



NEC3 Term Service Contract (TSC3)

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

and

(Reg No. _____)

for **Overhauling of Mechanical Pumps at Gourikwa and
Ankerlig Power Stations**

Contents:

**No of
pages**

Part C1 Agreements & Contract Data

Part C2 Pricing Data

Part C3 Scope of Work

CONTRACT No.

PART C1: AGREEMENTS & CONTRACT DATA

Contents:	No of pages
C1.1 Form of Offer and Acceptance	[•]
C1.2a Contract Data provided by the <i>Employer</i>	[•]
C1.2b Contract Data provided by the <i>Contractor</i>	[•]

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

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:

Overhauling of Mechanical Pumps at Gourikwa and Ankerlig Power Stations.

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

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

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

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

Signature(s)

Name(s)

Capacity

**For the
tenderer:**

(Insert name and address of organisation)

Name &
signature of
witness

Date

Tenderer's CIDB registration number:

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

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS**Acceptance**

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

The terms of the contract, are contained in:

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

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

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

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

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

Signature(s)

Name(s)	Avi Singh	
Capacity	General Manager: Peaking Power Stations	
for the Employer	Eskom Holdings SOC Ltd 15 Pasita Street Rosenpark, 7530	
Name & signature of witness	Judith Carolus Procurement Practitioner	Date _____

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

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS**Schedule of Deviations to be completed by the *Employer* prior to contract award**

Note:

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

No.	Subject	Details
1		
2		
3		

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

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

For the tenderer:**For the Employer**

Signature

Name

Capacity

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

Name & signature of witness

Date

Avi Singh

General Manager: Peaking Power Stations**Eskom Holdings SOC Ltd
15 Pasita Street
Rosenpark, 7530****Judith Carolus
Procurement Practitioner**

C1.2 TSC3 Contract Data

Part one - Data provided by the *Employer*

Clause	Statement	Data
1	General	
	The <i>conditions of contract</i> are the core clauses and the clauses for main Option:	
		A: Priced contract with price list
	dispute resolution Option	W1: Dispute resolution procedure
	and secondary Options	
		X1: Price adjustment for inflation
		X2: Changes in the law
		X17: Low service damages
		X18: Limitation of liability
		X19: Task Order
		Z: Additional conditions of contract
	of the NEC3 Term Service Contract April 2013 ¹ (TSC3)	
10.1	The <i>Employer</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
	Tel No.	011 800 8111
10.1	The <i>Service Manager</i> is (name):	Emanuel Netshivhulana
	Address	Gourikwa Gas Turbine On N2 North, PetroSA Landfill Site Mossel Bay 6500
	Tel	044 606 3499
	e-mail	netshieu@eskom.co.za
11.2(2)	The Affected Property is	Gourikwa and Ankerlig Open Cycle Gas Turbine Power Stations
11.2(13)	The <i>service</i> is	Overhauling of mechanical pumps at Gourikwa and Ankerlig power stations

¹ Available from Engineering Contract Strategies Tel 011 803 3008 Fax 086 539 1902 www.ecs.co.za

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

11.2(14)	The following matters will be included in the Risk Register	
11.2(15)	The Service Information is in	Part 3: Scope of Work and all documents and drawings to which it makes reference.
12.2	The <i>law of the contract</i> is the law of	the Republic of South Africa
13.1	The <i>language of this contract</i> is	English
13.3	The <i>period for reply</i> is	<ul style="list-style-type: none"> • Three (3) days • Immediately for health and safety issues
2	The <i>Contractor's</i> main responsibilities	Data required by this section of the core clauses is also provided by the <i>Contractor</i> in Part 2 and terms in italics used in this section are identified elsewhere in this Contract Data
21.1	The <i>Contractor</i> submits a first plan for acceptance within	Two (2) weeks of the Contract Date
3	Time	
30.1	The <i>starting date</i> is.	TBC
30.1	The <i>service period</i> is	Five (5) years
4	Testing and defects	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
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	Thirty (30) days after receipt of a valid tax invoice
51.4	The <i>interest rate</i> is	<p>the publicly quoted prime rate of interest (calculated on a 365 day year) charged by from time to time by the Standard Bank of South Africa Limited (as certified, in the event of any dispute, by any manager of such bank, whose appointment it shall not be necessary to prove) for amounts due in Rands and</p> <p>(ii) the LIBOR rate applicable at the time for amounts due in other currencies. LIBOR is the 6 month London Interbank Offered Rate quoted under the caption "Money Rates" in The Wall Street Journal for the applicable currency or if no rate is quoted for the currency in question then the rate for United States Dollars, and if no such rate appears in The Wall Street Journal then the rate as quoted by the Reuters Monitor Money Rates Service (or such service as may replace the Reuters Monitor Money Rates Service) on the due date for the payment</p>

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

		in question, adjusted <i>mutatis mutandis</i> every 6 months thereafter (and as certified, in the event of any dispute, by any manager employed in the foreign exchange department of The Standard Bank of South Africa Limited, whose appointment it shall not be necessary to prove.
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	Use of Equipment Plant and Materials	There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data
8	Risks and insurance	
80.1	These are additional <i>Employer's</i> risks	None
9	Termination	There is no reference to Contract Data in this section of the core clauses and terms in italics used in this section are identified elsewhere in this Contract Data.
10	Data for main Option clause	
A	Priced contract with price list	
20.5	The <i>Contractor</i> prepares forecasts of the final total of the Prices for the whole of the service at intervals no longer than	One (1) week.
11	Data for Option W1	
W1.1	The <i>Adjudicator</i>	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>
W1.2(3)	The <i>Adjudicator nominating body</i> is:	the Chairman of ICE-SA a joint Division of the South African Institution of Civil Engineering and the Institution of Civil Engineers (London) (see www.ice-sa.org.za) or its successor body.
W1.4(2)	The <i>tribunal</i> is:	arbitration
W1.4(5)	The <i>arbitration procedure</i> is	the latest edition of Rules for the Conduct of Arbitrations published by The Association of Arbitrators (Southern Africa) or its successor body.
	The place where arbitration is to be held is	Cape Town, 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

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

- if the arbitration procedure does not state who selects an arbitrator, is **of the Association of Arbitrators (Southern Africa) or its successor body.**

12 Data for secondary Option clauses

X1	Price adjustment for inflation	CPA indice is included in the event of Outage Movement Dates and / or Extensions												
X1.1	The <i>base date</i> for indices is The proportions used to calculate the Price Adjustment Factor are:	1 Month before the Tender Closing Date <table> <tr> <th>proportion</th><th>linked to index for</th><th>Index prepared by</th></tr> <tr> <td>85%</td><td>CPI Table B</td><td>StatsSA</td></tr> <tr> <td>15%</td><td>Fixed</td><td></td></tr> <tr> <td>100%</td><td></td><td></td></tr> </table>	proportion	linked to index for	Index prepared by	85%	CPI Table B	StatsSA	15%	Fixed		100%		
proportion	linked to index for	Index prepared by												
85%	CPI Table B	StatsSA												
15%	Fixed													
100%														
X2	Changes in the law	There is no reference to Contract Data in this Option and terms in italics are identified elsewhere in this Contract Data.												
X17	Low service damages													
X17.1	The <i>service level table</i> is in	Listed below												

Low Service Damage Description	Value Of Low Service Damages	Limit Of Low Service Damage
Service delaying outage critical path (delaying other <i>Contractor(s)</i> from starting / completing their work)	1.5% of fixed monthly service or Task order value for an ad-hoc service	Limited to 10% of monthly task order service value / task order value for ad-hoc service
Service delays not finishing as per agreed upon programmed submitted to the <i>Service Manager</i>	2% of fixed monthly service or Task order value for an ad-hoc service	Limited to 10% of monthly task order service value / task order value for ad-hoc service
Delay in submission of documents as detailed in this agreement	1% of fixed monthly service or Task order value for an ad-hoc service	Limited to 10% of monthly task order service value / task order value for ad-hoc service
Rework due to poor workmanship	3% of fixed monthly service or Task order value for an ad-hoc service	Limited to 10% of monthly task order service value / task order value for ad-hoc service
No response of NCR within 3 days	1% of fixed monthly service or Task order value for an ad-hoc service	Limited to 10% of monthly task order service value / task order value for ad-hoc service

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

X18	Limitation of liability	
X18.1	The <i>Contractor's</i> liability to the <i>Employer</i> for indirect or consequential loss is limited to	R0.0 (zero Rand)
X18.2	For any one event, the <i>Contractor's</i> liability to the <i>Employer</i> for loss of or damage to the <i>Employer's</i> property is limited to	the amount of the deductibles relevant to the event
X18.3	The <i>Contractor's</i> liability for Defects due to his design of an item of Equipment is limited to	the value of the defective part
X18.4	The <i>Contractor's</i> total liability to the <i>Employer</i> , for all matters arising under or in connection with this contract, other than the excluded matters, is limited to	<p>the total of the Prices other than for the additional excluded matters.</p> <p>The <i>Contractor's</i> total liability for the additional excluded matters is not limited.</p> <p>The additional excluded matters are amounts for which the <i>Contractor</i> is liable under this contract for</p> <ul style="list-style-type: none"> • Defects due to his design, plan and specification, • Defects due to manufacture and fabrication outside the Affected Property, • loss of or damage to property (other than the <i>Employer's</i> property, Plant and Materials), • death of or injury to a person and infringement of an intellectual property right.
X18.5	The <i>end of liability date</i> is	12 months after the end of the <i>service period</i>.
X19	Task Order	
X19.5	The <i>Contractor</i> submits a Task Order programme to the <i>Service Manager</i> within	Three (3) days of receiving the Task Order
Z	The <i>additional conditions of contract</i> are	Z1 to Z14 always apply.

Z1 Cession delegation and assignment

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

Z2 Joint ventures

- Z2.1 If the *Contractor* constitutes a joint venture, consortium or other unincorporated grouping of two or more persons or organisations then these persons or organisations are deemed to be jointly

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

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 *Service Manager* within two weeks of the Contract Date of the key person who has the authority to bind the *Contractor* on their behalf.

Z2.3 The *Contractor* does not alter the composition of the joint venture, consortium or other unincorporated grouping of two or more persons without the consent of the *Employer* having been given to the *Contractor* in writing.

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

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

Z3.2 The *Contractor* is required to submit an updated verification certificate and necessary supporting documentation confirming the change in his B-BBEE status to the *Service Manager* within thirty days of the notification or as otherwise instructed by the *Service Manager*.

Z3.3 Where, as a result, the *Contractor's* B-BBEE status has decreased since the Contract Date the *Employer* may either re-negotiate this contract or alternatively, terminate the *Contractor's* obligation to Provide the Service.

Z3.4 Failure by the *Contractor* to notify the *Employer* of a change in its B-BBEE status may constitute a reason for termination. If the *Employer* terminates in terms of this clause, the procedures on termination are P1, P2 and P4 as stated in clause 92, and the amount due is A1 and A3 as stated in clause 93.

Z4 Confidentiality

Z4.1 The *Contractor* does not disclose or make any information arising from or in connection with this contract available to Others. This undertaking does not, however, apply to information which at the time of disclosure or thereafter, without default on the part of the *Contractor*, enters the public domain or to information which was already in the possession of the *Contractor* at the time of disclosure (evidenced by written records in existence at that time). Should the *Contractor* disclose information to Others in terms of clause 25.1, the *Contractor* ensures that the provisions of this clause are complied with by the recipient.

Z4.2 If the *Contractor* is uncertain about whether any such information is confidential, it is to be regarded as such until notified otherwise by the *Service Manager*.

Z4.3 In the event that the *Contractor* is, at any time, required by law to disclose any such information which is required to be kept confidential, the *Contractor*, to the extent permitted by law prior to disclosure, notifies the *Employer* so that an appropriate protection order and/or any other action can be taken if possible, prior to any disclosure. In the event that such protective order is not, or cannot, be obtained, then the *Contractor* may disclose that portion of the information which it is required to be disclosed by law and uses reasonable efforts to obtain assurances that confidential treatment will be afforded to the information so disclosed.

Z4.4 The taking of images (whether photographs, video footage or otherwise) of the Affected Property or any portion thereof, in the course of Providing the Service and after the end of the *service period*, requires the prior written consent of the *Service Manager*. All rights in and to all such images vests exclusively in the *Employer*.

Z4.5 The *Contractor* ensures that all his subcontractors abide by the undertakings in this clause.

Z5 Waiver and estoppel: Add to core clause 12.3:

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

- Z5.1 Any extension, concession, waiver or relaxation of any action stated in this contract by the Parties, the *Service 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 27.4

- Z6.1 The *Contractor* undertakes to take all reasonable precautions to maintain the health and safety of persons in and about the execution of the *service*. Without limitation the *Contractor*:
- accepts that the *Employer* may appoint him as the "Principal Contractor" (as defined and provided for under the Construction Regulations 2014 (promulgated under the Occupational Health & Safety Act 85 of 1993) ("the Construction Regulations") for the Affected Property;
 - warrants that the total of the Prices as at the Contract Date includes a sufficient amount for proper compliance with the Construction Regulations, all applicable health & safety laws and regulations and the health and safety rules, guidelines and procedures provided for in this contract and generally for the proper maintenance of health & safety in and about the execution of the *service*; and
 - undertakes, in and about the execution of the *service*, to comply with the Construction Regulations and with all applicable health & safety laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Contractor's* direction and control, likewise observe and comply with the foregoing.
- Z6.2 The *Contractor*, in and about the execution of the *service*, complies with all applicable environmental laws and regulations and rules, guidelines and procedures otherwise provided for under this contract and ensures that his Subcontractors, employees and others under the *Contractor's* direction and control, likewise observe and comply with the foregoing.

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

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

Z8 Notifying compensation events

- Z8.1 Delete the last paragraph of core clause 61.3 and replace with:

If the *Contractor* does not notify a compensation event within eight weeks of becoming aware of the event, he is not entitled to a change in the Prices.

Z9 Employer's limitation of liability

- Z9.1 The *Employer's* liability to the *Contractor* for the *Contractor's* indirect or consequential loss is limited to R0.00 (zero Rand)

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Z9.2 The *Contractor's* entitlement under the indemnity in 82.1 is provided for in 60.1(12) and the *Employer's* liability under the indemnity is limited to compensation as provided for in core clause 63 and X19.11 if Option X19 Task Order applies to this contract.

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 Ethics

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

Affected Party means, as the context requires, any party, irrespective of whether it is the *Contractor* or a third party, such party's employees, agents, or Subcontractors or Subcontractor's employees, or any one or more of all of these parties' relatives or friends,

Coercive Action means to harm or threaten to harm, directly or indirectly, an Affected Party or the property of an Affected Party, or to otherwise influence or attempt to influence an Affected Party to act unlawfully or illegally,

Collusive Action means where two or more parties co-operate to achieve an unlawful or illegal purpose, including to influence an Affected Party to act unlawfully or illegally,

Committing Party means, as the context requires, the *Contractor*, or any member thereof in the case of a joint venture, or its employees, agents, or Subcontractors or the Subcontractor's employees,

Corrupt Action means the offering, giving, taking, or soliciting, directly or indirectly, of a good or service to unlawfully or illegally influence the actions of an Affected Party,

Fraudulent Action means any unlawfully or illegally intentional act or omission that misleads, or attempts to mislead, an Affected Party, in order to obtain a financial or other benefit or to avoid an obligation or incurring an obligation,

Obstructive Action means a Committing Party unlawfully or illegally destroying, falsifying, altering or concealing information or making false statements to materially impede an investigation into allegations of Prohibited Action, and

Prohibited Action means any one or more of a Coercive Action, Collusive Action Corrupt Action, Fraudulent Action or Obstructive Action.

Z11.1 A Committing Party may not take any Prohibited Action during the course of the procurement of this contract or in execution thereof.

Z11.2 The *Employer* may terminate the *Contractor's* obligation to Provide the Services if a Committing Party has taken such Prohibited Action and the *Contractor* did not take timely and appropriate action to prevent or remedy the situation, without limiting any other rights or remedies the *Employer* has. It is not required that the Committing Party had to have been found guilty, in court or in any other similar process, of such Prohibited Action before the *Employer* can terminate the *Contractor's* obligation to Provide the Services for this reason.

Z11.3 If the *Employer* terminates the *Contractor's* obligation to Provide the Services for this reason, the amounts due on termination are those intended in core clauses 92.1 and 92.2.

Z11.4 A Committing Party co-operates fully with any investigation pursuant to alleged Prohibited Action. Where the *Employer* does not have a contractual bond with the Committing Party, the *Contractor* ensures that the Committing Party co-operates fully with an investigation.

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS**Z12 Insurance****Z12.1 Replace core clause 83 with the following:****Insurance cover 83**

- 83.1 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.
- 83.2 The *Contractor* provides the insurances stated in the Insurance Table A from the *starting date* until the earlier of Completion and the date of the termination certificate.

INSURANCE TABLE A

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

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS**Z12.2 Replace core clause 86 with the following:**

Insurance 86
by the
Employer

86.1 The *Employer* provides the insurances stated in the Insurance Table B

INSURANCE TABLE B

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

Z13 Nuclear Liability

- Z13.1 The *Employer* is the operator of the Koeberg Nuclear Power Station (KNPS), a nuclear installation, as designated by the National Nuclear Regulator of the Republic of South Africa, and is the holder of a nuclear licence in respect of the KNPS.
- Z13.2 The *Employer* is solely responsible for and indemnifies the *Contractor* or any other person against any and all liabilities which the *Contractor* or any person may incur arising out of or resulting from nuclear damage, as defined in Act 47 of 1999, save to the extent that any liabilities are incurred due to the unlawful intent of the *Contractor* or any other person or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.
- Z13.3 Subject to clause Z13.4 below, the *Employer* waives all rights of recourse, arising from the aforesaid, save to the extent that any claims arise or liability is incurred due or attributable to the unlawful intent of the *Contractor* or any other person, or the presence of the *Contractor* or that person or any property of the *Contractor* or such person at or in the KNPS or on the KNPS site, without the permission of the *Employer* or of a person acting on behalf of the *Employer*.
- Z13.4 The *Employer* does not waive its rights provided for in section 30 (7) of Act 47 of 1999, or any replacement section dealing with the same subject matter.
- Z13.5 The protection afforded by the provisions hereof shall be in effect until the KNPS is decommissioned.

