



## NEC3 Professional Services Contract (PSC3)

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

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

**for Design and engineering support during construction  
and commissioning of the new hardened water  
external connection points at Koeberg Nuclear  
Power Station**

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<b>Contents:</b>	<b>No of pages</b>
<b>Part C1 Agreements &amp; Contract Data</b>	<b>[•]</b>
<b>Part C2 Pricing Data</b>	<b>[•]</b>
<b>Part C3 Scope of Work: The Scope</b>	<b>[•]</b>

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

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**PART C1:      AGREEMENTS & CONTRACT DATA**

Document reference	Title	No of pages
C1.1	Form of Offer & Acceptance  [to be inserted from Returnable Documents at award stage]	[•]
C1.2a	Contract Data provided by the <i>Employer</i>	[•]
C1.2b	Contract Data provided by the <i>Consultant</i>  [to be inserted from Returnable Documents at award stage]	[•]  [•]

## C1.1 Form of Offer & Acceptance

### Offer

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

### Design and engineering support during construction and commissioning of the new hardened water external connection points at Koeberg 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	<b>R</b> <u>Per Task Order</u>
Value Added Tax @ 14% is	<b>R</b> <u>Per Task Order</u>
The offered total of the Prices inclusive of VAT is	<b>R</b> <u>Per Task Order</u>
(in words) <u>Per Task Order</u>	

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, after which the tenderer becomes the party named as the *Consultant* in the *conditions of contract* identified in the Contract Data.

Signature(s)

Name(s)

Capacity

**For the  
tenderer:**

(Insert name and address of organisation)

Name &  
signature of  
witness

Date

## 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 Parts listed above.

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**

(Insert name and address of organisation)

Name &  
signature of  
witness

Date

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

**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 an 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 and signed copy of this Form shall have any meaning or effect in the contract between the parties arising from this Agreement.

**For the tenderer:****For the *Employer***

Signature

Name

Capacity

On behalf  
of

(Insert name and address of organisation)

(Insert name and address of organisation)

Name &  
signature  
of witness

Date

## C1.2 PSC3 Contract Data

### Part one - Data provided by the *Employer*

Clause	Statement	Data
1	<b>General</b>	
	The <i>conditions of contract</i> are the core clauses and the clauses for main Option	
	dispute resolution Option	<b>G: Term contract</b>
	and secondary Options	<b>W1: Dispute resolution procedure</b>
		<b>X1: Price adjustment for inflation</b>
		<b>X2 Changes in the law</b>
		<b>X7: Delay damages</b>
		<b>X9: Transfer of rights</b>
		<b>X10 <i>Employer's Agent</i></b>
		<b>X11: Termination by the <i>Employer</i></b>
		<b>X18: Limitation of liability</b>
		<b>Z: <i>Additional conditions of contract</i></b>
	of the NEC3 Professional Services Contract (April 2013) <sup>1</sup>	
10.1	The <i>Employer</i> is (Name):	<b>Eskom Holdings SOC Ltd (reg no: 2002/015527/30), a state-owned company incorporated in terms of the company laws of the Republic of South Africa</b>
	Address	<b>Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg</b>
	Represented by :	<b>Frikkie Ellis</b>
	Tel No.	<b>+27 21 550 5202</b>
11.2(9)	The <i>services</i> are	<b>Design and engineering support during construction and commissioning of the new hardened water external connection points at Koeberg Nuclear Power Station</b>
11.2(10)	The following matters will be included in the Risk Register	<ul style="list-style-type: none"> <li><b>Minutes of Early Warning Meetings</b></li> <li><b>Decisions resulting from risk reduction meetings</b></li> </ul>

<sup>1</sup> Available from Engineering Contract Strategies Tel 011 803 3008 Fax 011 803 3009 and [www.ecs.co.za](http://www.ecs.co.za)

11.2(11)	The Scope is in	<b>Part 3: Scope of Work and all documents and drawings to which it refers.</b>
12.2	The <i>law of the contract</i> is the law of	<b>the Republic of South Africa</b>
13.1	The <i>language of this contract</i> is	<b>English</b>
13.3	The <i>period for reply</i> is	<ul style="list-style-type: none"> <li>• <b>Non Outage periods: two (2) weeks</b></li> <li>• <b>Outage period: twenty-four (24) hours</b></li> </ul>
13.6	The <i>period for retention</i> is	<b>Five (5) years following Completion or earlier termination.</b>

## 2 The Parties' main responsibilities

25.2	The <i>Employer</i> provides access to the following persons, places, and things	<b>access to</b>	<b>access date</b>
		1 Site	<i>starting date, following completion of Employer's FFD process</i>
		2 <i>Employer's staff</i>	<i>starting date</i>

## 3 Time

31.2	The <i>starting date</i> is.	XX										
11.2(3)	The <i>completion date</i> for the whole of the <i>services</i> is.	2025-03-31										
11.2(6)	The <i>key dates</i> and the <i>conditions</i> to be met are:	<table><tr><th>Condition to be met</th><th>key date</th></tr><tr><td>1 Stage 1 –Submission of an acceptable concept design report by the <i>Consultant</i></td><td>2022-04-15</td></tr><tr><td>2 Stage 2 – Submission of an acceptable concept design by the <i>Consultant</i></td><td>2022-06-05</td></tr><tr><td>3 Stage 3 – Submission of an acceptable detail design by the <i>Consultant</i></td><td>2022-08-15</td></tr><tr><td>4 Stage 4 –Submission of acceptable procurement and construction documents by the <i>Consultant</i></td><td>2022-07-05</td></tr></table>	Condition to be met	key date	1 Stage 1 –Submission of an acceptable concept design report by the <i>Consultant</i>	2022-04-15	2 Stage 2 – Submission of an acceptable concept design by the <i>Consultant</i>	2022-06-05	3 Stage 3 – Submission of an acceptable detail design by the <i>Consultant</i>	2022-08-15	4 Stage 4 –Submission of acceptable procurement and construction documents by the <i>Consultant</i>	2022-07-05
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4 Stage 4 –Submission of acceptable procurement and construction documents by the <i>Consultant</i>	2022-07-05											

		5	Stage 5 – Submission of acceptable manufacture, installation, and construction information by the <i>Consultant</i>	2022-11-30
		6	Stage 6 – Submission of acceptable as-built and maintenance basis documents by the <i>Consultant</i> .	2025-03-01
31.1	The <i>Consultant</i> is to submit the first programme for acceptance within	Four (4) weeks of the Contract Date.		
32.2	The <i>Consultant</i> submits revised programmes at intervals no longer than	Four (4) weeks.		
4	Quality			
40.2	The quality policy statement and quality plan are provided within	Four (4) weeks of the Contract Date.		
42.2	The <i>defects date</i> is	52 weeks after Completion of the whole of the services.		
5	Payment			
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 by the <i>Employer</i> for Compensation Events are	Item	Amount	
		Accommodation	Domestic hotel accommodation may not exceed R1 400 (one thousand four hundred rand) inclusive of VAT per night per person (including dinner, breakfast, and parking).	
		Flights	at cost with the following stipulations: Local flights –travel on economy class. International flights – travel on economy class. No business or first-class travel is allowed.	



**Car Hire**

at cost with the following stipulations:

Group B or an equivalent class.

Group B vehicles contain the following specifications:

- 5 Doors, Manual
- Air Conditioning
- Radio/CD
- Power Steering
- Airbags
- Central Locking
- ABS

Airport parking charges, toll fees and taxis at cost

The above is in terms of:

- 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 Government Gazette (Ref: 240-78635659).

51.1	The period within which payments are made is	<b>Four (4) weeks.</b>
51.2	The <i>currency of this contract</i> is the	<b>South African Rand</b>
51.5	The <i>interest rate</i> is	the publicly quoted prime rate of interest (calculated on a 365-day year) charged from time to time by the Standard Bank of South Africa Limited (as certified, in the event of any dispute, by any manager of such bank, whose appointment it shall not be necessary to prove) for amounts due in Rands.
<b>6</b>	<b>Compensation events</b>	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.
<b>7</b>	<b>Rights to material</b>	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.
<b>8</b>	<b>Indemnity, insurance, and liability</b>	
81.1	The <i>Consultant</i> provides the insurances stated in the Insurance Table except for any insurance the <i>Employer</i> provides.	

Event	Cover	The period following Completion of the whole of the services or earlier termination
Liability for failure by the <i>Consultant</i> to use the skill and care normally used by professionals providing services like the <i>services</i> .	<b>Whatever the <i>Consultant</i> deems necessary in respect of each claim, without limit to the number of claims</b>	Effective from the start date to at least 12 months after the end of or termination of the contract.
Death of or bodily injury to a person (not an employee of the <i>Consultant</i> ) or loss of or damage to property arising from or in connection with the <i>Consultant's</i> Providing the <i>Services</i> .	<b><u>Loss of or damage to property</u></b> The replacement cost  <b><u>Bodily injury to or death of a person</u></b> The amount required by the applicable law.	Effective from the start date to at least 12 months after the end of or termination of the contract.
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	<b>The amount required by the applicable law</b>	<b>As <i>Consultant</i> deems necessary</b>

81.1	The <i>Employer</i> provides the following insurances		
		<b>Insurance against</b>	<b>The minimum amount of cover or minimum limit of indemnity</b>
		Assets All Risk	According to the insurance policy document.
		<i>Works</i> insurance	According to the insurance policy document.
		Nuclear Public Liability	According to the insurance policy document.
		Nuclear Material Damage and Business Interruption	According to the insurance policy document.
		Nuclear Material Damage (Terrorism)	According to the insurance policy document.
		General and Public Liability	According to the insurance policy document.
		Environmental Liability	According to the insurance policy document.
		Transportation (Marine)	According to the insurance policy document.
		Marine Small Craft Liability	According to the insurance policy document.
		Motor Fleet and Mobile Plant	According to the insurance policy document.
		Cyber Liability	According to the insurance policy document.

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	<b>The total of the Prices at the Contract Date</b>
<b>9</b>	<b>Termination</b>	<b>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.</b>
<b>10</b>	<b>Data for main Option clause</b>	
<b>G</b>	<b>Term contract</b>	
21.4	The <i>Consultant</i> prepares forecasts of the total Time Charge and <i>expenses</i> at intervals no longer than	<b>4 (four) weeks.</b>
<b>11</b>	<b>Data for Option W1</b>	
W1.1	The <i>Adjudicator</i> is	<b>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 <a href="http://www.ice-sa.org.za">www.ice-sa.org.za</a>) 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).</b>
W1.2(3)	The <i>adjudicator nominating body</i> is:	<b>the Chairman of the ICE-SA Division (or its successor body) of the South African Institution of Civil Engineering. (See <a href="http://www.ice-sa.org.za">www.ice-sa.org.za</a>).</b>
W1.4(2)	The <i>tribunal</i> is:	<b>arbitration</b>
W1.4(5)	The <i>arbitration procedure</i> is	<b>the latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body.</b>
	The place where arbitration is to be held is	<b>Cape Town, South Africa</b>
	The person or organisation who will choose an arbitrator	
	<ul style="list-style-type: none"> <li>if the Parties cannot agree on a choice or</li> <li>if the <i>arbitration procedure</i> does not state who selects an arbitrator, is</li> </ul>	<b>the Chair for the time being or his nominee of the Association of Arbitrators (Southern Africa) or its successor body.</b>
<b>12</b>	<b>Data for secondary Option clauses</b>	
<b>X1</b>	<b>Price adjustment for inflation</b>	<b>Price adjustment will only be applicable after the first twelve (12) months from the Contract Date, Base Date – December 2020.</b>

X1.1	The index is	<b>Local</b>  “Consumer Price Index and percentage change according to area” for the Witwatersrand as published in the Statistical News Release, P0141 Table 7.1 of SIEFSA
<b>X2</b>	<b>Changes in the law</b>	
X2.1	The law of the project is	<b>the Republic of South Africa.</b>
<b>X7</b>	<b>Delay damages</b>	
X7.1	Delay damages for late Completion of the whole of the <i>services</i> are	<b>2.5% of the Task Order Price per day, capped at 15% of the Task Order</b>
<b>X9</b>	<b>Transfer of rights</b>	<b>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.</b>
<b>X10</b>	<b>The <i>Employer’s Agent</i></b>	
X10.1	The <i>Employer’s Agent</i> is	
	Name:	<b>Mr Jermaine Piet</b>
	Address	<b>Koeberg Operating Unit, Nuclear Project Management, R27 Off West Coast Road, Melkbosstrand, Western Cape</b>
	The authority of the <i>Employer’s Agent</i> is	<b>to carry out all the actions of the Employer in this contract except for those required by clauses 51.1, 81.1, and 90.3</b>
<b>X11</b>	<b>Termination by the <i>Employer</i></b>	<b>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.</b>
<b>X18</b>	<b>Limitation of liability</b>	
X18.1	The <i>Consultant’s</i> liability to the <i>Employer</i> for indirect or consequential loss is limited to:	<b>R0.00 (Zero Rand)</b>
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:	<b>The total of the Prices</b>
X18.3	The <i>end of liability date</i> is	<b>five years after Completion of the whole of the <i>services</i>.</b>
<b>Z</b>	<b>The <i>Additional conditions of the contract</i> are</b>	<b>Z1 to Z11 always apply.</b>
<b>Z1</b>	<b>Cession delegation and assignment</b>	
Z1.1	The <i>Consultant</i> does not cede, delegate, or assign any of its rights or obligations to any person without the written consent of the <i>Employer</i> .	

- Z1.2 Notwithstanding the above, the *Employer* may by 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 because 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, 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 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.
- 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 As a result, the *Consultant's* B-BBEE status has decreased since the Contract Date; the *Employer* may either re-negotiate this contract or 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 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 whether such information is confidential, it is to be regarded as such until notified otherwise by the *Employer*.

Z4.3 If 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. If 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, while 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 estoppel unless the Parties agree otherwise and confirm such agreement in writing.

**Z6 Provision of a Tax Invoice. Add to core clause 51**

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*' 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 *Consultant* 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 *Consultant'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, 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 this Z-clause, the following definitions apply:

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

- Z 11.1 A Committing Party may not take any Prohibited Action during the course of the procurement of this contract or in execution thereof.
- Z 11.2 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.
- Z 11.3 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.
- Z 11.4 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.

## C1.2 Contract Data

### Part two - Data provided by the *Consultant*

**[Instructions to the tendering Consultant: (delete these notes in the final draft of a contract)]**

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)<sup>2</sup> 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 in the left-hand column is shaded, 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 the Options chosen, is essential to create a complete contract.

