

NEC3 Supply Contract (SC3)

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

and []
(Reg No. _____)

for **Supply of Guide Vane Seals for Drakensberg
Pumped Storage Scheme**

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CONTRACT No. []

PART C1: AGREEMENTS & CONTRACT DATA

Contents:	No of pages
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C1.2a Contract Data provided by the <i>Purchaser</i>	[•]
C1.2b Contract Data provided by the <i>Supplier</i>	[•]
[to be inserted from Returnable Documents at award stage]	
C1.3 Proforma Guarantees	[•]

C1.1 Form of Offer & Acceptance

Offer

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

SUPPLY AND DELIVERY OF GUIDE VANE SEALS

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 *Supplier* under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the *conditions of contract* identified in the Contract Data.

	The offered total of the Prices exclusive of VAT is	R []
	Value Added Tax @ 15% is	R []
	The offered total of the amount due inclusive of VAT is ¹	R []
	(in words) []	

This Offer may be accepted by the Purchaser by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document including the Schedule of Deviations (if any) to the tenderer before the end of the period of validity stated in the Tender Data, or other period as agreed, whereupon the tenderer becomes the party named as the *Supplier* in the *conditions of contract* identified in the Contract Data.

Signature(s)

Name(s)

Capacity

**For the
tenderer:**

(Insert name and address of organisation)

Name &
signature of
witness

Date

¹ This total is required by the *Purchaser* for budgeting purposes only. Actual amounts due will be assessed in terms of the *conditions of contract*.

Acceptance

By signing this part of this Form of Offer and Acceptance, the Purchaser identified below accepts the tenderer's Offer. In consideration thereof, the Purchaser shall pay the Supplier 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 Purchaser 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: Goods Information including Supply Requirements

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

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Returnable Schedules as well as any changes to the terms of the Offer agreed by the tenderer and the Purchaser 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 Purchaser'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
Purchaser**

**Eskom Holdings SOC Ltd, Megawatt Park, Maxwell Drive, Sandton, Johannesburg,
2199**

(Insert name and address of organisation)

Name &
signature of
witness

Date

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

Schedule of Deviations to be completed by the *Purchaser* prior to contract award

Note:

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

No.	Subject	Details
1	[•]	[•]
2	[•]	[•]
3	[•]	[•]
4	[•]	[•]
5	[•]	[•]
6	[•]	[•]
7	[•]	[•]

By the duly authorised representatives signing this Schedule of Deviations below, the Purchaser 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 Purchaser during this process of Offer and Acceptance.

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

For the tenderer:

Signature _____

Name _____

Capacity _____

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

Name & signature of witness _____

Date _____

For the Purchaser

James L'Etang

Senior Manager Plant

Eskom Holdings SOC Ltd, Megawatt Park, Maxwell Drive, Sandton, Johannesburg, 2199

C1.2 SC3 Contract Data

Part one - Data provided by the *Purchaser*

Clause	Statement	Data
1	General	
	The <i>conditions of contract</i> are the core clauses and the clauses for Options	
		X1: Price adjustment for inflation
		X2: Changes in the law
		X3: Multiple currencies
		X7: Delay damages
		X17: Low performance damages
		Z: <i>Additional conditions of contract</i>
	of the NEC3 Supply Contract (April 2013) ²	
10.1	The <i>Purchaser</i> is (name):	Eskom Holdings SOC Ltd (reg no: 2002/015527/30), a state-owned company incorporated in terms of the company laws of the Republic of South Africa
	Address	Registered office at Megawatt Park, Maxwell Drive, Sandton, Johannesburg
10.1	The <i>Supply Manager</i> is (name):	TBC
	Address	[•]
	Tel	[•]
	Fax	[•]
	e-mail	[•]
11.2(13)	The <i>goods</i> are	Supply and delivery of Guide Vane Seals
11.2(13)	The <i>services</i> are	The Manufacturing, Packaging, transportation and delivery of Guide Vane Seals
11.2(14)	The following matters will be included in the Risk Register	<ul style="list-style-type: none"> • Labour strike and Community Unrest • Lead time of material • Poor quality of material • Wrong material delivered • Weather conditions • Obsolete Goods

² Available from Engineering Contract Strategies Tel 011 803 3008 Fax 086 539 1902, www.ecs.co.za.

- Unforeseen interfacing issues
- Delays and disruptions associated with transportation

11.2(15)	The Goods Information is in	Part 3: Scope of Work and all documents and drawings to which it makes reference.	
11.2(15)	The Supply Requirements as part of the Goods Information is in	Annexure A to this Contract Data	
12.2	The <i>law of the contract</i> is the law of	the Republic of South Africa	
13.1	The <i>language of this contract</i> is	English	
13.3	The <i>period for reply</i> is	3 calendar days Immediately for health and safety issues	
2	The <i>Supplier's</i> main responsibilities	Data required by this section of the core clauses is provided by the <i>Supplier</i> in Part 2 and terms in italics used in this section are identified elsewhere in this Contract Data.	
3	Time		
30.1	The <i>starting date</i> is.	TBC	
30.1	The <i>delivery date</i> of the goods and services is:	<i>goods and services</i>	<i>delivery date</i>
		1	Guide Vane Seals
			To be agreed per order
30.2	The <i>Supplier</i> does not bring the goods to the Delivery Place more than one week before the Delivery Date.	[no data required]	
31.1	The <i>Supplier</i> is to submit a first programme for acceptance within	1 week of the Contract Date.	
32.2	The <i>Supplier</i> submits revised programmes at intervals no longer than	1 week	
4	Testing and defects		
42	The <i>defects date</i> is	52 weeks after Delivery.	
43.2	The <i>defect correction period</i> is	To be communicated by the <i>Supply Manager</i> to the <i>Supplier</i> once both parties have established the most appropriate period for correction of defects which must be to the benefit of the power station.	
42.2	The <i>defects access period</i> is	To be communicated by the <i>Supply Manager</i>	
5	Payment		
50.1	The <i>assessment interval</i> is	between the 24th and 25th day of each successive month.	
51.1	The <i>currency of this contract</i> is the	South African Rand	

51.2	The period within which payments are made is	Four weeks after assessment is completed and signed by <i>Supply Manager</i> .
51.4	The <i>interest rate</i> is	the publicly quoted prime rate of interest (calculated on a 365 day year) charged from time to time by the Standard Bank of South Africa Limited (as certified, in the event of any dispute, by any manager of such bank, whose appointment it shall not be necessary to prove) for amounts due in Rands.
6	Compensation events	There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.
7	Title	There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.
8	Risks, liabilities, indemnities and insurance	
80.1	These are additional <i>Purchaser's</i> risks	None
88.1	The <i>Supplier's</i> liability to the <i>Purchaser</i> for indirect or consequential loss, including loss of profit, revenue and goodwill is limited to	R0.0 (zero Rand)
88.2	For any one event, the <i>Supplier's</i> liability to the <i>Purchaser</i> for loss of or damage to the <i>Purchaser's</i> property is limited to	(1) for the <i>Purchaser's</i> existing and surrounding property in the care, custody and control of the <i>Supplier</i> the amount of the deductible (first amount payable) relevant to the event and (2) for all other existing <i>Purchaser's</i> property the applicable deductible as at contract date
88.3	The <i>Supplier's</i> liability for Defects due to his design which are not notified before the last <i>defects date</i> is limited to:	Total of the contract prices
88.4	The <i>Supplier's</i> total liability to the <i>Purchaser</i> , for all matters arising under or in connection with this contract, other than the excluded matters, is limited to	Total of the contract prices
88.5	The <i>end of liability date</i> is	1 Year after delivery of whole goods.
9	Termination and dispute resolution	
94.1	The <i>Adjudicator</i> is	the person selected from the ICE-SA Division (or its successor body) of the South African

		Institution of Civil Engineering Panel of Adjudicators by the Party intending to refer a dispute to him. (see www.ice-sa.org.za). If the Parties do not agree on an Adjudicator the Adjudicator will be appointed by the <i>Adjudicator nominating body</i>
94.2(3)	The <i>Adjudicator nominating body</i> is:	the Chairman of ICE-SA, a Division of the South African Institution of Civil Engineering, or its successor body (See www.ice-sa.org.za)
94.4(2)	The <i>tribunal</i> is:	arbitration
94.4(5)	The <i>arbitration procedure</i> is	the latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body.
94.4(5)	The place where arbitration is to be held is	KwaZulu Natal, South Africa
	The person or organisation who will choose an arbitrator	
	- if the Parties cannot agree a choice or	the Chairman for the time being or his nominee of the Association of Arbitrators (Southern Africa) or its successor body.
	- if the arbitration procedure does not state who selects an arbitrator, is	

10 Data for Option clauses

X1	Price adjustment for inflation			
X1.1	The <i>base date</i> for indices is	Rates are fixed and firm for first 12 months after first order placement date. There after CPA escalation will apply. Base date will be the month before the month which the enquiry closes.		
	The proportions used to calculate the Price Adjustment Factor are:	proportion	linked to index for	Index prepared by
		0.	[•]	[•]
		0.	[•]	[•]
		0.	[•]	[•]
		0.	[•]	[•]
		0.	[•]	[•]
		15%	non-adjustable	
		100%		
X2	Changes in the law			
X2.1	A change in the law of	Republic of South Africa is a compensation event if it occurs after the Contract Date		
X3	Multiple currencies			
X3.1	The <i>Purchaser</i> will pay for these items in the currencies stated	Items	Other currency	Total maximum

X3.1			payment in the currency
	[•]		
	[•]		
	[•]		
X3.1	The <i>exchange rates</i> are those published in [•] on [•] (date)		
	<p>The items will be paid in the other currency</p> <ul style="list-style-type: none"> - to a foreign Bank account nominated by the <i>Supplier</i> - to a valid SARB approved CFC account in South Africa - in accordance with an alternative payment method agreed with the <i>Purchaser</i> before the Contract Date. <p>(select one of the three methods as agreed with the successful tenderer prior to contract award and delete the others and this note)</p>		
X7	Delay damages		
X7.1	Delay damages for Delivery are	Delivery of	amount per day
		Spares not as per contract lead times	2% of the total value of the purchase order per day to a maximum of 20% of the purchase order
X17	Low performance damages		
X17.1	The amounts for low performance damages are:	amount	performance level
		2% of the Purchase order	Incorrect spare delivered
		2% of the Purchase order	Defective spares delivered
Z	<p>The additional conditions of contract are</p> <p>Z1 to Z15 always apply for Eskom</p>		

Z1 Cession delegation and assignment

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

Z2 Joint ventures

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

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

- Z3.1 Where a change in the *Supplier's* legal status, ownership or any other change to his business composition or business dealings results in a change to the *Supplier's* B-BBEE status, the *Supplier* notifies the *Purchaser* within seven days of the change.
- Z3.2 The *Supplier* is required to submit an updated verification certificate and necessary supporting documentation confirming the change in his B-BBEE status to the *Supply Manager* within thirty days of the notification or as otherwise instructed by the *Supply Manager*.
- Z3.3 Where, as a result, the *Supplier's* B-BBEE status has decreased since the Contract Date the *Purchaser* may either re-negotiate this contract or alternatively, terminate the *Supplier's* obligation to Provide the Goods and Services.
- Z3.4 Failure by the *Supplier* to notify the *Purchaser* of a change in its B-BBEE status may constitute a reason for termination. If the *Purchaser* terminates in terms of this clause, the procedures on termination are P1, P2 and P3 as stated in clause 92, and the amount due is A1 and A3 as stated in clause 93.