Z14 Asbestos

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

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

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

Z14.1 The *Employer* ensures that the Ambient Air in the area where the *Contractor* will Provide the Services conforms to the acceptable prescribed South African standard for asbestos, as per the regulations published in GNR 155 of 10 February 2002, under the Occupational Health and Safety Act, 1993 (Act 85 of 1993) ("Asbestos Regulations"). The OEL for asbestos is 0.2 regulated asbestos fibres per millilitre of air as a 4-hour TWA, averaged over any continuous period of four hours, and the short term exposure limit of 0.6 regulated asbestos fibres per millilitre of air as a 10-minute TWA, averaged over any 10 minutes, measured in accordance with HSG248 and monitored according to HSG173 and OESSM.

Z14.2 Upon written request by the *Contractor*, the *Employer* certifies that these conditions prevail. All measurements and reporting are effected by an independent, competent, and certified occupational hygiene inspection body, i.e. a SANAS accredited and Department of Employment and Labour approved AAIA. The *Contractor* may perform Parallel Measurements and related control measures at the *Contractor's* expense. For the purposes of compliance the results generated from Parallel Measurements are evaluated only against South African statutory limits as detailed in clause Z14.1. Control measures conform to the requirements stipulated in the AAIA-approved asbestos work plan.

Z14.3 The *Employer* manages asbestos and ACM according to the Standard.

Z14.4 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

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

monitoring conducted in order to declare the area safe.

- Z14.5 The *Contractor's* personnel are entitled to stop working and leave the contaminated area forthwith until such time that the area of concern is declared safe by either Compliance Monitoring or an AAIA approved control measure intervention, for example, per the emergency asbestos work plan, if applicable.
- Z14.6 The *Contractor* continues to Provide the Services, without additional control measures presented, on presentation of Safe Levels. The contractually agreed dates to Provide the Services, including the Completion Date, are adjusted accordingly. The contractually agreed dates are extended by the notification periods required by regulations 3 and 21 of the Asbestos Regulations, 2001.
- Z14.7 Any removal and disposal of asbestos, asbestos containing materials and waste, is done by a registered asbestos contractor, instructed by the *Employer* at the *Employer's* expense, and conducted in line with South African legislation.

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

C1.2 Contract Data

Part two - Data provided by the Contractor

Clause	Statement	Data
10.1	The <i>Contractor</i> is (Name): Address Tel No. Fax No.	
11.2(8)	The <i>direct fee percentage</i> is	%
	The <i>subcontracted fee percentage</i> is	%
11.2(14)	The following matters will be included in the Risk Register	
11.2(15)	The Service Information for the <i>Contractor's</i> plan is in:	
21.1	The plan identified in the Contract Data is contained in:	
24.1	The key people are:	
	1 Name:	
	Job:	
	Responsibilities:	
	Qualifications:	
	Experience:	
	2 Name:	
	Job	
	Responsibilities:	
	Qualifications:	
	Experience:	
	CV's (and further key person's data including CVs) are in .	
A	Priced contract with price list	
11.2(12)	The <i>price list</i> is in	
11.2(19)	The tendered total of the Prices is	R

PART 2: PRICING DATA

TSC3 Option A

Document reference	Title	No of pages
C2.1	Pricing assumptions: Option A	19
C2.2	The <i>price list</i>	[•]

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS**C2.2 the *price list*****1. Gourikwa Power Station**

Item no.	Description	Unit	Quantity	Rate
01	Provision for SHE requirements (Safety file, PPE, Training requirements)	ea	1	
02.	Transportation (rate per kilometre) (refer to section 1.2.1 of C3.1 TSC3 EMPLOYER's Service Information)	km	TBC	
03.	Collection of motors from <i>Employer</i> site to <i>Contractor</i> premises (refer to section 1.2.1 of C3.1 TSC3 EMPLOYER's Service Information)	ea	TBC	
04.	Delivery of motors from <i>Contractor</i> premises to <i>Employer</i> site (refer to section 1.2.1 of C3.1 TSC3 EMPLOYER's Service Information)	ea	TBC	

Machine	Manuf. & Model	DE	NDE	Coupling	Stages	RPM
MBV Main Lube Oil Pumps Gourikwa Plant A						
Main Lube Oil Pump ^{GT11}	Allweiler NSSV 80-250	6311	6311 J C3	Flexible	Single	2944
Main Lube Oil Pump ^{GT12}	Allweiler NSSV 80-250	6311	6311 J C3	Flexible	Single	2944
Main Lube Oil Pump ^{GT13}	Allweiler NSSV 80-250	6311	6311 J C3	Flexible	Single	2944
MBV Main Lube Oil Pumps Gourikwa Plant B						
Main Lube Oil Pump ^{GT21}	Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
Main Lube Oil Pump ^{GT22}	Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944

5x MBV Main Lube Oil Pumps

Item no.	Description	Unit	Quantity	Rate	Price
05.	Strip and assess (provide report on findings)	ea	5		
06.	Refurbishment and/or replacement of damaged components as per strip and assess report				
6.1	Machining (if necessary)	ea	5		
6.2	Couplings replacement	ea	5		
6.3	Volute replacement (if necessary)	ea	5		
6.4	Inspect / test pump for straightness	ea	5		
6.5	Impeller replacement (if necessary)	ea	5		
6.6	Balance impeller	ea	5		
6.7	Shaft replacement (if necessary)	ea	5		
6.8	Bearings replacement	ea	10		
6.9	Wear rings / split rings replacement (if necessary)	ea	10		
6.10	Gasket set replacement	ea	5		
6.11	Shaft seal replacement	ea	5		
6.12	Sandblast / paint if necessary (Ochre Brown RAL 8001)	ea	5		
6.13	Check axial float of pump assembly (within OEM spec)	ea	5		
07.	Conduct pump performance tests and issue report	ea	5		
08.	Laser Alignment including provision of shims (on site, coupled to motor)	ea	5		
Total of the Prices for Part 1					

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Machine	Manuf. & Model	DE	NDE	Coupling	Stages	RPM
MBV Auxiliary Lube Oil Pumps Gourikwa Plant A						
Auxiliary Lube Oil Pump ^{GT11}	Allweiler NSSV 80-250	6311	6311 J C3	Flexible	Single	2944
Auxiliary Lube Oil Pump ^{GT12}	Allweiler NSSV 80-250	6311	6311 J C3	Flexible	Single	2944
Auxiliary Lube Oil Pump ^{GT13}	Allweiler NSSV 80-250	6311	6311 J C3	Flexible	Single	2944
MBV Auxiliary Lube Oil Pumps Gourikwa Plant B						
Auxiliary Lube Oil Pump ^{GT21}	Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
Auxiliary Lube Oil Pump ^{GT22}	Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
5x MBV Auxiliary Lube Oil Pumps						
Item no.	Description	Unit	Quantity	Rate	Price	
09.	Strip and assess (provide report on findings)	ea	5			
10.	Refurbishment and/or replacement of damaged components as per strip and assess report					
10.1	Machining (if necessary)	ea	5			
10.2	Couplings replacement	ea	5			
10.3	Volute replacement (if necessary)	ea	5			
10.4	Inspect / test pump for straightness	ea	5			
10.5	Impeller replacement (if necessary)	ea	5			
10.6	Balance impeller	ea	5			
10.7	Shaft replacement (if necessary)	ea	5			
10.8	Bearings replacement	ea	10			
10.9	Wear rings / split rings replacement (if necessary)	ea	10			
10.10	Gasket set replacement	ea	5			
10.11	Shaft seal replacement	ea	5			
10.12	Sandblast / paint if necessary (Ochre Brown RAL 8001)	ea	5			
10.13	Check axial float of pump assembly (within OEM spec)	ea	5			
11.	Conduct pump performance tests and issue report	ea	5			
12.	Laser Alignment including provision of shims (on site, coupled to motor)	ea	5			
Total of the Prices for Part 1						

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Machine	Manuf. & Model	DE	NDE	Coupling	Stages	RPM
MBV Standby Lube Oil Pumps Gourikwa Plant A						
Standby Lube Oil Pump ^{GT11}	Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
Standby Lube Oil Pump ^{GT12}	Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
Standby Lube Oil Pump ^{GT13}	Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
MBV Standby Lube Oil Pumps Gourikwa Plant B						
Standby Lube Oil Pump ^{GT21}	Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
Standby Lube Oil Pump ^{GT22}	Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
5x MBV Standby Lube Oil Pumps						
Item no.	Description	Unit	Quantity	Rate	Price	
13.	Strip and assess (provide report on findings)	ea	5			
14.	Refurbishment and/or replacement of damaged components as per strip and assess report					
14.1	Machining (if necessary)	ea	5			
14.2	Couplings replacement	ea	5			
14.3	Volute replacement (if necessary)	ea	5			
14.4	Inspect / test pump for straightness	ea	5			
14.5	Impeller replacement (if necessary)	ea	5			
14.6	Balance impeller	ea	5			
14.7	Shaft replacement (if necessary)	ea	5			
14.8	Bearings replacement	ea	10			
14.9	Wear rings / split rings replacement (if necessary)	ea	10			
14.10	Gasket set replacement	ea	5			
14.11	Shaft seal replacement	ea	5			
14.12	Sandblast / paint if necessary (Ochre Brown RAL 8001)	ea	5			
14.13	Check axial float of pump assembly (within OEM spec)	ea	5			
15.	Conduct pump performance tests and issue report	ea	5			
16.	Laser Alignment including provision of shims (on site, coupled to motor)	ea	5			
Total of the Prices for Part 1						

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Machine	Manuf. & Model	DE	NDE	Coupling	Stages	RPM
MBV Emergency Lube Oil Pumps Gourikwa Plant A						
Emergency Lube Oil Pump ^{GT11}	Centrifugal pump: NSSV 65-160	6308 JC3	6308 JC3	Flexible		
Emergency Lube Oil Pump ^{GT12}	Centrifugal pump: NSSV 65-160	6308 JC3	6308 JC3	Flexible		
Emergency Lube Oil Pump ^{GT13}	Centrifugal pump: NSSV 65-160	6308 JC3	6308 JC3	Flexible		
MBV Emergency Lube Oil Pumps Gourikwa Plant B						
Emergency Lube Oil Pump ^{GT21}	Centrifugal pump: NSSV 50-160/01	6308 JC3	6308 JC3	Flexible		
Emergency Lube Oil Pump ^{GT22}	Centrifugal pump: NSSV 50-160/01	6308 JC3	6308 JC3	Flexible		
5x MBV Emergency Lube Oil Pumps						
Item no.	Description	Unit	Quantity	Rate	Price	
17.	Strip and assess (provide report on findings)	ea	5			
18.	Refurbishment and/or replacement of damaged components as per strip and assess report					
18.1	Machining (if necessary)	ea	5			
18.2	Couplings replacement	ea	5			
18.3	Volute replacement (if necessary)	ea	5			
18.4	Inspect / test pump for straightness	ea	5			
18.5	Impeller replacement (if necessary)	ea	5			
18.6	Balance impeller	ea	5			
18.7	Shaft replacement (if necessary)	ea	5			
18.8	Bearings replacement	ea	10			
18.9	Wear rings / split rings replacement (if necessary)	ea	10			
18.10	Gasket set replacement	ea	5			
18.11	Shaft seal replacement	ea	5			
18.12	Sandblast / paint if necessary (Ochre Brown RAL 8001)	ea	5			
18.13	Check axial float of pump assembly (within OEM spec)	ea	5			
19.	Conduct pump performance tests and issue report	ea	5			
20.	Laser Alignment including provision of shims (on site, coupled to motor)	ea	5			
Total of the Prices for Part 1						

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Machine	Manuf. & Model	DE	NDE	Coupling	Stages	RPM
MBV Cooling Water Pumps Gourikwa Plant A						
Cooling Pump ^{GT11}	Allweiler NB 50 160	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT11}	Allweiler NB 50 160	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT12}	Allweiler NB 50 160	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT12}	Allweiler NB 50 160	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT13}	Allweiler NB 50 160	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT13}	Allweiler NB 50 160	No bearings	No bearings	Close coupled	Single	2900
MBV Cooling Water Pumps Gourikwa Plant B						
Cooling Pump ^{GT21}	Allweiler NT 50 -160/01	No bearings	No bearings	Rotex spider	Single	2900
Cooling Pump ^{GT21}	Allweiler NT 50 -160/01	6306 2Z JCB Bearings	6306 2Z JCB	Rotex spider	Single	2900
Cooling Pump ^{GT22}	Allweiler NT 50 -160/01	6306 2Z JCB Bearings	6306 2Z JCB	Rotex spider	Single	2900
Cooling Pump ^{GT22}	Allweiler NT 50 -160/01	6306 2Z JCB	6306 2Z JCB	Rotex spider	Single	2900
10x MBV Cooling Water Pumps						
Item no.	Description	Unit	Quantity	Rate	Price	
21.	Strip and assess (provide report on findings)	ea	10			
22.	Refurbishment and/or replacement of damaged components as per strip and assess report					
22.1	Machining (if necessary)	ea	10			
22.2	Couplings replacement	ea	3			
22.3	Volute replacement (if necessary)	ea	10			
22.4	Inspect / test pump for straightness	ea	10			
22.5	Impeller replacement (if necessary)	ea	10			
22.6	Balance impeller	ea	10			
22.7	Shaft replacement (if necessary)	ea	10			
22.8	Bearings replacement	ea	6			
22.9	Wear rings / split rings replacement (if necessary)	ea	20			
22.10	Gasket set replacement	ea	10			
22.11	Shaft seal replacement	ea	10			
22.12	Sandblast / paint if necessary (Varnish Blue RAL 5017)	ea	10			
22.13	Check axial float of pump assembly (within OEM spec)	ea	10			
23.	Conduct pump performance tests and issue report	ea	10			
24.	Laser Alignment including provision of shims (on site, coupled to motor)	ea	3			
Total of the Prices for Part 1						

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Machine	Manuf. & Model	DE	NDE	Coupling	Stages	RPM
MPR Cooling Water Pumps Gourikwa Plant A						
Cooling Pump ^{GT11}	Allweiler NB 80 200/02	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT11}	Allweiler NB 80 200/02	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT12}	Allweiler NB 80 200/02	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT12}	Allweiler NB 80 200/02	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT13}	Allweiler NB 80 200/02	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT13}	Allweiler NB 80 200/02	No bearings	No bearings	Close coupled	Single	2900
MPR Cooling Water Pumps Gourikwa Plant B						
Cooling Pump ^{GT21}	Allweiler NT 80-200/02	6308 2RS C3	6308 2RS C3	Close coupled	Single	2900
Cooling Pump ^{GT21}	Allweiler NT 80-200/02	6308 2RS C3	6308 2RS C3	Close coupled	Single	2900
Cooling Pump ^{GT22}	Allweiler NT 80-200/02	6308 2RS C3	6308 2RS C3	Close coupled	Single	2900
Cooling Pump ^{GT22}	Allweiler NT 80-200/02	6308 2RS C3	6308 2RS C3	Close coupled	Single	2900
10x MPR Cooling Water Pumps						
Item no.	Description	Unit	Quantity	Rate	Price	
25.	Strip and assess (provide report on findings)	ea	10			
26.	Refurbishment and/or replacement of damaged components as per strip and assess report					
26.1	Machining (if necessary)	ea	10			
26.2	Couplings replacement	ea	4			
26.3	Volute replacement (if necessary)	ea	10			
26.4	Inspect / test pump for straightness	ea	10			
26.5	Impeller replacement (if necessary)	ea	10			
26.6	Balance impeller	ea	10			
26.7	Shaft replacement (if necessary)	ea	10			
26.8	Bearings replacement	ea	8			
26.9	Wear rings / split rings replacement (if necessary)	ea	20			
26.10	Gasket set replacement	ea	10			
26.11	Shaft seal replacement	ea	10			
26.12	Sandblast / paint if necessary (Varnish Blue RAL 5017)	ea	10			
26.13	Check axial float of pump assembly (within OEM spec)	ea	10			
27.	Conduct pump performance tests and issue report	ea	10			
Total of the Prices for Part 1						

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Machine	Manuf. & Model	DE	NDE	Coupling	Stages	RPM
MBV Lift Oil Pumps Gourikwa Plant A						
Lift Oil Pump ^{GT11}	Denison T7BB112R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465
Lift Oil Pump ^{GT11}	Denison T7BB112R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465
Lift Oil Pump ^{GT12}	Denison T7BB112R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465
Lift Oil Pump ^{GT12}	Denison T7BB112R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465
Lift Oil Pump ^{GT13}	Denison T7BB112R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465
Lift Oil Pump ^{GT13}	Denison T7BB112R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465
MBV Lift Oil Pumps Gourikwa Plant B						
Lift Oil Pump ^{GT21}	Denison T7BB092R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465
Lift Oil Pump ^{GT21}	Denison T7BB092R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465
Lift Oil Pump ^{GT22}	Denison T7BB092R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465
Lift Oil Pump ^{GT22}	Denison T7BB092R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465
10x MBV Lift Oil Pumps						
Item no.	Description	Unit	Quantity	Rate	Price	
28.	Strip and assess (provide report on findings)	ea	10			
29.	Refurbishment and/or replacement of damaged components as per strip and assess report					
29.1	Machining (if necessary)	ea	10			
29.2	Couplings replacement	ea	10			
29.3	Volute replacement (if necessary)	ea	10			
29.4	Inspect / test pump for straightness	ea	10			
29.5	Impeller replacement (if necessary)	ea	10			
29.6	Balance impeller	ea	10			
29.7	Shaft replacement (if necessary)	ea	10			
29.8	Bearings replacement	ea	20			
29.9	Wear rings / split rings replacement (if necessary)	ea	20			
29.10	Gasket set replacement	ea	10			
29.11	Shaft seal replacement	ea	10			
29.12	Sandblast / paint if necessary (Ochre Brown RAL 8001)	ea	10			
29.13	Check axial float of pump assembly (within OEM spec)	ea	10			
30.	Conduct pump performance tests and issue report	ea	10			
31.	Laser Alignment including provision of shims (on site, coupled to motor)	ea	10			
Total of the Prices for Part 1						