Clause	Statement	Data
10.1	<p>The <i>Consultant</i> is (Name):</p> <p>Address</p> <p>Tel No.</p> <p>Fax No.</p>	
22.1	<p>The <i>key people</i> are:</p> <p><b>Please insert the name, job, responsibilities, qualifications, and experience of its key people. Provide for additional key persons if necessary</b></p> <p><b>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)</b></p> <p>1 Name:</p> <p>Job:</p> <p>Responsibilities:</p> <p>Qualifications:</p> <p>Experience:</p> <p>2 Name:</p> <p>Job</p> <p>Responsibilities:</p> <p>Qualifications:</p> <p>Experience:</p>	

<sup>2</sup> Available from Engineering Contract Strategies Tel 011 803 3008 Fax 011 803 3009 or [www.ecs.co.za](http://www.ecs.co.za)



Only if required		CV's (and further <i>key persons</i> data including CVs) are appended to the Tender Schedule entitled .	
11.2(10)	The following matters will be included in the Risk Register  <b>Note: The listing of risks on the Risk Register does not have the effect of fixing either of the parties with any particular risk</b>		
11.2(13)	The <i>staff rates</i> are:	name/designation	rate
	<b>Either complete here or cross-refer to a schedule in Part C2.2</b>		
25.2	The <i>Employer</i> provides access to the following persons, places, and things	access to	access date
		1	
		2	
		3	
<b>G</b>	<b>Term contract</b>		
21.3	The <i>Consultant</i> prepares forecasts of the total <i>expenses</i> at intervals of no longer than	[•] weeks.	



## PART 2: PRICING DATA

### PSC3 Option G

Document reference	Title	No of pages
C2.1	Pricing assumptions : Option G	[•]
C2.2	<i>Staff rates, expenses, and the task schedule.</i>	[•]



## C2.1 Pricing instructions: Option G

### 1. The conditions of the contract

#### 1.1. How work is priced and assessed for payment

From Option G: Term contract

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

From the Core Clauses:

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

and

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

#### 1.2. 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 costs 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 Guidance Notes.

### **1.3. The function of the Task Schedule**

The Task Schedule may include items of work to be paid for at 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. The resulting Price is added to 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, and the task schedule

### 1. The *staff rates* are:

No.	Designation (or category) or name of staff member	Rate per hour excluding VAT

### 2. The task schedule

No.	Items of work to be carried out on a time basis
1	Management
1.1	Quality Control management (construction monitoring level 2) – injection piping
1.2	Quality Control management (construction monitoring level 3) – supply piping
1.3	Health, Safety and Environmental management
2	Stage 1 – Preparation (Concept Agreement)
3	Stage 2 – Concept (Preliminary Design)

No.	Items of work priced on a lump sum basis	Price (excluding VAT)
4	Stage 3 – Design Development (Detailed Design) – Final Design	
4.1	Low-pressure supply piping (Detailed Design) – Final Design	
4.2	High-pressure injection piping (Detailed Design) – Final Design	
5	Stage 4 – Product Information (Documentation and Procurement for Tender)	
6	Stage 5 – Manufacture, Installation and Construction Information (Construction and Construction Management)	
6.1	Low-pressure supply piping	
6.2	High-pressure injection piping	
7	Stage 6 – Post Practical Completion (Close-Out)	





## PART 3: SCOPE OF WORK

Document reference	Title	No of pages
	This cover page	1
C3.1	<i>Employer's Scope</i>	
C3.2	<i>Consultant's Scope</i>	
	Total number of pages	82

## C3.1: EMPLOYER'S SCOPE

### 1 Description of the services

#### 1.1 Executive overview

The *Employer* (Eskom) requires the *Consultant* to provide engineering services as the technical lead during the execution phase of the Potable Water System (SEP) hardened external water connection points for the nuclear island project.

The *Consultant* provides design and engineering support during procurement, construction, commissioning and handover of the new SEP hardened external water connection points for the nuclear island at the Koeberg Operating Unit (KOU).

All documents have to be reviewed by a technical reviewer before submitting them to the *Employer*.

The *Consultant* is required to ensure that any sub-consultancy contract includes a provision that the Intellectual Property (IP) is transferred to the *Employer*.

High-level description of scope: Hardened supply piping from the SEP tanks (9 SEP 001 and 002 BA) to the External Connection Points (ECP) and Internal Connection Points (ICP) located on the western wall of the fuel building for each Unit, as well as ECPs located outside the Auxiliary Feed Water System (ASG) tank (1 and 2 ASG 001 BA) rooms at Koeberg Nuclear Power Station (KNPS), as required to align KNPS with the nuclear industry's response to the Fukushima-Daiichi accident.

The *Consultant* provides the following services;

- Act as the engineer for the design of the works;
- Act as the lead consulting engineer of the works;
- Engineering management services;
- Construction monitoring is described in the classification and quality control. (2.1);
- Act as a cost engineer and quantity surveyor on the project and provide financial administration services, including services related to all financial matters such as calculation of quantities, evaluation of claims, cost estimates, cost control and cost reporting.

The design services are limited to the design of the SEP hardened external water connection points for the Nuclear Island at the Koeberg Operating Unit (KOU): see TRS 240-110005778 Rev. 2.

## 1.2 *Employer's objectives and purpose of the services*

In the event of a loss of normal cooling water supply due to a Design Extension Conditions (DEC) event, Koeberg Nuclear Power Station (KNPS) may have to utilise alternative water sources for cooling of the reactors and spent fuel pools. Alternative water sources include the Potable Water System (SEP) tanks – 9 SEP 001 and 002 BA, future hardened water supply reservoirs, any other available sources of water and ultimately, as a last resort, the sea.

To utilise the alternate cooling water sources, a conveyance system is required to connect possible alternate water sources and the relevant plant Structures Systems and Components (SSCs).

The strategies to ensure plant safety ultimately rely on getting cooling water to the reactor vessels and spent fuel pools. This emergency water supply system is intended to provide cooling water during a DEC scenario, and is sufficiently robust to withstand the anticipated DEC.

The *Employer's* objectives are:

- For the Consultant to provide designs for SEP hardened external water connection points for the Nuclear Island, including:
  - \* the Low-pressure supply piping
  - \* the High-pressure injection piping
  - \* the specifications of portable emergency equipment (PEE)
- For the Consultant to provide:
  - \* Geotechnical Studies;
  - \* Consulting engineering and monitoring services;
  - \* Engineering management services; and
  - \* Cost engineering and quantity surveying services.
- Construction and supply, by Others, of the SEP hardened external water connection points for the Nuclear Island.

## 1.3 *Background*

Following the Fukushima-Daiichi nuclear accident in March 2011, the *Employer* responded by constituting an External Events Response Team (EERT) to determine the response required by Koeberg Nuclear Power Station's (KNPS) to this kind of event. Through stress tests and studies, the EERT has identified plant intervention strategies to mitigate the effects of significant Beyond Design Basis (BDB) external events at KNPS.

One of the strategies is that KNPS ensures that cooling water reaches the reactor vessels and spent fuel pools during an extended (> 7 days) BDB loss of ultimate heatsink and/or station blackout, which could be precipitated by an extreme seismic and/or flooding event(s).

The Potable Water System (SEP) tanks, 9 SEP 001 and 002 BA, the sea and any other available sources of water are alternate cooling sources for the reactor vessels and spent fuel pools. To utilise the alternate cooling

water sources, a water conveyance system must connect the water sources to the relevant plant structures systems and components (SSCs).

The strategies to ensure plant safety ultimately rely on cooling water reaching the reactor vessels and spent fuel pools. This emergency water supply system is intended to provide cooling water during a BDB scenario and is sufficiently robust to withstand the anticipated BDB conditions.

## 1.4 Interpretation and terminology

### 1.4.1 Definitions

Term	Description
shall	Denotes a requirement.
should	Denotes a recommendation.
may	Denotes permission.
Action of the <i>Employer's Agent</i>	The actions the <i>Employer's Agent</i> must perform in fulfilling his/her express duties under the PSC.
Technical lead	The provision of technical guidance, technical coordination, and technical leadership to the project to ensure the <i>services</i> are suited for their designated purposes as stated in the Scope.
COVID-19	Severe Acute Respiratory Syndrome Coronavirus 2' (SARS-CoV-2).
Design	The process of devising a system, component, or process to meet the <i>Employer's</i> requirements, as specified in the Scope. 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> .
Hardened	To be able to withstand DEC conditions
Others	Others working on this project as required by the <i>Employer</i> are as follows: <ul style="list-style-type: none"> <li>• NNR;</li> <li>• <i>employer's</i> authorised inspection agency;</li> <li>• <i>employer's</i> consultants;</li> <li>• consultants;</li> <li>• <i>employer's</i> contractor;</li> </ul>

Term	Description
	The list is updated by the <i>Employer's Agent</i> each time a third-party contract is placed by the <i>employer</i> or Others change. <i>Employer's Agent</i>
Physical conditions	Referred under Core Clause 60.1(12) means natural physical conditions and man-made and other physical obstructions and pollutants, which the <i>Contractor</i> encounters at the Site when executing the <i>services</i> , e.g. sub-surface, hydrological conditions, etc. but excluding weather conditions.
Level 1 programme	Executive summary or a project master programme; this is a major milestone type of programme which highlights major project activities, milestones, and key deliverables for the whole project.
Level 2 programme	Management summary or summary master programme, maintained as a summation of the Level 3 programme. It depicts the overall project broken down into its major components by area.
Level 3 programme	The project coordination programme or publication programme. The Level 3 programme is maintained as an integrated roll-up or summary of the Level 4 programme activities. The programme consists of a set of integrated Level 4 programmes based on critical path methodology (CPM).
Level 4 programme	Execution programme or project working-level programme. Level 4 is the detailed working-level programme and an expansion of a Level 3 programme; this is the key working-level CPM programme displaying the operations to be accomplished. The Level 4 programme may be for major sections of the work or discrete processes such as a design, procurement and/or a commissioning etc.
Level 5 programme	A Detail programme, which is a further breakdown of the activities of a Level 4 programme. This programme is used to map out the detailed tasks needed to coordinate day to day work in specific areas.
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".

Term	Description
including	If “including” 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 “including”.

## 1.4.2 Abbreviations

The following abbreviations are used in this Scope:

Abbreviation	Description
AIA	Appointed Inspection Authority
ACP	Access Control Point
ASG	Auxiliary Feed Water System
ASCE	American Society of Civil Engineering
ASTM	American Society for Testing Material
ASME	American Society of Mechanical Engineers
B-BBEE	Broad Based Black Economic Empowerment
BDB	Beyond Design Basis
CFC	Customer Foreign Currency
CR (14)	Construction Regulations 2014
DEC	Design Extension Conditions
DoEA	Department of Environmental Affairs
DoL	Department of Labour
EIA	Environmental Impact Assessment
ECP	External Connection Points ECP
EN	European Standards
Eskom	Eskom Holdings SOC Ltd
FIPDM	Framework for Infrastructure Delivery and Procurement Management
RPC	Radiation Protection Certificate
DDR	Documentation Drawing Request
ECC	Engineering and Construction Contract
GMSL	Global Mean Sea Level
HP	Human Performance
IAEA	International Atomic Energy Agency
ICE-SA	The Institution of Civil Engineers and The South African Institution of Civil Engineering
ICP	Internal Connection Points
ISO	International Standard Organisation
NKP	National Key Point

Abbreviation	Description
NNR	National Nuclear Regulator
KOU	Koeberg Operating Units
KORC	Koeberg Operating Review Committee
KOSC	Koeberg Operating Safety Committee
NEC3	New Engineering and Construction Contract, June 2005 (ECC3) (with amendments June 2006)
NNR	National Nuclear Regulator
NNS	Non-Nuclear Safety
PDF	Portable Document Format
PEE	Portable Emergency Equipment
PIT	Plant Induction Training
PGA	Peak Ground Acceleration
PTW	Permit to Work
QA	Quality Assurance.
QCP	Quality Control Plans
RSA	Republic of South Africa
SANS	South African National Standards
SANAS	South African National Accreditation System
SARB	South African Reserve Bank
SC	Nuclear Safety Class
SEP	Potable Water System
SPT	Standard Penetration Test
URS	User Requirements Specification
PM	<i>Employer's Agent</i>
VAT	Value Added Tax

## 2 Description of the services

The *Consultant* designs a new SEP hardened external water connection points for the nuclear island and provides engineering support during construction and commissioning of the connection points in terms of TRS 240-110005778 Rev 2.

The *Consultant* shall incorporate the latest revision of the Koeberg Operating Unit's modification control procedure KAA-501, aligned with the Eskom process control model for projects into the *Consultant's* final programme requirements.

### 2.1 General Requirements

The Consultant must provide a design methodology statement for the Employers' initial acceptance demonstrating that the DEC design criteria will be met.

The Consultant demonstrates, in its design, that all Plant and Material intended for this modification will be able to withstand the anticipated DEC as detailed in the following documents:

- Flooding as a result of a Tsunami (5.5.25)
- High-speed winds and tornadoes (5.5.26)
- Seismic event (5.5.27)
- Geotechnical investigations that will provide inputs into the seismic design analysis and calculations
- Severe ambient temperature (5.4.30)

If the design codes and/or standards specified in the TRS prove to have limitations when designing for DEC, the *Contractor* shall propose a methodology to supplement the specified codes and/or standards or recommend suitable alternative codes and/or standards for acceptance by the *Employer*.

Any deviations from the codes and standards will be treated as Defects in terms of Clause 4 of the PSC.

Nuclear Safety Class Breaks:

- Injection piping transitions from Nuclear Safety Class (SC) to Non-Nuclear Safety (NNS) piping shall comply with ANS-51.1 and ANSI N18.2.
- All piping and components installed on the safety-related system side of the class break, including the class break components, must be of the same safety classification as the interfaced safety-related system.

## 1. Geotechnical Studies:

The *Consultant* conducts a geotechnical programme of the area of the structure, consisting of:

- site-specific investigations,
- soil borings,
- necessary static and dynamic testing to establish shear wave velocity, and
- laboratory testing of soil samples to establish necessary properties to be used in calculations which shall include characterization of sand, shear modulus and in-situ soil density.

The proposed programme consists of drilling a minimum total of 5 Standard Penetration Test (SPT) borings of the site structure area. Rock coring will be conducted in all the soil borings, minimum of 1 meter into competent bedrock. Bedrock level is indicated as elevation of -12.0 m GMSL according to the Koeberg SAR.

The *Consultant* conducts cross-hole seismic shear wave velocity testing in two deep locations beneath the proposed site structure. Additional boring shall be done if necessary for the cross-hole seismic shear wave velocity measurements. Testing is done, by the *Consultant*, in general accordance with ASTM D4428 with a depth of borings to conduct logging advanced to a depth of the bedrock.