Z4 Confidentiality

- Z4.1 The *Supplier* 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 *Supplier*, enters the public domain or to information which was already in the possession of the *Supplier* at the time of disclosure (evidenced by written records in existence at that time). Should the *Supplier* disclose information to Others in terms of clause 23.1, the *Supplier* ensures that the provisions of this clause are complied with by the recipient.
- Z4.2 If the *Supplier* is uncertain about whether any such information is confidential, it is to be regarded as such until notified otherwise by the *Supply Manager*.
- Z4.3 In the event that the *Supplier* is, at any time, required by law to disclose any such information which is required to be kept confidential, the *Supplier*, to the extent permitted by law prior to disclosure, notifies the *Purchaser* so that an appropriate protection order and/or any other action can be taken if possible, prior to any disclosure. In the event that such protective order is not, or cannot, be obtained, then the *Supplier* 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 *goods* or any portion thereof, in the course of Providing the Goods and Services and after Delivery, requires the prior written consent of the *Supply Manager*. All rights in and to all such images vests exclusively in the *Purchaser*.
- Z4.5 The *Supplier* ensures that all his subcontractors abide by the undertakings in this clause.

Z5 Waiver and estoppel: Add to core clause 12.3:

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

Z6 Health, safety and the environment: Add to core clause 25.4

- Z6.1 The *Supplier* undertakes to take all reasonable precautions to maintain the health and safety of persons in and about the provision of the *goods* and execution of the *services*.

Without limitation the *Supplier*:

warrants that the total of the Prices as at the Contract Date includes a sufficient amount for proper compliance with all applicable health & safety laws and regulations and the health and safety rules, guidelines and procedures provided for in this contract and generally for the proper maintenance of health & safety in and about the execution of supply and undertakes, in and about the execution of the supply, to comply with all applicable health & safety laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Supplier's* direction and control, likewise observe and comply with the foregoing.

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

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

- Z7.1 Within one week of receiving a payment certificate from the *Supply Manager* in terms of core clause 51.1, the *Supplier* provides the *Purchaser* with a tax invoice in accordance with the *Purchaser's* procedures stated in the Goods Information, showing the amount due for payment equal to that stated in the payment certificate.
- Z7.2 If the *Supplier* does not provide a tax invoice in the form and by the time required by this contract, the time by when the *Purchaser* is to make a payment is extended by a period equal in time to the delayed submission of the correct tax invoice. Interest due by the *Purchaser* in terms of core clause 51.2 is then calculated from the delayed date by when payment is to be made.
- Z7.3 The *Supplier* (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 *Purchaser's* VAT number 4740101508 on each invoice he submits for payment.

Z8 Notifying compensation events

- Z8.1 Delete from the last sentence in core clause 61.3 the words, "unless the event arises from the *Supply Manager* giving an instruction, changing an earlier decision or correcting an assumption".

Z9 Purchaser's limitation of liability

- Z9.1 The *Purchaser's* liability to the *Supplier* for the *Supplier's* indirect or consequential loss is limited to R0.00 (zero Rand)
- Z9.2 The *Supplier's* entitlement under the indemnity in 83.1 is provided for in 60.1(12) and the *Purchaser's* liability under the indemnity is limited.

Z10 Termination: Add to core clause 91.1, at the second main bullet point, fourth sub-bullet point, after the words "against it":

- Z10.1 or had a business rescue order granted against it.

Z11 Addition to secondary Option X7 Delay damages (if applicable in this contract)

- Z11.1 If the amount due for the *Supplier's* payment of delay damages reaches the limits stated in this Contract Data for Option X7, the *Purchaser* may terminate the *Supplier's* obligation to Provide the Goods and Services using the same procedures and payment on termination as those applied for reasons R1 to R15 or R18 stated in the Termination Table.

Z12 Ethics

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

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

- Z12.1 A Committing Party may not take any Prohibited Action during the course of the procurement of this contract or in execution thereof.
- Z12.2 The *Purchaser* may terminate the *Supplier's* obligation to Provide the Services if a Committing Party has taken such Prohibited Action and the *Supplier* did not take timely and appropriate action to prevent or remedy the situation, without limiting any other rights or remedies the

Purchaser 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 *Purchaser* can terminate the *Supplier's* obligation to Provide the Services for this reason.

Z12.3 If the *Purchaser* terminates the *Supplier's* obligation to Provide the Services for this reason, the amounts due on termination are those intended in core clauses 92.1 and 92.2.

Z12.4 A Committing Party co-operates fully with any investigation pursuant to alleged Prohibited Action. Where the *Purchaser* does not have a contractual bond with the Committing Party, the *Supplier* ensures that the Committing Party co-operates fully with an investigation.

Z13Insurance

Z 13.1 Replace core clause 84 with the following:

Insurance cover 84

84.1 When requested by a Party, the other Party provides certificates from his insurer or broker stating that the insurances required by this contract are in force.

84.2 The *Supplier* provides the insurances stated in the Insurance Table A for events which are at the *Supplier's* risk from the *starting date* until the last *defects date* or a termination certificate has been issued.

INSURANCE TABLE A

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

Z 13.2 Replace core clause 87 with the following:

**Insurance by
the *Purchaser***

87

87.1 The *Purchaser* provides the insurances stated in the Insurance Table B

INSURANCE TABLE B

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

Nuclear Material Damage Terrorism	Per the insurance policy document
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Z14 Nuclear Liability

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

Z15 Asbestos

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

AAIA	means approved asbestos inspection authority.
ACM	means asbestos containing materials.
AL	means action level, i.e. a level of 50% of the OEL, i.e. 0.1 regulated asbestos fibres per ml of air measured over a 4 hour period. The value at which proactive actions is required in order to control asbestos exposure to prevent exceeding the OEL.
Ambient Air	means breathable air in area of work with specific reference to breathing zone, which is defined to be a virtual area within a radius of approximately 30cm from the nose inlet.
Compliance Monitoring	means compliance sampling used to assess whether or not the personal exposure of workers to regulated asbestos fibres is in compliance with the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.
OEL	means occupational exposure limit.
Parallel Measurements	means measurements performed in parallel, yet separately, to existing measurements to verify validity of results.

Safe Levels	means airborne asbestos exposure levels conforming to the Standard's requirements for safe processing, handling, storing, disposal and phase-out of asbestos and asbestos containing material, equipment and articles.
Standard	means the <i>Purchaser's</i> Asbestos Standard 32-303: Requirements for Safe Processing, Handling, Storing, Disposal and Phase-out of Asbestos and Asbestos Containing Material, Equipment and Articles.
SANAS	means the South African National Accreditation System.
TWA	means the average exposure, within a given workplace, to airborne asbestos fibres, normalised to the baseline of a 4 hour continuous period, also applicable to short term exposures, i.e. 10-minute TWA.

- Z15.1 The *Purchaser* ensures that the Ambient Air in the area where the *Supplier* will Provide the Services conforms to the acceptable prescribed South African standard for asbestos, as per the regulations published in GNR 155 of 10 February 2002, under the Occupational Health and Safety Act, 1993 (Act 85 of 1993) ("Asbestos Regulations"). The OEL for asbestos is 0.2 regulated asbestos fibres per millilitre of air as a 4-hour TWA, averaged over any continuous period of four hours, and the short term exposure limit of 0.6 regulated asbestos fibres per millilitre of air as a 10-minute TWA, averaged over any 10 minutes, measured in accordance with HSG248 and monitored according to HSG173 and OESSM.
- Z15.2 Upon written request by the *Supplier*, the *Purchaser* certifies that these conditions prevail. All measurements and reporting are effected by an independent, competent, and certified occupational hygiene inspection body, i.e. a SANAS accredited and Department of Employment and Labour approved AAIA. The *Supplier* may perform Parallel Measurements and related control measures at the *Supplier's* expense. For the purposes of compliance the results generated from Parallel Measurements are evaluated only against South African statutory limits as detailed in clause Z15.1. Control measures conform to the requirements stipulated in the AAIA-approved asbestos work plan.
- Z15.3 The *Purchaser* manages asbestos and ACM according to the Standard.
- Z15.4 In the event that any asbestos is identified while Providing the Services, a risk assessment is conducted and if so required, with reference to possible exposure to an airborne concentration of above the AL for asbestos, immediate control measures are implemented and relevant air monitoring conducted in order to declare the area safe.
- Z15.5 The *Supplier's* personnel are entitled to stop working and leave the contaminated area forthwith until such time that the area of concern is declared safe by either Compliance Monitoring or an AAIA approved control measure intervention, for example, per the emergency asbestos work plan, if applicable.
- Z15.6 The *Supplier* continues to Provide the Services, without additional control measures presented, on presentation of Safe Levels. The contractually agreed dates to Provide the Services, including the Completion Date, are adjusted accordingly. The contractually agreed dates are extended by the notification periods required by regulations 3 and 21 of the Asbestos Regulations.
- Z15.7 Any removal and disposal of asbestos, asbestos containing materials and waste, is done by a registered asbestos contractor, instructed by the *Purchaser* at the *Purchaser's* expense, and conducted in line with South African legislation.