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Machine	Manuf. & Model	DE	NDE	Coupling	Stages	RPM
MBX Hydraulic Pumps Gourikwa Plant A						
Hydraulic Pump ^{GT11}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT11}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT12}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT12}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT13}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT13}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
MBX Hydraulic Pumps Gourikwa Plant B						
Hydraulic Pump ^{GT21}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT21}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT22}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT22}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
<u>10x MBX Hydraulic Pumps</u>						
Item no.	Description	Unit	Quantity	Rate	Price	
32.	Strip and assess (provide report on findings)	ea	10			
33.	Refurbishment and/or replacement of damaged components as per strip and assess report					
33.1	Machining (if necessary)	ea	10			
33.2	Couplings replacement	ea	10			
33.3	Volute replacement (if necessary)	ea	10			
33.4	Inspect / test pump for straightness	ea	10			
33.5	Impeller replacement (if necessary)	ea	10			
33.6	Balance impeller	ea	10			
33.7	Shaft replacement (if necessary)	ea	10			
33.8	Bearings replacement	ea	20			
33.9	Wear rings / split rings replacement (if necessary)	ea	20			
33.10	Gasket set replacement	ea	10			
33.11	Shaft seal replacement	ea	10			
33.12	Sandblast / paint if necessary (Ochre Brown RAL 8001)	ea	10			
33.13	Check axial float of pump assembly (within OEM spec)	ea	10			
34.	Conduct pump performance tests and issue report	ea	10			
35.	Laser Alignment including provision of shims (on site, coupled to motor)	ea	10			
Total of the Prices for Part 1						

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Machine		Manuf. & Model	DE	NDE	Coupling	Stages	RPM
BoP EUA Fuel Treatment Pumps Gourikwa Plant A							
Fuel Treatment Pump		Apollo KRC-80F/400-100/GN	7311-BUA	NU 311 ECP/C3	Flender/N-Eupex HDS	Single	1460
Fuel Treatment Pump		Apollo KRC-80F/400-100/GN	7311-BUA	NU 311 ECP/C3	Flender/N-Eupex HDS	Single	1460
Fuel Treatment Pump		Apollo KRC-80F/400-100/GN	7311-BUA	NU 311 ECP/C3	Flender/N-Eupex HDS	Single	1460
3x Fuel Treatment Pumps							
Item no.	Description			Unit	Quantity	Rate	Price
36.	Strip and assess (provide report on findings)			ea	3		
37.	Refurbishment and/or replacement of damaged components as per strip and assess report						
37.1	Machining (if necessary)			ea	3		
37.2	Couplings replacement			ea	3		
37.3	Volute replacement (if necessary)			ea	3		
37.4	Inspect / test pump for straightness			ea	3		
37.5	Impeller replacement (if necessary)			ea	3		
37.6	Balance impeller			ea	3		
37.7	Shaft replacement (if necessary)			ea	3		
37.8	Bearings replacement			ea	6		
37.9	Wear rings / split rings replacement (if necessary)			ea	6		
37.10	Gasket set replacement			ea	3		
37.11	Shaft seal replacement			ea	3		
37.12	Sandblast / paint if necessary (Varnish Blue RAL 5017)			ea	3		
37.13	Check axial float of pump assembly (within OEM spec)			ea	3		
38.	Conduct pump performance tests and issue report			ea	3		
39.	Laser Alignment including provision of shims (on site, coupled to motor)			ea	3		
Total of the Prices for Part 1							

The total of the Prices

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS**2. Ankerlig Power Station**

Item no.	Description	Unit	Quantity	Rate
01.	Provision for SHE requirements (Safety file, PPE, Training requirements)	ea	1	
02.	Transportation (rate per kilometre) (refer to section 1.2.1 of C3.1 TSC3 EMPLOYER's Service Information)	km	TBC	
03.	Collection of motors from <i>Employer</i> site to <i>Contractor</i> premises (refer to section 1.2.1 of C3.1 TSC3 EMPLOYER's Service Information)	ea	TBC	
04.	Delivery of motors from <i>Contractor</i> premises to <i>Employer</i> site (refer to section 1.2.1 of C3.1 TSC3 EMPLOYER's Service Information)	ea	TBC	

Machine	Manuf. & Model	DE	NDE	Coupling	Stages	RPM
MBV Main Lube Oil Pumps Ankerlig 1						
Main Lube Oil Pump ^{GT11}	Allweiler NSSV 80-250	6311	6311 J C3	Flexible	Single	2944
Main Lube Oil Pump ^{GT12}	Allweiler NSSV 80-250	6311	6311 J C3	Flexible	Single	2944
Main Lube Oil Pump ^{GT21}	Allweiler NSSV 80-250	6311	6311 J C3	Flexible	Single	2944
Main Lube Oil Pump ^{GT22}	Allweiler NSSV 80-250	6311	6311 J C3	Flexible	Single	2944
MBV Main Lube Oil Pumps Ankerlig 2						
Main Lube Oil Pump ^{GT31}	Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
Main Lube Oil Pump ^{GT32}	Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
Main Lube Oil Pump ^{GT41}	Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
Main Lube Oil Pump ^{GT42}	Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
Main Lube Oil Pump ^{GT43}	Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
9x MBV Main Lube Oil Pumps						

Item no.	Description	Unit	Quantity	Rate	Price
05.	Strip and assess (provide report on findings)	ea	9		
06.	Refurbishment and/or replacement of damaged components as per strip and assess report				
6.1	Machining (if necessary)	ea	9		
6.2	Couplings replacement	ea	9		
6.3	Volute replacement (if necessary)	ea	9		
6.4	Inspect / test pump for straightness	ea	9		
6.5	Impeller replacement (if necessary)	ea	9		
6.6	Balance impeller	ea	9		
6.7	Shaft replacement (if necessary)	ea	9		
6.8	Bearings replacement	ea	18		
6.9	Wear rings / split rings replacement (if necessary)	ea	18		
6.10	Gasket set replacement	ea	9		
6.11	Shaft seal replacement	ea	9		
6.12	Sandblast / paint if necessary (Ochre Brown RAL 8001)	ea	9		
6.13	Check axial float of pump assembly (within OEM spec)	ea	9		
07.	Conduct pump performance tests and issue report	ea	9		
08.	Laser Alignment including provision of shims (on site, coupled to motor)	ea	9		
Total of the Prices for Part 1					

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Machine		Manuf. & Model	DE	NDE	Coupling	Stages	RPM
MBV Auxiliary Lube Oil Pumps Ankerlig 1							
Auxiliary Lube Oil Pump ^{GT11}		Allweiler NSSV 80-250	6311	6311 J C3	Flexible	Single	2944
Auxiliary Lube Oil Pump ^{GT12}		Allweiler NSSV 80-250	6311	6311 J C3	Flexible	Single	2944
Auxiliary Lube Oil Pump ^{GT21}		Allweiler NSSV 80-250	6311	6311 J C3	Flexible	Single	2944
Auxiliary Lube Oil Pump ^{GT22}		Allweiler NSSV 80-250	6311	6311 J C3	Flexible	Single	2944
MBV Auxiliary Lube Oil Pumps Ankerlig 2							
Auxiliary Lube Oil Pump ^{GT31}		Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
Auxiliary Lube Oil Pump ^{GT32}		Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
Auxiliary Lube Oil Pump ^{GT41}		Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
Auxiliary Lube Oil Pump ^{GT42}		Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
Auxiliary Lube Oil Pump ^{GT43}		Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
9x MBV Auxiliary Lube Oil Pumps							
Item no.	Description			Unit	Quantity	Rate	Price
09.	Strip and assess (provide report on findings)			ea	9		
10.	Refurbishment and/or replacement of damaged components as per strip and assess report						
10.1	Machining (if necessary)			ea	9		
10.2	Couplings replacement			ea	9		
10.3	Volute replacement (if necessary)			ea	9		
10.4	Inspect / test pump for straightness			ea	9		
10.5	Impeller replacement (if necessary)			ea	9		
10.6	Balance impeller			ea	9		
10.7	Shaft replacement (if necessary)			ea	9		
10.8	Bearings replacement			ea	18		
10.9	Wear rings / split rings replacement (if necessary)			ea	18		
10.10	Gasket set replacement			ea	9		
10.11	Shaft seal replacement			ea	9		
10.12	Sandblast / paint if necessary (Ochre Brown RAL 8001)			ea	9		
10.13	Check axial float of pump assembly (within OEM spec)			ea	9		
11.	Conduct pump performance tests and issue report			ea	9		
12.	Laser Alignment including provision of shims (on site, coupled to motor)			ea	9		
Total of the Prices for Part 1							

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Machine	Manuf. & Model	DE	NDE	Coupling	Stages	RPM
MBV Standby Lube Oil Pumps Ankerlig 1						
Standby Lube Oil Pump ^{GT11}	Allweiler NSSV 80-250	6311	6311 J C3	Flexible	Single	2944
Standby Lube Oil Pump ^{GT12}	Allweiler NSSV 80-250	6311	6311 J C3	Flexible	Single	2944
Standby Lube Oil Pump ^{GT21}	Allweiler NSSV 80-250	6311	6311 J C3	Flexible	Single	2944
Standby Lube Oil Pump ^{GT22}	Allweiler NSSV 80-250	6311	6311 J C3	Flexible	Single	2944
MBV Standby Lube Oil Pumps Ankerlig 2						
Standby Lube Oil Pump ^{GT31}	Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
Standby Lube Oil Pump ^{GT32}	Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
Standby Lube Oil Pump ^{GT41}	Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
Standby Lube Oil Pump ^{GT42}	Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
Standby Lube Oil Pump ^{GT43}	Allweiler NSSV 65-250	6311	6311 J C3	Flexible	Single	2944
9x MBV Standby Lube Oil Pumps						
Item no.	Description	Unit	Quantity	Rate	Price	
13.	Strip and assess (provide report on findings)	ea	9			
14.	Refurbishment and/or replacement of damaged components as per strip and assess report					
14.1	Machining (if necessary)	ea	9			
14.2	Couplings replacement	ea	9			
14.3	Volute replacement (if necessary)	ea	9			
14.4	Inspect / test pump for straightness	ea	9			
14.5	Impeller replacement (if necessary)	ea	9			
14.6	Balance impeller	ea	9			
14.7	Shaft replacement (if necessary)	ea	9			
14.8	Bearings replacement	ea	18			
14.9	Wear rings / split rings replacement (if necessary)	ea	18			
14.10	Gasket set replacement	ea	9			
14.11	Shaft seal replacement	ea	9			
14.12	Sandblast / paint if necessary (Ochre Brown RAL 8001)	ea	9			
14.13	Check axial float of pump assembly (within OEM spec)	ea	9			
15.	Conduct pump performance tests and issue report	ea	9			
16.	Laser Alignment including provision of shims (on site, coupled to motor)	ea	9			
Total of the Prices for Part 1						

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Machine	Manuf. & Model	DE	NDE	Coupling	Stages	RPM
MBV Emergency Lube Oil Pumps Ankerlig 1						
Emergency Lube Oil Pump ^{GT11}	Centrifugal pump: NSSV 65-160	6308 JC3	6308 JC3	Flexible		
Emergency Lube Oil Pump ^{GT12}	Centrifugal pump: NSSV 65-160	6308 JC3	6308 JC3	Flexible		
Emergency Lube Oil Pump ^{GT21}	Centrifugal pump: NSSV 65-160	6308 JC3	6308 JC3	Flexible		
Emergency Lube Oil Pump ^{GT22}	Centrifugal pump: NSSV 65-160	6308 JC3	6308 JC3	Flexible		
MBV Emergency Lube Oil Pumps Ankerlig 2						
Emergency Lube Oil Pump ^{GT31}	Centrifugal pump: NSSV 50-160/01	6308 JC3	6308 JC3	Flexible		
Emergency Lube Oil Pump ^{GT32}	Centrifugal pump: NSSV 50-160/01	6308 JC3	6308 JC3	Flexible		
Emergency Lube Oil Pump ^{GT41}	Centrifugal pump: NSSV 50-160/01	6308 JC3	6308 JC3	Flexible		
Emergency Lube Oil Pump ^{GT42}	Centrifugal pump: NSSV 50-160/01	6308 JC3	6308 JC3	Flexible		
Emergency Lube Oil Pump ^{GT43}	Centrifugal pump: NSSV 50-160/01	6308 JC3	6308 JC3	Flexible		
9x MBV Emergency Lube Oil Pumps						
Item no.	Description	Unit	Quantity	Rate	Price	
17.	Strip and assess (provide report on findings)	ea	9			
18.	Refurbishment and/or replacement of damaged components as per strip and assess report					
18.1	Machining (if necessary)	ea	9			
18.2	Couplings replacement	ea	9			
18.3	Volute replacement (if necessary)	ea	9			
18.4	Inspect / test pump for straightness	ea	9			
18.5	Impeller replacement (if necessary)	ea	9			
18.6	Balance impeller	ea	9			
18.7	Shaft replacement (if necessary)	ea	9			
18.8	Bearings replacement	ea	18			
18.9	Wear rings / split rings replacement (if necessary)	ea	18			
18.10	Gasket set replacement	ea	9			
18.11	Shaft seal replacement	ea	9			
18.12	Sandblast / paint if necessary (Ochre Brown RAL 8001)	ea	9			
18.13	Check axial float of pump assembly (within OEM spec)	ea	9			
19.	Conduct pump performance tests and issue report	ea	9			
20.	Laser Alignment including provision of shims (on site, coupled to motor)	ea	9			
Total of the Prices for Part 1						

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Machine	Manuf. & Model	DE	NDE	Coupling	Stages	RPM
MBV Cooling Water Pumps Ankerlig 1						
Cooling Pump ^{GT11}	Allweiler NB 50 160	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT11}	Allweiler NB 50 160	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT12}	Allweiler NB 50 160	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT12}	Allweiler NB 50 160	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT21}	Allweiler NB 50 160	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT21}	Allweiler NB 50 160	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT22}	Allweiler NB 50 160	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT22}	Allweiler NB 50 160	No bearings	No bearings	Close coupled	Single	2900
MBV Cooling Water Pumps Ankerlig 2						
Cooling Pump ^{GT31}	Allweiler NT 50 -160/01	No Bearings	No bearings	Rotex spider	Single	2900
Cooling Pump ^{GT31}	Allweiler NT 50 -160/01	6306 2Z JCB Bearings	6306 2Z JCB	Rotex spider	Single	2900
Cooling Pump ^{GT32}	Allweiler NT 50 -160/01	6306 2Z JCB Bearings	6306 2Z JCB	Rotex spider	Single	2900
Cooling Pump ^{GT32}	Allweiler NT 50 -160/01	6306 2Z JCB	6306 2Z JCB	Rotex spider	Single	2900
Cooling Pump ^{GT41}	Allweiler NT 50 -160/01	6306 2Z JCB Bearings	6306 2Z JCB	Rotex spider	Single	2900
Cooling Pump ^{GT41}	Allweiler NT 50 -160/01	6306 2Z JCB	6306 2Z JCB	Rotex spider	Single	2900
Cooling Pump ^{GT42}	Allweiler NT 50 -160/01	6306 2Z JCB Bearings	6306 2Z JCB	Rotex spider	Single	2900
Cooling Pump ^{GT42}	Allweiler NT 50 -160/01	6306 2Z JCB	6306 2Z JCB	Rotex spider	Single	2900
Cooling Pump ^{GT43}	Allweiler NT 50 -160/01	6306 2Z JCB Bearings	6306 2Z JCB	Rotex spider	Single	2900
Cooling Pump ^{GT43}	Allweiler NT 50 -160/01	6306 2Z JCB	6306 2Z JCB	Rotex spider	Single	2900
18x MBV Cooling Water Pumps						
Item no.	Description		Unit	Quantity	Rate	Price
21.	Strip and assess (provide report on findings)		ea	18		
22.	Refurbishment and/or replacement of damaged components as per strip and assess report					
22.1	Machining (if necessary)		ea	18		
22.2	Couplings replacement		ea	9		
22.3	Volute replacement (if necessary)		ea	18		
22.4	Inspect / test pump for straightness		ea	18		
22.5	Impeller replacement (if necessary)		ea	18		
22.6	Balance impeller		ea	18		
22.7	Shaft replacement (if necessary)		ea	18		
22.8	Bearings replacement		ea	18		
22.9	Wear rings / split rings replacement (if necessary)		ea	36		
22.10	Gasket set replacement		ea	18		
22.11	Shaft seal replacement		ea	18		
22.12	Sandblast / paint if necessary (Varnish Blue RAL 5017)		ea	18		
22.13	Check axial float of pump assembly (within OEM spec)		ea	18		
23.	Conduct pump performance tests and issue report		ea	18		
24.	Laser Alignment including provision of shims (on site, coupled to motor)		ea	9		
Total of the Prices for Part 1						