Soil liquefaction induced settlement analysis is performed by the *Consultant*, using an earthquake PGA of 0.5 g, assuming the shortest distance to a fault where an earthquake could originate from is in order of 15 km, according to the Koeberg site Safety Report: Geology and Seismology, Chapter 10 which states that there is



an NNW- trending fault line between Philadelphia and Mamre which is part of the Saldana- Darling- Franschhoek fault zone and is approximately 15 km from Koeberg. SPT information is required as input to the settlement calculation. A proposed liquefaction software is used to determine the expected settlement in each layer during a seismic event to determine the differential settlement that could occur.

The *Consultant* performs those subsurface investigations, analyze the data, and document the results of these site characterization activities in a formal geotechnical report. The *Consultant's* report, submitted for acceptance, includes, as a minimum:

- a. Written test plans
- b. Subsurface exploration location plan
- c. Logs of test borings
- d. Results of laboratory and field testing
- e. A narrative interpretation of the subsurface soil and groundwater conditions observed and their implication for the project
- f. Graphical representation of total settlement under static loading for a range of bearing pressures 70 – 400 kPa
- g. Tabular representation of the Probability of Liquefaction at depths of 1m layers up to the bedrock
- h. Tabular representation of the seismically-induced settlement at depths of 1m layers up to the bedrock
- i. Recommendation for possible ground improvements with an estimated cost associated
- j. The laboratory to be used shall be SANAS accredited.

## 2. Seismic:

The following information has been provided in the DEC guide, both the guide and the TRS has made it clear that Response Spectrum Analysis (RSA) shall be the method for seismic analysis of the hardened structures to be performed by the *Consultant* and no equivalent will be accepted. Only dynamic analysis, with the *Consultant* using the Dames and Moore derived 0.5g PGA earthquake spectra as input and using design codes that can handle the 0.5g earthquake criteria, is acceptable. However, a new interim earthquake spectra is under development and allowance shall be made for the *Employer* to be able to replace the Dames and Moore derived 0.5g PGA with the latest interim earthquake spectra in Stage 1, Section 3.2 of this contract.

The DEC guide for seismic (240-121010217) makes reference to the PC Rizzo derived 0.5g earthquake spectra, however, this spectra has not been accepted by KNPS and the NNR, thus the Dames and Moore derived 0.5g PGA earthquake spectra shall be used, unless the *Employer* replaces it with the new interim earthquake spectra being developed.

- a. IAEA safety standards, Safety of Nuclear Power plants: Design (SSR-2/1 Rev. 1)
- b. Specification for seismic qualification of electrical and mechanical equipment. (DSG 318-033 Rev. 1).
- c. Protection of Buildings against earthquakes (SAR 2-1.8.1 Rev. 5)
- d. Dames and Moore 0.3g PGA earthquake spectra for existing equipment (KBA0022E0102002 Rev. 2).
- e. The Dames and Moore derived 0.5 g PGA earthquake spectra, prepared by NSE:

- JN385-NSE-ESKB-R-5293 (Rev. 0) part 5 for the Nuclear Island, and
- JN385-NSE-ESKB-R-5300 (Rev. 0) part 5 for the SEC Pump House.
- JN385-NSE-ESKB-R-5337 (Rev. 0) for the Conservation Centre, TISF and SEP tanks.

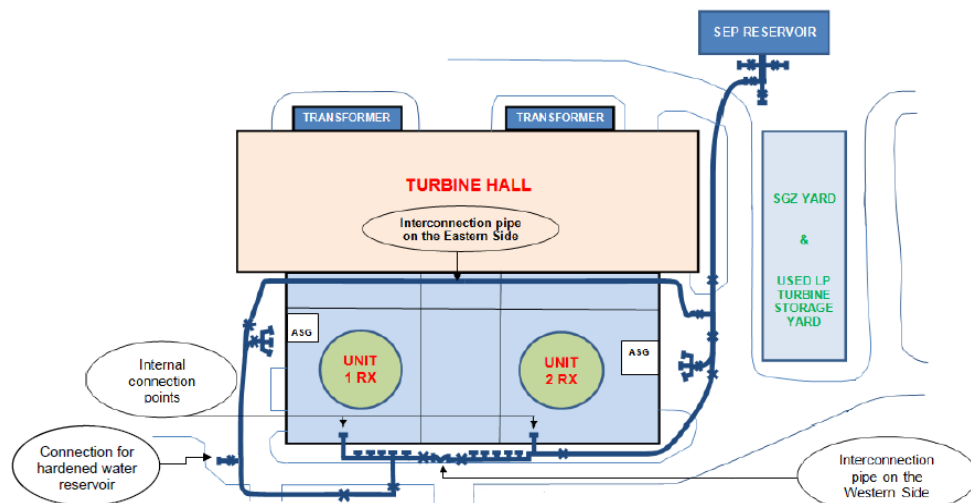
## 2.2 Engineering quality requirements

### 2.2.1 Classification according to Section 3.6.2 of the TRS

- Design service (Classification 0053/14C)  
The design *service* for SSC injection piping, External Connection Points (ECPs), supply piping from SEP Tanks and Portable Emergency Equipment (PEE) is classified as follows:
  - \* Quality Level: Q1
  - \* Importance Level: CSR
  - \* RD-0034: L1
- Installation – Safety Class (Classification 0051/14C)  
Installation of safety class ECP injection piping components, which interface with plant safety class SSC's (e.g. class break isolation valves, pipe branches, spool pieces etc.).
  - \* Quality Level: Q1
  - \* Importance Level: SR
  - \* RD-0034: L2
- Installation – Non-Safety Function (NSF) (Classification 0050/14C)  
Installation of External Connection Points (ECPs), supply piping from SEP tanks and Non-Safety Function (NSF) injection piping to plant SSC's.
  - \* Quality Level: Q2
  - \* Importance Level: NSA
  - \* RD-0034: L3

### 2.3 Supply piping according to Section 3.4.3 of the TRS

- The supply piping is divided into a feed pipe and a ring main from the SEP tanks. See Figure 1.
- Both the Employer's Units will be supplied, by Others, with the new supply piping, which will be trenched or buried routed from tanks 9 SEP 001 and 002 BA. The supply piping may consist of a single feed pipe from the SEP tanks to the ring main.
- The supply piping material will be polymeric piping, such as High-Density Polyethylene (HDP), Glass Reinforced Plastic (GRP), etc. The Consultant determines the material or combination thereof and the installation methods, which are best suited for the Consultant's design requirements. The Consultant describes, in its design, why the chosen materials are best suited for the application for Employer's acceptance.



**Figure 1: Supply lines from 9 SEP 001 and 002 BA and Hardened Water Reservoir connection point**

## 2.4 External Connection Points (ECP) according to Section 3.4.4 of the TRS

The *Consultant* designs EPCs to be centralised staging areas where:

- Suction can be taken from SEP tanks or other water sources such as mobile tankers;
- Portable pumps can be located and connected for water conveyance; and
- Water can be injected into the SSCs.

## 2.5 Internal Connection Points (ICP) according to Section 3.4.5 of the TRS

- In the event of a DEC external event (e.g. severe storm) that does not allow the Employer's operators to access areas outside of the plant buildings, portable pumps that can be connected and operated while remaining inside the Nuclear Auxiliary Building (NAB) or Fuel Building (FB), as well as the associated connection points, shall be provided in the design (see Figure 2, Appendix A). Only one location per Unit is required for the ICPs. Investigate possible areas to store and connect these pumps are in the fuel building loading bays.

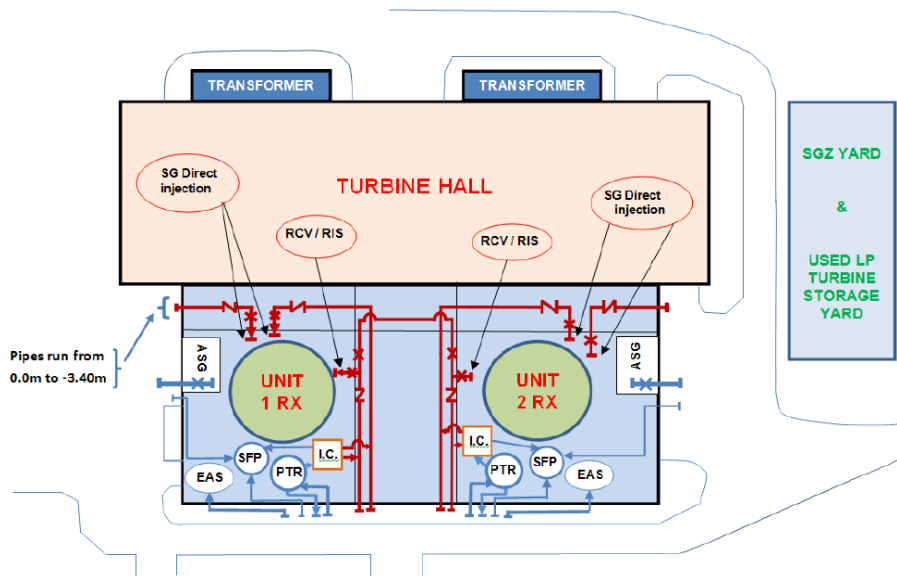


Figure 2 Plant injection piping and ICPs

## 2.6 Portable Emergency Equipment (PEE) according to Section 3.4.6 of the TRS

The following portable pumps and trailers must be specified in their designs by the *Contractor*:

- Three Portable pumps are sized to deliver water with a flow rate of 70 m<sup>3</sup>/h at a discharge pressure of 3.6 MPa at optimal efficiency.
- Two Portable pumps are sized to deliver water with a flow rate of 370 m<sup>3</sup>/h at a discharge pressure of 2 MPa at optimal efficiency.
- Each portable pump must be driven by a diesel-powered engine equipped with a fuel tank with a capacity that will ensure at least 24 hours of continuous operation at full load without requiring refuelling.

## 3 Specification and description of the services

### 3.1 Normal services

The *Consultant* shall provide services in six stages as set out below.

### 3.2 Stage 1: Preparation

This stage is referred to as the inception, concept agreement or report stage.

**Defined as:** Establish *Employer* requirements and preferences, refine user needs and options, appoint necessary sub-consultants, establish the project brief including project risks, objectives, priorities, constraints, assumptions, aspirations, and strategies.

**Deliverables:** Agreed services and scope of work; accepted by *Employer*; report on project, Site and functional requirements; schedule of required surveys, tests, analyses, Site and other

investigations; schedule of consents and approvals and related lead times, as specified in TRS 240-110005778 Rev. 2.

**Risks:** The *Consultant* caters for the following risks as part of the Prices:

- The Dames and Moore 0.5g PGA earthquake spectra earthquake spectra may be replaced with the latest interim spectra currently under development.

Preparation of a report embodying preliminary proposals and estimates of cost and time-aligned to the tendered proposals, where appropriate, for consideration by the *Employer*, including all or any of the following to be performed by the *Consultant*:

- Consultation with the Employer or his authorised representative.
- Inspection of the Site of the project.
- Preliminary investigation, as found Site conditions, route location, geotechnical investigations, environmental, planning and design methodology are required for determining the feasibility and acceptance by the Employer.
- Consultation with authorities (NNR, DoEA, DoL, etc.) having rights or powers of sanction.
- Conduct the required surveys, geotechnical studies, analysis, tests and site or other investigations, where such are required to complete the report.
- Determine and report to the Employer any limitations of the specified design codes and standards related to the design requirements specified in the TRS and Contract. The Consultant will propose any supplemental studies, code cases, or more suitable codes or standards to the Employer where limitations have been identified.
- Investigation and collation of available data, drawings and plans relating to the project.
- Investigation of financial implications relating to the Consultant's proposals or feasibility studies.
- Establishment of final design criteria and methodology.
- Provision of design concept layouts.
- Provide the Employer with a minimum of three design concepts for acceptance.
- Submission of a Stage 1 report as defined above.

### 3.3 Stage 2: Concept

This stage is also known as the Concept and Viability or Preliminary Design stage.

**Defined as:** Preparation and finalisation of the project concept, by the *Consultant*, in accordance with the accepted project brief, including project scope, scale, character, form and function, plus preliminary programme and viability of the project.

**Deliverables:** Concept design in the format of Part A of the *Employer's* design template 240-143890978; schedule of required surveys, tests and other investigations and related reports; process

design; preliminary design; cost estimates as required, as specified in TRS 240-110005778  
Rev 2

**Risks:** The *Consultant* caters for the following risks as part of the Prices:

- Procurement of additional codes or standards.
- Interpretation of seismic spectra.

Development of preliminary (concept) proposals or undertake the basic planning of the project, comprising all or any of the following to be performed by the *Consultant*:

- Submission of a stage 2 report.
- Establishment and detailing of final design criteria and methodology.
- Final investigations, route location, geotechnical investigations, environmental, planning and design methodology where any of these are required for determination of feasibility and acceptance by the Employer.
- Engineering analyses, including but not limited to, hydraulic analysis, pipe stress analysis (thermal and seismic), civil structural analysis.
- Provide the Employer with a final concept design for acceptance,
- Perform any further surveys, analysis, tests and site or other investigations which may be required.
- Perform, as may be necessary, on the appointment and delineation of the services of other consulting engineers, architects and specialist advisers, arranging such appointments and consultation with such advisers in matters affecting the project. These appointments have to be reviewed and accepted by the Employer.
- Preparation of any preliminary (concept) plans, drawings and estimates required for the Employer seeking the approval of statutory authorities.
- Redlining of existing Employer drawings and documents affected.
- The Consultant is required to consult with authorities and interested parties other than those having the right or power of sanction on technical matters and to make changes to the preliminary (concept) design of the project arising out of such consultation.
- Submission of updated and revised estimates of cost, time and financial implications previously reported on.

### 3.4 Stage 3: Design Development

**This stage may be referred to as the Design Development (also termed Detailed Design) - Final Design**

**Defined as:** Develop the approved concept to finalise the design, outline specifications, cost plan (BOQ and cost schedule), financial viability, and programme for the project.

**Deliverables:** Detailed design in the format of Part B and Part C - Bill of Quantities (BOQ) of the *Employer's* design template 240-143890978. Design development drawings; outline specifications; local and other statutory submission drawings and reports; detailed estimates of construction costs and implementation schedule, as specified in TRS 240-110005778  
Rev. 2

**Risks:** The Consultant caters for the following risks as part of the Prices:

- Application of seismic spectra.
- Complexity of supply pipe routing and associated infrastructure required to route the supply piping to and from aseismic vault.
- Complexity and location of the connection point to inject seawater into the supply piping.
- Above- and/or underground services identified by surveys that could influence pipe routing or that requires the above- and/or underground services to be moved.
- The influence of the piping connection of the Employer's project 12008 to the stress model of this project.
- In the event that the Employer's project 12008 piping installation is completed before this project, the design shall be extended to make the physical connection under this project.
- Reinforced concrete repairs required to existing plant structures where injection point structures will be attached to.