Annexure A: Supply Requirements

[Notes: The example given in the NEC3 Supply Contract Guidance Notes pages 15 to 20 inclusive is based on Incoterms 2000. However users will probably wish to use Incoterms 2010 which the details below are based on. Users may need to adjust the information to comply with actual requirements. First decide whether Incoterms will be used or not, then delete the arrangement below which does not apply and delete these notes]

The Supply Requirements for this contract are based on the use of INCOTERMS:

The *Supplier* supplies the *goods* in accordance with INCOTERMS 2010³ as follows:

[Select the group and then term within the group which applies and state the applicable delivery place. Delete all the other groups and this note]

Group	Category	Term	Delivery Place
E	departure	EXW	
F	main carriage unpaid	FCA, FAS, FOB	
C	main carriage paid	CFR, CIF, CPT, CIP	
D	arrival	DAT, DAP, DDP	Drakensberg Power Station

The Parties obligations described in Incoterms for the category and term selected are now incorporated into this contract as part of the Supply Requirements and hence the Goods Information.

The obligations of seller and buyer for the selected Incoterm determine each Party's costs, risks and insurance requirements incidental to the supply and transport of the *goods* from *Supplier* to *Purchaser*.

For each of the thirteen terms, Incoterms set out obligations of the seller (the *Supplier*) in ten paragraphs identified as A1 to A10 and the corresponding obligations of the buyer (the *Purchaser*) in paragraphs B1 to B10. These obligations cover the following subjects:

A	The <i>Supplier's</i> obligations	B	The <i>Purchaser's</i> obligations
A1	Provision of goods in conformity with contract	B1	Payment of the price
A2	Licences, authorisations and formalities	B2	Licences, authorisations and formalities
A3	Contracts of carriage and insurance	B3	Contracts of carriage and insurance
A4	Delivery	B4	Taking delivery
A5	Transfer of risks	B5	Transfer of risks
A6	Division of costs	B6	Division of costs
A7	Notice to the buyer	B7	Notice to the seller
A8	Proof of delivery, transport document or equivalent electronic message	B8	Proof of delivery, transport document or equivalent electronic message
A9	Checking - packing - marking	B9	Inspection of goods
A10	Other obligations	B10	Other obligations

[Should there be a need to amplify any of the published obligations listed above for the chosen INCOTERM, add them here.]

All other information NOT pertinent to the above is given in the balance of the Goods Information

³ International Chamber of Commerce, Incoterms 2010, Paris, January 2011

The Supply Requirements for this contract are as follows:

[Use these when INCOTERMS do not apply].

1. The requirements for the supply are	[State the constraints on how the <i>Supplier</i> manufactures, prototypes, tests and stores the <i>goods</i> including order and timing]	
2. The requirements for transport are	[State the extent to which the <i>Supplier</i> transports the <i>goods</i> and the mode of transport]	
3. The delivery place is	[State the location where the <i>goods</i> are to be placed by the <i>Supplier</i> , such as whether it is a dispatch department at the <i>Supplier's</i> premises, the <i>Purchaser</i> is to collect or other location the <i>Purchaser</i> may require. If the delivery place for the <i>services</i> is different to the <i>goods</i> state it here]	
4. Actions of the Parties during supply	Action	Party which does it
	Giving notice of Delivery	Supplier
	Checking packing and marking before dispatch	Supplier
	Contracting for transport	Supplier
	Pay costs of transport	Supplier
	Arrange access to delivery place	Purchaser
	Loading the <i>goods</i>	Supplier
	Unloading the <i>goods</i>	Purchaser
For international procurement	Undertake export requirements	
	Undertake import requirements	
5. Information to be provided by the <i>Supplier</i>	Title of document	
	Packing lists for cases and their contents	
	Copy of invoice for the <i>goods</i>	
	Delivery Note	
	Test results and maintenance manuals	
For international procurement	Licences, authorisations and other formalities associated with export of the <i>goods</i>	
	Air Waybill or Bill of Lading with associated landing, delivery and forwarding order	
	The Bill of Entry endorsed by the importation authority	
	Customs work sheets, showing tax, duties and surcharges which the law of the country into which the <i>goods</i> are being imported requires the importer to pay	
	Invoice from the importation clearing agent showing airline fees, landing charges, wharfage and dock dues as applicable	
	Specify other import documents required by authorised officials.	

All other information NOT pertinent to the above is given in the balance of the Goods Information

C1.2 Contract Data

Part two - Data provided by the *Supplier*

[Instructions to the contract compiler: (delete this note before issue to tenderers with an enquiry)

Whenever a cell is shaded in the left hand column it denotes this data is optional and would be required in relation to the option selected. In the event that the option is not required select and delete the whole row.]

Notes to a tendering supplier:

1. Please read both the NEC3 Supply Contract (SC3)⁴ and the relevant parts of its Guidance Notes (SC3-GN)⁵ in order to understand the implications of this Data which the tenderer is required to complete.
2. The number of the clause which requires the data is shown in the left hand column for each statement however other clauses may also use the same data
3. Where a form field like this [] appears, data is required to be inserted relevant to the option selected. Click on the form field **once** and type in the data. Otherwise complete by hand and in ink.

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

Clause	Statement	Data				
10.1	The <i>Supplier</i> is (Name): Address Tel No. Fax No.					
11.2(8)	The Goods Information for the <i>Supplier's</i> design is in:	Part 3 Purchasers Goods Information				
11.2(11)	The tendered total of the Prices is	R , (in words)				
11.2(12)	The <i>price schedule</i> is in:	Part 2 Pricing Data				
11.2(14)	The following matters will be included in the Risk Register					
25.2	The restrictions to access for the <i>Supply Manager</i> and Others to work being done for this contract are					
30.1	The <i>delivery date</i> of the <i>goods</i> and <i>services</i> is:	<table><tr><th><i>goods and services</i></th><th><i>delivery date</i></th></tr><tr><td>1 []</td><td>[]</td></tr></table>	<i>goods and services</i>	<i>delivery date</i>	1 []	[]
<i>goods and services</i>	<i>delivery date</i>					
1 []	[]					
31.1	The programme identified in the Contract Data is contained in:	Part 3 Purchasers Goods Information				
63.2	The <i>percentage for overheads and profit</i> added to the Defined Cost is	%				

⁴ Either April 2013 or December 2009 Edition as stated by *Purchaser* in Contract Data part 1.

⁵ Available from Engineering Contract Strategies Tel 011 803 3008, Fax 086 539 1902, or www.ecs.co.za

PART 2: PRICING DATA
NEC3 Supply Contract

Document reference	Title	No of pages
C2.1	Pricing assumptions	2
C2.2	The <i>price schedule</i>	[•]

C2.1 Pricing assumptions

How *goods* and *services* are priced and assessed for payment

Clause 11 in NEC3 Supply Contract, (SC3) core clauses states:

Identified and defined terms	11	
	11.2	(11) The Prices are the amounts stated in the price column of the Price Schedule. Where a quantity is stated for an item in the Price Schedule, the Price is calculated by multiplying the quantity by the rate.
		(12) The Price Schedule is the <i>price schedule</i> unless later changed in accordance with this contract.
Assessing the amount due	50.2	The amount due is
		<ul style="list-style-type: none">• the Price for each lump sum item in the Price Schedule which the <i>Supplier</i> has completed,• where a quantity is stated for an item in the Price Schedule, an amount calculated by multiplying the quantity which the <i>Supplier</i> has completed by the rate,• plus other amounts to be paid to the <i>Supplier</i>,• less amounts to be paid by or retained from the <i>Supplier</i>.
		Any tax which the law requires the <i>Purchaser</i> to pay to the <i>Supplier</i> is included in the amount due.

This confirms that the Supply Contract is a priced contract where the Prices are derived from a list of items of *goods* and *services* which can be priced as lump sums or as expected quantities of *goods* and *services* multiplied by a rate, or a mix of both.

Function of the Price Schedule

Clause 53.1 states: "Information in the Price Schedule is not Goods Information". This confirms that instructions to do work or how it is to be done are not included in the Price Schedule but in the Goods Information. This is further confirmed by Clause 20.1 which states, "The *Supplier* Provides the Goods and Services in accordance with the Goods Information". Hence the *Supplier* does **not** Provide the Goods and Services in accordance with the Price Schedule. The Price Schedule is only a pricing document.

Preparing the *price schedule*

Items in the *price schedule* may have been inserted by the *Purchaser* and the tendering supplier should insert any additional items which he considers necessary. Whichever party provides the items in the *price schedule* the total of the Prices is assumed to be fully inclusive of everything necessary to Provide the Goods and Services as described at the time of entering into this contract.

It will be assumed that the tendering supplier has

- Read Pages 8, 11, 12 and Appendix 5 of the SC3 Guidance Notes before preparing the *price schedule*;
- Included in his Prices and rates for correction of Defects (core clause 43.1) as there is no compensation event for this unless the Defect is due to a *Supplier's* risk;
- Spread the cost of doing work he chooses not to list as separate items in the *price schedule* across

other Prices and rates in order to fulfil the obligation to Provide the Goods and Services for the tendered total of the Prices;

- Understood that there is no adjustment to lump sum prices in the *price schedule* if the amount, or quantity, of work within that lump sum item later turns out to be different to that which the *Supplier* estimated at time of tender. The only basis for a change to the Prices is as a result of a compensation event per clause 60.1;
- Understood that the *Supplier* does not have to allow in his Prices and rates for matters that may arise as a result of a compensation event.

Format of the *price schedule*

Entries in the first four columns in the *price schedule* in section C2.2 are made either by the *Purchaser* or the tendering supplier.

If the *Supplier* is to be paid an amount for the item which is not adjusted if the quantity of work in the item changes, the tendering supplier enters the amount in the Price column only, the Unit, Quantity and Rate columns being left blank.

If the *Supplier* is to be paid an amount for the item which is the rate for the item multiplied by the quantity completed, the tendering *Supplier* enters the rate which is then multiplied by the Quantity to produce the Price, which is also entered.

If the *Supplier* is to be paid an amount for an item proportional to the length of time for which the *goods* and *services* are provided, a unit of time is stated in the Unit column and the length of time (as a quantity of the stated units of time) is stated in the Quantity column.