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Machine	Manuf. & Model	DE	NDE	Coupling	Stages	RPM
MPR Cooling Water Pumps Ankerlig 1						
Cooling Pump ^{GT11}	Allweiler NB 80 200/02	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT11}	Allweiler NB 80 200/02	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT12}	Allweiler NB 80 200/02	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT12}	Allweiler NB 80 200/02	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT21}	Allweiler NB 80 200/02	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT21}	Allweiler NB 80 200/02	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT22}	Allweiler NB 80 200/02	No bearings	No bearings	Close coupled	Single	2900
Cooling Pump ^{GT22}	Allweiler NB 80 200/02	No bearings	No bearings	Close coupled	Single	2900
MPR Cooling Water Pumps Ankerlig 2						
Cooling Pump ^{GT31}	Allweiler NT 80-200/02	6308 2RS C3	6308 2RS C3	Close coupled	Single	2900
Cooling Pump ^{GT31}	Allweiler NT 80-200/02	6308 2RS C3	6308 2RS C3	Close coupled	Single	2900
Cooling Pump ^{GT32}	Allweiler NT 80-200/02	6308 2RS C3	6308 2RS C3	Close coupled	Single	2900
Cooling Pump ^{GT32}	Allweiler NT 80-200/02	6308 2RS C3	6308 2RS C3	Close coupled	Single	2900
Cooling Pump ^{GT41}	Allweiler NT 80-200/02	6308 2RS C3	6308 2RS C3	Close coupled	Single	2900
Cooling Pump ^{GT41}	Allweiler NT 80-200/02	6308 2RS C3	6308 2RS C3	Close coupled	Single	2900
Cooling Pump ^{GT42}	Allweiler NT 80-200/02	6308 2RS C3	6308 2RS C3	Close coupled	Single	2900
Cooling Pump ^{GT42}	Allweiler NT 80-200/02	6308 2RS C3	6308 2RS C3	Close coupled	Single	2900
Cooling Pump ^{GT43}	Allweiler NT 80-200/02	6308 2RS C3	6308 2RS C3	Close coupled	Single	2900
Cooling Pump ^{GT43}	Allweiler NT 80-200/02	6308 2RS C3	6308 2RS C3	Close coupled	Single	2900
18x MPR Cooling Water Pumps						
Item no.	Description	Unit	Quantity	Rate	Price	
25.	Strip and assess (provide report on findings)	ea	18			
26.	Refurbishment and/or replacement of damaged components as per strip and assess report					
26.1	Machining (if necessary)	ea	18			
26.2	Couplings replacement	ea	10			
26.3	Volute replacement (if necessary)	ea	18			
26.4	Inspect / test pump for straightness	ea	18			
26.5	Impeller replacement (if necessary)	ea	18			
26.6	Balance impeller	ea	18			
26.7	Shaft replacement (if necessary)	ea	18			
26.8	Bearings replacement	ea	20			
26.9	Wear rings / split rings replacement (if necessary)	ea	36			
26.10	Gasket set replacement	ea	18			
26.11	Shaft seal replacement	ea	18			
26.12	Sandblast / paint if necessary (Varnish Blue RAL 5017)	ea	18			
26.13	Check axial float of pump assembly (within OEM spec)	ea	18			
27.	Conduct pump performance tests and issue report	ea	18			
Total of the Prices for Part 1						

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Machine	Manuf. & Model	DE	NDE	Coupling	Stages	RPM	
MBV Lift Oil Pumps Ankerlig 1							
Lift Oil Pump ^{GT11}	Denison T7BB112R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465	
Lift Oil Pump ^{GT11}	Denison T7BB112R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465	
Lift Oil Pump ^{GT12}	Denison T7BB112R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465	
Lift Oil Pump ^{GT12}	Denison T7BB112R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465	
Lift Oil Pump ^{GT21}	Denison T7BB112R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465	
Lift Oil Pump ^{GT21}	Denison T7BB112R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465	
Lift Oil Pump ^{GT22}	Denison T7BB112R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465	
Lift Oil Pump ^{GT22}	Denison T7BB112R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465	
MBV Lift Oil Pumps Ankerlig 2							
Lift Oil Pump ^{GT31}	Denison T7BB092R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465	
Lift Oil Pump ^{GT31}	Denison T7BB092R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465	
Lift Oil Pump ^{GT32}	Denison T7BB092R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465	
Lift Oil Pump ^{GT32}	Denison T7BB092R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465	
Lift Oil Pump ^{GT41}	Denison T7BB092R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465	
Lift Oil Pump ^{GT41}	Denison T7BB092R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465	
Lift Oil Pump ^{GT42}	Denison T7BB092R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465	
Lift Oil Pump ^{GT42}	Denison T7BB092R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465	
Lift Oil Pump ^{GT43}	Denison T7BB092R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465	
Lift Oil Pump ^{GT43}	Denison T7BB092R00A5M0	6210Z C3	6210Z C3	Rotex spider	Single	1465	
18x MBV Lift Oil Pumps							
Item no.	Description			Unit	Quantity	Rate	Price
28.	Strip and assess (provide report on findings)			ea	18		
29.	Refurbishment and/or replacement of damaged components as per strip and assess report						
29.1	Machining (if necessary)			ea	18		
29.2	Couplings replacement			ea	18		
29.3	Volute replacement (if necessary)			ea	18		
29.4	Inspect / test pump for straightness			ea	18		
29.5	Impeller replacement (if necessary)			ea	18		
29.6	Balance impeller			ea	18		
29.7	Shaft replacement (if necessary)			ea	18		
29.8	Bearings replacement			ea	36		
29.9	Wear rings / split rings replacement (if necessary)			ea	36		
29.10	Gasket set replacement			ea	18		
29.11	Shaft seal replacement			ea	18		
29.12	Sandblast / paint if necessary (Ochre Brown RAL 8001)			ea	18		
29.13	Check axial float of pump assembly (within OEM spec)			ea	18		
30.	Conduct pump performance tests and issue report			ea	18		
31.	Laser Alignment including provision of shims (on site, coupled to motor)			ea	18		
Total of the Prices for Part 1							

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Machine	Manuf. & Model	DE	NDE	Coupling	Stages	RPM
MBX Hydraulic Pumps Ankerlig 1						
Hydraulic Pump ^{GT11}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT11}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT12}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT12}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT21}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT21}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT22}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT22}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
MBX Hydraulic Pumps Ankerlig 2						
Hydraulic Pump ^{GT31}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT31}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT32}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT32}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT41}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT41}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT42}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT42}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT43}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
Hydraulic Pump ^{GT43}	Rexroth Piston & Sauer Danfoss Gear			Spider	Piston Pump & Gear Pump	2900
18x MBX Hydraulic Pumps						
Item no.	Description	Unit	Quantity	Rate	Price	
32.	Strip and assess (provide report on findings)	ea	18			
33.	Refurbishment and/or replacement of damaged components as per strip and assess report					
33.1	Machining (if necessary)	ea	18			
33.2	Couplings replacement	ea	18			
33.3	Volute replacement (if necessary)	ea	18			
33.4	Inspect / test pump for straightness	ea	18			
33.5	Impeller replacement (if necessary)	ea	18			
33.6	Balance impeller	ea	18			
33.7	Shaft replacement (if necessary)	ea	18			
33.8	Bearings replacement	ea	36			
33.9	Wear rings / split rings replacement (if necessary)	ea	36			
33.10	Gasket set replacement	ea	18			
33.11	Shaft seal replacement	ea	18			
33.12	Sandblast / paint if necessary (Ochre Brown RAL 8001)	ea	18			
33.13	Check axial float of pump assembly (within OEM spec)	ea	18			
34.	Conduct pump performance tests and issue report	ea	18			
35.	Laser Alignment including provision of shims (on site, coupled to motor)	ea	18			
Total of the Prices for Part 1						

The total of the Prices

PART 3: SCOPE OF WORK

Document reference	Title	No of pages
C3.1	This cover page <i>Employer's Service Information</i>	1
C3.2	<i>Contractor's Service Information</i>	
	Total number of pages	44

C3.1: *EMPLOYER'S SERVICE INFORMATION*

Contents

Part 3: Scope of Work	1
C3.1: <i>Employer's service Information</i>	2
1 Description of the service	5
1.1 Executive overview	5
1.2 <i>Employer's requirements for the service</i>	5
1.2.1 Transportation	5
1.2.2 Labour (Assembly/Disassembly) Normal Time	8
1.2.3 Labour (Assembly/Disassembly) Overtime and Weekends	8
1.2.4 Machining (if required)	8
1.2.5 Inspect and Record All Strip Down Measurements	8
1.2.6 Replace Volute (only if necessary)	8
1.2.7 Inspect/Test Pump Shaft for Straightness	8
1.2.8 Replace Impeller (if deemed necessary)	8
1.2.9 Balance Impeller	9
1.2.10 Replace Shaft (only if necessary)	9
1.2.11 Replace Bearings	9
1.2.12 Replace Wear Rings/Split Ring (if necessary)	9
1.2.13 Replace Spacer, Shims, and Circlips	10
1.2.14 Replace Gasket Set	10
1.2.15 Replace Shaft Seal (if necessary)	10
1.2.16 Sand Blast and Paint	11
1.2.17 Check the Axial Float of the Pump Assembly	11
1.2.18 Provide a Report	12
1.2.19 Laser Alignment	12
1.3 Interpretation and terminology	13
2 Management strategy and start up.	14
2.1 The <i>Contractor's</i> plan for the service.....	14
2.1.1 General Requirements	14
2.1.2 Reporting and Communication:	14
2.1.3 Schedule and Coordination:.....	14
2.1.4 Quality Control and Compliance:	15

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

2.1.5	Risk Management and Contingency:	15
2.2	Management meetings	15
2.3	<i>Contractor's</i> management, supervision and key people	16
2.3.1	Contractor's Supervision and Management Structure:	16
2.3.2	Key People:	16
2.3.3	Organogram and Lines of Authority:	16
2.3.4	Additional Requirements:	16
2.4	Provision of bonds and guarantees	17
2.5	Documentation control	17
2.6	Invoicing and payment	17
2.7	Contract change management	18
2.8	Records of Defined Cost to be kept by the <i>Contractor</i>	18
2.8.1	Record-Keeping (if applicable):	18
2.9	Insurance provided by the <i>Employer</i>	18
2.10	Training workshops and technology transfer	18
2.11	Design and supply of Equipment	18
2.12	Things provided at the end of the <i>service period</i> for the <i>Employer's</i> use	18
2.12.1	Equipment	19
2.12.2	Information and other things	19
2.13	Management of work done by Task Order	19
3	Health and safety, the environment and quality assurance	19
3.1	Health and safety risk management	19
3.2	Environmental constraints and management	20
3.2.1	Waste Disposal:	20
3.2.2	Hazardous chemical agent	20
3.2.3	Green Practices	20
3.2.4	Legislation	20
3.3	Quality assurance requirements	21
4	Procurement	21
4.1	People	21
4.1.1	Minimum requirements of people employed	21
4.1.2	BBBEE and preferencing scheme	22
4.1.3	Accelerated Shared Growth Initiative – South Africa (ASGI-SA)	22
4.2	Subcontracting	22

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

4.2.1	Preferred subs	22
4.2.2	Subcontract documentation, and assessment of subcontract tenders	22
4.2.3	Limitations on subcontracting	22
4.2.4	Attendance on subcontractors	22
4.3	Plant and Materials	22
4.3.1	Specifications	22
4.3.2	Correction of defects	22
4.3.3	<i>Contractor's</i> procurement of Plant and Materials	23
4.3.4	Tests and inspections before delivery	23
4.3.5	Plant & Materials provided "free issue" by the <i>Employer</i>	23
4.3.6	Cataloguing requirements by the <i>Contractor</i>	23
5	Working on the Affected Property.....	23
5.1	<i>Employer's</i> site entry and security control, permits, and site regulations	23
5.1	People restrictions, hours of work, conduct and records.....	24
5.2	Health and safety facilities on the Affected Property	26
5.3	Environmental controls, fauna & flora.....	26
5.4	Cooperating with and obtaining acceptance of Others.....	26
5.5	Records of <i>Contractor's</i> Equipment.....	27
5.6	Equipment provided by the <i>Employer</i>	27
5.7	Site services and facilities	27
5.7.1	Provided by the <i>Employer</i>	27
5.7.2	Provided by the <i>Contractor</i>	28
5.8	Control of noise, dust, water and waste	28
5.9	Hook ups to existing works	28
5.10	Tests and inspections.....	28
5.10.1	Description of tests and inspections	28
5.10.2	Materials facilities and samples for tests and inspections	29
6	List of drawings.....	30
6.1	Drawings issued by the <i>Employer</i>	30

1 Description of the service

1.1 Executive overview

Gourikwa Power Station, situated in Mossel Bay, Western Cape, operates five Open Cycle Gas Turbine (OCGT) units (5 x 148 MW), with a total generation capacity of 740 MW. These OCGT units run on diesel fuel and are designed to supply electricity to the National Grid during periods of peak demand and in emergency situations.

Ankerlig Power Station, located in Atlantis, Cape Town, Western Cape, has a total generating capacity of 1,327 MW, divided between Ankerlig 1, which consists of four OCGT units (4 x 148 MW), and Ankerlig 2, comprising five OCGT units (5 x 147 MW).

The *Contractor* shall collect pumps, of different sizes, from the *Employer's* premises at Gourikwa and Ankerlig Power Stations. The pumps form part of various plant systems and are to be overhauled to ensure compliance with operational requirements. The *Contractor* shall provide certification for each pump upon completion of the overhaul.

Upon completion of all works, the *Contractor* shall transport and deliver the overhauled pumps to the *Employer's* premises at Gourikwa and Ankerlig Power Stations, as applicable.

1.2 *Employer's* requirements for the service

The *Employer* requires the *Contractor* to provide a comprehensive pumps overhaul service. The service focuses on restoring pumps, of different sizes, to optimal operational condition.

The *Employer's* site maintenance personnel will disconnect all motor-pump connections from the plant systems before collection by the *Contractor* and will reconnect them after delivery to site. The *Contractor* will not be responsible for pump disconnection.

Logistics and Documentation: The *Contractor* collects the disconnected pumps from the *Employer's* premises, overhauls them, and returns them to their original locations. Provide detailed inspection and certification records for all serviced pumps.

Pump Overhaul: The *Contractor* shall plan and execute all overhauling activities, ensuring alignment with the *Employer's* quality requirements. Certify pumps to ensure compliance with performance requirements.

The *Contractor* shall ensure that all refurbishment activities are completed within **25** calendar days of commencement

1.2.1 Transportation

The *Employer* shall:

- Drain and seal the pump prior to transportation.
- Provide flange covers for all pump ports to prevent ingress of contaminants.

The *Contractor* shall:

- Provide a truck equipped to safely transport pumps of various sizes and weights from the respective power stations as per **Table 1 and 2**. *Contractor* shall also refer to **Addendum A and B** for more details about the specifications of these pumps.
- Be responsible for lifting, loading, securing, and unloading pumps to prevent any damage during transit.
- Transport pumps from Gourikwa and Ankerlig Power Stations to their workshop and return them post-overhaul.

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

- Ensure proper protective measures are implemented during transportation, including the use of weatherproof covers to safeguard the pumps.

	Gourikwa Pumps List For Overhauling			
Plant A/B	Functional Location	Total No. of Pumps	Per Unit Pumps	Pump Design
A	MBV Main Lube Oil Pumps	3	1	Allweiler
B	MBV Main Lube Oil Pumps	2		Allweiler
A	MBV Auxiliary Lube Oil Pumps	3	1	Allweiler
B	MBV Auxiliary Lube Oil Pumps	2		Allweiler
A	MBV Standby Lube Oil Pumps	3	1	Allweiler
B	MBV Standby Lube Oil Pumps	2		Allweiler
A	MBV Emergency Lube Oil Pumps	3	1	Centrifugal
B	MBV Emergency Lube Oil Pumps	2		Centrifugal
A	MBV Cooling Water Pumps	6	2	Allweiler
B	MBV Cooling Water Pumps	4		Allweiler
A	MBV Lift Oil Pumps	6	2	Denison
B	MBV Lift Oil Pumps	4		Denison
A	MBX Hydraulic Pumps	6	2	Rexroth & Sauer
B	MBX Hydraulic Pumps	4		Rexroth & Sauer
A	MPR Cooling Water Pumps	6	2	Allweiler
B	MPR Cooling Water Pumps	4		Allweiler
Common Plant	Fuel Treatment Pumps	3		Apollo
TOTAL PUMPS		63	12	

Table 1: Gourikwa Pumps for Overhauling

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

	Ankerlig Pumps List For Overhauling			
Plant 1/2	Functional Location	Total No. of Pumps	Per Unit Pumps	Pump Design
1	MBV Main Lube Oil Pumps	4	1	Allweiler
2	MBV Main Lube Oil Pumps	5		Allweiler
1	MBV Auxiliary Lube Oil Pumps	4	1	Allweiler
2	MBV Auxiliary Lube Oil Pumps	5		Allweiler
1	MBV Standby Lube Oil Pumps	4	1	Allweiler
2	MBV Standby Lube Oil Pumps	5		Allweiler
1	MBV Emergency Lube Oil Pumps	4	1	Centrifugal
2	MBV Emergency Lube Oil Pumps	5		Centrifugal
1	MBV Cooling Water Pumps	8	2	Allweiler
2	MBV Cooling Water Pumps	10		Allweiler
1	MBV Lift Oil Pumps	8	2	Denison
2	MBV Lift Oil Pumps	10		Denison
1	MBX Hydraulic Pumps	8	2	Rexroth & Sauer
2	MBX Hydraulic Pumps	10		Rexroth & Sauer
1	MPR Cooling Water Pumps	8	2	Allweiler
2	MPR Cooling Water Pumps	10		Allweiler
TOTAL PUMPS		108	12	

Table 2: Ankerlig Pumps for Overhauling

1.2.2 Labour (Assembly/Disassembly) Normal Time

The *Contractor* shall:

- Perform controlled disassembly and reassembly in a clean environment.
- Document each step of the disassembly and reassembly process, including photographic records.
- Use standard recommended procedures and tools.

