Eskom	Procurement SOW	Technology

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PART 3: SCOPE OF WORK

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C3.1: *EMPLOYER*'S SERVICE INFORMATION

Contents

1 Description of the service

1.1 Executive overview

The Service is for the refurbishment of the safety valves on the Condensate, Feed water, Air plant (compressor) at Majuba Power Station, which includes stripping, cleaning, remove from site if required, inspecting, lapping and reassembling of valves. Each safety valve must return with a signed test certificate. Safety valve refurbishment must be done by Level 0ne safety valve refurbishment company, certificate must be submitted.

1.2 *Employer*'s requirements for the service

The Service is the refurbishment of the safety valves on the Condensate, Feed water, Air plant (compressor) at Majuba Power Station. The following to be performed for each valve

1.2.1 Preparation work

1. Scope of work to be handed to contractor of valves to be refurbished
2. Valves to be tagged
3. Scaffold requirements to be submitted to the contract manager or identified representative
4. QCP's to be drafted and accepted one month before work start.
5. Lifting equipment to be certified and anchor points verified to be sufficient.

1.2.2 Open, Clean and Inspection of valve

1. The *Contractor* to strip, clean and inspect all components
2. Inspect valve components for any wear or damage.
3. NDT to be requested on valve seat and critical components when required. NDT service to be provided by the *Employer* on request from the Contractor
4. The contract manager or identified representative will be notified as soon as wear or damage is recorded. The contract manager or identified representative will then notify the System Engineer and Quality Representative to conduct inspections. The *Employer* will provide spares for badly damaged revolving nuts, bearings and spindle assemblies.
5. The *Contractor* will replace spares damaged as result of poor workmanship or negligence.

1.2.3 Replacement of soft spares

1. The *Contractor* to supply and replace all required gaskets and packing rings
2. Replace all damaged, deformed and stretched bolts/studs/nuts that are outside OEM specification with OEM compliant bolts/studs/nuts
3. All gaskets and packing to be of nuclear standard. Broken or lost parts by the *Contractor* will be replaced by the *Contractor*

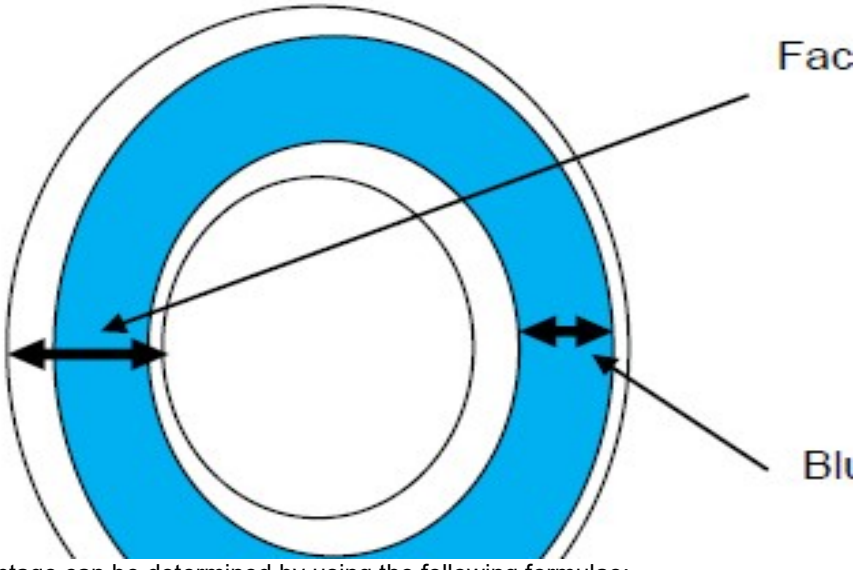
1.2.4 Repairs

If a valve component is identified as damaged and repairable, the Contract *Manager* will request the *Contractor* for a quote to repair. Once the Contract *Manager* accepts the quote, the Contract ma*nager* will issue a task order for the compensation. A QCP will be set up by the Contractor and be approved by the Engineer. The *Contractor* will be responsible to oversee the repair process of valves/ spares repairs and is responsible to adhere to hold and witness points on the agreed QCP.