C2.2 the *price schedule*

Item nr	Description	Unit	Quantity	Rate	Price
1	Bottom bush single acting grease release lip seal	EA	90		
2	Bottom bush double acting seal	EA	90		
3	Bottom bush single acting main lip seal	EA	90		
4	Middle bush single acting main lip seal	EA	90		
5	Middle bush double acting seal	EA	90		
6	Guide vane bottom blade collar seal	EA	90		
7	Middle bush gland packing seals	EA	250		
8	Delivery	EA	2		

The total of the Prices

PART 3: SCOPE OF WORK

Document reference	Title	No of pages
C3.1	This cover page <i>Purchaser's Goods Information</i>	1
	Total number of pages	

C3.1: *PURCHASER'S* GOODS INFORMATION

Contents

1	<u>Overview and purpose of the <i>goods</i> and <i>services</i></u>	2
2	<u>Specification and description of the <i>goods</i></u>	4
2.2	<u>Purchaser's design</u>	12
2.3	<u>Procedure for submission and acceptance of <i>Supplier's</i> design</u>	12
2.4	<u>Other requirements of the <i>Supplier's</i> design</u>	12
2.5	<u>Manufacture and Fabrication</u>	13
2.6	<u>Factory acceptance testing (FAT)</u>	13
2.7	<u>Other tests and inspections and commissioning in place of use</u>	13
2.8	<u>Operating manuals and maintenance schedules</u>	13
3	<u>Supply Requirements</u>	13
4	<u>Specification of the <i>services</i> to be provided</u>	13
5	<u>Constraints on how the <i>Supplier</i> Provides the Goods</u>	13
5.1	<u>Programming constraints</u>	13
5.2	<u>Work to be done by the Delivery Date</u>	14
5.3	<u>Constraints at the delivery place and place of use</u>	14
5.4	<u>Services & other things to be provided by the <i>Purchaser</i> or <i>Supplier</i></u>	15
5.5	<u>Management meetings</u>	15
5.6	<u>Documentation control</u>	15
5.7	<u>Health and safety risk management</u>	17
5.8	<u>Environmental constraints and management</u>	17
5.9	<u>Quality</u>	17
5.10	<u>Invoicing and payment</u>	17
5.11	<u>Insurance provided by the <i>Purchaser</i></u>	18
5.12	<u>Contract change management</u>	18
5.13	<u>Records of Defined Cost, payments & assessments of compensation events to be kept by the <i>Supplier</i></u>	18
6	<u>Procurement</u>	18
6.1	<u>Subcontracting</u>	18
6.1.1	<u>Preferred subcontractors</u>	18
6.1.2	<u>Limitations on subcontracting</u>	18
6.1.3	<u>Spares and consumables</u>	18
7	<u>List of drawings</u>	18
7.1	<u>Drawings issued by the <i>Purchaser</i></u>	18

1 Overview and purpose of the goods and services

Drakensberg Pumped Storage Scheme consists of four pumped storage units. Each unit has a main unit shaft as one of the major components. The shaft rotates by means of water flowing through a runner of the turbine, which turns the rotor of the generator and generate electricity to the national grid of South Africa. The flow rate of the water is controlled with guide vanes in conjunction with a governor system.

The governor systems consist of various wearing components to allow the guide vane servomotors, operating ring and guide vanes to move. These wearing components are planned to be replaced during the upcoming Turbine Refurbishment outages planned for Drakensberg PSS. The guide vanes are guided by bushes and lubricated by grease. The guide vane bushes are designed to house seals to ensure proper lubrication of the bushes and to seal the water from impacting the lubrication or wear.

The Guide Vane seals Technical Specification outlines the required specification for each of the required guide vane bush seals as well as what will be expected from the *Supplier* supplying the *goods* for the duration of the supply.

2 Specification and description of the goods

- a) The *Supplier* designs, manufactures, inspects, supplies and delivers the following components to the *Purchaser's* site (Eskom Drakensberg Pumped Storage Scheme):

Table 1: Goods to be supplied

Item	Qty.	Item Description
1	90	Bottom bush single acting grease release lip seal
2	90	Bottom bush double acting seal
3	90	Bottom bush single acting main lip seal
4	90	Middle bush single acting main lip seal
5	90	Middle bush double acting seal
6	250	Middle Bush Gland packing seals
7	90	Guide vane bottom blade collar seal

- b) The *Supplier* replaces all damaged or defective seals.
c) The *Supplier* provides manufacturing drawings to the *Purchaser*, detailing all details required for future manufacturing. The *Purchaser* reserves the right to use the manufacturing drawings for future manufacturing at a manufacturer of the *Purchaser's* choice.

2.1.1 Specifications

The *Supplier* adheres to the following in providing the *goods*:

- a) The *Purchaser's* safety rules
b) The *Purchaser's* codes of practice
c) All the documents stated in this document.

2.1.2 Scope of work

The *goods* include the following:

- a) The *Supplier* designs the *goods* as described in Table 1.
b) The *Supplier* manufactures, inspects, supplies and delivers the *goods* as described in Table 1 to the *Purchaser's* site (Eskom Drakensberg Pumped Storage Scheme).
c) The *Supplier* repairs all defects.

2.1.3 Supplier's design

- a) The *Supplier* designs and provides all equipment and jigs necessary to manufacture the *goods* as per Table 1.

2.1.4 Work to be performed by the *Employer* for the *Goods*

2.1.4.1 Design review

The *Purchaser's* conducts design reviews of the proposed design of the seals.

2.1.4.2 Inspection

The *Purchaser's* has the right to perform various inspection, witness and hold points during the manufacturing and quality checks of the *goods* at the premises of the *Supplier*.

The *Purchaser's* performs visual inspection on delivery of the *goods* at the *Purchaser's* site (Drakensberg Pumped Storage Scheme).

2.1.4.3 Disassembly of current bronze wearing components

The *Employer* removes the currently installed guide vane bush seals when required.

2.1.4.4 Installation of the new bronze wearing components

The *Purchaser's* installs the new guide vane bush seals when required.

2.1.4.5 Storage of the new bronze wearing components

The *Purchaser's* stores the guide vane bush seals (as per the list of items in Table 1) in a safe area on the *Purchaser's* premises (Drakensberg Pumped Storage Scheme) after delivery of *goods* by the *Supplier*.

2.1.5 *Employer's* Philosophy

2.1.5.1 Engineering philosophy

Fully operational capability of the Pump/Turbine unit, improved reliability and maintainability of the Turbine system at Drakensberg PSS.

2.1.5.2 Maintenance philosophy

New spare guide vane bush seals will ensure that proper maintenance can be executed during the Turbine Refurbishment outages.

2.1.6 Specifications

The *Supplier* adheres to the following standards in providing the items to be supplied:

Table 2: Standards

Reference Number	Title	Date or revision
240-53665024	Engineering Quality Manual	1
OHS Act No. 85 of 1993	Occupational Health and Safety Act.	1993 as amended
ISO 9001	Requirements for Quality management systems.	2015

2.1.7 Material design specifications

The seals to be used on the guide vane middle and bottom bushes must have high abrasion resistance, flexibility and durability. The material must be able to seal against low pressures of 1 bar, as well as high pressures of 72 bar. The polyurethane seals must be water and oil resistant. The material is required to withstand a speed of at least 0.1m/s. The seals must be manufactured from polyurethane and is required to comply to the technical specification as detailed in **Table 3**.

Table 3: Polyurethane Seal Material Specification

Property	Unit	Existing Design	Specification
Material		Polyurethane Adiprene L169/ L100	Polyurethane
Pressure Range*	bar	1 - 72	1 - 72
Temperature Range	°C	0 - 25	0 - 25
Running Speed**	m/s	0.5	≥ 0.1
Shore Hardness	Durometer A	93	88 - 93
100% Modulus	MPa	12.4	7 - 14
Tensile Strength	MPa	34.5	≥30
Elongation at Break (200mm/min)	%	400	≥ 350
Tear Strength (ASTM D-470)	kN/m	26.2	≥ 10
Compression set*** (Method B)	%	40	≤ 40
Resilience, Rebound	%	40	≥ 40
Abrasion Resistance	NBS Index	300	≥ 170

* The specific pressure specification for each seal is discussed in the dimensional design.

** The specific running speed specification for each seal is discussed in the dimensional design.

*** The compression set is required to be ≤ 40% for an ordinary U-profile seal. Should the seal be of a different design to ensure sealing during high pressure (70 bar) and low pressure (1 bar) conditions, the compression set is allowed to go as high as 55%. The *Purchaser* will review the seal material design in such a case.

2.1.8 Dimensional design specifications

The following sections will discuss the specification of each of the seals, which must be used by the *Supplier* to perform their design. The general layout of the placement of the seals are illustrated in Figure 1, Figure 2 and Figure 3. The *Purchaser* is open for any seal groove design changes due to the proposed seal design by the *Supplier*. The *Purchaser* will review the seal design and seal groove design in such a case.