1.2.3 Labour (Assembly/Disassembly) Overtime and Weekends

The *Contractor* shall:

- Clearly define and schedule all overtime or weekend work as agreed with the employer.
- Ensure compliance with health and safety standards during these periods.

1.2.4 Machining (if required)

If required, the *Contractor* shall conduct precision machining for:

- Shaft journals (to remove scoring or restore diameter).
- Impeller surfaces (to restore balance or correct dimensions).
- Casing components such as volute seating areas.

1.2.5 Inspect and Record All Strip Down Measurements

Measurements and records of the following shall be taken during disassembly:

- Shaft diameters and runout.
- Impeller and wear ring clearances.
- Bearing housing dimensions.
- Axial float.

Contractor shall include findings in the final findings report.

1.2.6 Replace Volute (only if necessary)

If it is necessary, the *Contractor* shall:

- Inspect the volute casing for cracks, erosion, or excessive wear.
- Replace the volute with an approved component if damage exceeds allowable limits.

1.2.7 Inspect/Test Pump Shaft for Straightness

It is required that the *Contractor*:

- Conducts shaft runout testing using a dial gauge with accuracy to $\pm 0.01\text{mm}$.
- Corrects any shaft misalignment through machining or recommend replacement if misalignment exceeds required tolerances.

1.2.8 Replace Impeller (if deemed necessary)

In the case where it is necessary to replace the impeller, the *Contractor* shall:

- Inspect the impeller for cavitation damage, pitting, or deformation.

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

- Replace with a certified impeller if damage is beyond repair.

1.2.9 Balance Impeller

The *Contractor* shall:

- Inspect the impeller for cracks or deformities before and after balancing.
- Dynamically balance the impeller assembly to ensure vibration-free operation.
- Use a precision balancing machine to measure and correct unbalance at the relevant operating speeds as given in the tables provided.
- Adjust weights or remove material from designated areas without compromising structural integrity.
- Verify residual unbalance and ensure vibration levels comply with acceptable standards.
- Provide a balancing report documenting initial and final unbalance values and corrective actions.

1.2.10 Replace Shaft (only if necessary)

The *Contractor* shall replace the shaft if any of the following conditions are met:

- **Diameter Wear:** If the shaft's diameter wear exceeds the specified tolerances after machining, the shaft must be replaced to ensure proper fit and function.
- **Cracks or Defects:** If cracks, fractures, or any other defects are detected during Non-Destructive Testing (NDT), the shaft must be replaced, as these defects could compromise the integrity and performance of the motor/pump.

1.2.11 Replace Bearings

In pumps where bearings apply, the *Contractor* shall:

- Replace Drive End and Non-Drive End bearings, with approved bearings.
- Apply the correct lubrication type and quantity during installation.
- The *Contractor* is required to note that at both Ankerlig and Gourikwa Power Stations:
 - Certain pumps are equipped with flexible couplings and are configured as single-stage pumps. The specific bearings requiring replacement are detailed in this scope of works.
 - Furthermore, the *Contractor* must note the following for pumps at both Gourikwa and Ankerlig Power Stations:
 - Some pumps are designed as close-coupled units, where the impeller is mounted directly on the motor shaft, and therefore, these pumps do not have bearings.
 - Some pumps are equipped with Rotex spider couplings, while others utilize different spider couplings.
- Ensure that distinctions between the various pump configurations, couplings, and bearing requirements are made in accordance with **Table 1 and 2** provided in this scope of works document.

1.2.12 Replace Wear Rings/Split Ring (if necessary)

Where applicable and necessary, the *Contractor* shall:

- Remove the existing wear rings and split rings, inspecting for excessive clearance, wear, or damage.
- Measure the radial clearance between the impeller and wear rings using precision instruments, ensuring compliance with acceptable standards.

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

- Replace wear rings with new ones if the clearance exceeds the specified tolerances or shows visible wear patterns.
- Ensure new rings are approved equivalents to ensure optimal performance.
- Accurately fit and secure the new wear rings, ensuring no interference with impeller rotation or pump hydraulics.
- Document all findings and replacements, providing detailed measurements before and after replacement for recordkeeping.

1.2.13 Replace Spacer, Shims, and Circlips

It is required that the *Contractor*:

- Replaces all spacers, shims, and circlips with approved compliant parts during reassembly.
- Carefully removes all spacers, shims, and circlips during disassembly, inspecting them for deformation, wear, or corrosion.
- Measures existing components to verify dimensions against OEM specifications to determine the need for replacement.
- Replaces all spacers, shims, and circlips with new, OEM-compliant parts to ensure correct alignment and clearances during reassembly.
- Installs spacers and shims with precision to maintain axial and radial alignment of rotating components, ensuring proper load distribution.
- Secures circlips in their designated grooves using appropriate tools to prevent displacement during operation.
- Provides a detailed report of all replaced components.

1.2.14 Replace Gasket Set

The *Contractor* shall:

- Use a full gasket set that meets the pump manufacturer's specifications or approved equivalents for the different pumps on scope of work.
- Carefully remove all existing gaskets during disassembly, ensuring no remnants remain on the mating surfaces to prevent sealing issues.
- Clean all gasket seating areas thoroughly, removing debris, corrosion, or oil residue to ensure a smooth sealing surface.
- Install the new gaskets with precision, ensuring proper alignment and avoiding over-tightening of bolts to prevent damage to the gasket material.
- Verify proper sealing during hydraulic pressure testing, ensuring there are no leaks at gasketed joints.
- Document all gasket replacements, including the type and material of gaskets installed, and provide this information in the final inspection report.

1.2.15 Replace Shaft Seal (if necessary)

Where necessary, the *Contractor* shall:

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

- Inspect the existing shaft seal for wear, cracking, or other signs of failure, determining whether replacement is necessary.
- Carefully remove the old shaft seal, ensuring no damage to the shaft or housing during disassembly.
- Install a new shaft seal that meets OEM specifications or is an approved equivalent, ensuring compatibility with the pump's operating conditions, including temperature, pressure, and medium.
- Apply the correct amount of lubrication or sealing compound, as specified, to facilitate proper installation and performance.
- Test the newly installed shaft seal during reassembly by conducting a pressure or performance test to verify leak-free operation under normal operating conditions.
- Record and report all details of the replaced shaft seal, including part numbers, specifications, and test results.

1.2.16 Sand Blast and Paint

The relevant paint shall be applied to all pumps and the *Contractor* shall:

- Sandblast all metallic surfaces to remove old paint and corrosion.
- Apply **Ochre Brown (RAL 8001)** for the coating of all external and visible surfaces of the following pumps, ensuring that the colour is consistent across all components:
 - MBV Main Lube Oil Pumps
 - MBV Auxiliary Lube Oil Pumps
 - MBV Standby Lube Oil Pumps
 - MBV Emergency Lube Oil Pumps
 - MBV Lift Oil Pumps
 - MBX Hydraulic Pumps
- Furthermore, **Varnish Blue (RAL 5017)** shall be applied to the external and visible surfaces of the following pumps:
 - MPR Cooling Water Pumps
 - MBV Cooling Water Pumps
 - Fuel Treatment Pumps
- Ensure a minimum coating thickness of 150 microns.

1.2.17 Check the Axial Float of the Pump Assembly

The *Contractor* is required to:

- Use a calibrated dial gauge to accurately measure the axial float of the pump assembly, ensuring the reading is precise and reliable.
- Disassemble and adjust the assembly as required to bring the axial float within the acceptable tolerance range, prioritizing alignment and balance.
- Inspect associated components, such as thrust bearings and spacers, for wear or damage that could affect axial float, replacing them as necessary.

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

- Reconfirm the axial float measurement post-adjustment to ensure compliance with acceptable standards and vibration-free operation.
- Provide a detailed report outlining all adjustments, replaced components, and final measurements for quality assurance.

1.2.18 Provide a Report

Upon completion of the overhaul scope of work, the *Contractor* shall submit a comprehensive report including:

- **Initial Inspection Findings:** A detailed summary of all observations made during the initial inspection, including photographic evidence to support the findings.
- **Measurements and Clearances:** Precise measurements taken during the overhaul process, along with the corresponding clearances for critical components, ensuring they meet the required specifications.
- **List of Replaced Components:** A thorough list of all parts and components that were replaced during the overhaul, including part numbers, quantities, and any relevant specifications.
- **Test Results:** Documented results of any tests performed, such as pressure tests, functional tests, or performance evaluations, confirming that the pumps meet operational standards post-overhaul.

1.2.19 Laser Alignment

The *Contractor* shall perform the laser alignment, taking note of the below:

- **Alignment of Pump and Motor:** After the pump is reinstalled at the site and all relevant components are securely mounted, the *Contractor* shall perform laser alignment between the pump and motor shafts to ensure they are properly aligned for optimal performance and to prevent undue stress on the bearings and other components.
- **Alignment Equipment:** The *Contractor* shall use calibrated laser alignment tools to perform the alignment, ensuring accuracy and precision. The tools must be appropriate for the motor and pump sizes in question, and alignment tolerances shall be based on manufacturer specifications or industry standards.
- **Procedure:** The alignment process shall involve setting up the laser equipment, taking initial readings of the shaft angles, distances, and offsets, and adjusting the pump and motor until the specified alignment tolerances are achieved. This will include adjusting the motor base or pump casing, as needed, to bring the components into alignment.
- **Post-Alignment Checks:** Once the alignment is completed, the *Contractor* shall verify the alignment by conducting a final check to ensure that the shaft misalignment is within the acceptable tolerance limits. Any further adjustments needed must be made at this stage before final acceptance.
- **Site Presence and Commissioning:** The *Contractor* is required to remain on site until all pumps have been fully commissioned and verified to operate correctly. This includes ensuring that the pumps are functioning as intended, with no leaks present in any of the seals or connections. The *Contractor* must resolve any issues related to leaks or system performance before the commissioning can be considered complete.
- **Acceptance Criteria:** The alignment will be considered acceptable only if it meets the specified tolerances and performance criteria. If any alignment issues are found that could affect the efficiency or lifespan of the pump and motor, the *Contractor* will be required to make further adjustments until the system meets the required standards.

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS**1.3 Interpretation and terminology**

Bearings: A stationary member or assembly of stationary members in which a shaft is supported and may rotate.

Contractor: Pump repair service provider

Employer: The Eskom business unit engaging in refurbishing or repairing mechanical pumps to which this document is applicable

Low Voltage: Above 50 volts AC but does not exceed 1,000 volts AC

Medium Voltage: Above 1000 volts AC but does not exceed 33000 volts AC.

Overhaul: A basic refurbishment or a refurbishment with limited replacement of components (e.g., bearing replacements).

Polarization Index (PI): Variation in the value of insulation resistance with time.

Refurbishing: The total process of restoring a machine or component that has become inadequate for continued use with normal maintenance, thereby making it suitable for an extended period of service. This may include re-evaluating the service conditions and use of the pump and possible redesigning of the pump to meet the new requirements.

The following abbreviations are used in this Service Information:

Abbreviation	Meaning given to the abbreviation
OCGT	Open Cycle Gas Turbine
DE	Drive End
NDE	Non-Drive End
NDT	Non-Destructive Test
PPE	Personal Protective Equipment
BU	Business Unit
SOW	Scope of Work
BOP	Balance of Plant
LV	Low Voltage
LDV	Light Duty Vehicle
B-BBEE	Broad Based black Economic Empowerment
QCP	Quality Control Plan
OEM	Original Equipment Manufacturer
MW	Megawatt
RAL	Reichs-Ausschuss für Lieferbedingungen
QA	Quality Assurance

2 Management strategy and start up.

2.1 The *Contractor's* plan for the service

2.1.1 General Requirements

The *Contractor* shall develop and submit a comprehensive plan detailing the methodology and schedule for performing the services outlined in the contract. The plan must comply with the core clauses and any additional requirements in the main options of the NEC3 TSC, with particular attention to the following:

Order and Timing of Work:

- The plan must outline a detailed schedule for the overhaul of the pumps, including the sequence of activities such as collection from site, transportation, disassembly, refurbishment, reassembly, and testing.
- A proposed timeline for each key activity must be included, ensuring alignment with the outage period and the operational schedules of Gourikwa and Ankerlig Power Stations.
- The plan must specify when the pumps will be collected from site and when they are expected to return after refurbishment, ensuring that the station's operations are not disrupted.
- The *Contractor* shall ensure that all refurbishment activities are completed within **25** calendar days of commencement

Methodology for Performing the Work:

The plan should describe the processes and methodologies to be followed in the refurbishment of the BOP pumps. This should cover:

- Disassembly, inspection, cleaning, replacement of worn-out components, reassembly, and testing.
- Any special tools, equipment, or procedures required.
- Quality control processes and adherence to the *Employer's* specifications.

2.1.2 Reporting and Communication:

Technical Reporting Requirements:

The *Contractor* shall provide regular updates to the *Employer*, detailing the status of the refurbishment work, any issues encountered, and corrective actions taken. Reports should be made available at key milestones, such as after disassembly, during inspection, and following reassembly.

The *Contractor* shall provide a detailed report at the completion of the overhaul, including final testing results, recommendations for future maintenance, and any deviations from the original plan.

Witness and Hold Points:

The *Employer* reserves the right to visit the *Contractor's* workshop at specific stages of the refurbishment for witness and hold points. The *Contractor* shall coordinate these visits and allow for sufficient notice to accommodate the *Employer's* representatives.

The *Contractor* shall ensure that all relevant documentation, including the Quality Control Plan, is available for review during these visits.

2.1.3 Schedule and Coordination:

The plan shall include a detailed schedule of all activities, broken down by task and indicating the expected start and end dates for each activity. The schedule should:

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

- Align with the outage window for both Gourikwa and Ankerlig Power Stations.
- Ensure that any downtime for the pumps is minimized, and that the work is completed within the agreed-upon timeframe.
- Include specific scheduling milestones for the collection, transport, overhaul, and return of the pumps

2.1.4 Quality Control and Compliance:

The *Contractor* must ensure that all services are performed in compliance with the *Employer's* requirements, quality standards, and applicable regulations.

- The plan must outline the *Contractor's* approach to quality control, including inspection and testing procedures to ensure the refurbished pumps meet performance and safety specifications.
- The *Contractor* must provide a Quality Control Plan (QCP) that includes all aspects of the work, from the collection and transport of pumps to the final testing and return to the stations.

2.1.5 Risk Management and Contingency:

The *Contractor* should identify any potential risks to the schedule or quality of work and provide contingency plans to mitigate these risks. This includes the possibility of delays in transport, unforeseen issues during the refurbishment process, or availability of spare parts.

2.2 Management meetings

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

Title and purpose	Approximate time & interval	Location	Attendance by:
Risk reduction and compensation event meeting	As and when required	Gourikwa / Ankerlig Power Station(s)	<i>Employer's Project Manager, Contractor's Project Manager, Relevant stakeholders</i>
Overall contract progress and feedback	Weekly on Mondays, Wednesdays, and Fridays at 14h00	Gourikwa / Ankerlig Power Station(s)	<i>Employer & Contractor</i>
Outage Meeting	Daily, 07h30 to 08h00 (If & when necessary, <i>Contractor</i> will be informed to attend)	Gourikwa / Ankerlig Power Station(s)	<i>Employer & Contractor</i>
<i>Contractor</i> Safety Meeting	As and when required	As and when required	<i>Contractor's Safety Officer</i>
Site (kick-off) meeting	First working day after official contract is placed at 10:00	Gourikwa / Ankerlig Power Station(s)	<i>Contractor's team & Contractor</i>

Meetings of a specialist nature may be convened as specified elsewhere in this *Service Information* or if not so specified by persons and at times and locations to suit the Parties, the nature, and the progress of the service. Records of these meetings shall be submitted to the *Service Manager* by the person convening the meeting within five days of the meeting.

All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.

2.3 Contractor's management, supervision and key people

2.3.1 Contractor's Supervision and Management Structure:

The *Contractor* shall provide a clear management structure for the supervision and execution of the work, ensuring that the necessary skills and expertise are available to meet the requirements of the contract. This structure must comply with the requirements specified in other sections of the contract, particularly concerning Health and Safety, and any specific management controls required.

2.3.2 Key People:

The *Contractor* shall identify and allocate key personnel to manage and supervise specific aspects of the work, including but not limited to:

- **Project Manager:** Responsible for overall coordination and management of the project, ensuring that all activities are performed in compliance with the contract terms and specifications.
- **Site Supervisor:** Responsible for day-to-day supervision of work on-site, ensuring the safety and efficiency of operations, and liaising with the *Employer's* representatives.
- **Health and Safety Officer:** Responsible for implementing and overseeing all safety procedures and ensuring compliance with health and safety regulations, including site inductions and regular safety audits.
- **Quality Control Manager:** Ensures that all work is carried out to the required quality standards and is in line with the *Employer's* specifications.
- **Technical Manager:** Responsible for overseeing the technical aspects of the refurbishment process, including ensuring that the correct methods and standards are followed during pump disassembly, refurbishment, and reassembly.

2.3.3 Organogram and Lines of Authority:

Where necessary, the *Contractor* shall provide an organogram showing the lines of authority and communication within the project team. This organogram must clearly show the reporting structure for all key personnel and their roles in the management and execution of the work.

The *Contractor's* management structure must ensure that all personnel understand their roles and responsibilities, and that clear communication channels are established to ensure efficient decision-making and problem-solving.

