982, the National Key Points Act 102 of 1980 and the Protection of Information Act 84 of 1982.

4.2.1.2 The *Consultant* agrees that neither the *Consultant* nor its employees, Agents or Sub-consultants makes any public statements or release to any third party any information concerning the *services* without first obtaining the written approval of the *Employer* which is not unreasonably withheld. Requests to release information is co-ordinated through the designated *Employer's* Procurement Manager or the *Employer's* Power Station Manager or as otherwise specified in the Scope.

4.2.1.3 The *Consultant* ensures that his employees, agents and Sub-consultants adhere to these restrictions.

5. Correction of Defects

All notified Defects must be completed in order to achieve Completion.

5.1 Cooperating with and obtaining acceptance of Others

5.1.1 The *Employer's Agent* co-ordinates the execution of the *Consultant's* work with the work of Others on Site. The *Consultant* co-operates with and does not delay, impede, or otherwise impair the work of Others.

The *Consultant* shall support the *Employer's* team during NNR engagements for reviews and presentations

5.1.2 It is expressly agreed that the *Employer* is responsible for dealing with the NNR and the IAEA. The *Employer* shall be the single point contact in any correspondence with the NNR and IAEA. The *Consultant* shall not correspond directly with the NNR and IAEA.

5.1.3 The *Consultant* shares the Site with Others and maintains a harmonious relationship at all times with and co-operates with the *Employer* and Others and their employees who may be working in the same area or on the same system.

5.1.4 The *Consultant* makes available the assignees and key people timeously for Providing the Services.

5.1.5 The *Consultant* seeks out everything necessary to identify those matters that fall fully or partially within the scope of the *services*, whether or not such matters are addressed in the description of the *services* or in the Works Information or in other requirements for the *services* stated from time to time.

5.1.6 The *Consultant* brings to the attention of the *Employer* any additional *services* that the *Consultant* believes should be performed by him in keeping with sound professional practice.

5.1.7 The *Consultant* notifies the *Employer* of any matter that the *Consultant* disagrees with or cannot resolve to his satisfaction.

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6. Procurement

6.1 BBBEE and Preferential Procurement Policy Framework Act (PPPFA)

The *Employer* as an organ of state is governed by the Preferential Procurement Regulations 2011 which stated that all contracts for Goods or Services are procured in accordance with a system that is fair, equitable, transparent, competitive and cost-effective.

The *Employer* requires that the *Consultant* provide a BBBEE improvement plan whereby the *Consultant* move to at least a BBBEE level 4 within the next 3 years. The impact of the Amended Codes of Good Practice on the BBBEE scorecard needs to be indicated at time of offer as well as how the organisation plans to overcome any challenges or obstacles in order to work on the BBBEE improvement plan for each year of the indicated period of 3 (three) years.

This will be measured in accordance with the requirements of annual verifications done and BBBEE certificates to be provided to the *Employer*.

6.2 Skills Development Localisation & Industrialisation Undertaking

Tenderers who complete and submit the undertaking as required, but who do not meet Eskom's targets, will not be disqualified. SD&L undertakings do not form part of scoring but commitments will form part of contractual obligations.

6.3 Job Opportunities

Tenderer to indicate number of jobs to be created and / or retained from this contract.

Number of Jobs to be created	Number of Jobs to be retained

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6.3.1 Skills Development

Tenderers are encouraged to identify skills development such as job shadowing, developing and presenting training courses or skills development to Eskom. Tenderers are also encouraged to utilize Junior Level resources under the lead of a senior engineer. This will enable the transfer of skill thus actively contributing to the Skills development initiative in South Africa.

The suppliers are required to take full responsibility for the total cost of developing the requisite skills. For each contract awarded, the *Consultant* must identify skills development opportunities.

For each proposed candidate, the supplier is to submit the following:

- Identity document (Indicating skills development candidate's full names)
- Proposed SAQA Accredited Qualification
- Candidate's address

The above skills development commitment will be required by tender closing (tender returnable). All commitments shall become contractual obligations.

6.4 Sub-contracting

Tenderers are required to complete the Supply Chain Transformation tool below to identify sub-contracting opportunities.

The scope for local participation will be awarded based on PPPFA 2017 Regulation 4(1)a and 4(2):

- an EME or QSE which is at least 51% owned by black people;
- an EME or QSE which is at least 51% owned by black people who are youth;
- an EME or QSE which is at least 51% owned by black people who are women;
- an EME or QSE which is at least 51% owned by black people with disabilities;

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- an EME or QSE which is 51% owned by black people living in rural or underdeveloped areas or townships;
- a cooperative which is at least 51% owned by black people; and
- an EME or QSE which is at least 51% owned by black people who are military veterans;

6.4.1 Preferred Sub-consultants

The *Employer's Agent* wishes for the *Consultant* to only use accredited (registered) Sub-consultants for relevant sections of the service.