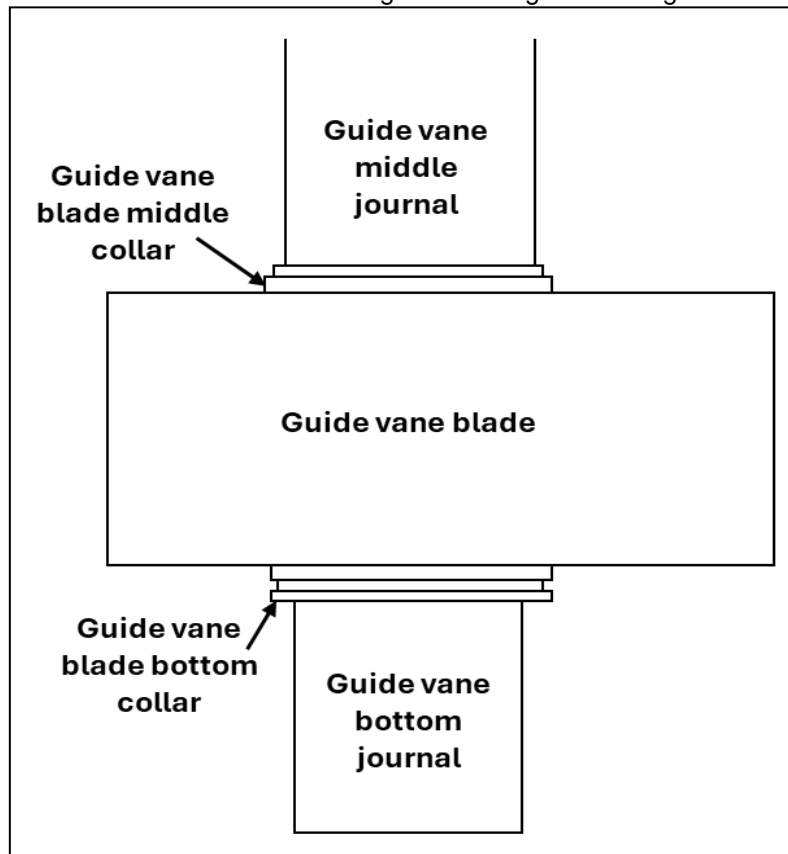


Figure 1: Guide vane illustration of bottom and middle journal location

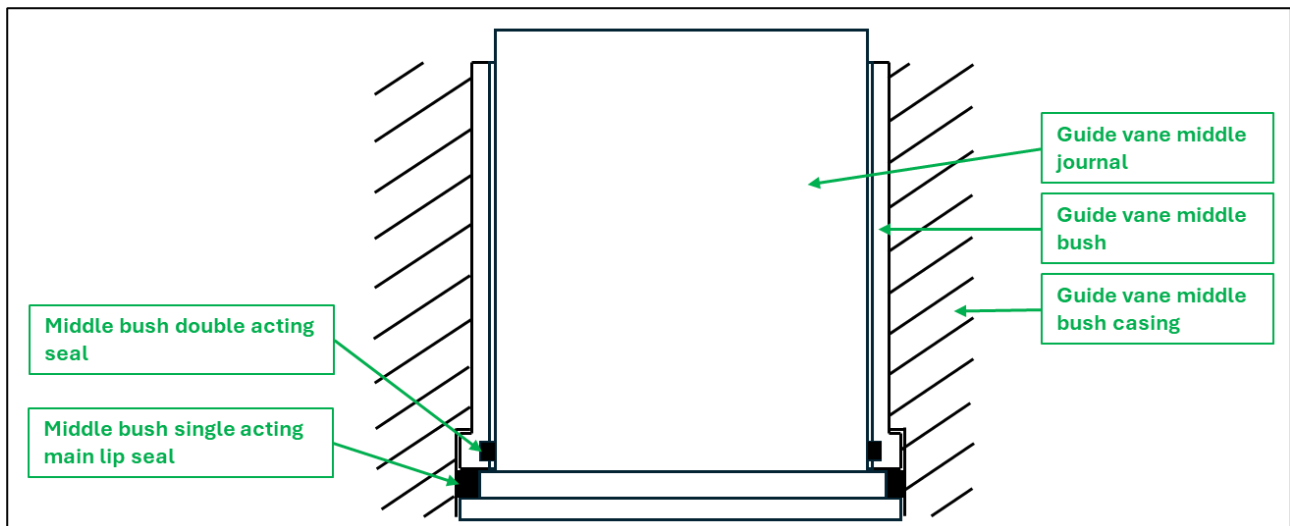


Figure 2: Guide vane middle bush & journal assembly illustrating location of seals

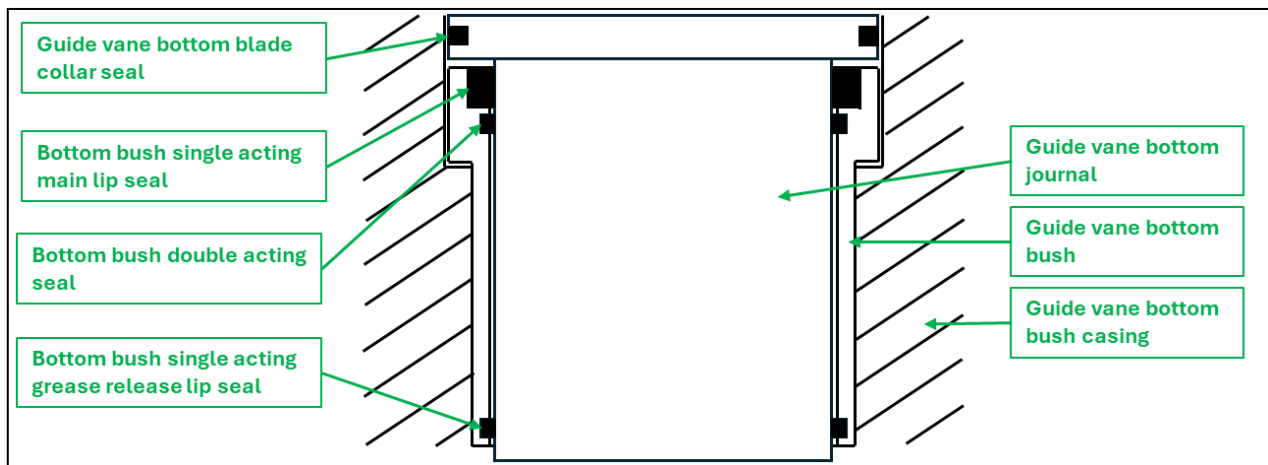


Figure 3: Guide vane bottom bush & journal assembly illustrating location of seals

2.1.9 Guide vane middle bush seals

Refer to Figure 1 and Figure 2.

2.1.9.1 Middle bush single acting main lip seal

This seal must be a rod seal design, preferably a U-profile seal. The function of this seal is to eliminate water passing from the high-pressure water side to the bush. The seal will only be exposed to pressurised water (1 bar to 72 bar) from one side of the seal as illustrated in **Figure 4**.

The seal must have a nominal height of 22mm. The seal groove (where the outside diameter of the seal will be located) is of material stainless-steel 316 and have a diameter of Ø380.00 to Ø380.50mm. The sealing surface of the seal is of material stainless-steel (JIS SCS1) with a surface finish of 0.8µm Ra or better and a diameter of Ø350.41 to Ø350.50mm.

The material of the seal must be Polyurathane and meet the specifications as outlined in **Table 3**. The operating rubbing speed specification for the seal design is 0.1 m/s or more.

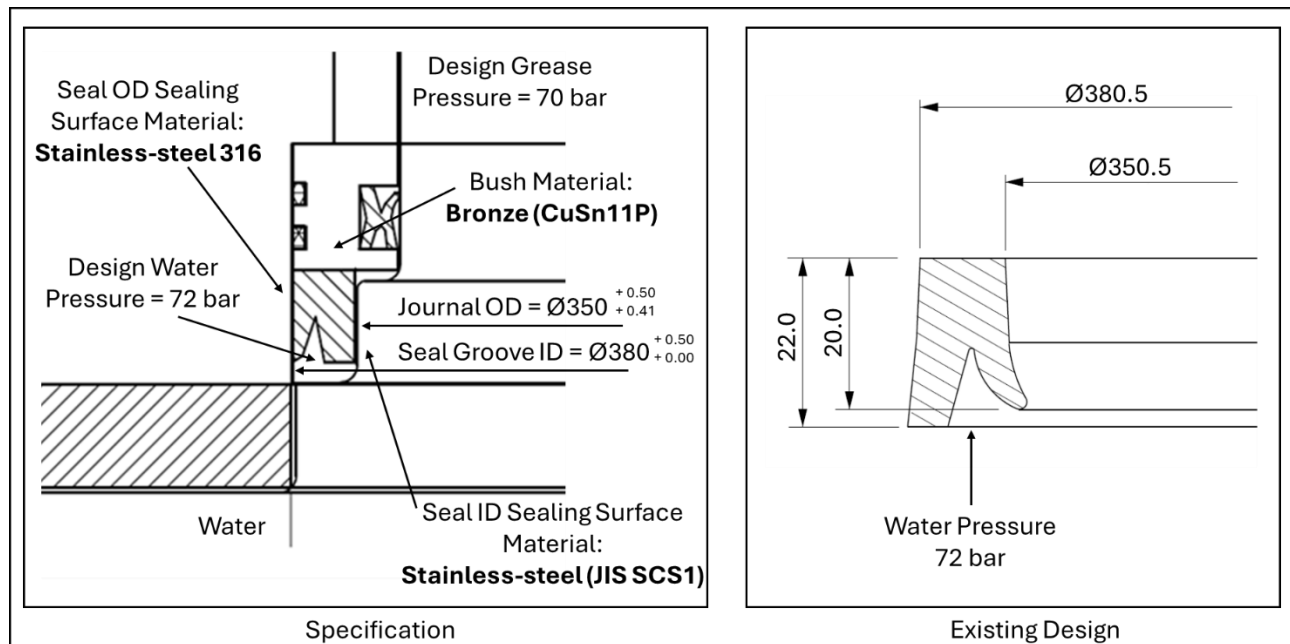


Figure 4: Middle bush single acting main lip seal illustration

2.1.9.2 Middle bush double acting seal

This seal must be a double acting U-seal design, being able to seal from both sides. The main function of this seal is to ensure grease do not leak into the waterway and to ensure the lubrication is maintained inside the bush. The top side of the double acting seal will be exposed to pressurised grease of up to 70 bar for short whiles (60 seconds a day) and then atmospheric pressure for the remainder of each day. The secondary function is to eliminate water leaking into the lubrication side of the middle bush (possibly leaking from a leaking middle bush single acting main lip seal). Therefore, the seal will be exposed to pressurised water (1 bar to 72 bar) from the bottom side of the seal as illustrated in **Figure 5**.

The seal groove has a height of 15mm and therefore the seal is required to be less than 15mm to ensure no interference fit from top to bottom. The seal groove (where the outside diameter of the seal will be located) is of material Bronze (CuSn11P) and have a diameter of Ø346.45 to Ø346.50. The sealing surface of the seal is of material stainless-steel (JIS SCS1) with a surface finish of 0.8µm Ra or better and a diameter of Ø328.50 to Ø328.557. The material of the seal must be Polyurathane and meet the specifications as outlined in **Table 3**. The operating rubbing speed specification for the seal design is 0.1 m/s or more.