1.2.5 Lapping and blueing

1. The *Contractor* to lap seats with appropriate lapping paste.
2. Blue test (using mechanical blue) achieve at least an 85% sealing surface (witnessed by QC and engineering)

3. Clean the spindle and body seat properly to remove all lapping compound. A form of a cleaning solution like alcohol may be used.
4. The procedure below will indicate how a safety valve seat is blue checked.
   - Apply a very thin even layer of engineering blue to the spindle seat.
   - Lower the spindle seat to the body seat but ensure it does not touch the body seat until aligned.
   - Apply even pressure on the spindle seat and rotate the seat 90° without moving the seat up, down, left or right. Then rotate the seat back 90° to its original position.
   - Remove the spindle seat and inspect both seats for blue rub-off and blue transfer from the spindle seat to the body seat respectively.
   - If the transfer to the body seat is more than 85% then the blue may be cleared off.
   - Clean the seats thoroughly by using a cleaning solution.
   - Apply a very thin even layer of engineering blue to the valve body seat.
   - Lower the clean spindle seats until it aligns with the body seat and then only allow the two seat faces to touch.
   - Apply an even pressure on the seat to ensure uniform blue results.
   - Turn the seat 90° in one direction without moving the spindle seat up, down, left or right. Then turn it back 90° to its original position.
   - Carefully remove the spindle seat from the body seat and inspect the blue results
   - If a 85% and higher blue transfer is transferred to the spindle seat then the seat is lapped satisfactory.
   - After this inspection the valve may be boxed up.
5. The procedure below will indicate how a wedge and parallel slide valve seat is blue checked:
   - Follow same steps as above except that for the wedge gate valve the wedge is not turned 90° it is only applied pressure and removed.
6. The acceptance criteria for the blue checks
   a. Lapping plate to surface table: =100%
   b. Wedge and parallel slide gate valves: >85%
   c. Globe valves: 85% (Checked both ways around)
7. The Blue % identification:
   a. Face Width
   b. Blue Width



8. The Blue percentage can be determined by using the following formulae:
   % Blue = (Blue Width) / (Face Width) X 100
   If there is an area where the seat does not blue in accordance with the acceptance criteria, then the System Engineer must be contacted to make a final decision.

1.2.6 Re-assembly

1. The *Contractor* to re-assemble valve as (per procedure)

2. *Contractor* cleans the area of work.

1.2.7 Reports

Report contains the at least the following:
1. QCP per valve
2. Condition of valve
3. Stellite condition of seat
4. Components that were replaced
5. Record all components that need to be replaced
6. Recommendations for the next outage
7. Gasket material specifications
8. Action taken to do repairs

1.2.8 Commissioning

The *Contractor* is on site during light up (estimated 2 days) where all valves will be inspected and leaking glands and seals attended to. Were issues are identified and cannot be attended to defects will be raised and the *Contractor* would be notified when an opportunity arises to correct the defect.

1.3 Quality Control Plans

1. The *Contractor* compiles Quality Control Documents and gets it approved by the Eskom System Engineer and the Majuba Quality department or Inspection Authority.
2. Each valve needs to have its own QCP, identified by KKS number, with the activities to be performed
3. The work does not commence unless the QCP's are approved by the System Engineer prior to commencement.
4. The works is not considered complete, if all hold points on these documents are not signed by all parties.
5. In the event that the hold and witness points are not adhered to, the *Contractor* performs the work again at the *Contractor's* own account
6. If there is any weld repair to be done then the *Contractor* needs to ensure that a weld package is submitted to the relevant welding engineer that includes the WPS of the work to be done as well as the welder's qualification.

1.3.1 5-Year Outage Plan

The 5-year outage plan is documented in the table below. Due to rescheduling performed on a continuous basis, the plan might change from time-to-time. The latest updates can be obtained from the *Service Manager* when required.

Unit	Planned/Actual Start Time	Planned/Revised End Time	Outage Description	Planned Duration
1	2021/07/15 07:00:00	2021/07/28 23:59:00	IN	14
5	2021/12/06 07:00:00	2021/01/10 23:59:00	IR	36
2	2022/02/11 07:00:00	2022/02/24 23:59:00	BTI	14
5	2022/02/24 07:00:00	2022/04/13 23:59:00	MGO	49
3	2022/07/15 07:00:00	2022/08/11 23:59:00	IR	28
6	2022/09/16 07:00:00	2022/11/03 23:59:00	MGO	49
4	2022/09/19 07:00:00	2022/10/02 23:59:00	BTI	14
1	20230/0/23 07:00:00	2023/028/19 23:59:00	IR	28
2	2023/08/24 07:00:00	2023/09/20 23:59:00	IR	28
5	2023/10/13 07:00:00	2023/10/26 23:59:00	IN	14
3	2024/02/11 07:00:00	2024/02/24 23:59:00	BTI	14