Preparation of all documents necessary to enable tender offers for the Works to be called for or for the Works to be otherwise placed by the *Employer*, including all or any of the following:

- Comply with (duties of the designer) of the Construction Regulations 2014.
- Appoint competent, registered designers and engineers,
- Appoint a competent, registered seismic design engineer,
- Provide a Pr. Eng. signed final design for the Employers acceptance,
- Provide a maintenance basis for the design; the Employer will provide the Consultant with the format of the maintenance basis,
- Provide a maintenance manual with clear instructions for the structures and components maintenance regime,
- Include the demolition of any existing fixed structures such as concrete slabs etc. in the final layout and construction drawings,
- Provide a baseline risk assessment, including risks and hazards expected during manufacture, installation, construction, operation, occupation, and dismantling of the new structures and components.
- Perform the necessary further surveys, special visits, specialist professionals, setting out or staking out the Works, etc.

- Prepare designs, tender and construction drawings, specifications and engineering schedules of quantities.
- Draft and prepare procurement and construction documents or adapt invitations to tender, tender conditions, forms of tender, and conditions of contract (NEC format).
- Arrange for way-leaves, servitudes or expropriations.
- Negotiate and arrange for the provision or diversion of utility services not forming part of the Works.
- Obtain formal approval of the appropriate government departments or public authorities, including the making of such revisions as may be required as a result of decisions of such departments or authorities arising out of changes in policy, undue delay, or other causes beyond the professional's control.
- Prepare and set out particulars and calculations in a form required by any appropriate authority.
- Provide additional services, duties, and/or work resulting from project scope changes, alterations and/or instructions by the Employer, requiring the professional to advise upon, review, adapt and/or alter his completed designs and/or any other documentation and/or change the scope of his services and/or duties.
- Provision of information necessary for the design of other services.
- Submission of updated and revised estimates of cost, time and financial implications previously reported.

### 3.5 Stage 4: Production information

This stage may also be referred to as the **Documentation and Procurement or Tender stage**.

**Defined as:** Prepare procurement and construction documents and confirm and implement the procurement strategies and procedures for effective and timely procurement of necessary resources for project execution.

**Deliverables:** Specifications; *services* coordination; working drawings; budget construction cost. Parts C & D of the *Employer's* design template 240-143890978 to be completed, as specified in TRS 240-110005778 Rev 2

**Risks:** The *Consultant* caters for the following risks as part of the Prices:

- Delays in Employer commercial process

Preparation of all documents necessary to enable tender offers for the Works to be called for or for the Works to be otherwise placed by the *Employer*, including all or any of the following:

- Perform the necessary further surveys, special visits, specialist professionals, setting out or staking out the Works, etc.
- Clarify prepared designs, tender drawings, specifications and engineering schedules of quantities.



- Clarify information necessary for the design of other services.
- Submit updated and revised estimates of cost, time and financial implications previously reported.
- Draft or adapt invitations to tender, tender conditions, forms of tender and conditions of contract and call for tender offers when instructed to do so by the Employer.
- Support the Employer with analysis of tender submissions and drafting of recommendations on the acceptance of tender offers and, if necessary, revising the estimates of the cost and the completion date of the Works.
- Advise the Employer as to the provision of a construction monitoring service in accordance with stage 5 of the Services.
- Provide advice to the Employer on the alternative designs, specifications and tender offers, reviewing and checking alternative designs and drawings submitted by any Contractor or potential contractor.
- Prepare and submit any further plans, designs and drawings, including shop details, which may be necessary for the execution of the Works, including bending schedules in the case of reinforced concrete work.
- Support the Employer with the Framework for Infrastructure Delivery and Procurement Management (FIPDM) review.

### 3.6 Stage 5: Manufacture, Installation and Construction Information

**Defined as:** Monitor the construction and processes, including preparation and coordination of procedures and documents to facilitate practical completion of the *services*.

**Deliverables:** Prepare schedules of predicted cash flow, construction documents, drawings register, estimates for proposed variations, contract instructions, financial control reports, valuations for payment certificates, progressive and draft final account(s), practical completion and defects list, all statutory certification and certificates of compliance as required by the local and other statutory authorities, as specified in TRS 240-110005778 Rev. 2.

**Risks:** The *Consultant* caters for the following risks as part of the Prices:

- Updating of the design due to underground services and/or structures identified during installation and construction that had not been identified during the surveys.
- Interfacing constraints.

The works will be constructed by Others. The *Consultant* will undertake general administration and coordination of the execution of the works (by Others) in accordance with the contract, including all or any of the following:

- Check Employer's contractors' drawings of structures, plant, Equipment and systems for the works for conformity with design requirements, including detailed checking of manufacture and installation details for erection or installation fit.
- Provide support issuing instructions to Employer's contractors on behalf of the Employer.
- Generally, monitor the execution of the works for compliance with the contract and design and attend site meetings on a combined average frequency of half a day every two weeks or at such other intervals as the professional may deem necessary.
- Direct monitoring operations, including day to day monitoring of the works and site administration.
- Issue certificates for payment of Employer's contractors and submit regular reports regarding project finances and expected completion date(s).
- Provide support deciding on disputes or differences that may arise between the Employer and Employer's Contractor, including mediation, arbitration and litigation.
- Provide support issuing Variation Orders with the Employer.
- Perform inspection and testing of such materials and plant as are usually inspected and tested.
- Make arrangements on behalf of the Employer for the provision and reproduction of such drawings and documents as may be required by the Employer's contractors and site staff for the execution of the works.
- Agree on final quantities with Employer's contractors, including measurements on site.
- Make arrangements to provide the Employer, on completion of the works, with such record of drawings and manuals as may be required for the operation and maintenance of the works and preparing such documents as may be necessary to co-ordinate the drawings and manuals provided.
- Check the Employer's Contractors commissioning procedures and witness the performance or acceptance tests on site, including day-to-day routine tests.
- Execute or arrange for the periodic monitoring and adjustment of the works to optimise or maintain proper functioning of any process or system on completion of construction and commissioning.
- Inspect and test (other than on site) of materials and plant, including inspection and services testing during and after manufacture.
- Updating of the design due to variations arising during procurement, manufacture, installation, construction and commissioning, including design field changes
- Compilation and acceptance of design field change requests.

### **3.7 Stage 6: Post Practical Completion**

**This stage may also be referred to as the Close-Out stage.**

**Defined as:** Fulfil and complete the project close-out, including necessary documents to facilitate effective completion, handover, and project commission.

**Deliverables:** Valuations for payment certificates, services and final completion lists, operating and maintenance manuals, guarantees and warranties, as-built drawings and documentation, final accounts.

The *services* include:

- Coordinate and monitor rectification of Employer's contractors' defects.
- Manage procurement of operations and maintenance manuals, guarantees and warranties.
- Prepare and/or procure as-built drawings and documentation.
- Manage procurement of outstanding statutory certificates.
- Monitor, review and issue payment certificates to the Employer's contractors.
- Issue completion certificates of the works.
- Manage agreement of final account(s) of Employer's contractors.
- Prepare and present the project close-out report.

### **3.8 Accompanying services**

#### **3.8.1 The *Consultant* provides construction monitoring for both the injection and supply piping scope and quality control.**

Appoint or make available staff as and when necessary to undertake construction monitoring services.

- Review, preferably at the earliest opportunity, a sample of each important:
  - \* Work procedure,
  - \* Construction material for compliance with the requirements of the plans and specifications and review representative samples of important completed work prior to enclosure or completion as appropriate.
- Visit the works at a frequency agreed with the Employer to review important materials, critical work procedures and/or completed elements or components.
- Be available to provide the Employer's contractor with technical interpretation of the plans and specifications.

**NOTE:** The *Employer's* contractor is responsible for completing the works in accordance with the design, drawings and specifications provided by the *Consultant*. However, construction monitoring by the *Consultant* provides an independent verification, to the level required by the *Employer*, that the works are being completed in accordance with the requirements of the contract between the *Employer* and the *Employer's* Contractor, that the designs are being correctly interpreted, and that appropriate construction techniques are being utilised. Construction monitoring creates no contractual relationship between the *Consultant* and the *Employer's* contractor.

## 4 Constraints on how the *Consultant* Provides the Services.

### 4.1 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.

### 4.2 Management meetings

Regular meetings of a general nature may be convened and chaired by the *Employer's Agent* as tabled below.

#### 4.2.1 Project Kick-Off Meeting

Interval	Location		Attendance by:		
Once	KOU		<i>Employer's Agent, Employer, Consultant, and Others as required</i>		
Activity Description	<i>Employer's Agent</i>	<i>Consultant</i>	Requirements	Planning	Additional notes
Establishing the project team	X		The <i>Employer's Agent</i> notifies the names of <i>Employer</i> key persons to support the <i>Consultant</i> with the Provision of the service in terms of the <i>Employer</i> functions.	Within 1 week after the Contract Date.	At kick-off meeting with <i>Employer's Org</i> structure.
Notification, venue, agenda and support documentation	X		The <i>Employer's Agent</i> develops and notifies the agenda, venue and required support documentation for the meeting.	Within 2 weeks after the Contract Date.	An <i>Employer</i> systems engineer, operations representative and maintenance representative are present at the meeting.
Execution and Minutes	X		The <i>Employer's Agent</i> assumes the Chair for the meeting, records, and distributes the minutes of the meeting.	Within 2 days of the meeting	
Conclusion	X	X	This activity is complete upon acceptance of the minutes of the kick-off meeting by both Parties.	In accordance with the Accepted Programme	Deliverable: Minutes of the kick-off meeting.
Additional topics: <ul style="list-style-type: none"> <li>• Project details explanations</li> <li>• Clarify Roles and Responsibilities</li> <li>• High-level project schedule, including any Key Dates</li> </ul>					

#### 4.2.2 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>
<p>Operational meetings will be held to discuss:</p> <ul style="list-style-type: none"> <li>• Project progress (against the accepted Programme) as prescribed in PSC Core Clause 31 and 32.</li> <li>• Project issues and associated recovery plans</li> <li>• Risk reduction discussions relating to items as prescribed in PSC Core Clause 15.3.</li> <li>• Where applicable, the Risk Register is updated by the <i>Employer's Agent</i> and distributed within five days of the meeting.</li> <li>• Review of Actions List;</li> <li>• Review of Communications (formal letters)</li> </ul>		

#### 4.2.3 Meetings of a specialist nature

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

#### 4.2.4 Risk reduction meetings

Interval	Location	Attendance by:
Monthly and ad hoc	KOU	<i>Employer's Agent, Employer, Consultant, Supervisor, and Others as required</i>
At the risk reduction meetings, items as prescribed in PSC Core Clauses 15.3 and 14.4 are discussed. The Risk Register is updated by the <i>Employer's Agent</i> and distributed within five days of the meeting.		

#### 4.2.5 Technical workshops

Interval	Location	Attendance by:
Monthly or as required	NOU / MS Teams(Virtual)	<i>Employer's Agent, Employer's engineering representatives, Consultant and Others as required</i>
<p>Technical workshops will be held to discuss:</p> <ul style="list-style-type: none"> <li>• Technical issues and resolution</li> <li>• Review comments</li> <li>• Knowledge sharing</li> </ul> <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 to confirm 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. Records of these meetings shall be submitted to the *Employer's Agent* by the person convening the meeting within five days of the meeting.

Confirmation of contract communications during operational meetings will be considered a formal acknowledgement of receipt of a contract communication.

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 services. Records of these meetings shall be submitted to the *Employer's Agent* by the person convening the meeting within five days of the meeting.

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

Title and purpose	Approximate time and interval	Location	Attendance by:
Risk register and compensation events	Weekly on _____ at _____	[•]	[•]
Overall contract progress and feedback	Monthly on _____ at _____	[•]	<i>Employer's Agent, Consultant and [•]</i> _____

### 4.3 *Consultant's* key persons

The *Consultant* ensures that all key personnel requiring access to the 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 the 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 enforced at the site from time to time, which is available on request.

The *Consultant* shall also submit an organogram indicating the proposed management structure for this contract, including 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.

## 4.4 Documentation control and retention

### 4.4.1 Communication and information exchange with others

- 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.
- The title of each letter summarises the purpose of the letter. In accordance with PSC Core Clause 13.7, each notification deals with only one specific issue at a time. Where letters are submitted electronically, the letter's title is reflected in the subject line, and only one letter is submitted per e-mail.
- The *Employer* and the *Consultant* keeps a Document Control Ledger (DCL) of all transmittals between the two, whilst the *Consultant* keeps a DCL for each Sub-*Consultant*.
- 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 the sender and shall be delivered as attachments in the case of emails and not as a message in the email itself.

- 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* and the *Consultant's* contractual lead will be copied on all e-mail correspondence related to the services between the *Consultant's* and *Employer's* personnel.
- Contractual communications such as notification of Compensation Events or instructions to deliver services 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.

#### 4.4.2 Identification and communication

- 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 refers to:
  - The contract number that is issued by the *Employer*, i.e. 46000[XX];
  - The title of the contract;
  - The specific PSC clause under which the communication is issued; and
  - A unique letter reference number.
- 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[XX] E/C 0xxx; and
  - From the *Consultant* to the *Employer's Agent*: 46000[XX] C/E 0xxx with 46000[XX]. referring to the contract number and the next sequential letter (channel) number.

#### 4.4.3 The *Consultant* performs the following:

- Handle 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*,
- Conduct informal day-to-day oral communications with Others as necessary for providing the Services; and
- Maintain an up-to-date record of the receipt and delivery of any communication required for the services.

#### 4.4.4 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 period for which the *Consultant* retains 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.
- Forecasting in accordance to delivery and completion per stage of services.



## 4.5 Records and forecasting of expenses and Time Charge

- The *Consultant* prepares forecasts of the total Time Charge and expenses for the full services and submits them to the *Employer*. Forecasts are prepared at the intervals stated in the Contract Data from the starting date until Completion of the whole of the services. An explanation of the changes made since the previous forecast is submitted with each forecast.
- The *Consultant* shall submit forecasts of time charges for each assessment period and maintain records thereof.
- The *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 to the *Employer's Agent*.
- Clear records of hours worked or timesheets in respect of all time charges shall be kept by the *Consultant*. They 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 timesheets during Assessment. 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.
- The *Consultant* shall maintain a record of all documents and make same available to the *Employer* any or all such documentation on request.