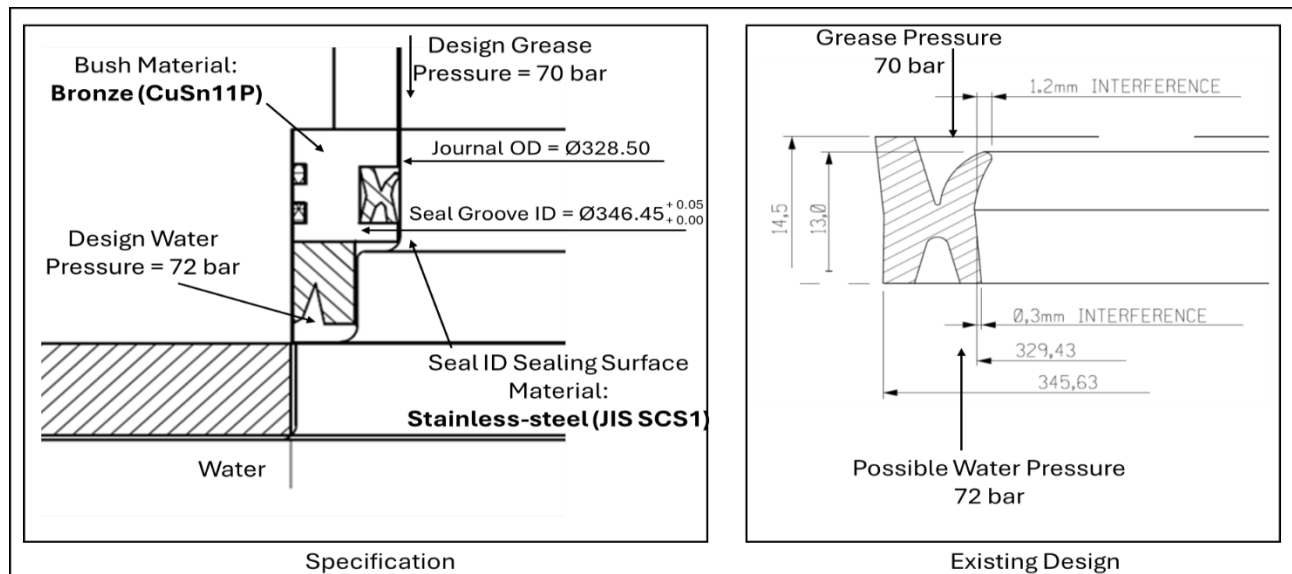


Figure 5: Middle bush double acting seal illustration

2.1.9.3 Middle bush gland packing seal

This seal must be of a gland packing design, preferably a V-profile seal. The function of this seal is to maintain the grease between the guide vane middle journal and guide vane middle bush for lubrication purposes and eliminate grease leaking onto the turbine head cover. The seal will only be exposed to pressurised grease (at approximately 70 bar maximum pressure) from one side of the seal as illustrated in **Figure 6**.

The seal must have a nominal height of 18mm. The seal groove (where the outside diameter of the seal will be located) is of material carbon steel and has a diameter of approximately Ø370.00 to Ø371mm. The sealing surface of the seal is of material stainless-steel (JIS SCS1) with a surface finish of 0.8µm Ra or better and a diameter of Ø328.50 to Ø328.557. The material of the seal must be Polyurethane and meet the specifications as outlined in **Table 3**. The operating rubbing speed specification for the seal design is 0.1 m/s or more.

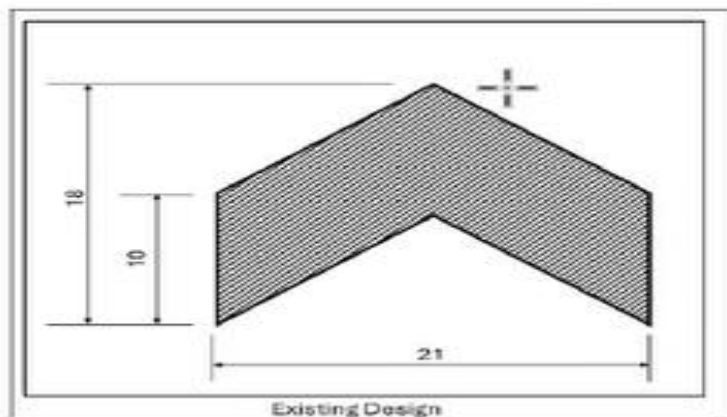


Figure 6: Middle bush gland packing seal illustration

2.1.9 Guide vane bottom bush seals

Refer to Figure 1, Figure 3, Figure 7, Figure 8, Figure 9 and Figure 10.

2.1.9.4 Bottom bush single acting grease release lip seal

This seal must be a rod seal design, preferably a U-profile seal. The function of this seal is to eliminate water passing from the pressure water side to the bush. The seal will be exposed to pressurised water (1 bar to 10

bar) from one side of the seal as illustrated in **Figure 7**. The seal will also cause slight restriction to the grease release, ensuring the grease pressure inside the housing is maintained for a short duration before released.

The seal groove has a height of 15mm and therefore the seal is required to be less than 15mm to ensure no interference fit from top to bottom. The seal groove (where the outside diameter of the seal will be located) is of material Bronze (CuSn11P) and have a diameter of Ø315.50 to Ø315.55. The sealing surface of the seal is of material stainless-steel (JIS SCS1) with a surface finish of 0.8µm Ra or better and a diameter of Ø298.60 to Ø298.657. The material of the seal must be Polyurathane and meet the specifications as outlined in **Table 3**. The operating rubbing speed specification for the seal design is 0.1 m/s or more.

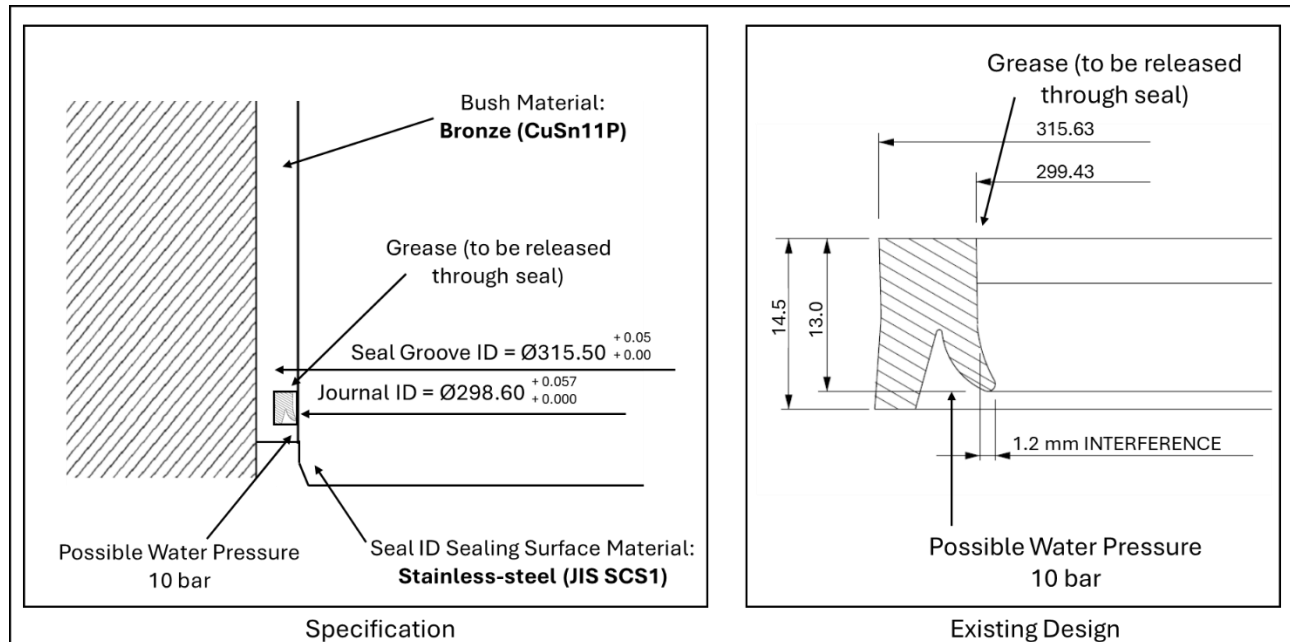


Figure 7: Bottom bush single acting grease release lip seal illustration

2.1.9.5 Bottom bush double acting seal

This seal must be a double acting U-seal design, being able to seal from both sides. The main function of this seal is to ensure grease do not leak into the waterway and to ensure the lubrication is maintained inside the bush. The bottom side of the double acting seal will be exposed to pressurised grease of up to 70 bar for short whiles (60 seconds a day) and then atmospheric pressure for the remainder of each day. The secondary function is to eliminate water leaking into the lubrication side of the bottom bush (possibly leaking from a leaking bottom bush single acting main lip seal). Therefore, the seal will be exposed to pressurised water (1 bar to 72 bar) from the top side of the seal as illustrated in **Figure8**.

The seal groove has a height of 15mm and therefore the seal is required to be less than 15mm to ensure no interference fit from top to bottom. The seal groove (where the outside diameter of the seal will be located) is of material Bronze (CuSn11P) and have a diameter of Ø315.50 to Ø315.55. The sealing surface of the seal is of material stainless-steel (JIS SCS1) with a surface finish of 0.8µm Ra or better and a diameter of Ø298.60 to Ø298.657. The material of the seal must be Polyurathane and meet the specifications as outlined in **Table 3**. The operating rubbing speed specification for the seal design is 0.1 m/s or more.

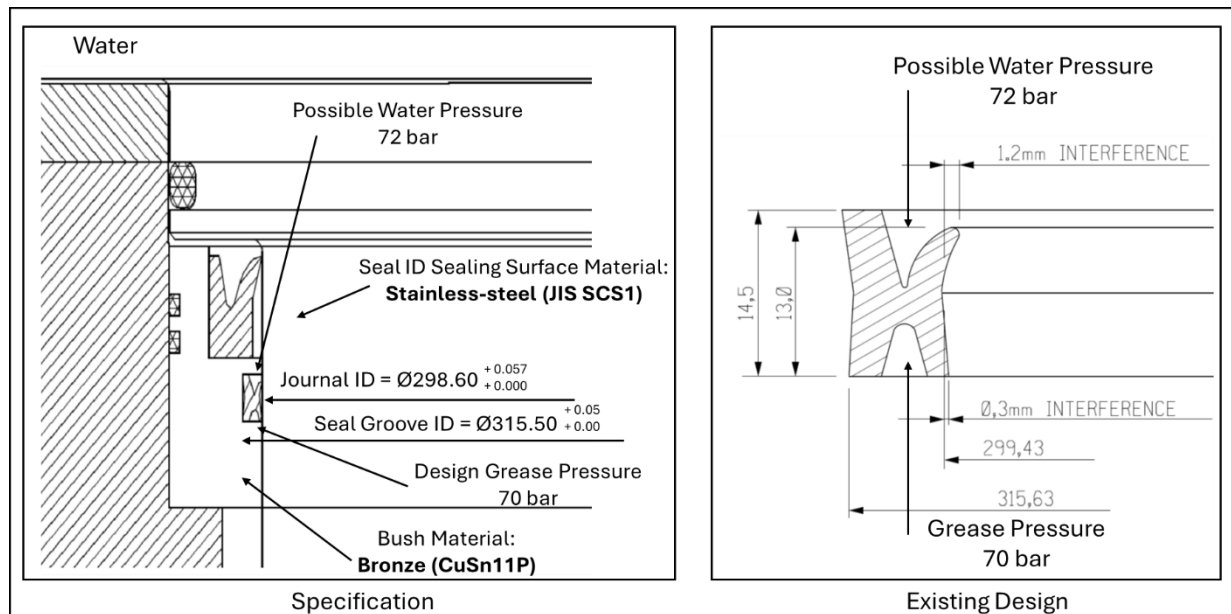


Figure 8: Bottom bush double acting seal illustration

2.1.9.6 Bottom bush single acting main lip seal

This seal must be a rod seal design, preferably a U-profile seal. The function of this seal is to eliminate water passing from the high-pressure water side to the bush. The seal will only be exposed to pressurised water (1 bar to 72 bar) from one side of the seal as illustrated in **Figure9**.