2.3.4 Additional Requirements:

- **Health and Safety:** The *Contractor* must ensure that all personnel involved in the project adhere to the Health and Safety requirements outlined elsewhere in this contract. This includes mandatory health and safety inductions at the power stations, as well as ongoing safety audits and reporting.
- **Subcontractor Management:** If the *Contractor* engages subcontractors, it must provide details of the subcontractors' roles and responsibilities within the project. The *Contractor* shall remain responsible for the management and supervision of subcontractors.
- **On-Site Management Presence:** The *Contractor* must ensure that key management personnel (such as the Project Manager and Site Supervisor) are present on-site during critical phases of the work, especially during the disconnection, transport, and reinstallation of the pumps.
- **Communication and Reporting:** The *Contractor* shall ensure regular communication and reporting, including weekly progress meetings and monthly status reports, as outlined in the contract.

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS**2.4 Provision of bonds and guarantees**

Not applicable to this contract.

2.5 Documentation control

The *Contractor* compiles and submits pre-documentation prior to the *Works*, and post-documentation upon completion of the *Works* to the for acceptance, consisting, but not limited to, the following:

- Detailed quality control plan
- Check sheets
- Method statements
- Detailed schedule
- Report(s)

The *Service Manager* or the *Delegated Person* shall in all instances be the point of communication (addressee) and no direct communication between persons involved in the contract shall be allowed. Such communication shall be disregarded.

2.6 Invoicing and payment

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

Assessments are conducted monthly or at completion of task order for an ad-hoc service. Assessments of work completed, and value is mutually agreed between the *Service Manager* and *Contractor*.

The *Contractor* issues invoice in line with the assessed value on the assessment certificate.

Submitted invoices are paid 30 days from date of receipt of invoice by the *Employer*.

2.6.1 Invoices submission

All invoices to be accompanied by the Payment Assessment Certificate as issued by the *Service Manager*.

Invoices to be submitted electronically as PDF documents to: Invoiceseskomlocal@eskom.co.za

a) The *Contractor* includes the following on the *Contractor's* Tax Invoice:

- Name and address of *Contractor*
- *Contractor's* VAT registration number if applicable
- *Contractor's* company registration number if applicable
- *Contractor's* banking details
- Name and address of recipient
- Tax invoice number and date of issue
- Description of goods/ service provided
- Period time for which the Tax Invoice is being rendered
- Contract Number (commencing with a 46 prefix)
- Relevant Task Order Number (commencing with a 45 prefix)
- Relevant task order line-item number
- Relevant goods receipt / service entry number received from the *Employer's* Service Manager

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

- Statement whether value added tax is included or excluded
- Invoices to be made out to Eskom Holdings SOC Ltd

2.7 Contract change management

For any changes on the contract standard, NEC forms must be used which includes but not limited to:

- Task order forms before the *Service* commencement.
- Assessment forms on completion of a task order.
- Early warning forms when either party warns the other about the foreseen situation.
- Compensation event notification when there is a possibility of additional *Service*.

2.8 Records of Defined Cost to be kept by the Contractor**2.8.1 Record-Keeping (if applicable):**

Although detailed Defined Cost records are not required under Option A, the *Employer* may still request certain records for verification or dispute resolution purposes. In such cases, the *Contractor* is required to maintain records that can demonstrate the following:

- **Progress of Work:** The *Contractor* shall maintain records to demonstrate the progress of work. This could include daily reports, time logs, and photographic evidence of completed work.
- **Quality Assurance Records:** The *Contractor* should maintain records that show the quality of work being performed, particularly in areas that are critical to safety or compliance with regulatory standards. This could include inspection and testing reports, certification.
- **Subcontractor Documentation:** If any subcontractors are used, records of their work should be maintained for verification purposes. This includes contracts, invoices, and performance reports.

These records should be organized in a clear and accessible format, ensuring that they can be reviewed by the *Service Manager* upon request.

2.9 Insurance provided by the Employer

No additional information. Refer to Contract Data. Queries regarding insurance claims and/or procedures can be addressed with the *Service Manager*.

2.10 Training workshops and technology transfer

The *Employer* will not pay for any training. It is expected that the *Contractor* provides trained people that perform the service to the required level:

- The *Contractor* makes provision of all the necessary training required to carry out the work that includes on-job training in line with duties expected to be performed including the use of hazardous chemicals, etc.
- The *Contractor* ensures that all its personnel attends workshops/meetings schedule by the *Employer* such as Safety Inductions, pre-outage or any other that will affect the service.

2.11 Design and supply of Equipment

Design is not applicable to this scope. No alteration to - or on equipment is allowed without the written consent of the *Service Manager*.

2.12 Things provided at the end of the service period for the Employer's use

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS**2.12.1 Equipment**

None

2.12.2 Information and other things

Tests certificates, test results, reports and other relevant documentation for the use of the *Employer*.

2.13 Management of work done by Task Order

A Task Order will be issued by the *Service Manager* that must be accepted by the *Contractor* prior to commencement of services. Any Task Order that is not signed by the duty authorized representative of the *Employer* is void and of no effect, and the *Contractor* shall not be compensated for any work performed pursuant to such Task Order.

3 Health and safety, the environment and quality assurance**3.1 Health and safety risk management**

The *Contractor*, upon collection of pumps, will be required to attend a Health and Safety Induction Course presented by *Employer* from 09:00 to 10:00, Monday- Friday prior to commencement of any works. This is a one (1) hour course and is valid for the duration of one (1) year at Gourikwa / Ankerlig Power Stations.

- The *Contractor* works strictly to risk assessment associated to his plant specific hazards.
- The *Contractor* ensures supervised and authorised entry into the plant.
- The *Contractor* ensures at all times compliance with the safety regulations imposed by any act of parliament, or any regulation or by law of any statutory authority.
- The *Contractor* complies with the Occupational Health and Safety Act and Regulations, 1993 and all regulations made there under as well as the *Employer's* safety and operating procedures.
- The *Contractor* acknowledges that he is fully aware of the requirements of all the above and
- undertakes to employ people who have received sufficient training to do the work required by the scope that they can comply therewith.
- The *Contractor* undertakes not to do, or not to allow anything to be done which will contravene any provisions of the act, regulations, or operating procedures.
- All employees of the *Contractor* must attend a safety induction course before they are allowed to work on site. It is the responsibility of the *Contractor* to ensure that all employees have attended the safety induction.
- The *Contractor* holds a Toolbox Talk and inspects all PPE before any work commences and keeps written proof of such actions.
- The *Contractor* complies with all of the applicable Quality, health, safety, and plant procedures.
- The *Contractor* complies with all of the applicable procedures as required by the *Employer*, procedures available from the *Employer's* Documentation Centre on request.
- The *Contractor* complies with the health and safety requirements questionnaire.
- The *Contractor* familiarizes himself with all permit requirements for work to be done on all plant systems and ensures that permits are applied for accordingly. The *Contractor* specifically

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

addresses all risks related to work in any area by means of a written and approved risk assessment, which is compiled in liaison with the *Employer*.

- The following risks have been identified by the *Employer*, and the *Contractor* shall include these in his risk assessment:
 - Injury caused by hand tools
 - High noise level
 - Falling when working at heights
 - Movement of stairs while walking
 - Falling into open trenches while walking
- Any tampering with the Employer's fire equipment is strictly forbidden

3.2 Environmental constraints and management

The *Contractor* will be required to ensure that all works are carried out as per the ISO 14001 standard and Eskom's Environmental Policy. The following environmental requirements are complied with at all times:

- Zero liquid effluent discharge.
- No chemicals will be dumped into the station drains or on the premises.
- No oil or waste will be dumped in an unauthorised area or unlicensed waste site.
- Asbestos will be handled and stored according to Act 15 of 1973 (hazardous substances Act).
- No materials or waste will be burnt on site. Hazardous substances shall be handled and stored according to the hazardous substances Act no 15 of 1973.
- No effluent shall be discharged into the public streams.
- 32-136 - Construction Safety, Health, and Environmental Management Rev 0

3.2.1 Waste Disposal:

All waste introduced to and/or produced on the *Employer's* premises by the *Contractor* for this contract, must be handled in accordance with the minimum requirements for the Handling and Disposal of Hazardous Waste in terms of Government Legislation as proclaimed by the Department of Water Affairs and Forestry Act, 1994 Ref: ISBN0621-16296-5.

3.2.2 Hazardous chemical agent

If product is classified as a hazardous chemical agent, safety brochures must accompany delivery. In accordance with the Regulations for Hazardous Chemical Agent, 2020. If any hazard is identified by the *Contractor*, he must immediately inform the *Employer*.

3.2.3 Green Practices

The *Contractor* must carry out good environmental practices in carrying out the services for conserving the global and local environment. Such practices shall include but not be limited to the replacing all chemical-based cleaning agents by natural/organic alternatives.

During sweeping and dusting, the *Contractor* shall ensure that a minimum amount of dust is liberated into the atmosphere. The use of compressed air for cleaning is prohibited.

3.2.4 Legislation

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Comply with all environmental legislation of South Africa in respect of controlling air pollution, water pollution and waste disposal.

3.3 Quality assurance requirements

The following are minimum requirements for Quality Control and Quality Assurance programs:

- The *Contractor* shall have a QA program that, as a minimum, meets the requirements of ISO 9001 or *Employer* approved QA Program. Any sub-*contractors* completing any portions of the pump repair and reconditioning work shall meet this requirement.
- The *Employer* shall accept the QA program before the start of any pump refurbishment or repair work.
- If new and/or replacement parts are procured, the *Employer* has the right to inspect these parts. Technical documentation shall be made available to the *Employer* for inspection.
- The *Employer* has the right to impose witness and hold points, even after order has been placed. Witness and hold points can only be waived by the *Employer's* Quality Assurance or designated representative in writing.
- The *Contractor* shall provide appropriate notice of an impending witness or hold point at least 48-hours prior to the event.
- At any phase of the Works, the *Employer* or its authorized representative reserves the right to inspect pumps and all their components. By entering into a contract with the *Employer*, the *Contractor* therefore, consents the *Employer* or its authorized representative to unlimited access to the *Contractor's*, including *Sub-Contractor's*, premises at all reasonable times to the extent necessary to assess compliance with the provisions of this and such other documents as may apply to the refurbishment of pumps.
- Such inspections shall not relieve the *Contractor* of its obligation or responsibilities under the contract.

The following are hold/inspection points that may be witnessed:

- Incoming pump routine test, where applicable,
- Pump stripping where warrantee and insurance claims are involved,
- Pre-cleaning assessment,
- Refurbished pump routine tests,
- Inspection of pumps
- NDT & painting of pumps
- Reassembly
- Reinstallation

4 Procurement

4.1 People

4.1.1 Minimum requirements of people employed

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

The *Contractor* is required to provide a detailed Curriculum Vitae (CV) containing qualifications, skills, competencies, and experience with certified copies of qualifications and certificates, from a recognised South African body e.g., SETA, SAQA etc.

People with non-South African qualifications need to have their qualifications verified by SAQA and a Certification of Evaluation issued.

4.1.2 BBBEE and preferencing scheme

Minimum BBBEE status level of contributor: Level 1 to 4.

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

Not Applicable.

4.2 Subcontracting**4.2.1 Preferred subs**

No nominated *SubContractors*.

4.2.2 Subcontract documentation, and assessment of subcontract tenders

This contract is intended between the *Employer* and the *Contractor*. Any proposed sub-contract work follows a transparent procurement process (to the satisfaction of the *Service Manager*).

The *Contractor* provides the *Employer's representative* with a quotation with the agreed markup percentage for sub-contractor's services to perform investigation and repairs.

The *Contractor* attaches the sub-contractor's invoice together with the *Contractor's* quotation as supporting evidence. The warranties from sub-contractor are to be in favour of the *Employer* and not just the *Contractor*.

4.2.3 Limitations on subcontracting

The primary *Contractor* retains full responsibility for the performance of all subcontracted work. This includes ensuring that *Subcontractors* comply with all project requirements, including health and safety regulations, quality standards, and project timelines.

The *Employer* reserves the right to request the removal and replacement of any *Subcontractor* who fails to meet the required standards or who poses a risk to the successful completion of the *Works*.

4.2.4 Attendance on subcontractors

None

4.3 Plant and Materials**4.3.1 Specifications**

All materials utilised will be as specified by the pumps or related equipment OEM. Where it is required to deviate from this specification materials used for this service is subject to the *Service Manager's* prior acceptance.

Safety Data Sheets to be provided for all chemicals to be used.

Where material, alternative to this requirement or OEM requirements, needs to be or is recommended to be used the request to use the alternative materials to be submitted to the *Service Manager* for approval and approval obtained from the *Service Manager* prior to the execution of the work. Alternative materials only to be used upon approval by the *Service Manager*.

4.3.2 Correction of defects

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

The *Contractor* is responsible for correcting any defects arising from their work on the specific pumps. The defect correction period extends for 52 weeks following the completion of each task order. Upon notification by the *Employer*, the *Contractor* must respond to rectify the defect(s) within 24 hours.

4.3.3 Contractor's procurement of Plant and Materials

If *Contractor* is to procure any material deemed to be a deviation from quality standards, it shall be discussed and agreed between the *Employer* and *Contractor*.

4.3.4 Tests and inspections before delivery

If the *Contractor* is responsible only for the pumps (without motors), the focus shifts to mechanical testing and inspections specific to the pump assembly and its components. The below is a list of applicable tests and inspections to be done before delivery:

- **Hydrostatic Pressure Test:** Test the pump casing, seals, and other pressure-retaining components to confirm they can handle the specified pressure without leaks. This ensures structural integrity, especially for pumps operating under high pressure.
- **Mechanical Run-Out and Alignment Check:** Verify the straightness of the pump shaft and confirm proper alignment of critical rotating parts, such as the impeller and coupling areas. Ensure smooth rotation of the pump shaft by hand or with a low-power drive.
- **Impeller Balancing:** Perform dynamic balancing of the impeller to minimize vibrations when the pump is operational. This step is critical for efficient and reliable performance.
- **Seal and Gasket Inspection:** Test all seals, gaskets, and packing for proper installation and ensure no signs of leakage. Mechanical seals, if applicable, should undergo a static leakage test.
- **Dimensional and Tolerance Verification:** Confirm that key dimensions (e.g., flanges, bolt patterns, and shaft extension) match the design specifications and will interface correctly with the motor and piping system.
- **Painting and Coating Inspection:** Check that protective coatings (e.g., epoxy or ceramic) meet thickness and adhesion standards to ensure resistance against corrosion.
- **Leakage Testing:** Ensure there are no leaks in the pump casing, suction, or discharge areas under static conditions.
- **Fastener Torque Verification:** Inspect and ensure all bolts, nuts, and fasteners are tightened to the specified torque values to prevent loosening during operation.
- **Internal Component Inspection:** Inspect the pump's internal components (e.g., impellers, wear rings, and casing) to ensure proper clearances, smooth surfaces, and absence of damage or manufacturing defects.
- **Bearings and Lubrication Check:** If bearings are part of the pump assembly, inspect them for proper installation, alignment, and lubrication.

4.3.5 Plant & Materials provided "free issue" by the Employer

The *Employer* will provide a rigger, forklift, or mobile crane to load the pumps on the truck.

4.3.6 Cataloguing requirements by the Contractor

Not Applicable.

5 Working on the Affected Property**5.1 Employer's site entry and security control, permits, and site regulations**

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Peaking power stations are National Key Points. All persons intending to perform work and/or attend meetings during this contract period comply with the following:

- The *Contractor* adheres to all Life Saving Rules as specified. The *Employer* does not permit any passengers to be transported at the back of any Truck, light domestic vehicle, or enclosed light commercial vehicle.
- Each person shall sign the site entrance register and this information shall also be collated by the *Contractor* for use during the scheduled meetings.
- Parking is allowed in the demarcated areas only and should it be required to drive on site, then please adhere to the following
 - Maximum speed is 40km/h
 - Obey all road signs
 - Damage to Employer's plant / property will be for the Contractor's account.
- All *Contractor* personnel are in possession of Security clearance. Verification records are submitted as part of the safety file together with ID copies. The *Employer* reserves the right to refuse entry to all persons with criminal records.
- Original Identity document (ID) or passport is presented to Security on arrival
- No weapons may be taken on site
- No drugs allowed on site
- No explosives allowed on site
- No firearms and ammunition allowed on site
- All persons entering the *Employer's* premises undergo a breathalyser test. Any persons testing positive is not allowed entry. The *Employer* has a zero tolerance towards alcohol.
- Tool registers is verified on arrival by security personnel
- Only reverse parking is allowed on site
- No photographs may be taken whilst on site

5.1 People restrictions, hours of work, conduct and records

5.1.1 Fire Precautions:

Any tampering with the *Employer's* fire equipment is strictly forbidden.

- All exit doors, fire escape routes, walkways, stairways and stair landings and access to electrical distribution boards must be kept free of obstruction and is not used for work or storage at any time. Firefighting equipment must remain accessible at all times.
- In case of fire, report the location and extent of the fire to the control room.
- It is expected that the *Contractor* take the necessary action to safeguard the area in order to prevent injury and spreading of the fire.

5.1.2 Reporting of Accidents:

The *Employer* follows an accident prevention policy which includes the investigation of all accidents involving personnel and property.

This is done with the intention of introducing control measures to prevent a recurrence of the same incident.

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

The *Contractor* is expected to co-operate fully to achieve this objective.

The *Service Manager* must be informed immediately of any Category B or C incidents. Category A incidents and any damage to property or equipment must be reported to the *Service Manager* within 24-hours.

NOTE: This report does not relieve the *Contractor* of his legal obligation to report incidents to the Department of Labour, or to keep records in terms of the Occupational Health and Safety Act, and Compensation for Occupational Injuries and Diseases Act.

5.1.3 Speed Limit:

All vehicles must be driven with due consideration for personnel and property. Maximum speed limit to be always adhered to on the premises.