Unit	Planned/Actual Start Time	Planned/Revised End Time	Outage Description	Planned Duration
3	2024/05/09 07:00:00	2024/07/18 23:59:00	GO	71
6	2024/05/20 07:00:00	2024/06/02 23:59:00	BTI	14
4	2024/07/14 07:00:00	2024/08/11 23:59:00	IR	29
1	2024/08/21 07:00:00	2024/09/03 23:59:00	BTI	14
2	2025/03/02 07:00:00	2025/03/15 23:59;00	BTI	14

1.4 Interpretation and terminology

The following abbreviations are used in this Service Information:

Abbreviation	**Meaning given to the abbreviation**
BCEA	Basic Conditions of Employment Act
BYP	Bypass
CIOID	Compensation for occupational injuries and diseases
CV	Control Valve
GO	General Overhaul
HP	High Pressure
HSSD	Half Station Shut Down
IN	Boiler Inspection
IR	Intermediate Repairs
IV	Isolating Valve
LP	Low Pressure
MGO	Mini General Overhaul
NEC	New Engineering Contract
NDT	Non-Destructive Testing
NRV	Non-Return Valve
MS	Microsoft
P	Pressure
SOW	Scope of Work
SUPL	Supply
TBA	To be advised

2 Management strategy and start up

2.1 Flexibility with the start of outages

1. The outage start date is stated on the Task Order
2. Movement to Outage dates can take place due to the country's demand for electricity

3. Any movement to Outage dates is to be communicated in writing by the Contract *Manager* at least 48 Hours before outage start. Notification of change to the outage date to the *Contractor* before 48 Hours to the outage start date will have no claims for compensation
4. A new Task Order is to be issued, which specifies the revised Outage start date as soon as the new start date is available
5. The *Contractor* will be entitled to claim actual accommodation, travel and staff expenses incurred if the *Contractor* receive notification of outage movement within 48 hours of the original start date as agreed upon in the latest Task Order revision

2.2 The *Contractor*'s plan for the *service*

The *Contractor* submits a program in MS Project / Primavera format (confirmation required upfront)
The program includes:

a. Activities
b. Durations in hours
c. Predecessors
d. Successors
e. Total float
f. No constraints (linking to be done properly)
g. No resources
h. No unnecessary calendars (remove all)
i. No empty lines

Daily feedback on progress required for duration of each task order program

The *Contractor* draws up a Quality Control Plan prior to commencement of the work, for approval by the *Employer*. The *Employer* and the *Contractor* agrees on hold and witness points.

The *Contractor* will need to arrange with the help of the site Contract *Manager* to do site induction two weeks prior to the outage start.

2.3 Management meetings

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

Title and purpose	**Approximate time & interval**	**Location**	**Attendance by:**
Risk register and compensation events	When need arises	Contract manager's Office	*Employer*, *Contractor*
Progress and feedback	Daily at 08:00 (15 Min duration)	Office	*Employer*, *Contractor* and Supervisors
Daily outage meeting	Daily at 09:30 (1Hour & 30 min duration)	Majuba Power Station, Production boardroom (U4 16m level)	Site Manager, System Engineer, Outage coordinator and Quality Inspectors
Safety meeting	Weekly on Wednesday at 14h00	Majuba Power Station, Production boardroom (U4 16m level)	Safety Officer
Postmortem meeting	At task order completion	Majuba Power Station, Specific conference room TBA	Site Manager, System Engineer, Outage coordinator and Quality Inspectors
Scope clarification	After scope freeze	Majuba Power Station,	Site Manager, System

Title and purpose	Approximate time & interval	Location	Attendance by:
meetings		Specific conference room TBA	Engineer, Outage coordinator and Quality Inspectors
Outage Kick-off meeting	Week before outage	Majuba Power Station, Specific conference room TBA	Site Manager, Outage coordinator
Assessment meeting	At end of each outage	Majuba Power Station, Specific conference room TBA	Site Manager, Outage coordinator, *Service Manager*

2. Meetings of a specialist nature may be convened at times and locations to suit the Parties. Records of these meetings shall be submitted to the Contract *Manager* by the person convening the meeting within five days of the meeting.
3. 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 confirming actions or instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.
4. Any safety and / or technical issues need to be communicated within 24 hours to the *Employer / Contract Manager*.