The seal groove has a height of 35mm and therefore the seal is required to have a nominal height of 33mm to ensure no interference fit from top to bottom. The seal groove (where the outside diameter of the seal will be located) is of material Bronze (CuSn11P) and have a diameter of Ø340.00 to Ø340.05. The sealing surface of the seal is of material stainless-steel (JIS SCS1) with a surface finish of 0.8µm Ra or better and a diameter of Ø398.60 to Ø398.657. The material of the seal must be Polyurathane and meet the specifications as outlined in **Table 3**. The operating rubbing speed specification for the seal design is 0.1 m/s or more.

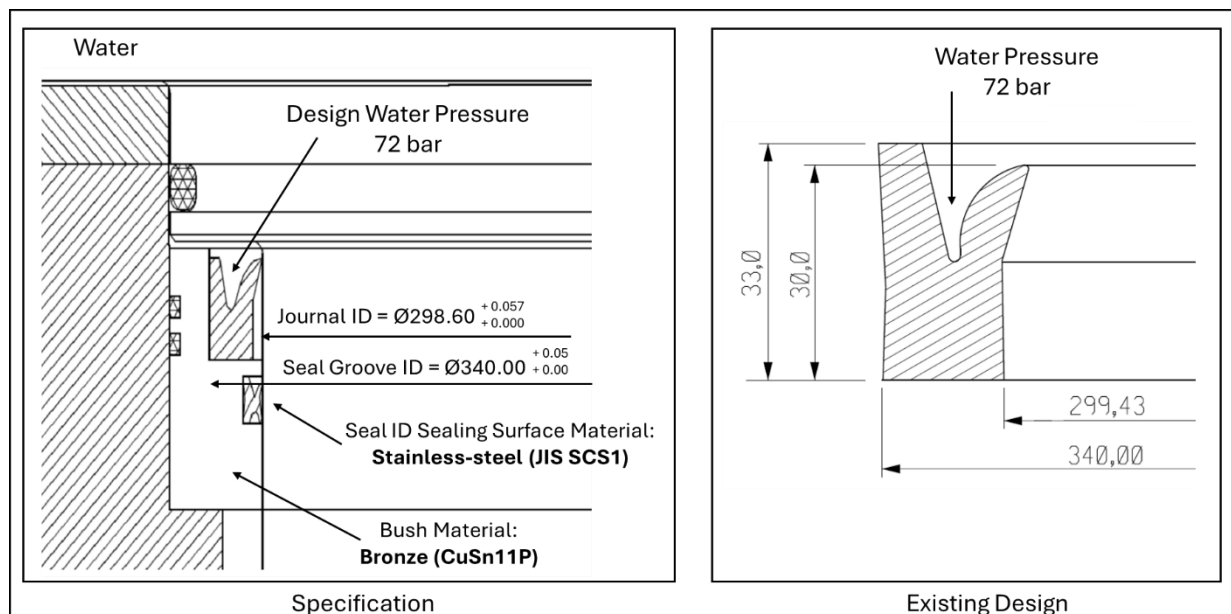


Figure 9: Bottom bush single acting main lip seal illustration

2.1.9.7 Guide vane bottom blade collar seal

This seal must be a 'D' seal design. The function of this seal is to eliminate water passing from the high-pressure water side of the guide vane blade to the guide vane bottom bush casing and ultimately the guide vane bottom bush. The seal will only be exposed to pressurised water (1 bar to 72 bar) from one side of the seal as illustrated in **Figure 10**.

The seal groove has a height of 15.0 to 15.027mm and therefore the seal is required to have a nominal height of 14.5 to 15.0mm to ensure no interference fit from top to bottom. The seal groove (where the inside diameter of the seal will be located) is of material stainless-steel (JIS SCS1) and have a diameter of Ø349.911 to Ø350.00. The sealing surface of the seal is of material stainless-steel 316 with a surface finish of 0.8µm Ra or better and a diameter of Ø370.00 to Ø370.23. The existing seal design (as illustrated in **Figure 10**) will not be changed. The material of the seal must be Polyurathane and meet the specifications as outlined in **Table 3**. The operating rubbing speed specification for the seal design is 0.1 m/s or more.

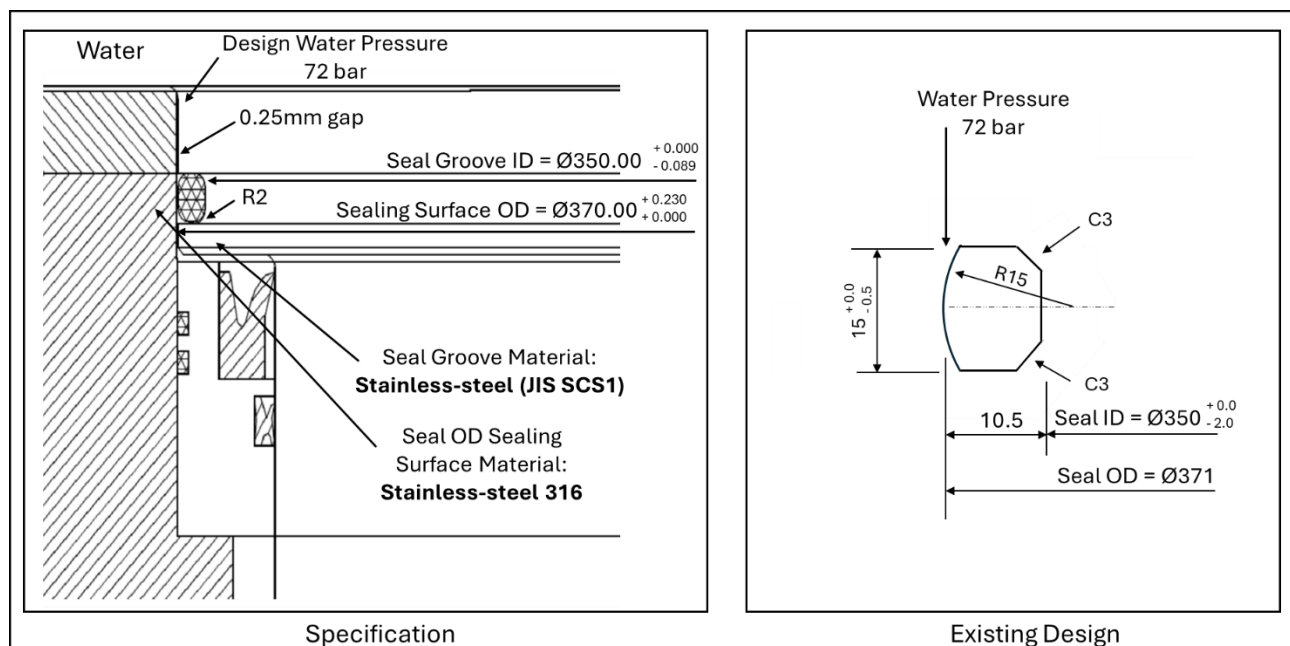


Figure 10: Guide vane bottom blade collar seal illustration

2.2 Purchaser's design

The *Supplier* designs and provides all equipment and jigs necessary to manufacture the *goods* as per Table.

2.3 Procedure for submission and acceptance of *Supplier's* design

The *Purchaser's* conducts design reviews of the proposed design of the seals.

2.4 Other requirements of the *Supplier's* design

The *Supplier* adheres to the following standards in providing the items to be supplied:

Table 4: Standards

Reference Number	Title	Date or revision
240-53665024	Engineering Quality Manual	1
OHS Act No. 85 of 1993	Occupational Health and Safety Act.	1993 as amended
ISO 9001	Requirements for Quality management systems.	2015

2.5 Manufacture & fabrication

The goods are to be manufactured and fabricated as per the specification and description of the goods.

2.6 Factory acceptance testing (FAT)

2.6.1. Inspection

The *Purchaser* shall perform various inspection, witness and hold points during the manufacturing and quality checks of the *goods* at the premises of the *Supplier*.

The *Purchaser* performs visual inspection on delivery of the *goods* at the *Purchaser's* site (Drakensberg Pumped Storage Scheme).

2.6.2. Disassembly of current bronze wearing components

The *Purchaser's* removes the currently installed guide vane bush seals when required.

2.6.3. Installation of the new bronze wearing components

The *Purchaser* installs the new guide vane bush seals when required.

2.6.4. Storage of the new bronze wearing components

The *Purchaser* stores the guide vane bush seals (as per the list of items in Table 1) in a safe area on the *Purchaser's* premises (Drakensberg Pumped Storage Scheme) after delivery of *goods* by the *Supplier*

2.7 Other tests and inspections and commissioning in place of use

All goods to be quality checked upon delivery.

2.8 Operating manuals and maintenance schedules

Material certificates, drawings and all other relevant documents should be obtained during or before goods delivery to site.

3.0 Supply Requirements

The Supply Requirements for this contract are in an Annexure A to the Contract Data provided by the *Purchaser*.

4.0 Specification of the services to be providedThe *Purchaser* provides the following to the *Supplier*:

4.1 Crane

A crane is available in the *Purchaser's* power station machine hall. The *Supplier* ensures that all necessary arrangements and preparations are made for the use of this crane in terms of letting the *Supply Manager* know when to expect delivery.