5.1.4 Transportation of passengers: open LDV's:

With effect from 31 May 2006 no *Eskom employee* or *Contractor* would be allowed to transport passengers on the back of open light delivery vehicles (LDV's). It is a legal requirement to provide safe transportation of *Eskom* and *Contractor* employees – therefore the following will be enforced:

- Ensure that no employee, including *Contractor* employees or any other person, when on an Eskom site and/or performing work for Eskom, is allowed to be transported in the back of open vehicles.
- There will be cases where this may not be reasonable or practicable, namely where vehicles are used during line inspections on sites or on private roads, or similar cases, and in these cases such vehicles must be driven at less than 30km per hour or at a speed suitable to the prevalent conditions. In such cases, the carrying of passengers in the back of such open vehicles could be explicitly allowed, after:
 - A risk assessment has been carried out, indicating a very low risk.
 - Mitigating factors have been identified to control any risk identified.
 - Proper seating and handrails have been provided on the back of the open vehicle:
 - These measures have been discussed at the relevant Health and Safety Committee Meeting and approved by the *Employer*.
 - Is defined and contained in a formal written division's or BU's policy, including the appropriate mitigating factors.
 - Such a policy has been communicated to all employees and *Contractors*.
 - The above risk assessment findings/outcomes must be available at all times for audit purposes.
 - Tools and equipment must be properly secured.
 - Only authorised drivers may transport passengers.
 - Proof must be submitted on request in terms of valid roadworthiness of the vehicle/s.
 - The above must apply to onsite and off-site transportation of passengers.

No person may be transported in the back of vehicles closed by means of canopies, unless provided with factory-fitted or manufactured-approved, proper seating and safety belts, i.e. crew cabs.

The driver must ensure that no employees are transported in the back of open vehicles unless it is allowed in terms of a divisional or BU-specific policy. This also applies to *Contractor* and *Contractor* employees when performing work for Eskom.

The driver must ensure that all canopies are being properly fitted and secured and that all loose tools and objects in vehicles are properly secured.

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

The driver must ensure that their passengers are seated and wear seatbelts at all times.

5.1.5 Working hours:

Employer's working hours, during the **outage** are:

- **Monday to Friday:** 07:00 – 17:30
- **Saturday:** 07:00 – 17:30 (if it is necessary to work on Saturday)
- **Sunday:** 07:00 – 17:30 (if it is necessary to work on Sunday)
- **Public Holidays:** 07:00 – 17:30 (if it is necessary to work on a Public Holiday)

The *Contractor* keeps records of his people working on the Affected Property, including those of his *SubContractors*.

The *Contractor* makes this information available to the *Service Manager*. These records may be needed when assessing compensation events.

5.2 Health and safety facilities on the Affected Property

The *Contractor* takes note of the below:

- **Contractor's Own Facilities:** The *Contractor* must provide additional health and safety facilities required for its personnel that are not covered by the *Employer's* provisions. This includes personal protective equipment (PPE), site-specific safety training, and any other measures necessary to ensure compliance with health and safety regulations.
- **Access to Employer Facilities:** Access to the *Employer's* health and safety facilities is provided as a supplementary measure and does not absolve the *Contractor* of its primary responsibility for ensuring the health and safety of its personnel.

5.3 Environmental controls, fauna & flora

The *Contractor* shall take steps to minimize waste and spillage whilst on site:

- **Waste Management:** Waste generated by the *Contractor's* activities must be handled in accordance with approved waste management practices. Disposal of hazardous materials must follow legal and regulatory requirements.
- **Spill Prevention:** The *Contractor* must implement measures to prevent spills of fuels, oils, and chemicals. Any spills must be immediately contained and reported to the *Service Manager*, along with actions taken for remediation.
- **Flora:** The *Contractor* must avoid damage to vegetation outside the designated work area. Removal of trees, shrubs, or plants is prohibited unless explicitly authorized by the *Service Manager*.
- **Fauna:** No endangered species on both sites.

5.4 Cooperating with and obtaining acceptance of Others

The *Contractor* co-operates with and does not delay, impede, or otherwise impair the service of others.

- **Joint Inspections:** The *Contractor* may be required to participate in joint inspections of the pumps with Ankerlig and Gourikwa maintenance teams prior to taking custody to ensure clear understanding of the condition of the equipment.
- **Communication and Reporting:** The *Contractor* shall provide regular updates to the *Service Manager* on progress, including the status of coordination with site personnel.

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

- **Safety and Compliance:** The *Contractor* shall adhere to all site-specific safety protocols established by the maintenance teams at Ankerlig and Gourikwa Power Stations during handling, disconnection, connection and recommissioning of the pumps.

5.5 Records of *Contractor's* Equipment

The *Contractor* is required to maintain accurate and up-to-date records of all Equipment brought to the Affected Property during the course of the contract. The following requirements and constraints apply:

- **Inventory:** The *Contractor* shall maintain an inventory of all Equipment on Site, detailing whether it is owned or hired. This inventory must include the following information:
 - Equipment description (type, model, and serial number).
 - Ownership status (owned or hired).
 - Date of arrival on Site.
 - Condition upon arrival.
 - Purpose or intended use.
- **Updates:** The inventory must be updated whenever Equipment is added, removed, or replaced. The *Contractor* shall provide the updated inventory to the *Service Manager* upon request.

5.6 Equipment provided by the *Employer*

The following equipment will be provided by the *Employer* for use by the *Contractor* during the execution of the *Services* at Ankerlig and Gourikwa Power Stations:

- **Forklifts:** Forklifts will be provided by Ankerlig and Gourikwa Power Stations for material handling and equipment transport on-site.
- **Overhead Cranes:** Overhead cranes installed inside the units at both Ankerlig and Gourikwa Power Stations will be available for lifting and handling pumps inside the units.
- **Scaffolding:** Scaffolding required for access to specific areas within the units will be made available by the *Employer*.
- **Lifting Equipment:** Lifting equipment required or rigging and lifting pumps is available in the respective sites and shall be used when needed.

5.7 Site services and facilities

5.7.1 Provided by the *Employer*

Provided by the *Employer*:

- **Canteen Facilities:** None
- **First Aid facilities:** Available
- **Ablution facilities:** Available
- **Telephone facilities:** *Contractor* to provide their own
- **Other:** No firearms and/or weapons allowed
- **Ablution facilities:** Available
- **Potable Water:** Available

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

- **Electricity Supply:** Available
- **Scrap Bins:** Available

5.7.2 Provided by the *Contractor*

The *Contractor* is required to provide a suitable and adequately sized truck for the safe and secure transportation of the pumps. This truck must be capable of accommodating the weight, dimensions, and handling requirements of the pumps to ensure no damage occurs during transit.

The truck must be equipped with appropriate securing mechanisms, such as straps or chains, to safely secure the pumps during transportation.

Additionally, the truck must comply with all relevant road transport regulations, including those related to load capacity, safety, and licensing.

5.8 Control of noise, dust, water and waste

The *Contractor* is required to control noise, dust, water, and waste as follows:

- **Noise Control:** Ensure noise levels comply with regulations by using noise barriers, mufflers, and scheduling noisy activities appropriately.
- **Dust Control:** Implement dust suppression measures like water sprays or dust covers to minimize dust emissions and protect health and the environment.
- **Water Control:** Manage drainage and runoff to prevent water contamination or flooding, ensuring wastewater does not enter water bodies or storm drains.
- **Waste Management:** Properly segregate, store, and dispose of all waste, including hazardous materials, in accordance with regulations, with records provided to the *Service Manager*.

5.9 Hook ups to existing works

The potential constraints related to hook-ups to existing systems:

- **Testing and Commissioning:** The electrical hook-up should be thoroughly tested to confirm proper operation and safety before the system is brought online. This includes insulation resistance testing, continuity checks, and functional tests.
- **Alignment and Positioning:** Mechanical components, such as pumps, motors, or compressors, must be properly aligned to ensure smooth operation and prevent excessive wear or vibrations.

5.10 Tests and inspections**5.10.1 Description of tests and inspections**

The *Contractor* shall perform the following tests and inspections to ensure the pumps meet the required standards and is ready for service:

- **Hydrostatic Pressure Testing:** Ensure all pump components, including casings and seals, are tested for pressure integrity at the required operating pressure and hold times.
- **Dimensional Inspections:** Verify that all critical dimensions (e.g., impeller clearance, shaft alignment, and flange mating surfaces) meet manufacturer specifications.
- **Mechanical Run Testing (if applicable):** For pumps that can be tested without a motor, conduct rotational checks to ensure smooth operation, proper bearing function, and absence of unusual noise or vibration.

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

- **Visual Inspection:** Inspect all components for damage, corrosion, or wear during disassembly and before reassembly.
- **NDT (Non-Destructive Testing):** Perform NDT (e.g., dye penetrant or ultrasonic testing) on critical weldments and castings to identify potential cracks or defects.
- **Seal Integrity Test:** Test the mechanical seals for proper installation and leak-tight performance under static conditions.
- **Paint and Coating Inspection:** Verify the quality and thickness of protective coatings or paints applied to the pump casing and other components as per the specified standards.
- **Final Assembly Checks:** Inspect the pump's final assembly to ensure all fasteners are torqued to specification, and all components are fitted as required

The *Service Manager* may:

- **Witnessing of Key Tests:** witness hydrostatic pressure tests, NDT, and final assembly inspections to confirm compliance with project specifications.
- **Review of Test Reports:** review test documentation provided by the *Contractor*, including pressure test results, dimensional checks, and NDT reports.
- **Factory Acceptance Tests (if applicable):** perform additional acceptance inspections or tests on-site at the *Contractor's* facility before the pumps are transported to the *Employer's* location.

5.10.2 Materials facilities and samples for tests and inspections

5.10.2.1 Materials, Facilities, and Samples to Be Provided by the *Contractor*:

- **Testing Equipment and Materials:** The *Contractor* shall supply all necessary materials, tools, and equipment required for testing and inspection, such as:
 - Pressure testing equipment (e.g., hydrostatic pumps, gauges, and fittings)
 - NDT equipment (e.g., dye penetrant kits, ultrasonic testing devices)
 - Measuring instruments (e.g., micrometers, dial gauges, and calipers)
 - Test fluids (e.g., water for hydrostatic testing or specialized test fluids if required)
- **Facilities for Testing:** The *Contractor* shall arrange suitable facilities to carry out inspections and tests, including:
 - A clean, secure, and well-lit space for assembling and inspecting components.
 - Test rigs or jigs for verifying pump performance or alignment.
 - Access to lifting equipment (e.g., cranes or hoists) for handling heavy components.
- **Documentation and Reports:** The *Contractor* shall maintain detailed records of all testing and inspection activities and provide these to the *Service Manager* for review.

5.10.2.2 Materials, Facilities, and Samples to Be Provided by the Employer:

- **Access to Overhead Cranes and Lifting Equipment:** The *Employer* will provide access to overhead cranes or forklifts within the plant for handling heavy components during tests or inspections on-site.
- **Utilities:** The *Employer* shall ensure the availability of utilities such as water, electricity, and compressed air (if needed) to facilitate testing at the Affected Property.

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

- **Access to the Affected Property:** The *Employer* shall grant the *Contractor* access to designated testing areas or facilities at the *Employer's* site, ensuring that necessary permits and security clearances are arranged.

6 List of drawings

6.1 Drawings issued by the *Employer*

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

- None

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS**Addendum A: Gourikwa Plant A&B Pumps**

Machine	Manufacturer & Model	KKS Number	DE Bearing	NDE Bearing	Speed RPM	Coupling	Stages
MBV Main Lube Oil Pumps Gourikwa Plant A							
Main Lube Oil Pump	Allweiler NSSV 80-250	11MBV21AP001	6311	6311 J C3	2944	Flexible coupling	Single Stage
Main Lube Oil Pump	Allweiler NSSV 80-250	12MBV21AP001	6311	6311 J C3	2944	Flexible coupling	Single Stage
Main Lube Oil Pump	Allweiler NSSV 80-250	13MBV21AP001	6311	6311 J C3	2944	Flexible coupling	Single Stage
MBV Main Lube Oil Pumps Gourikwa Plant B							
Main Lube Oil Pump	Allweiler NSSV 65-250	21MBV21AP001	6311	6311 J C3	2944	Flexible coupling	Single Stage
Main Lube Oil Pump	Allweiler NSSV 65-250	22MBV21AP001	6311	6311 J C3	2944	Flexible coupling	Single Stage
Machine	Manufacturer & Model	KKS Number	DE Bearing	NDE Bearing	Speed RPM	Coupling	Stages
MBV Auxiliary Lube Oil Pumps Gourikwa Plant A							
Auxiliary Lube Oil Pump	Allweiler NSSV 80-250	11MBV21AP002	6311	6311 J C3	2944	Flexible coupling	Single Stage
Auxiliary Lube Oil Pump	Allweiler NSSV 80-250	12MBV21AP002	6311	6311 J C3	2944	Flexible coupling	Single Stage
Auxiliary Lube Oil Pump	Allweiler NSSV 80-250	13MBV21002	6311	6311 J C3	2944	Flexible coupling	Single Stage
MBV Auxiliary Lube Oil Pumps Gourikwa Plant B							
Auxiliary Lube Oil Pump	Allweiler NSSV 65-250	21MBV21002	6311	6311 J C3	2944	Flexible coupling	Single Stage
Auxiliary Lube Oil Pump	Allweiler NSSV 65-250	22MBV21AP002	6311	6311 J C3	2944	Flexible coupling	Single Stage
Machine	Manufacturer & Model	KKS Number	DE Bearing	NDE Bearing	Speed RPM	Coupling	Stages
MBV Standby Lube Oil Pumps Gourikwa Plant A							
Standby Lube Oil Pump	Allweiler NSSV 65-250	11MBV21AP011	6311	6311 J C3	2944	Flexible coupling	Single Stage

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Standby Lube Oil Pump	Allweiler NSSV 65-250	12MBV21AP011	6311 C3	6311 J C3	2944	Flexible coupling	Single Stage
Standby Lube Oil Pump	Allweiler NSSV 65-250	13MBV21AP011	6311 C3	6311 J C3	2944	Flexible coupling	Single Stage
MBV Standby Lube Oil Pumps Gourikwa Plant B							
Standby Lube Oil Pump	Allweiler NSSV 65-250	21MBV21AP011	6311 C3	6311 J C3	2944	Flexible coupling	Single Stage
Standby Lube Oil Pump	Allweiler NSSV 65-250	22MBV21AP011	6311 C3	6311 J C3	2944	Flexible coupling	Single Stage
Machine	Manufacturer & Model	KKS Number	DE Bearing	NDE Bearing	Speed RPM	Coupling	Stages
MBV Emergency Lube Oil Pumps Gourikwa Plant A							
Emergency Lube Oil Pump	Centrifugal pump Type: NSSV65-160	11MBV21AP003	6308 JC3	6308 JC3	2900	Flexible coupling	
Emergency Lube Oil Pump	Centrifugal pump Type: NSSV65-160	12MBV21AP003	6308 JC3	6308 JC3	2900	Flexible coupling	
Emergency Lube Oil Pump	Centrifugal pump Type: NSSV65-160	13MBV21AP003	6308 JC3	6308 JC3	2900	Flexible coupling	
MBV Emergency Lube Oil Pumps Gourikwa B							
Emergency Lube Oil Pump	Centrifugal pump type: NSSV 50-160/01	21MBV21AP003	6308 JC3	6308 JC3	2900	Flexible coupling	
Emergency Lube Oil Pump	Centrifugal pump type: NSSV 50-160/01	22MBV21AP003	6308 JC3	6308 JC3	2900	Flexible coupling	
Machine	Manufacturer & Model	KKS Number	DE Bearing	NDE Bearing	Speed RPM	Coupling	Stages
MBV Cooling Water Pumps Gourikwa Plant A							
Cooling Water Pump	Allweiler NB 50 160	11 MBV23AP001	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage
Cooling Water Pump	Allweiler NB 50 160	11 MBV23AP002	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage
Cooling Water Pump	Allweiler NB 50 160	12 MBV23AP001	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage
Cooling Water Pump	Allweiler NB 50 160	12 MBV23AP002	No Bearings	No bearings	2900	Close coupled	Single stage

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

						pmp/mtr	
Cooling Water Pump	Allweiler NB 50 160	13 MBV23AP001	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage
Cooling Water Pump	Allweiler NB 50 160	13 MBV23AP002	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage
MBV Cooling Water Pumps Gourikwa Plant B							
Cooling Water Pump	Allweiler NT 50 - 160/01	21 MBV23AP001	No Bearings	No bearings	2900	Rotex spider	Single stage
Cooling Water Pump	Allweiler NT 50- 160/01	21 MBV23AP002	6306 2Z JCB Bearings	6306 2Z JCB	2900	Rotex spider	Single stage
Cooling Water Pump	Allweiler NT 50- 160/01	22 MBV23AP001	6306 2Z JCB Bearings	6306 2Z JCB	2900	Rotex spider	Single stage
Cooling Water Pump	Allweiler NT 50- 160/01	22 MBV23AP002	6306 2Z JCB	6306 2Z JCB	2900	Rotex spider	Single stage
Machine	Manufacturer & Model	KKS Number	DE Bearing	NDE Bearing	Speed RPM	Coupling	Stages
MPR Cooling Pumps Gourikwa Plant A							
Cooling Water Pump	Allweiler NB 80 200/02	11 MPR11AP001	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage
Cooling Water Pump	Allweiler NB 80 200/02	11 MPR12AP001	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage
Cooling Water Pump	Allweiler NB 80 200/02	12 MPR11AP001	No Bearings	No bearings	2900		Single stage
Cooling Water Pump	Allweiler NB 80 200/02	12 MPR12AP001	No Bearings	No bearings	2900		Single stage
Cooling Water Pump	Allweiler NB 80 200/02	13 MPR11AP001	No Bearings	No bearings	2900		Single stage
Cooling Water Pump	Allweiler NB 80 200/02	13 MPR12AP001	No Bearings	No bearings	2900		Single stage
MPR Cooling Pumps Gourikwa Plant B							
Cooling Water Pump	Allweiler NT 80- 200/02	21 MPR11AP001	6308 2RS C3	6308 2RS C3	2900		Single stage