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

The key persons are:

Key persons of *Contractor*				
Designation				
Name				
Experience				
Tel				

1. The *Contractor*'s Site Manager ensures that only competent persons be allowed to work on plant. The Contract *Manager* is entitled to verify the qualifications of the *Contractor*.
2. The *Contractor*'s supervisors must be knowledgeable about the conditions and scope of work contained in this contract and capable of executing the scope of work.
3. The *Employer* may, having stated reasons, instruct the *Contractor* to remove a key person. The *Contractor* then arranges that, after one day, the key person has no further connection with the work included in this contract.
4. The *Contractor* may not replace any of the key persons, without prior written request and approval thereof from the *Employer*.

2.5 Police clearance

1. All *Contractor* personnel to undertake Police clearance. Certificates to be provided to the *Service Manager* at least 2 weeks before commencement of work.
2. The *Service Manager* reserves the right to refuse entry to all persons whose criminal records indicate that their presence on site might create an unsafe and insecure environment to Majuba Power Station.
3. The following website can be used to guide the process.
   http://www.saps.gov.za/services/applying_clearence_certificate.php

2.6 Supplier Development and Localisation Requirements

2.6.1 Recruitment of General Labour

1. The *Contractor* recruits 100% of all new recruits, of general labour from Dr Pixley Ka Seme local municipality, using the recruitment form provided by the department of labour. Contact details and application forms will be provided by the *Service Manager* on request
2. In an event that new recruits are not from the defined Dr Pixley Ka Seme municipality, the *Contractor* needs to provide proof that the local municipality could not provide such individual.
3. The *Contractor* needs to update the *Employer* as well as the department of labour, in the event that there is a change in the staff compliment e.g. dismissal, resignation, etc.
4. The *Contractor* submits an updated monthly job statistics on the 1st day of each month, using the reporting template that is provided by the *Service Manager*.

2.6.2 Transporting of Staff

1. If the *Contractor* does not have his own transportation, the *Contractor* use transportation sourced from the Dr Pixley Ka Seme local taxi association. Contact details of the Chairpersons of the different associations will be provided by the *Service Manager* on request.

2.6.3 Small, Micro, Medium Enterprises

1. The *Contractor* supports local Small, Micro and Medium Enterprises by purchasing your material locally where such material is available

2.6.4 Supplier Development and Localisation Plan

"Local to site "means all areas that fall within the Dr Pixley Ka Seme Municipal area.

The *Contractor* is required

1. To provide a high level Supplier Development & Localisation implementation plan which stretches for the duration of the contract within one month after contract award.
2. To provide an explanation and action plan for deviation from the proposed plan.
3. The *Contractor* is required to procure general labour from Dr Pixley Ka Seme. Only skilled and professionals would be procured from outside of Dr Pixley Ka Seme Municipality Area.
4. The *Contractor* is also required to submit its Human Resource Plans indicating the number of new jobs that would be created or retained due to this project.
5. The Candidates for Skills Development would be sourced from Dr Pixley Ka Seme first, then Mpumalanga, before the rest of RSA.
6. The candidates may be developed directly by the supplier, through the suppliers' own supply network or through the SETA accredited training providers.
7. The *Contractor* submits proposals to the *Employer* for acceptance on how he will employ and train local labour in the following positions:

    - Refer to the matrix in the SDL requirements document

2.7 Management of work done by Task Order

1. Task Orders are issued per outage one month prior to the start of an outage
2. The Task Order includes the scope of work for the specific outage.
3. A Task Order is the instruction to commence work.
4. No work shall commence until a Task Order is issued and has been finalised and accepted and signed by both the *Employer* and *Contractor.*
5. All work will be issued on a Task Order system. The Work Order, Purchase Requisition and Purchase Order will be created via the SAP PM system.
6. Task Orders are issued for all activities. Assessment of work will be conducted after work completion. Signed off QCP to be provided for assessments to be compiled by the *Service Manager*

2.8 Contract change management

1. The Contract *Manager* issues a Task order to the *Contractor* to authorise the execution of work.
2. In the event where it is identified that there is additional work to be done outside the scope of work on the Task Order, the *Contractor* will give the Contract *Manger* an early warning with a written quotation.
3. If agreed, the *Service Manager* issues a revised Task Order or additional Task Order.
4. The *Contractor* starts the work on the starting date of the task order.
5. The Task Order is signed by both the Contract *Manager* and the *Contractor* before work commences.