## 4.6 Invoicing and payment

- The *Employer's* SAP Task Order System
- A SAP task order is the *Employer's* notice to the *Consultant* to carry out a Task.
- The *Consultant* does not perform any work without a SAP task order.
- The *Consultant* performing work without a SAP task order is done at the risk of non-payment by the *Employer*.
- The *Employer* may not issue a SAP task order after the completion date.
- To enable payment, the *Employer's Agent* and the *Consultant* sign next to each line of the services on the applicable SAP generated task order. The signed copy of this SAP-generated task order is E-mailed to the Contracts Administration Section at [NuclCommsStratAssess@eskom.co.za](mailto:NuclCommsStratAssess@eskom.co.za).

- The *Consultant* ensures adherence to the requirements 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 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). The *Employer* requires the *Consultant* to adherence to this requirement, which became applicable on 1 June 2004. No payment will be made on tax invoices not fully meeting these requirements.
- The *Consultant* delivers an original Tax Invoice to the *Employer's* Financial Accounting group. The payment period will start from the date and time the invoice and all relevant documents were received.
- The *Employer's* VAT Registration Number is 4740101508.
- 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 @ 15% 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 is split into payments according to the activity schedule.
  - A copy of the Assessment Certificate/Signed Task order.
- Abridged tax invoice (section 20(5)). For an amount (incl. VAT) less than R3 000, the same requirements as above apply, except that the Employer's name, address, and VAT registration number and the quantity or volume need not 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. For this purpose, the *Consultant* shall provide his banking details to the *Employer's Agent* within one week of the Contract Date.

#### 4.6.1 Details on how to submit invoices

- Ensure that the *Employer's* Purchase Order is indicated on the invoice together with the line number of the order.

- All electronic invoices – only in PDF format – must be sent to [invoiceseskomlocal@eskom.co.za](mailto:invoiceseskomlocal@eskom.co.za). The payment period will start from the date and time of receipt of the invoice and all relevant documents.
- Each PDF should contain one invoice, one debit note, or one credit note only, as Eskom's SAP system does not support more than one PDF linked to the workflow.
- If there is Cost Price Adjustment (CPA) on your invoice, we recommend that the 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.
- Payment/Assessment Certificate signed by both the Employer and the Consultant must be attached to the Goods Received (GR).
- The Consultant must send through the statements at the end of each month, and they must be dated end of the month.

## 4.7 Contract change management

### 4.6.1 Compensation events

- The Consultant provides quotations for compensation events detailing the following items as a minimum:
  - \* Introduction
  - \* Executive summary
  - \* Contractual basis of compensation event (refer to PSC Core Clause 60.1)
  - \* Details of the compensation event
  - \* Assessment of compensation event (PSC Core Clause 63)
  - \* Conclusion
  - \* The accepted programme, showing the impact of delay (PSC Core Clause 62.2) – If the Compensation Event alters the programme for remaining work.
  - \* 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 be considered applicable.

For compensation events to be implemented, the *Employer* requires the *Consultant* to sign a compensation event registration form. For any payments required because of the compensation event, the *Consultant* must submit the signed compensation event register form, at the latest, before 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.

## **4.8 Inclusions in the programme**

### **4.8.1 Plan constraints and requirements**

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

### **4.8.2 The Programme**

- Provide the Employer with a project management service for all stages of the services,
- The Consultant's offer shall be accompanied by a draft project management plan and programme. Refer to Planning and Programming Quick Reference Guide provided by the Employer.
- The project management plan shall address the following topics:
  - \* Resource plan, which contains names, roles, and CVs of all the Consultant's personnel that will perform work.
  - \* Programme indicating timing and sequence of activities required to complete the work. Sufficient review and comment resolution periods must be included for all relevant stakeholders. The Consultant will submit the first plan for acceptance within two weeks from the start date.
  - \* Risk and issue management plan that explains how all events or conditions that may affect the project objectives will be identified and managed.
  - \* Activity schedule that shall indicate the proposed payment dates and activities.
  - \* Detailed operating and maintenance manuals, including schematic layouts, etc.
- The Consultant shows on each Programme which he submits for acceptance the information as stated in PSC Clause 31.2 and 32.1.
- 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.
- 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.
- 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.

- The Consultant has to include loss of time due to rain and public holidays and include this in its programme.
- The final programme must be discussed with the Employer representative for acceptance. Failure to do so will negate any claim for additional time.
- The Employer requires the following estimated times to be included in the Consultant's programme:
  - \* Two weeks for review and two weeks for approval of the concept design, including quantity surveyor's submissions;
  - \* Four weeks for the enrolment and completion of the FFD authorisation of the Consultant's staff;
  - \* Two weeks for the review and two weeks for acceptance of the final design, including quantity surveyor's submissions;
  - \* Two weeks for the review and two weeks for the acceptance of the facility maintenance manual and maintenance basis;
  - \* Two weeks for review and two weeks for the acceptance of the method statements for construction;
  - \* Two days (48 hours) notice for all inspections to be performed by the Employer.
- It must be noted that the project management plan is a living document that should be updated when required; this could be done during the monthly progress reporting or as needed.
- The Consultant will communicate all its requirements to the appointed Employer's representative dedicated to the project.

#### **4.8.3 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.

#### **4.8.4 Actual dates**

- When completion of any activity is confirmed by quoting the document numbers, these numbers are given in the notes. They are appended to, 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.

#### **4.8.5 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.

#### 4.8.6 Planning constraints and review process

- The Consultant does not plan for any Employer activities during Weeks 1, 51, and 52 of the year. Should any reviews be planned during this period, the review periods need prior agreement with the Employer's agent.
- The Consultant shall allow two weeks for the Employer to review the Consultant's project management plan and programme and one week for comment resolution.
- The Consultant makes allowance for two review cycles for each submitted deliverable for the Employer's review, after that one cycle for finalisation and acceptance. See table below:

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

- The Employer's Agent shall have the durations stipulated above 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.
- The Consultant shall have durations stipulated above 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.
- If Consultant intervention is required to address NNR comments, the Employer's Agent will instruct the Consultant within five working days after receipt of the NNR comments to:
  - \* Either perform re-work and correct Defects; or
  - \* Provide support.

#### 4.8.7 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:
  - \* Executive summary. (Narrative identifying major movement within the reporting period.)
  - \* A four-week look ahead work window focussing on Employer activities due to start and due for Completion.
  - \* Revised programme for Employer's Agent acceptance indicating actual progress of work against last Accepted Programme.
  - \* 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:
    - Contract/Task Quality Plan
    - Activities which:
      - were completed during the 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.
  - \* Shows results obtained, range of application and validation.
  - \* Shows the relationship of results to previous findings/theories/technological developments.
  - \* Describes apparatus, operations, and data gathering activities.
  - \* Provides descriptions of significant problems that occurred.
  - \* Provides a summary of work performed, including recommendations and a description of possible impact.
  - \* Indicates deviations from plan, recorded and analysed.
  - \* Proposed monthly assessment information for the current reporting period.
  - \* Revised activity schedule, which indicates projected future cash flow.
  - \* Key issues/items of concern and corrective actions.
  - \* Progress curves.
  - \* Early warning log.
  - \* Compensation event log.
  - \* Critical activities.
  - \* Updated resource schedule and histogram (If changed).

## 4.9 Nuclear Safety

### 4.9.1 Nuclear safety culture

Achieving continuous improvement in nuclear safety requires a culture that encourages setting and maintaining high standards, identifying and resolving problems and deficiencies, openness to criticism and recommendations for improvement, and mutual respect and effective communication and independent oversight.

This culture can only be established if the *Consultant* is fully committed to its nuclear safety responsibilities. The *Employer* requires that the *Consultant* establishes and maintains such a culture.

The *Employers* requirements are stated in 238-219 (*Level-1 Supplier Safety Culture Enhancement Programme (SCEP) Requirements*).

### 4.9.2 Human performance

The *Employer's* requirements detailed in 238-219 (*Level-1 Supplier Safety Culture Enhancement Programme (SCEP) Requirements*) requires *Consultants* performing work at KNPS (KOU) to demonstrate that they abide by the principles and practices of a healthy nuclear safety and human performance culture. The *Consultant*, therefore, needs to demonstrate that a working human performance programme is in place for the duration of the contract and/or project performed at the KOU.

The human performance programme links into the *Consultant's* existing integrated management system and shares the following:

- It is part of continual business improvement,
- Leadership and commitment from top management determines its success,
- Sufficient supervision is exercised over activities,
- Relevant information is communicated to lower levels,
- The programme is stimulated by training and education,
- Fully documented,
- Implemented and auditable, and
- It assures customers and business partners.

The *Consultant* is therefore required to adopt a human performance programme that consists of the elements in the following sections to comply with the requirements of 238-219.

#### 4.9.2.1 Human performance training

A formal (documented and auditable) training programme must be in place ensuring all workers on the contract are aware of and familiar with the principles of human performance, inter alia:

- Error-precursors
- Latent weaknesses



All workers are to be familiar with the practice of relevant error-reduction tools, consisting of the seven (7) tools used at KOU, as a minimum:

- Self-Check (STAR)
- Peer Check
- Pre-Job Brief
- Procedure Use
- Place Keeping (circle and slash)
- Questioning Attitude
- Effective Communication (3-way communication and repeat-backs)

Note: The KOU HP3 authorisation should only serve as a refresher to the Vendor's workers.

#### **4.9.2.2 Reporting culture**

The *Consultant* must have a process or means by which the workers (all organisational levels) can report issues and incidences that negatively (or have the potential to) affect performance, without fear of retaliation or punitive action.

The *Consultant's* process must be such that the information is captured, analysed and the resulting corrective actions taken as a result of the reports are identified and tracked for implementation and improvement. All such reported issues are shared with the KOU to capture in the KOU Corrective Action Programme (CAP).

#### **4.9.2.3 Observation programme**

It is desired (not expected) that the *Consultant* can perform initial investigations into human performance events to determine the contributing factors (error precursors and organisational weaknesses). The *Consultant* must, however, support and co-operate with any such investigation by KOU.

The *Consultant* is required to have a process whereby the behaviour of workers at work are observed and coached against a set of formalised best-practice criteria; this reinforces the desired standards and behaviours expected on the job Affected Property and assures that the *Consultant's* workers and *Service Managers* are adhering to standards. The *Consultant's* workers must be coached where deviations from standards and expected behaviours are detected.

The *Consultant* captures this information in a means that allows review of previous observations performed to identify potential trends in worker behaviours that could lead to an event. Actions are to be developed and implemented to address such trends. The *Consultant's* process must have an auditable trail.

#### **4.9.2.4 Human performance indicators**

The *Consultant* is required to maintain indicators that reflect the human performance programme, consisting of:

- Number of reported issues/incidence/events reported by the *Consultant's* staff,
- Percentage of closed corrective actions,
- Number of days between human-performance related events,

- Number of recorded observations, and
- Percentage of critical observations (the percentage of total observations that recorded deviations and coaching).

To give effect to these requirements, the *Consultant* is expected to appoint a Human Performance Officer to each contract or project. This individual is to be appointed in a manager position that is separate and distinct from the *Consultant's* project manager, Affected Property service manager or quality control representative roles.

The Human Performance Officer must implement and manage the processes noted above and provide regular reports to the *Consultant's* site leadership and the *Service Manager*.

As part of ensuring compliance, the KOU will include the *Consultant's* human performance programme into its capability assessments and audits, for work at KOU, following a graded approach regarding the products and services provided by the *Consultant*.

## 4.10 Quality management

### 4.10.1 System requirements

- 1 The classification assigned to the service is Q1/L1; therefore, the applicable Quality Specification assigned is 238-101 Rev. 2 (*Quality and Safety Management Requirements for Nuclear Suppliers Level 1*), and the supplier Safety Culture Enhancement Programme (SCEP) shall comply with the requirements of 238-219 Rev. 1 (*Level-1 Supplier Safety Culture Enhancement Programme (SCEP) Requirements*).
- 2 The classification assigned to the engineering support for installing the safety class items is Q1/L2; therefore, the applicable Quality Specification is 238-102 Rev. 2.
- 3 The classification assigned to the engineering support for installing the non-safety function items is Q2/L3; therefore, the applicable Quality Specification is 238-103 Rev. 2.
- 4 The higher classification, Q1/L1, will be applicable for this contract.
- 5 The *Employer's* standards for quality are ISO 9001, IAEA - GS-R-3 QA Code of Practice and ASME NQA-1 for Critically safety-related (CSR) and Safety related (SR) work;
- 6 The *Consultant* shall have an internationally recognised integrated nuclear quality management program and demonstrate compliance with the relevant SANS ISO 9001, series quality standard and the *Employer's* 238-101 Rev2 and 238-219 Rev. 1 requirements;
- 7 Surveillance and Audits (including compliance audits) of manufacturing at the *Consultant's* premises or the *sub-consultant's* or Supplier's premises will be done in accordance with the accepted *Consultant's* Integrated Management System;
- 8 The *Consultant's* executive management shall authorise all documents submitted, as a demonstration of compliance with the quality requirements of this technical specification;
- 9 The *Consultant* implements a Contract Quality Management Plan (CQMP) that meets the requirements of 238-101 Rev. 2, 238-219 Rev. 1 and TRS 240-110005778 Rev. 2.

- 10 The *Consultant* shall submit a copy of his CQMP in English four (4) weeks after award of contract for the *Employer's* review and acceptance;
- 11 A detailed Quality Control Plan (QCP) shall be provided for the *Employer's* review and acceptance.
- 12 The *Consultant* ensures that any Sub-*Consultant's* employed has and implements an Integrated Management System to meet the Quality Assurance requirements of the *Employer*, applicable to the work and goods supplied by the *Consultant*;
- 13 The *Consultant* controls and supervises his sub-*Consultant* quality plans (Including manufacturing quality control plans). The *Consultant* reviews and accepts applicable plans, before submission to the *Employer's Agent*, for acceptance;
- 14 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*;
- 15 The duly authorised representative of the *Employer* and *Employer's* Appointed Inspection Authority (AIA) or the regulatory body is offered access to the *Consultant* and its sub-*Consultant* premises at reasonable times to monitor compliance with Quality Assurance (QA) requirements and to participate in final inspections;
- 16 The *Consultant* ensures that his staff and sub-*Consultant* are conversant with the content of the *services* as defined by the Service Information, quality plans/work plans and work instructions;
- 17 The *Consultant* submits the names of its sub-*Consultant* to the *Employer's Agent* for acceptance before the commencement of work by the sub-*Consultant*. Acceptance of sub-*Consultant* by the *Service Manager* will not be unreasonably withheld. The *Consultant* provides evidence of the sub-*Consultant* selection process and criteria for each sub-*Consultant*, he would like to appoint for the project. The information provided to the *Employer's Agent* includes evidence of skills assessment (including qualifications) for sub-*Consultant* staff.