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Cooling Water Pump	Allweiler NT 80-200/02	21 MPR12AP001	6308 2RS C3	6308 2RS C3	2900		Single stage
Cooling Water Pump	Allweiler NT 80-200/02	22 MPR11AP001	6308 2RS C3	6308 2RS C3	2900		Single stage
Cooling Water Pump	Allweiler NT 80-200/02	22 MPR12AP001	6308 2RS C3	6308 2RS C3	2900		Single stage
Machine	Manufacturer & Model	KKS Number	DE Bearing	NDE Bearing	Speed RPM	Coupling	Stages
MBV Lift Oil Pumps Gourikwa Plant A							
Lift Oil Pump	Denison T7BB112R00A5M0	11MBV30AP001	6210Z C3		1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB112R00A5M0	11MBV30AP002	6210Z C3		1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB112R00A5M0	12MBV30AP001	6210Z C3		1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB112R00A5M0	12MBV30AP002	6210Z C3		1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB112R00A5M0	13MBV30AP001	6210Z C3		1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB112R00A5M0	13MBV30AP002	6210Z C3		1465	Rotex spider	Single Stage
MBV Lift Oil Pumps Gourikwa Plant B							
Lift Oil Pump	Denison T7BB092R00A5M0	21MBV30AP001	6210Z C3		1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB092R00A5M0	21MBV30AP002	6210Z C3		1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB092R00A5M0	22MBV30AP001	6210Z C3		1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB092R00A5M0	22MBV30AP002	6210Z C3		1465	Rotex spider	Single Stage
Machine	Manufacturer & Model	KKS Number	DE Bearing	NDE Bearing	Speed RPM	Coupling	Stages
MBX Hydraulic Pumps Gourikwa Plant A							
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	11MBX02AP001			2900	Spider	Piston Pump and Gear Pump

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	11MBX02AP002			2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	12MBX02AP001			2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	12MBX02AP002			2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	13MBX02AP001			2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	13MBX02AP002			2900	Spider	Piston Pump and Gear Pump
MBX Hydraulic Pumps Gourikwa Plant B							
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump				2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump				2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump				2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump				2900	Spider	Piston Pump and Gear Pump
BoP EUA Fuel Treatment Pumps Gourikwa Plant A							
Fuel Treatment Pump	APOLLO KRC-80F/400-100/GN	00EUA10AP001	7311-BUA	NU 311 ECP/C3	1460	Flender/N-Eupex HDS	Single Stage
Fuel Treatment Pump	APOLLO KRC-80F/400-100/GN	00EUA11AP001	7311-BUA	NU 311 ECP/C3	1460	Flender/N-Eupex HDS	Single Stage
Fuel Treatment Pump	APOLLO KRC-80F/400-100/GN	00EUA12AP001	7311-BUA	NU 311 ECP/C3	1460	Flender/N-Eupex HDS	Single Stage

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS**Addendum B: Ankerlig Plant 1&2 Pumps**

Machine	Manufacturer & Model	KKS Number	DE Bearing	NDE Bearing	Speed RPM	Coupling	Stages
MBV Main Lube Oil Pumps Ankerlig 1							
Main Lube oil Pump	Allweiler NSSV 80-250	11MBV21AP001	6311	6311 J C3	2944	Flexible coupling	Single Stage
Main Lube oil Pump	Allweiler NSSV 80-250	12MBV21AP001	6311	6311 J C3	2944	Flexible coupling	Single Stage
Main Lube Oil Pump	Allweiler NSSV 80-250	21MBV21AP001	6311	6311 J C3	2944	Flexible coupling	Single Stage
Main Lube Oil Pump	Allweiler NSSV 80-250	22MBV21AP001	6311	6311 J C3	2944	Flexible coupling	Single Stage
MBV Main Lube Oil Pumps Ankerlig 2							
Main Lube oil Pump	Allweiler NSSV 65-250	31MBV21AP001	6311	6311 J C3	2944	Flexible coupling	Single Stage
Main Lube oil Pump	Allweiler NSSV 65-250	32MBV21AP001	6311	6311 J C3	2944	Flexible coupling	Single Stage
Main Lube Oil Pump	Allweiler NSSV 65-250	41MBV21AP001	6311	6311 J C3	2944	Flexible coupling	Single Stage
Main Lube Oil Pump	Allweiler NSSV 65-250	42MBV21AP001	6311	6311 J C3	2944	Flexible coupling	Single Stage
Main Lube Oil Pump	Allweiler NSSV 65-250	43MBV21AP001	6311	6311 J C3	2944	Flexible coupling	Single Stage
Machine	Manufacturer & Model	KKS Number	DE Bearing	NDE Bearing	Speed RPM	Coupling	Stages
MBV Auxiliary Lube Oil Pumps Ankerlig 1							
Auxiliary Lube Oil Pump	Allweiler NSSV 80-250	11MBV21AP002	6311	6311 J C3	2944	Flexible coupling	Single Stage
Auxiliary Lube Oil Pump	Allweiler NSSV 80-250	12MBV21AP002	6311	6311 J C3	2944	Flexible coupling	Single Stage
Auxiliary Lube Oil Pump	Allweiler NSSV 80-250	21MBV21002	6311	6311 J C3	2944	Flexible coupling	Single Stage
Auxiliary Lube Oil Pump	Allweiler NSSV 80-250	22MBV21002	6311	6311 J C3	2944	Flexible coupling	Single Stage
MBV Auxiliary Lube Oil Pumps Ankerlig 2							

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Auxiliary Lube Oil Pump	Allweiler NSSV 65-250	31MBV21002	6311	6311 J C3	2944	Flexible coupling	Single Stage
Auxiliary Lube Oil Pump	Allweiler NSSV 65-250	32MBV21AP002	6311	6311 J C3	2944	Flexible coupling	Single Stage
Auxiliary Lube Oil Pump	Allweiler NSSV 65-250	41MBV21AP002	6311	6311 J C3	2944	Flexible coupling	Single Stage
Auxiliary Lube Oil Pump	Allweiler NSSV 65-250	42MBV21AP002	6311	6311 J C3	2944	Flexible coupling	Single Stage
Auxiliary Lube oil Pump	Allweiler NSSV 65-250	43MBV21AP002	6311	6311 J C3	2944	Flexible coupling	Single Stage
Machine	Manufacturer & Model	KKS Number	DE Bearing	NDE Bearing	Speed RPM	Coupling	Stages
MBV Standby Lube Oil Pumps Ankerlig 1							
Standby Lube Oil Pump	Allweiler NSSV 80-250	11MBV21AP011	6311	6311 J C3	2944	Flexible coupling	Single Stage
Standby Lube Oil Pump	Allweiler NSSV 80-250	12MBV21AP011	6311 C3	6311 J C3	2944	Flexible coupling	Single Stage
Standby Lube Oil Pump	Allweiler NSSV 80-250	21MBV21AP011	6311 C3	6311 J C3	2944	Flexible coupling	Single Stage
Standby Lube Oil Pump	Allweiler NSSV 80-250	22MBV21AP011	6311 C3	6311 J C3	2944	Flexible coupling	Single Stage
MBV Standby Lube Oil Pumps Ankerlig 2							
Standby Lube Oil Pump	Allweiler NSSV 65-250	31MBV21AP011	6311 C3	6311 J C3	2944	Flexible coupling	Single Stage
Standby Lube Oil Pump	Allweiler NSSV 65-250	32MBV21AP011	6311 C3	6311 J C3	2944	Flexible coupling	Single Stage
Standby Lube Oil Pump	Allweiler NSSV 65-250	41MBV21AP011	6311 C3	6311 J C3	2944	Flexible coupling	Single Stage
Standby Lube Oil Pump	Allweiler NSSV 65-250	42MBV21AP011	6311 C3	6311 J C3	2944	Flexible coupling	Single Stage
Standby Lube Oil Pump	Allweiler NSSV 65-250	43MBV21AP011	6311 C3	6311 J C3	2944	Flexible coupling	Single Stage
Machine	Manufacturer & Model	KKS Number	DE Bearing	NDE Bearing	Speed RPM	Coupling	Stages
MBV Emergency Lube Oil Pumps Ankerlig 1							

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Emergency Lube Oil Pump	Centrifugal pump Type: NSSV65-160	11MBV21AP003	6308 JC3	6308 JC3	2900	Flexible coupling	
Emergency Lube Oil Pump	Centrifugal pump Type: NSSV65-160	12MBV21AP003	6308 JC3	6308 JC3	2900	Flexible coupling	
Emergency Lube Oil Pump	Centrifugal pump Type: NSSV65-160	21MBV21AP003	6308 JC3	6308 JC3	2900	Flexible coupling	
Emergency Lube Oil Pump	Centrifugal pump Type: NSSV65-160	22MBV21AP003	6308 JC3	6308 JC3	2900	Flexible coupling	
MBV Emergency Lube Oil Pumps Ankerlig 2							
Emergency Lube Oil Pump	Centrifugal pump type: NSSV 50-160/01	31MBV21AP003	6308 JC3	6308 JC3	2900	Flexible coupling	
Emergency Lube Oil Pump	Centrifugal pump type: NSSV 50-160/01	32MBV21AP003	6308 JC3	6308 JC3	2900	Flexible coupling	
Emergency Lube Oil Pump	Centrifugal pump type: NSSV 50-160/01	41MBV21AP003	6308 JC3	6308 JC3	2900	Flexible coupling	
Emergency Lube Oil Pump	Centrifugal pump type: NSSV 50-160/01	42MBV21AP003	6308 JC3	6308 JC3	2900	Flexible coupling	
Emergency Lube Oil Pump	Centrifugal pump type: NSSV 50-160/01	43MBV21AP003	6308 JC3	6308 JC3	2900	Flexible coupling	
Machine	Manufacturer & Model	KKS Number	DE Bearing	NDE Bearing	Speed RPM	Coupling	Stages
MBV Cooling Water Pumps Ankerlig 1							
Cooling Pump	Allweiler NB 50 160	11 MBV23AP001	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage
Cooling Pump	Allweiler NB 50 160	11 MBV23AP002	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage
Cooling Pump	Allweiler NB 50 160	12 MBV23AP001	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage
Cooling Pump	Allweiler NB 50 160	12 MBV23AP002	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage
Cooling Pump	Allweiler NB 50 160	21 MBV23AP001	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage
Cooling Pump	Allweiler NB 50 160	21 MBV23AP002	No	No	2900	Close	Single

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

			Bearings	bearings		coupled pmp/mtr	stage
Cooling Pump	Allweiler NB 50 160	22 MBV23AP002	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage
Cooling Pump	Allweiler NB 50 160	22 MBV23AP002	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage
MBV Cooling Water Pumps Ankerlig 2							
Cooling Pump	Allweiler NT 50 - 160/01	31 MBV23AP001	No Bearings	No bearings	2900	Rotex spider	Single stage
Cooling Pump	Allweiler NT 50- 160/01	31 MBV23AP002	6306 2Z JCB Bearings	6306 2Z JCB	2900	Rotex spider	Single stage
Cooling Pump	Allweiler NT 50- 160/01	32 MBV23AP001	6306 2Z JCB Bearings	6306 2Z JCB	2900	Rotex spider	Single stage
Cooling Pump	Allweiler NT 50- 160/01	32 MBV23AP002	6306 2Z JCB	6306 2Z JCB	2900	Rotex spider	Single stage
Cooling Pump	Allweiler NT 50 - 160/01	41 MBV23AP001	6306 2Z JCB Bearings	6306 2Z JCB	2900	Rotex spider	Single stage
Cooling Pump	Allweiler NT 50- 160/01	41 MBV23AP002	6306 2Z JCB	6306 2Z JCB	2900	Rotex spider	Single stage
Cooling Pump	Allweiler NT 50- 160/01	42 MBV23AP001	6306 2Z JCB Bearings	6306 2Z JCB	2900	Rotex spider	Single stage
Cooling Pump	Allweiler NT 50- 160/01	42 MBV23AP002	6306 2Z JCB	6306 2Z JCB	2900	Rotex spider	Single stage
Cooling Pump	Allweiler NT 50- 160/01	43 MBV23AP001	6306 2Z JCB Bearings	6306 2Z JCB	2900	Rotex spider	Single stage
Cooling Pump	Allweiler NT 50- 160/01	43 MBV23AP002	6306 2Z JCB	6306 2Z JCB	2900	Rotex spider	Single stage
Machine	Manufacturer & Model	KKS Number	DE Bearing	NDE Bearing	Speed RPM	Coupling	Stages
MPR Cooling Pumps Ankerlig 1							
Cooling Pump	Allweiler NB 80 200/02	11 MPR11AP001	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

Cooling Pump	Allweiler NB 80 200/02	11 MPR12AP001	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage
Cooling Pump	Allweiler NB 80 200/02	12 MPR11AP001	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage
Cooling Pump	Allweiler NB 80 200/02	12 MPR12AP001	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage
Cooling pump	Allweiler NB 80 200/02	21 MPR11AP001	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage
Cooling pump	Allweiler NB 80 200/02	21 MPR12AP001	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage
Cooling pump	Allweiler NB 80 200/02	22 MPR11AP001	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage
Cooling pump	Allweiler NB 80 200/02	22 MPR12AP001	No Bearings	No bearings	2900	Close coupled pmp/mtr	Single stage
MPR Cooling Pumps Ankerlig 2							
Cooling Pump	Allweiler NT 80-200/02	31 MPR11AP001	6308 2RS C3	6308 2RS C3	2900	Rotex spider	Single stage
Cooling Pump	Allweiler NT 80-200/02	31 MPR12AP001	6308 2RS C3	6308 2RS C3	2900	Rotex spider	Single stage
Cooling Pump	Allweiler NT 80-200/02	32 MPR11AP001	6308 2RS C3	6308 2RS C3	2900	Rotex spider	Single stage
Cooling Pump	Allweiler NT 80-200/02	32 MPR12AP001	6308 2RS C3	6308 2RS C3	2900	Rotex spider	Single stage
Cooling Pump	Allweiler NT 80-200/02	41 MPR11AP001	6308 2RS C3	6308 2RS C3	2900	Rotex spider	Single stage
Cooling Pump	Allweiler NT 80-200/02	41 MPR12AP001	6308 2RS C3	6308 2RS C3	2900	Rotex spider	Single stage
Cooling Pump	Allweiler NT 80-200/02	42 MPR11AP001	6308 2RS C3	6308 2RS C3	2900	Rotex spider	Single stage
Cooling Pump	Allweiler NT 80-200/02	42 MPR12AP001	6308 2RS C3	6308 2RS C3	2900	Rotex spider	Single stage
Cooling Pump	Allweiler NT 80-	43 MPR11AP001	6308 2RS	6308 2RS	2900	Rotex	Single

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

	200/02		C3	C3		spider	stage
Cooling Pump	Allweiler NT 80-200/02	43 MPR12AP001	6308 2RS C3	6308 2RS C3	2900	Rotex spider	Single stage
Machine	Manufacturer & Model	KKS Number	DE Bearing	NDE Bearing	Speed RPM	Coupling	Stages
MBV Lift Oil Pumps Ankerlig 1							
Lift Oil Pump	Denison T7BB112R00A5M0	11MBV30AP001			1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB112R00A5M0	11MBV30AP002			1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB112R00A5M0	12MBV30AP001			1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB112R00A5M0	12MBV30AP002			1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB112R00A5M0	21MBV30AP001			1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB112R00A5M0	21MBV30AP002			1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB112R00A5M0	22MBV30AP001			1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB112R00A5M0	22MBV30AP002			1465	Rotex spider	Single Stage
MBV Lift Oil Pumps Ankerlig 2							
Lift Oil Pump	Denison T7BB092R00A5M0	31MBV30AP001			1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB092R00A5M0	31MBV30AP002			1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB092R00A5M0	32MBV30AP001			1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB092R00A5M0	32MBV30AP002			1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB092R00A5M0	41MBV30AP001			1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB092R00A5M0	41MBV30AP002			1465	Rotex spider	Single Stage
Lift Oil Pump	Denison	42MBV30AP001			1465	Rotex	Single

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

	T7BB092R00A5M0					spider	Stage
Lift Oil Pump	Denison T7BB092R00A5M0	42MBV30AP002			1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB092R00A5M0	43MBV30AP001			1465	Rotex spider	Single Stage
Lift Oil Pump	Denison T7BB092R00A5M0	43MBV30AP002			1465	Rotex spider	Single Stage
Machine	Manufacturer & Model	KKS Number	DE Bearing	NDE Bearing	Speed RPM	Coupling	Stages
MBX Hydraulic Pumps Ankerlig 1							
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	11MBX02AP001			2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	11MBX02AP002			2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	12MBX02AP001			2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	12MBX02AP002			2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	21MBX02AP001			2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	21MBX02AP002			2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	22MBX02AP001			2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	22MBX02AP002			2900	Spider	Piston Pump and Gear Pump
MBX Hydraulic Pumps Ankerlig 2							
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	31MBX02AP001			2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	31MBX02AP002			2900	Spider	Piston Pump and

OVERHAULING OF MECHANICAL PUMPS AT GOURIKWA AND ANKERLIG POWER STATIONS

							Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	32MBX02AP001			2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	32MBX02AP002			2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	41MBX02AP001			2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	41MBX02AP002			2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	42MBX02AP001			2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	42MBX02AP002			2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	43MBX02AP001			2900	Spider	Piston Pump and Gear Pump
Hydraulic Pump	Rexroth Pump and Sauer Danfoss Pump	43MBX02AP002			2900	Spider	Piston Pump and Gear Pump