The *Consultant* ensures that all his Sub-consultants comply with the *Employer's* requirements in terms of quality, safety and assurance, and seeks the *Employer's Agent* approval prior to appointing any Sub-consultants.

6.4.2 Subcontract documentation, and assessment of subcontract tenders

The *Consultant* keeps audible records of his actions and decisions to appoint Sub-consultants, and make available copies of his records to the *Employer's Agent* on request.

6.4.3 Limitations on subcontracting

Sub-consultants reporting relationships are such that quality outputs and independence is assured. These relationships are such that the *Consultant* has full control of all Sub-consultants outputs. Sub-consultants contracting Sub-consultants are to be avoided as far as possible. Exceptions are only allowed with the explicit acceptance of the *Employer's Agent*.

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7. References

This *Service* Information includes documents referenced or referred to in this contract. Documents referenced and sub referenced can be requested by the *Consultant* from the *Employer* where applicable and other references may be issued with task orders. Documents that the *Consultant* may require and request from the *Employer* may include the following:

- Existing plant drawings.
- Current ageing management programmes.
- Non-Disclosure Agreement (NDA).
- Plant Walk Down records.
- Document templates.
- Current Safety Case related programmes.
- Any other applicable information or information belonging to Others, that the *Employer* may have.

References	Description
External references	Public Documents – not supplied
ANSI/ANS-51.1	American National Standard Nuclear Safety Criteria for the Design of Stationary Pressurised Water Reactor Plants.
ASCE 4-98	Seismic Analysis of Safety Related Nuclear Structures and Commentary
ASCE/SEI 7-16	Minimum Design Loads Associated for Buildings and Other Structures.
ASME NQA-1	Quality Assurance Requirements for Nuclear Facility Applications.
IAEA INSAG – 12	Basic Safety Principles for Nuclear Power Plants (75-INSAG-3).
IAEA SSG-48	Specific Safety Guidelines to Ageing Management and Development of a Programme for Long Term Operation of Nuclear Power Plants.
Republic of South Africa 2011: The regulations on licensing of sites for new nuclear installations, Government notice No. R. 927.	

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References	Description
NNR PP-0014	External Events for Nuclear Installations.
NNR PP-0009	Authorisations for Nuclear Installations.
NNR RG-0011	Interim Guidance on the Siting of Nuclear Facilities.
NNR RG-0027	Ageing Management and Long-Term Operation for nuclear power plants.
NNR RD-0016	Guidance on the Verification and Validation of Evaluation and Calculation Models used in Safety Design Analyses, 2016.
NNR RD-0024	Requirements on Risk Assessment and Compliance with Principle Safety Criteria for Nuclear Installations.
OHS Act	Occupational Health and Safety Act No. 85 of 1993.
Act 46 of 1999	National Energy Act No. 46 of 1999. [Public Document – not supplied]
Act 47 of 1999	National Nuclear Regulatory Act No. 47 of 1999. [Public Document – not supplied]
Act 49 of 1999	National Nuclear Regulatory Act [Public Document – not supplied]
Act 85 of 1993	Occupational Health and Safety Act (OHSA) [Public Document – not supplied]
Act 89 of 1991	Value Added Tax Act [Public Document – not supplied]
Act 102 of 1980	National Key Point Act [Public Document – not supplied]
Government notice No. R. 927.	Republic of South Africa 2011: The regulations on licensing of sites for new nuclear installations
Internal References	To be supplied

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References	Description
	Procurement
240-78635659 Rev 1	Directive for the Implementation of the National Treasury Cost Containment Instruction
	Quality
238-102 Rev 2	Quality and Safety Management Requirements for Nuclear Suppliers Level 2

8. List of drawings

The *Employer* will issue available drawings for each specific Task Order.

C3.2 Consultant's Service Information		
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Part C3.2	This cover page	1
Part C3.2	Consultant's Service Information	1

The tendering *Consultant* will propose 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 *Consultant* per core clause 20.1.

Typical sub headings could be:

Consultant's design

Plant and Materials specifications and schedules

Other

This section could also be compiled as a separate file.

Specific Limitations, Assumptions and Exclusions

A summary of the specific limitations, assumptions and exclusions which were detailed in the documents above and subsequently agreed to by the *Employer* are listed here.

C4: Site Information

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Part C4	This cover page	1
Part C4	Site Information	1

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SITE INFORMATION

TOPOGRAPHICAL

Location of the Site

The Site is located at Koeberg Nuclear Power Station (NOU) north of Melkbosstrand in the South Western Cape and is reached via the main road from Cape Town to Saldanha (R27). The turn off to NOU is indicated on the R27. NOU is approximately 30 km north of Cape Town and the approximate coordinates are 33° 40.7'S and 18° 26.1'E. After the turn off, the access route follows the main access road to NOU.

Security check points

Prior to access to Site, there are two PEB security check points, viz. at the entrance from the R27 and at the entrance from Duynfontein. Security access is through Access Control Points (ACP) 1 and 2.