#### 4.10.2 Information in the quality plan

The *Consultant* complies with the following:

Phase	Classification No	Quality Level	RD-0034 Level
Design: Design Service Classification for Interfacing Safety Class SSCs with injection piping	0053/14C	Q1	238-101 Level 1
Engineering support: Co-ordinate injection piping Classification - Safety Class	0051/14C	Q1	238-102 Level 2
Engineering support: Co-ordinate supply piping Classification - Non-Safety Function	0050/14C	Q2	238-103 Level 3

#### 4.11 The Parties use of material provided by the *Consultant*

##### 4.11.1 *Employer's* purpose for the material

- 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 part of the services for the *Employer's* benefit, for purposes of copyright law. Accordingly, the *Employer* has the exclusive right, title and interest therein.
- 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 the *Employer's* use.
- Deliverables created by the *Consultant* does not include any material existing before the commencement of *Consultant's* performance of the services under this *Contract*.
- 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 the *Consultant*.
- The *Consultant* may not use any documents (and the copyright therein and all intellectual property rights relating to that), which are owned by the *Employer* and/or Others and provided to the *Consultant* for any other purpose than to provide the Services.
- *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* on time for the defence of said suit or proceeding.
- The *Consultant* shall not be responsible for any settlement of such suit or proceeding made without 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 substantially equivalent non-infringing services or deliveries, as the case may be; or (c) modify the services or deliveries, so it becomes non-infringing.

#### **4.11.2 Sub-Consultant Intellectual Property**

The *Consultant* is required to ensure that any sub-consultancy contract includes a provision that the Intellectual Property (IP) is transferred to the *Employer*.

#### **4.11.3 Restrictions on the *Consultant's* use of the material for other work**

- Confidentiality and Publicity

- The exchange between the Parties or the disclosure to third parties of information is subject to the Nuclear Energy Act 92 of 1982, the National Key Points Act 102 of 1980 and the Protection of Information Act 84 of 1982.
- The *Consultant* agrees that neither the *Consultant* nor its employees, Agents or Sub-Consultants make any public statements or release to any third party any information concerning the services without first obtaining the Employer's written approval, which is not unreasonably withheld. Requests to release information is coordinated through the designated *Employer's* Procurement Manager or the *Employer's* Power Station Manager or as otherwise specified in the Scope.
- The *Consultant* ensures that his employees, Agents and Sub-Consultants adhere to these restrictions.

#### **4.11.4 Transfer of rights if Option X9 applies**

The *Employer* owns the *Consultant's* rights over material prepared for this contract by the *Consultant* and the *Consultant's* Sub-consultants.

For the purpose of this contract, Intellectual Property (IP), whether acquired through licenses from third parties, capabilities developed, or products created, will be utilised during the project. The *Consultant* and its Sub-Consultants must sign a non-disclosure agreement on his contract's IP as a prerequisite for participation in the project.

- All work ('deliverables') created by the *Consultant* for the *Employer* is deemed to be "works for hire" for the Employer's benefit, for purposes of copyright law. Accordingly, the *Employer* has the exclusive right, title, and interest therein. To the extent that any deliverable created by the *Consultant* may not be considered "works for hire" for any reason, the *Consultant* hereby assigns its entire right, title, and interest therein to the *Employer* and agrees to do everything reasonably necessary to protect the *Employer's* interest.
- 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, including issuing it to Others.
- 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 the *Consultant*.
- The *Consultant* may not use any documents (and the copyright therein and all intellectual property rights relating to that), which are owned by the *Employer* and/or Others and provided to the *Consultant*, for any other purpose than to provide the Services.
- The *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* on time for the defence of said suit or proceeding.

- 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 substantially equivalent non-infringing *services* or deliveries, as the case may be; or (c) modify the *services* or deliveries, so it becomes non-infringing.
- The *Consultant* shall have no duty or obligation to the *Employer* under this section, to the extent that the *services* or deliveries, or part thereof, are (a) supplied according to the *Employer's* or the *Employer's Consultant's* design or instructions, wherein compliance herewith has caused *Consultant* to deviate from its normal course of performance; (b) modified by the *Employer* or its *Consultant* after delivery, or (c) combined by the *Employer* or its *Consultant* with items not furnished hereunder, and because of such modification or combination a suit or proceeding is brought against the *Employer*. If a suit or proceeding is brought against the *Consultant* arising out of such design, modification or combination, the *Employer* indemnifies and hold harmless the *Consultant* of claims from third parties, without any right of recourse against the *Consultant*. In such cases, the *Employer* protects the *Consultant* to the same extent that the *Consultant* has agreed to protect the *Employer* by the provisions of this section.

## 4.12 Health and safety

The *Consultant* shall comply with the health and safety requirements contained in section 7 references to this Scope.

The *Consultant* shall always comply with the health and safety requirements prescribed by law as they may apply to the *services*.

4.12.1 The *Consultant* complies with the health and safety requirements prescribed by law to apply to the *services*.

4.12.2 All work carried out by the *Consultant* is done strictly according to all relevant safety laws and procedures.

4.12.3 The *Consultant* complies with the Duties of the Designer in accordance with the requirements of the Construction Regulations 2014.

- 4.12.4 The *Consultant* complies with the *Employer's* SHE specification (Eskom Construction Safety, Health and Environment Procedure – reference 32-136(0) and must request it from the *Employer's* Agent on-site establishment.
- 4.12.5 The *Consultant* supplies SABS standard or equivalent Personal Protective Equipment (PPE) for his employees. A face mask, hard hat, safety boots, earplugs and safety glasses are mandatory safety Equipment at the site.
- 4.12.6 The *Consultant* complies with the *Employer's* lifesaving rules as stipulated in Directive, Reference 32-421. The *Employer* takes a ZERO TOLERANCE stance to violation of these rules:
- Rule 1: Open, isolate, test, earth, bond, and/or insulate before touch.
  - Rule 2: Hook up at heights.
  - Rule 3: Buckle up.
  - Rule 4: Be sober.
  - Rule 5: Permit to work.
- 4.12.7 All vehicles transporting staff to and from the NOU site shall have seat belts fitted for all passengers being transported, including the driver.
- 4.12.8 The *Consultant* will be subjected to 100% alcohol breathalyser testing when entering the site. The limit is 0%, and *Consultant* employees found transgressing will not be allowed on site and action, including sanction from the site, will be taken.
- 4.12.9 The *Consultant* will be subjected to COVID-19 screening when entering the site. The *Consultant* will be asked symptoms screening questions, temperature scanned, and be required to always wear a mask. If the *Consultant* employees are found with either symptoms or temperature higher than 38 degrees Celsius, they will not be allowed on site and instructed to seek medical services.

## 4.13 Procurement

### Local participation opportunities

#### 4.13.1 Skills Development, Localisation, and Industrialisation Undertaking

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

#### 4.13.2 Job Opportunities

- The tenderer to indicate the number of jobs to be created and/or retained from this contract.

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

#### 4.13.3 Skills Development

The Supplier is encouraged to develop the skills over the term of the Contract. Ultimate care must be taken in ensuring that candidates are representative of the demographics of South Africa.

**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.

**All commitments shall become contractual obligations.**

#### 4.13.4 Other constraints

- None.

#### 4.13.5 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 before appointing any Sub-consultants.

#### 4.13.6 Subcontract documents and assessment of subcontract tenders

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

#### 4.13.7 Limitations on subcontracting

- Sub-consultants reporting relationships are such that quality outputs and independence are 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.

#### 4.13.8 Attendance on Sub-consultants



- Environmental authorisation was obtained by other consultants; the Consultant may be required to communicate and refer any matter related to environmental authorisation conditions to those consultants.

## **4.14 Working on the *Employer's* property**

### **4.14.1 Fitness for Duty Management**

- Where required to work on Koeberg Nuclear Power Station, the Consultant adheres to the Employer's procedure Fitness for duty (FFD) requirements for vendors and suppliers who must perform work inside the owner-controlled areas of KNPS (335-68). This document does not apply to visitors. Accesses for visitors are dealt with in KAA-777.
- The objective of the Employer's FFD programme is to provide reasonable assurance that the Consultant's plant workers will perform their tasks in a reliable and trustworthy manner and are not under the influence of any substance or suffer from any health impairment which in any way adversely affects their ability to safely and competently perform their duties. The FFD programme also gives reasonable assurance that the workforce has been trained and their technical competence has been assessed.

**4.14.2 The *Employer's* FFD process is designed only to allow the *Consultant's* employees to perform work if they:**

- Have valid identification document or passport;

Activity Description	<i>Employer</i>	<i>Consultant</i>	Requirements	Planning	Additional Notes
ID Document		X	Proof of identification is required before the <i>Consultant's</i> employee is allowed to register on the FFD system.	<i>Consultant's</i> planning	<ul style="list-style-type: none"> <li>• The following identification documents are the only documents that shall be accepted as proof of identification.</li> <li>- South African Identification Book issued by the Department of Home Affairs. (Green ID) or</li> <li>- Valid Official Passport or</li> <li>- Valid Temporary Identification Document issued by the Department of Home Affairs.</li> </ul>
Proof of Residential Address		X	Proof of residential address is required before the <i>Consultant's</i> employee is allowed to register on the FFD system.	<i>Consultant's</i> own planning	<ul style="list-style-type: none"> <li>• The proof may not be older than three months when the <i>Consultant's</i> employee is enrolled on the FFD system.</li> </ul>
CV and Qualifications		X	Authenticated qualifications to be presented before registration takes place	<i>Consultant's</i> own planning	<ul style="list-style-type: none"> <li>• CVs of <i>Consultant</i> employees are included in the documents where this is required by the procedure.</li> <li>• The <i>Consultant's</i> employees must be in possession of his/her CV when he/she arrives on site to start the FFD process.</li> <li>• The <i>Consultant</i> is required to verify the authenticity of the qualifications required for the work to be performed on Site. Eskom retains the right to verify any tertiary qualification that an applicant is required to have to work in a specific discipline.</li> <li>• The <i>Consultant</i> ensures that his employee has the original (or certified copy) of the qualifications when he/she is registered on the FFD system.</li> <li>• Persons not in possession of the qualifications required by the <i>Employer</i> are not considered for employment by the <i>Consultant</i> (in that particular discipline).</li> </ul>
Criminal History		X	Assessment of criminal history	<i>Consultant's</i> own planning	<ul style="list-style-type: none"> <li>• Terminate Process Hold Point</li> <li>• The criminal history of an applicant shall be assessed before access to the Site is considered.</li> </ul>

Activity Description	Employer	Consultant	Requirements	Planning	Additional Notes
					<ul style="list-style-type: none"> <li>SA citizens obtain their criminal history reports from the South African Police (SAPS). The report may not be older than three months when the <i>Consultant's</i> employee is enrolled on the FFD system. This service is also available from the <i>Employer's</i> Security section. South African applicants are required to give their consent to the <i>Employer</i> to obtain the relevant information from the SAPS.</li> <li>Non-South African citizens are required to provide proof of their criminal history. The criminal history report from their country's law enforcement agency or INPO (USA citizens only) is dated within three months of their required access date.</li> <li>Persons with a criminal background deemed to be a security risk to the Site are not to be considered for employment by the <i>Consultant</i>.</li> <li>The <i>Consultant's</i> employee will be in possession of the proof of criminal history when he/she arrives on site to start the FFD process</li> </ul>
Complete Man Job Spec Form	X	X	<i>Consultant</i> to complete with <i>Employer</i>	<i>Consultant's</i> own planning	<ul style="list-style-type: none"> <li>The <i>Consultant</i> ensures that an occupational health services job specification form is completed in conjunction with the <i>Employer</i>; all signatures are obtained for his employees before the health assessment is arranged.</li> <li>These forms are obtainable from the <i>Employer</i> at Koeberg. The form identifies the work scope, the occupational hazards that the <i>Consultant's</i> employee will be exposed to and the physical attributes required for the execution of the tasks.</li> <li>The <i>Consultant's</i> employee will be in possession of the completed and signed occupational health services job specification form when he/she arrives on site to start the FFD process.</li> </ul>
Drug Test		X	Negative drug test to be presented before registration takes place	<i>Consultant's</i> own planning	<ul style="list-style-type: none"> <li>Terminate Process Hold Point</li> <li><i>Consultant</i> ensures that their employees have been tested for drugs before they arrive on site to start the FFD process. Persons with a positive drug test result are not considered for employment by the <i>Consultant</i>.</li> <li>Persons with positive drug tests will not be allowed to register for the FFD process.</li> <li>The <i>Consultant's</i> employees must be in possession of the drug test results when he/she arrives on site to start the FFD process.</li> </ul>

Activity Description	Employer	Consultant	Requirements	Planning	Additional Notes
Health Assessment		X	Medical examination to be presented before registration takes place	<i>Consultant's</i> own planning	<ul style="list-style-type: none"> <li>• Terminate Process Hold Point</li> <li>• The <i>Consultant</i> ensures that all his employees complete a health assessment before they arrive on site to start the FFD process. The occupational health <i>practitioner requires the occupational health services job specification form</i> for the health assessment.</li> <li>• Applicants who are not declared fit to do the work specified in the occupational health services job specification form cannot register on the FFD system.</li> <li>• The Employer only performs a health assessment recommended by external Occupational Health Practitioners at the <i>Consultant's</i> cost.</li> <li>• The health assessment report is not older than three months when the <i>Consultant's</i> employee is enrolled on the FFD system.</li> <li>• Persons that are not declared fit to perform the work specified in the occupational health <i>services</i> job specification form are not be considered for employment by the <i>Consultant</i>.</li> <li>• The <i>Consultant's</i> employee must be in possession of the medical assessment results and other relevant documentation when he/she arrives on site to start the FFD process.</li> </ul>
Work Permit		X	Work permits to be obtained before registration takes place	<i>Consultant's</i> own planning	<ul style="list-style-type: none"> <li>• Terminate Process Hold Point</li> <li>• Non-South African Citizens are required to have the relevant Work Permit as required by the Immigration Act before access is considered.</li> <li>• Persons not in possession of a valid work permit is not be considered for employment by the <i>Consultant</i>.</li> <li>• The <i>Consultant's</i> employee must be in possession of the original work permit when he/she arrives on site to start the FFD process.</li> </ul>
Registration on FFD System	X	X		<i>Consultant's</i> own planning	<ul style="list-style-type: none"> <li>• <i>Consultant's</i> employees are registered on the <i>Employer's</i> FFD system by a person appointed by the <i>Employer</i>, a <i>Consultant</i> employee if appointed by the <i>Employer</i>. The <i>Employer</i> is responsible for arranging this activity. Registration is only performed if the <i>Consultant's</i> employee has all the documentation required for registration</li> <li>• If the <i>Consultant's</i> employee has all the required documents, the individual will be registered and issued with a bar coded form.</li> </ul>
Training Requirements Form	X	X	<i>Employer and Consultant</i> to supply	<i>Consultant's</i> own planning	<ul style="list-style-type: none"> <li>• The scope of each <i>Consultant</i> employee's work requirements is to be assessed to identify the training and/or technical assessments required before work may commence.</li> </ul>