4.2 Area for site establishment and storage

The *Purchaser's* indicates a storage yard to the *Supplier*. All other services and things needed to provide the goods, is supplied by the *Supplier*

5.0 Constraints on how the *Supplier* Provides the Goods

5.1 Programming constraints

The *Supplier* prepares his programme on MS project format computerised planning software and utilises it for all planning, progress monitoring and reporting. The programme shows all the information required by Clause 31.2 off the SC3.

In addition, the programme shows:

- All activities defined in the activity schedule.

- The program indicates the start date,
- The programme's revision number

5.2 Work to be done by the Delivery Date

No incorrect, damaged or faulty goods will be accepted. All goods will be inspected before and after offloading. Where testing is required, the test will be done during delivery. All material certificates must be available during delivery.

5.2.1-Dimensional verification

The *Supplier* provides a dimensional check sheet for each seal delivered. The dimensional check sheet includes the inner diameter, outer diameter, height, interferences, clearances and lip dimensions for each seal.

5.2.2 Hardness testing

The *Supplier* performs hardness testing on each batch of the supplied seals. The *Supplier* submits copies of all tests performed, indicating the results of all hardness tests performed to the Employer for acceptance with the delivery of each batch of seals.

5.2.3 Material data sheets

The *Supplier* provides a signed confirmation letter (on a letterhead of the *Supplier*) with a data sheet of the seal material for each batch, confirming the material data sheets represents the material of the batch of seal supplied. The *Supplier* provides the confirmation letters and material data sheets to the *Supply Manager* for acceptance with the delivery of each batch of seals.

5.2.4 Defects

The *Supplier* replace all damaged or defective seals with new seals.

5.2.5 Packaging & Labelling

The *Supplier* ensures the seals are packaged in a way to prevent damage of the seals during transport. The packaging is clearly labelled with the identification of each seal.

5.2.6 Dispatch, delivery and offloading

- a) The *Supplier* delivers the *Goods* safely to the *Purchaser's* site (Eskom Drakensberg Pumped Storage Scheme, Jagersrust, Kwa-Zulu Natal, South Africa) without any damage.
- b) The *Supplier* ensures that all material and equipment is packaged, transported and delivered in such a way that the parts are not damaged during transport and delivery.
- c) The contents of each package are clearly marked.
- d) The *Supplier* replaces all damaged or defective components.

5.3 Constraints at the delivery place and place of use

The *Supplier* shall adhere to the speed limit while driving onsite. The preferred delivery times are:

- a) Monday to Thursday between 07:00-16:00
- b) and Friday between 07:00-12:00.

However, for urgent delivery, the *Supplier* will communicate with the *Purchaser* to agree on the time and date of delivery.

5.4 Services & other things to be provided by the *Purchaser* or *Supplier*

The *Purchaser* will provide the overhead crane and forklift during offloading of the goods. The *Purchaser* will also provide the operator for both machines.

5.5 Management meetings

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

Title and purpose	Approximate interval	Location	Attendance by:
Site (Kick Off) meeting	Once-off	Drakensberg, MS teams	<i>Purchaser, Supply Manager, Supplier, and Others as required</i>
Overall contract progress and feedback	To be agreed between Purchaser and Supplier	Drakensberg, MS teams	<i>Purchaser, Supply Manager, Supplier, and Others as required</i>
Risk Reduction meeting	As requested by either party	Drakensberg, MS teams	<i>Purchaser, Supply Manager, Supplier, and Others as required</i>
At the risk reduction meetings items as prescribed in SC3 Clause 16.2 and 16.3 are discussed. The Risk Register is updated by <i>Supply Manager</i> and distributed within five days of the meeting.			
Meetings of a specialist nature	Adhoc	Drakensberg, MS teams	<i>Purchaser, Supply Manager, Supplier, and Others as required</i>
Meetings of a specialist nature may be convened by persons and at times and locations to suit the Parties, the nature and the progress of the <i>goods</i>			

All meetings shall be recorded using minutes including MS Teams recording transcript or a register prepared and circulated by the person who convened the meeting. Such minutes MS Teams recording transcript or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the conditions of contract to carry out such actions or instructions. Records of these meetings shall be submitted to the *Supply Manager* by the person convening the meeting within five days of the meeting.

5.6 Documentation control

All contractual communications will be in the form of properly compiled letters or forms attached to e-mails and not as a message in the e mail itself.

5.6.1 Communication

All Communication is addressed to the *Supply Manager* as applicable to the SC3. All communication refers to:

- The Contract Number that is issued by the *Purchaser* (normally a 46000.....)
- The Contract title.
- Any previous reference relating to the specific communique.
- The Specific SC3 clause under which the communication is issued.
- Whether a reply is required and
- A unique letter reference number.

The unique reference number to be used for written correspondence between the *Supply Manager* and *Contractor* and vice versa is as follows:

- From the *Supply Manager* to the *Supplier*: 46000..... E/C 0xxx; and
- From the *Supplier* to the *Supply Manager* 46000C/E 0xxx referring to the Contract number and

the next sequential letter (channel) number

5.6.2 Pre-implementation documentation

The *Supplier* submits the following to the *Supply Manager* for acceptance (within one week of purchase order placement):

- a) Approved and fully signed-off quality control plan
- b) Check sheet templates

The *Supplier* notes the following:

- a) Metric sizes, as specified by the International Standards Organization and agreed to by the South African Metrication Boards, are used.
- b) SI units are used on drawings, pamphlets, calculations and documents.

5.6.3 Post-implementation documentation

The *Supplier* submits one hardcopy and one electronic version of all documentation described below on delivery of the *goods* to the *Supply Manager* for acceptance with the delivery of each batch of seals.

- a) The *Supplier* provides a dimensional check sheet for each seal delivered. The dimensional check sheet includes the inner diameter, outer diameter, height, interferences, clearances and lip dimensions for each seal.
- b) The *Supplier* performs hardness testing on each batch of the supplied seals. The *Supplier* submits copies of all tests performed, indicating the results of all hardness tests performed to the *Employer* for acceptance with the delivery of each batch of seals.
- c) The *Supplier* provides a signed confirmation letter (on a letterhead of the *Supplier*) with a data sheet of the seal material for each batch, confirming the material data sheets represents the material of the batch of seal supplied. The *Supplier* provides the confirmation letters and material data sheets to the *Employer* for acceptance with the delivery of each batch of seals.
- d) A completed and fully signed-off quality control plan.
- e) Manufacturing drawings of each of the seals.

5.6.4 Completion

Completion is when the following has been done by completion date:

- a) The *Supplier* has done everything required to provide the *goods*.
- b) The *Supplier* has delivered the *goods*, and the *goods* are accepted by the *Supply Manager*.
- c) The *Supplier* has provided all as-built documentation described in Section 5.6.3 and is accepted by the *Supply Manager*.
- d) The *Supplier* submitted all other docs as required to the *Supply Manager* for acceptance.

5.7 Health and safety risk management

- a) The *Supplier* complies with the Occupational Health and Safety Act. (OHSA No. 85 of 1993)
- b) The *Supplier* takes every precaution to ensure safety and to protect the *goods* and temporary *goods*.
- c) The *Supplier* is responsible for the safety and security of his personnel, materials on site and the goods at all times during manufacturing and delivery of the goods.
- d) The *Supplier* adheres to the safety regulations pertaining to the *Purchaser's* Power Station (Drakensberg Pumped Storage Scheme).
- e) The *Supplier* provides all the required safety and personal protective equipment to his staff for the duration of the contract.

The minimum requirements for the *Supplier* to gain access to Peaking Power Station include but not limited to:

- 5.7.1 i) Identification document (RSA ID or equivalent)
- 5.7.2 ii) National Drivers Licence (applicable to drivers)
- 5.7.3 iii) Adherence to the Eskom Life-saving rules 3 and 4, Be Sober and Buckle up

Rule	Description of rule
3	BUCKLE UP No person may drive any vehicle on Eskom business and/or on <i>Purchaser</i> premises: Unless the driver and all passengers are wearing seat belts
4	BE SOBER No person is allowed to be under the influence of intoxicating liquor or drugs while on duty

5.8 Environmental constraints and management

- a) The *Purchaser's* Power Station (Drakensberg Pumped Storage Scheme) is situated in an environmentally sensitive area.
- b) The *Supplier* acquaints himself with all statutory and local environment regulations and adheres to these without exception.
- c) The *Supplier* complies with the Hazardous Chemical Regulations when using any hazardous chemicals, as well as complying with the requirements of the National Environmental Management Act of 1988.

5.9 Quality

- a) The *Supplier* submits a quality control plan (QCP) to the *Supply Manager* for acceptance. This QCP include inspection, hold and witness points.
- b) The *Purchaser* reserves the right to revise the Quality Control Plan after purchase order placement.
- c) The *Supplier* submits the final QCP to the *Purchaser* for acceptance within one week after purchase order placement.

5.10 Invoicing and payment

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

The *Supplier* shall address the tax invoice to *Purchaser* and include on each invoice the following information:

Address the tax invoice to:
Eskom Holdings SOC LTD
Eskom Peaking Generation
ATT: Financial Accounting
PO Box 3487
Tygervally
7536

- Name and address of the *Supplier* and the *Supply Manager*;
- The contract number and title;
- *Supplier's* VAT registration number;
- The *Purchaser's* VAT registration number 4740101508.
- Description of *goods* and *services* provided for each item invoiced based on the Price Schedule;
- Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT;

The invoice to be submitted in pdf format to invoiceseskomlocal@eskom.co.za, Use the order number as the reference on your invoice.

5.11 Contract change management

The *Supply Manager* to be notified as soon as possible if there are changes that might lead to a compensation event using the standard forms for notifying the Compensation event.

5.12 Insurance provided by the *Purchaser*

The *Purchaser* will provide the insurances as stated in Part one Data provided by the *Purchaser*, INSURANCE TABLE B

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

The *Supplier* retains all records of assessments, invoices, payments and all other relevant applicable to this Contract both in hard copy as well as soft copy.

6.0 Procurement

6.1 Subcontracting

6.1.1 Preferred subcontractors

The *Supplier* can subcontract with the BBBEE level 1 subcontractors.

6.1.2 Limitations on subcontracting

The *Supplier* can subcontract the delivery of the Goods.

6.1.3 Spares and consumables

The *Purchaser* may instruct the *Supplier* to deliver part of the spares as the need arise due to plant condition.

7.0 List of drawings

7.1 Drawings issued by the *Purchaser*

Drawings are listed above as part of the Contract.