Activity Description	Employer	Consultant	Requirements	Planning	Additional Notes
					<ul style="list-style-type: none"> <li>All <i>Employer</i> training sessions include an assessment at the end of each session. Persons that do not pass any training assessments and/or technical assessments as identified for the scope of work are not allowed to continue with the FFD process and shall be required to leave the Site.</li> <li>The <i>Employer</i> identifies any specific training needs of each individual or group of individuals (based on the planned work scope) and ensures compliance to the training requirements identified for the specific duties before access to the Site is considered.</li> <li>The <i>Consultant's</i> employee must be in possession of the training requirements form when he/she arrives on site to start the FFD process.</li> </ul>
FFD Bookings	X	X		<i>Consultant's</i> own planning	<ul style="list-style-type: none"> <li><i>Consultant's</i> employees are booked on the <i>Employer's</i> FFD system by a person appointed by the <i>Employer</i>; this could be a <i>Consultant</i> employee if appointed by the <i>Employer</i>.</li> </ul>
Non-Disclosure Agreement		X	All <i>Consultant</i> employees are required to sign a non-disclosure agreement	<i>Consultant's</i> own planning	<ul style="list-style-type: none"> <li>The <i>Consultant</i> ensures that a non-disclosure agreement is signed form is signed by each employee before the person is registered to start the FFD process.</li> <li>These forms are obtainable from the <i>Employer</i> at Koeberg.</li> </ul>
Security Permit Application	X	X	<i>Employer</i> and <i>Consultant</i> to supply	<i>Consultant's</i> own planning	<ul style="list-style-type: none"> <li>The <i>Consultant</i> ensures that a security permit application form is completed for each employee before the person is registered to start the FFD process. These forms are obtainable from the <i>Employer</i> at Koeberg.</li> <li>The <i>Consultant</i> must complete the form in conjunction with the <i>Employer</i>. The form identifies the security areas that the <i>Consultant's</i> employee is required to enter to execute the tasks.</li> <li>The <i>Consultant's</i> employees must be in possession of the security permit application when he/she arrives on site to start the FFD process.</li> </ul>

Activity Description	Employer	Consultant	Requirements	Planning	Additional Notes
Arranging training and related competency tests/assessments		X	Booking by <i>Consultant</i> - to fit in with normal routine course or <i>Consultant</i> to arrange a separate course for a large number of people. <i>Employer</i> requirements relating to the training of personnel are detailed in KSA-119	2 days duration	
Site access authorisation	X		Upon completion of all required access training.	5 days duration	<ul style="list-style-type: none"> <li>The <i>Consultant</i> to ensure attendance of all the required training sessions.</li> </ul>
Acceptance of vehicle access to Site	X		Permission for access of a vehicle on the Site must be obtained from the <i>Employer's Agent</i> . Vehicles are not allowed on Site unless specific approval is obtained from the <i>Employer</i> and will only be considered for exceptional cases.	Minimum three days before access to the site is required	

- Have been declared free of drugs and alcohol;
- Have been declared healthy, physically able and free of any medical condition that could impair their ability to perform the work they have been appointed for;
- Have valid work permits;
- Have completed the security background verification process;
- Have the qualifications required for the task;
- Have the minimum plant access training required to work on site;
- Have been declared competent and authorised to perform the work they have been appointed for;
- Have received specific training required for the work they will be required to perform; and
- Have signed a non-disclosure agreement to protect the Employer's information.

#### **4.14.3 FFD requirements for registration**

- The Consultant's employees must provide the following information:
  - \* Identification document,
  - \* Work permit (non-SA citizens),
  - \* Qualifications,
  - \* Curriculum Vitae (CV),
  - \* Criminal record history, and
  - \* Proof of residential address.
- The Consultant's employees are required to sign the following forms:
  - \* Pre-placement medical examination,
  - \* Baseline questionnaire for audiometry,
  - \* Medical declaration,
  - \* Security permit application,
  - \* Consent to disclose criminal information (if the Employer is performing the criminal check),
  - \* SAPS enquiry, and
  - \* Non-disclosure agreement (protection of information).

#### **4.14.4 Consultant's medical examinations**

- The following actions are required:
  - \* All Consultants medicals must be done with an external service provider, i.e. Occupational Health Practitioner (OHP).
  - \* A Pre-placement/Transfer Medical Examination form needs to be completed by OHP (see attached PDF form).
  - \* The Consultant is liable for payment of medical examinations and COVID-19 screening of staff.

- The following documents **MUST** be presented on the appointment date:
  - \* Physical medical examination report,
  - \* Occupational and medical history,
  - \* Vision test,
  - \* Audiogram,
  - \* Full blood count (only for radiation workers),
  - \* Signed Person job specification form,
  - \* Signed GA 14,
  - \* Barcode FFD form.
- Appointed Site representatives must book their respective employees via the FFD system.
- COVID-19 controls that must be followed:
  - \* Mask shall be worn at all times.
  - \* Temperature screening must be done outside the FFD centre in the allocated location (ski-cabin) before proceeding to the Medical Centre reception desk.
  - \* Hand sanitisers are in place, and social distancing is practised.
- Medical examinations are done by Employer-approved external medical practitioners listed below.

Occupational Health Practice	Contact Person	Telephone	E-Mail Address
Life Occupational Health	Magda van Zyl	0215917050	Magda.VanZyl@lifehealthcare.co.za
Incon	Benita du Preez	021 975 2694 ext. 2001	benita@incon.co.za
OCSA	Sibusiso Ngubane	0219810141	sibusison@ocsa.co.za
EOH	Pam Kinnock	0212527750	Pam.Pinnock@eoh.co.za
Fair Care Health	Colleen Paul	021 552 1377	hmalaka@msn.com

- The Consultant is responsible for the cost, arrangement, and completion of the medical examination by his personnel before they enter the site.

#### 4.14.5 Fraudulent documents

- The Consultant's employees that have presented fraudulent documentation are permanently denied access to the Employer's Koeberg site.

#### 4.14.6 False declarations

- The Consultant's employees that have made false declarations are permanently denied access to the Employer's Koeberg site.

#### 4.14.7 Consultant Security clearance

- The following actions are required to screen staff online:



- \* The Consultant's FFD Site Representative must upload the following documents onto the FFD System, namely:
  - A valid copy of identification document;
  - Valid police clearance report from country of origin per individual (not older than two months);
  - Residential address to be uploaded (the address where such a person residing while in the RSA, such as hotel, guest house address);
  - As soon as the uploaded information is received, Security will then create a profile for the individual.

**4.14.8 FFD requirements subsequent to registration**

Activity Description	Employer	Consultant	Requirements	Planning	• Additional Notes
Enrolment on FFD System	X	X	<i>Consultant's</i> employees shall be enrolled on the <i>Employer's</i> FFD system by the Security Group when they arrive on site.	20 min	<ul style="list-style-type: none"> <li>A <i>Consultant's</i> employee will not be allowed to attend other FFD activities if they are not enrolled on the FFD system and issued a bar-coded form.</li> </ul>
Drug Test	X	X	All the <i>Consultant's</i> employees are required to perform a drug test administered by the <i>Employer</i> . This test will be done notwithstanding the test done by the <i>Consultant</i> .	1 hour	<ul style="list-style-type: none"> <li>The <i>Consultant's</i> employees who fail the drug test are not allowed to continue further on the FFD process and will be required to leave the Site and be denied access for at least 12 months.</li> </ul>
Criminal History Verification	X	X	All <i>Consultant</i> employees who apply for a security permit to access the Site must consent to the <i>Employer</i> to verify their criminal background. For South African citizens, this activity is performed on site by the <i>Employer's</i> Security staff by taking the employee's fingerprints and forwarding same to the SAPS for verification.	1 hour	<ul style="list-style-type: none"> <li>South African citizens who have obtained their criminal records direct from the South African Police are only required to provide the <i>Employer's</i> Security staff with a set of fingerprints for record purposes.</li> <li><i>Consultant</i> employees with a criminal background that is deemed to be a security risk to Koeberg are denied access to the Site</li> </ul>
Health Verification	X	X	<i>Consultant</i> employees are required to report to the <i>Employer's</i> Health Services section, where the medical examination performed off-site will be verified to ensure that all requirements have been met.	45 min	<ul style="list-style-type: none"> <li>The duration of this activity is approximately 30 minutes</li> </ul>
Induction Training including: SAT Human Performance	X	X	Site Access Training (SAT) <i>Consultant</i> employees required to work outside the protected area of KNPS are required to complete the SAT course before work may commence.	8 hours	<ul style="list-style-type: none"> <li>Site Access Training (SAT) The SAT course is designed for persons working only in the OCA. Their security permits will not allow them access to the protected area of KNPS.</li> <li><i>Consultant</i> employees that do not complete the SAT course shall not be allowed access to the Site.</li> </ul>

Activity Description	Employer	Consultant	Requirements	Planning	• Additional Notes
Induction Training including: PIT	X	X	Plant Induction Training (PIT) <i>Consultant</i> employees who are required to work inside the protected area of KNPS must complete the Plant Induction Training (PIT) course before work may commence.	8 hours	<ul style="list-style-type: none"> <li>Plant Induction Training (PIT)</li> <li><i>Consultant</i> employees that do not complete the PIT course are not allowed access to the Site.</li> </ul>
Radiation workers Training	X	X	<i>Consultant</i> employees are required to complete the required radiation worker training before access to radiation zones is considered.	Three days	<ul style="list-style-type: none"> <li>Only if required</li> <li>Failure to complete the radiation training shall result in access to radiation zones being restricted</li> </ul>
Final acceptance and Issuing permit	X	X	All FFD requirements are completed successfully before final acceptance is processed, and the Security Group issues a security permit.	2 hours	

#### 4.14.9 Exit procedure

- The *Consultant* ensures those permit holders that no longer require access to the Site follow the FFD exit procedure. Failure to do so may result in the *Consultant's* employee being denied access in future.
- The duration of the exit activity is approximately 90 minutes and includes an exit medical examination.

#### 4.14.10 Facilities

- When working on Koeberg Nuclear Power Station for an extended period is required, for Providing the Services, it is the *Consultant's* responsibility to provide office accommodation, furniture and storage facilities on site during the service period.

Activity/ Description	Employer	Consultant	Requirements	Planning	Additional notes
Office requirements for the duration of the contract, including the office services required.		X	<ul style="list-style-type: none"> <li>Request to be for services in accordance with the requirements of this contract.</li> </ul>	Six weeks' notice	
Review of request and indication of offices available and container lay-down areas available.	X			Two-week duration	The <i>Consultant</i> will be allocated an area on a concrete slab within the security area to establish his Affected Property office facility.
Supply of connection points for phone, fax, network, and electrical supply.		X	<ul style="list-style-type: none"> <li>Coordination and scheduling by the <i>Consultant</i>.</li> </ul>	As required	
Co-ordinates logistics of containers / Office space		X	<ul style="list-style-type: none"> <li><i>Employer</i> to coordinate.</li> </ul>	Two (2) months' notice	This is for a temporary container laydown area which the <i>Employer</i> will provide to the <i>Consultant's</i> specifications.

### 4.15 Employer's entry and security control, permits, and site regulations

#### 4.15.1 Security check points

- Before access to the Site, the *Consultant* passes through various security checkpoints, viz. entrance at the R27 access gate, entrance at the Duynfontein entrance and ACP-1 or designated control point. All temporary worker/visitors' permits are issued at ACP-1 or a designated control point.

#### **4.15.2 Vehicles and tools/Equipment**

- All Equipment and tools are subject to a security screening before they are allowed on the Site. All Equipment and tools are listed and specified before they are brought on Site. This list serves as evidence for removal permits upon Completion of the services. Vehicles are only allowed on Site if justification is provided to the Employer's Agent that such a vehicle is essential to Provide the Services.

#### **4.15.3 Prohibited/unauthorised items on site**

- In terms of the National Key Point Act 102 of 1980, the Site was declared a National Key Point (NKP). The National Key Point Act requires and empowers the owner of the National Key Point (Power Station Manager) to implement measures that will ensure the security of the National Key Point. The National Key Point area at the power station is within the protected area barrier (ACP 2 inwards).
- One such security measure is procedure KAA-777 Revision 4 (Process for access to Koeberg Nuclear Power Station). The procedure stipulates that the following items are prohibited from being brought onto site unless specifically authorised:
  - \* explosives or components thereof,
  - \* habit forming drugs,
  - \* alcohol,
  - \* mercury,
  - \* acids,
  - \* cellular phones,
  - \* firearms, ammunition, or any part thereof, and
  - \* cameras.
- Consultant personnel violating the procedure will be investigated, resulting in action against such individuals and possible removal from the site.
- To keep the Consultant informed, pictograms of the items are placed at all ACP 2 access points, and it is also addressed in the Plant Access Training Course (PAT). It is the responsibility of each of the Consultant's employees to ensure compliance and to refrain from bringing prohibited/unauthorised items onto site.

#### **4.15.4 Work in the radiologically controlled zone (as applicable)**

- Where applicable, work in the radiologically controlled zone requires the Consultant's personnel to attend a three-day Radiation Worker Training course. The course consists of a two- and a half-day theoretical lecture with a theoretical and a practical examination, medical examination, blood sample and a whole-body count. The Consultant's personnel can only enter the radiologically controlled areas after successfully passing the above tests.
- All work in the controlled zone is governed by a Radiation Protection Certificate (RPC). All Consultant personnel comply with these instructions.

#### **4.15.5 Permit to Work (PTW)**

- The Employer's PTW system governs all plant interventions or activities performed on the site, and no work is allowed without this authorisation.

#### **4.15.6 People restrictions, hours of work, conduct and records**

- The Consultants must keep records of his people working on the Employer's property, including his Sub-Consultants. The Employer's Agent shall have access to these records at any time. These records may be needed when assessing compensation events. The restrictions on hours worked shall be specified on the Task Order.

#### **4.15.7 Site Hours**

- Employer Non-outage working hours are:
  - \* Mon-Thu: 07:30 – 16:35
  - \* Fri: 07:30 – 13:35 (last Friday of the month 07:30 – 12:05)
- Employer Outage working hours are:
  - \* Mon-Sun: 24-hour cover
- The Consultant takes due cognizance of the Employer's working hours whilst providing the Service.

#### **4.15.8 Road traffic regulations**

- All motor vehicles operated by Consultants/Sub-Consultants shall, in all respects, comply with the Road Traffic Ordinance, Ord. 21 of 1966 and pertaining regulations. All vehicles must be inspected daily and shall not be used unless they meet the required roadworthy condition.
- Drivers shall strictly obey all road traffic signs on Eskom/Koeberg's property and give clear and recognised signals of their intentions whilst operating a vehicle.
- Drivers and passengers shall wear seatbelts at all times while driving on Koeberg's property and, if found guilty of such offence, will be subject to Koeberg's Man Dir 91 concerning the enforcing of SHE rules.
- Persons may not be conveyed when sitting with their legs hanging over the sides of the vehicle.
- Vehicles shall not be overloaded. Drivers shall be held responsible for the observance of this regulation.
- Drivers shall be responsible for the travel-worthiness of all loads conveyed by them. Precautions shall be taken to lash all loads properly.
- Persons and material shall not be transported simultaneously as such material may move in transit and injure passengers.
- Vehicle surveys will be carried out periodically by the officers of the SHE Group to establish the roadworthiness of vehicles. They shall require all un-roadworthy vehicles to be taken off the road until rectified.

- All vehicle movements within the plant and works shall be carried out with due regard to the safety of pedestrians. A general speed restriction of 35km/h as indicated is in operation within the works area.
- Speed limits displayed on Koeberg's property must be complied with as they are legally enforceable. The speed limit on site is 35 km/h.
- Vehicles used to transport employees have seats firmly secured and adequate for the number of employees to be carried.

#### **4.15.9 Emergency mustering, accountability, and evacuation**

- Due to the nature of the site, the Employer is required to have full accountability of all personnel at all times.
- The Consultant maintains a current status accountability list of all his personnel on site.
- The accountability list is handed to the Employer each time a change occurs.
- The Consultant ensures that his personnel take full responsibility for this requirement and that his personnel are fully au fait with the mustering requirements as detailed in procedure KAA 611.

#### **4.15.10 Consumables and Equipment**

- The Consultant supplies the consumables required to provide the Service.
- The Consultant shall provide and use his tools, special Equipment, IT hardware and software, PPE including COVID-19 face masks, stationery, and acquire all necessary licences, permits, and authorisations required to perform the services.
- The Consultant will provide his internet access.

#### **4.15.11 Telephones**

- No cellular or mobile phones are allowed within the Access Control Point 2 (ACP2 boundary).
- The Consultant is responsible for paying the full telephone account when the Consultant utilises the Employer's telephone system.

#### **4.15.12 Cooperating with and obtaining acceptance of others**

- The Employer's Agent coordinates 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
- 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.
- The Consultant shares the Site with Others and maintains a harmonious relationship, and cooperates with the Employer and Others and their employees who may be working in the same area or on the same system.

- The Consultant makes available the assignees and key people timeously for Providing the Services.
- The Consultant endeavours 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 the Scope or in other requirements for the services stated from time to time.
- 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.
- The Consultant notifies the Employer of any matter that the Consultant disagrees with or cannot resolve to his satisfaction.

#### **4.16 Facilities/Equipment provided by the *Employer***

##### **4.16.1 Equipment**

- None

##### **4.16.2 Canteen and snack bar**

- The canteen and snack bar are only used on a cash basis.
- Halaal facilities are available.

##### **4.16.3 Ablution facilities**

- Designated ablution facilities are provided on the site of ACP 2.
- Consultant's employees are to ensure that good hygiene practices are observed.
- The Consultant supplies restroom facilities and vending machines at his own expense if required.

##### **4.16.4 Medical and Hygiene Services**

- Health Services will conduct occupational health surveillance for Consultants, namely:
  - \* Physical examinations;
  - \* Random drug testing;
  - \* Biological monitoring;
  - \* Heat stress certification;
  - \* Personal exposure monitoring.
- Limited primary health care services are available from 13:00 to 14:00 daily in the event of staff falling sick at work. Written permission from the supervisor will be required.
- Health services will respond to medical emergencies during normal working hours. The Fire and Rescue team will provide this function after hours.



## 5 List of drawings and documents

### 5.1 Drawings issued by the *Employer*

The Employer issues the drawings listed below, which apply to this contract at or before the Contract Date.

Drawing number	Revision	Title
KBA 0001G00008	0	General Arrangement - Reactor Building Elevation Section _ A
KBA0001G00002	0	General Arrangement - Reactor Building Elevation Section _ C
KBA0002Z011006	Z2	Site Layout, Buildings on Site Inside ACP2, Buildings off the Site Outside ACP2
KBA0901G001003	Z5	Nuclear Island Layout
KBA0001B00252	1	Site Zone 3 - Underground Services
KBA0001B00253	1	Site Zone 4 - Underground Services
KBA0001B00254	1	Site Zone 5 - Underground Services
KBA0001B00255	1	Site Zone 6 - Underground Services
KBA1205Q04302	Z1	1 ASG 01 BA and 2 ASG 01 BA General Drawing
KBA003K01107	3	9 SEP 001 and 002 BA - Drinkable Water Tanks
KBA003K01180	2	9 SEP 001 and 002 BA - Valve Room

### 5.2 Documents to be referenced

The references below have been divided into the stages that are better suited to provide clarity and guidance; however, there may overlap with other stages of the Scope.

#### All stages (1-6)

- 5.5.1 Government Gazette, Guideline for Services and Processes for Estimating for Persons Registered in the Engineering Profession Act, 2000, (Act N° 46 of 2000). [Public Document – not supplied]
- 5.5.2 Project and Construction Management Act, 48 of 2000 [Public Document – not supplied]
- 5.5.3 KAA 501, Project Management Process for Koeberg Nuclear Power Station Modifications.
- 5.5.4 Value Added Tax Act 89 of 1991. [Public Document – not supplied]
- 5.5.5 Revenue Laws Amendment Act 45 of 2003. [Public Document – not supplied]
- 5.5.6 0053/14C, Q1/L1, Classification for design work
- 5.5.7 KOU Corrective Action Programme (CAP)
- 5.5.8 NNR RD 0034, Quality and Safety Management Requirements for Nuclear Installations

### **Stages 1-3 (Design - Engineering)**

- 5.5.9 Nuclear Safety, Seismic, Environmental, Quality, Importance, and Management System level Classification Standard 240-89294359, KSA-010.
- 5.5.10 331-86, all detailed design drawings, assembly- drawings and as-built drawings shall be supplied, by the Contractor, in accordance with the *Employer's* procedure.
- 5.5.11 GGG-1299, *Employer's* guide for technical writing,
- 5.5.12 KBA 0000 G00 1000 Revision Z2, All new drawings submitted by the Contractor conforms to the *Employer's* drawing standard,
- 5.5.13 KFU-026, Detailed Design Review Report
- 5.5.14 331-170 (KSA-106), Requirements for Protective Coatings for use at Koeberg Nuclear Power Station
- 5.5.15 KSA-144, Painting Standard For Decorative Works And Demarcations.
- 5.5.16 KFA-035, Design Change Package Implementation Approval
- 5.5.17 ESK AM AAA 1, Corporate Identity Manual
- 5.4.18 31-86, Design Changes to Plant, Plant Structures or Operating Parameters.
- 5.5.19 KAA 560, The Control of Plant Documentation due to plant change, plant anomaly or document anomaly.
- 5.5.20 KSA-011, The Requirements for Controlled Documents.
- 5.5.21 331-206, NE design service classification.
- 5.5.22 Engineering Profession Act No.46 of 2000
- 5.5.23 ISO 9001:2015, Quality Management Systems
- 5.5.24 KAA-614, Control of Spares Assessments and New Stock Applications
- 5.5.25 240-120994091, Design Extension Related Guidance for Modifications and Equipment – Flooding as a result of a Tsunami
- 5.5.26 240-121005755 Design Extension Related Guidance for Modifications and Equipment – High-Speed Winds and Tornadoes
- 5.5.27 240-121010217 Design Extension Related Guidance for Modifications and Equipment – Seismic Event
- 5.5.28 240-121013197 Design Extension Related Guidance for Modifications

### **Stage 4-6 (Procurement, Construction, Construction Health and Safety, Environment and Close-out)**

- 5.5.29 Administrative Complex and Training Centre EA including all amendments and EMP reference 12/12/20/997, environmental authorisation reference 12/12/20/997

- 5.5.30 The Diesel Final Basic Assessment (BAR) Report DEA reference 14/12/16/3/3/1/1736
- 5.5.31 Diesel Environmental Management Programme reference DJEC Ref:2015/19
- 5.5.32 Nuclear Energy Act 92 of 1982 [Public Document – not supplied],
- 5.5.33 Occupational Health and Safety Act 85 of 1993 and its regulations, [Public Document – not supplied]
- 5.5.34 OHSAS 18001:2007, Occupational health and safety management standard
- 5.5.35 National Environmental Management Act 107 of 1998, National Environmental Management Act 107 of 1998 [Public Document - not supplied]
- 5.5.36 Construction Regulation 2014,
- 5.5.37 National Health Act 61 of 2003,
- 5.5.38 Basic Conditions of Employment Act 75 of 1997. The Contractor indemnifies the *Employer* against any claims, proceedings, compensation and cost arising from the Contractor's transgression of the Act,
- 5.5.39 the Compensation for Occupational Injuries and Diseases Act 130 of 1993, and the Labour Relations Act 66 of 1995,
- 5.5.40 The Contractor's construction supervisor must be registered as a professional construction manager in terms of the Project and Construction Management Act, 48 of 2000
- 5.5.41 240-111018542, Determining of Construction Work Form
- 5.5.42 KfV-SR-054, Construction Safety Health and Environmental Approval Checklist
- 5.5.43 KfV-SR-055, Non-Construction Work Approval Checklist
- 5.5.44 32-95, Environmental, Occupational Health and Safety Incident Management Procedure.
- 5.5.45 32-136, Construction Safety, Health and Environment Procedure
- 5.5.46 KAE 012, Hazardous and non-hazardous waste and scrap disposal.
- 5.5.47 KAA-768, Safety, Health and Environmental Risk Assessment and Programme
- 5.5.48 240-62989893, Vehicle Accident Reporting form,
- 5.5.49 240-77046688, Employers Investigation Report
- 5.5.50 32-421, Management Directive Eskom cardinal rules
- 5.5.51 KSA-132, Lifting and Rigging Requirements
- 5.5.52 KSM-031, Scaffolding Program
- 5.5.53 KGA-067, Safety, health and Environmental Risk Assessment Guide
- 5.5.54 KG-096, Critical Task Guide

5.5.55 AI-040, Control of Nuclear Portfolio Excavation

5.5.56 MANDIR 009, Personal Protective Equipment Code for the Koeberg Operating Unit

#### **Fitness For Duty (FFD)**

5.5.57 FFD process map.

5.5.58 KfV-SR-004, Occupational Health Services Job Specification

5.5.59 KSA 109, Requirements for Access Authorisation to Koeberg Nuclear Power Station

5.5.60 KSA 119, Management and Control of Supplemental Workers Koeberg Nuclear Power Station

5.5.61 KSA 137, Training Requirements And Competence Criteria For Supplemental Personnel Requiring Access To Koeberg

5.5.62 KAA 777, Process for Access to Koeberg Nuclear Power Station

5.5.63 335-68, Fitness for Duty Requirements for Work to be performed Inside the Owner Controlled Area of Koeberg Nuclear Power Station

5.5.64 National Key Points Act 102 of 1980 [Public Document – not supplied]

5.5.65 Protection of Information Act 84 of 1982 [Public Document – not supplied]

5.5.66 the Medicine and Related Substance Control Act 101 of 1965

5.5.67 KFA-077, Koeberg Nuclear Power Station Supplemental personnel training waiver

5.5.68 KAA-611, Emergency Mustering, Accountability and Evacuation

#### **Construction Quality Control:**

5.5.69 KFA-002, Nuclear Project Management Work Plan

5.5.70 KAA-664, Issuing a Construction Status Certificate/Safety Clearance Certificate

5.5.71 KAA-721, Online Work Management Process

5.5.72 KGA-020, Initiating a Maintenance Work Request

5.5.73 KAA-667, Processing a Permit to Work

5.5.74 Training Change Requests (TCRs) are compiled in accordance with KAA-959

5.5.75 KFA-037, Facilities Control Checklist

5.4.76 SANS 10400-NBR (SA) South African National Building Regulations, Building regulations SANS 10400, SANS 10400: Building Regulations of South Africa

5.5.77 SANS 2001- CC1, Construction Works Part CC1: Concrete Works (structural)

- 5.5.78 SANS 2001- CC2, Construction Works Part CC2: Construction Works (minor Works)
- 5.5.79 SANS 2001- CM1, Construction Works Part CM1: Masonry walling
- 5.5.80 SANS 2001-EM1, Construction Works Part EM1: Cement plaster
- 5.5.81 SANS 5861-2: Concrete testing – Sampling of freshly mixed concrete
- 5.5.82 SANS 5861-3: Concrete testing – making and curing of test specimens
- 5.5.83 SANS 5862-1: Concrete testing – Consistence of freshly mixed concrete (slump test)
- 5.5.84 SANS 5863: Concrete testing – Compressive strength of hardened concrete
- 5.5.85 Mechanical engineering Works, SANS 10147:2011
- 5.5.86 SANS 1186-1: Symbolic safety signs Part 1: Standard signs and general requirements
- 5.5.87 SANS 1186-1: Symbolic safety signs Part 1: Standard signs and general requirements
- 5.5.88 SANS 10400-T: The application of the National Building Regulations Part T: Fire protection [10]
- 5.5.89 SANS 10100-1: Reinforced Concrete Design
- 5.5.90 SANS 10162-1 and 2: Structural use of steel
- 5.5.91 SANS 920: Steel bars for concrete reinforcement

## **SITE INFORMATION**

### **TOPOGRAPHICAL**

#### **Location of the Site**

The Site is located at Koeberg Nuclear Power Station (KOU) 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 KOU is indicated on the R27. KOU 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 KOU.

#### **Security Checkpoints**

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