2.9 Low Service Damages

1. The low service damages will be applicable if the performance of one or more valves cause a load loss, either partial or total. The following process and damages will apply:
    a. The defect(s) will be reported to the *Contractor* as soon as the *Employer* becomes aware of the defect(s).
    b. An opportunity will be arranged by the *Employer* for the repair and the *Contractor* will be notified at least 24 hours in advance of the opportunity to repair the defect(s).
    c. If the inspection confirms that, the defect(s) is/are because of poor quality from the *Contractor*'s work performed, 5 % damage as per annexure A of the total value of task orders raised for that outage per day will apply, until the defect(s) is/are resolved. The damages are capped at a maximum of 10% of the total of the task orders raised for that outage.

2. It is the *Contractor*'s responsibility to keep the Safety file up-to-date (audited on a monthly basis for the duration of the contract) to cater for short notice call-outs for defects
3. Refer to Appendix A for additional Low Service damages

2.10 Documentation control

1. The *Contractors* safety file will be hand over to the Contract *Manager* after each outage
2. All NEC standard forms should be used ex. Task orders, Early Warnings, Defect certificates and Assessments.
3. The *Contractor* is responsible to plan the supply of the documentation during the various project stages and to provide the documentation in accordance with the *Contractor* Document Submission Schedule (CDSS). A document is thus any written or pictorial information describing, defining, specifying or certifying activities, requirements, procedures or results.
4. The *Contractor* submits all documentation on a formal transmittal form to the *Service Manager.*
5. All manuals, documents, drawings and engineering documentation shall be presented in British English in both software and hardware.
6. All Communications will be filed and kept on site at all times as it is crucial to have the correct communication structures. These communication documents should at all times adhere to the NEC 3 Term Service Contract communication requirements.
7. Safety files to be submitted and approved before maintenance and outage work commence as per client requirements, two weeks in advance.
8. Planned Outage Scope of work to be issued to *Contractor* from the client five months in advance.
9. Budget quotation for outage work to be submitted one week after SOW submission/SOW clarification.
10. Compensation for Occupational Injuries and Diseases (COID) Certificate and letter of good standing must be valid at all times and submitted to the *Service Manager* at each anniversary of the contract
11. Two hard copies of a detailed report is submitted to the Service Manger, which contains general info on the condition of the valves, inspection reports on the condition of equipment and all refurbished / replaced components. An Electronic copy of all reports to be provided on CD/ Flash disk

***Contractor* Document Submission Schedule (CDSS)**

Document Name/Description	**Date/Time documents to be submitted**
A programme in MS Project or Primavera format as referred to document number (240-85065548)	One week after receipt of Task Order
Baseline risk assessment	One week after receipt of Task Order
QCP's	One week after receipt of Task Order
Contractor's Safety file	Two weeks before start of work
Inspection report	24 hours after stripping/inspection activity
Daily progress report	After Every Shift
Technical report and data pack	Within 7 days of completion of the services
Safety file Audit	Every 30 days after approval of initial file until work for specific outage is complete.

2.11 Invoicing and payment

1. In terms of core clause 50 the *Contractor* assesses the amount due and applies to the *Employer* for payment. The *Contractor* applies for payment with a tax invoice addressed to the *Employer* as follows:

    - Name and address of the Contractor
    - The contract number and title;
    - Contractor's VAT registration number;
    - The Employer's VAT registration number 4740101508;

- The total Price for Work Done to Date which the Contractor has completed;
- Other amounts to be paid to the Contractor;
- Less amounts to be paid by or retained from the Contractor;
- The change in the amount due since the previous payment being the invoiced amount - excluding VAT, the VAT and including VAT;
- (add other as required)

2. The *Contractor* attaches the detail assessment of the amount due to each tax invoice showing the Price for Work Done to Date for each item in the Price List for work which he has completed.
3. The invoices can be submitted using emails to invoiceseskomlocal@eskom.co.za
4. To facilitate payment, the *Contractor* must ensure the following:
   - Ensure that the Eskom order number is clearly indicated on your invoice together with the line number on the order you are billing for.
   - All Electronic invoices must be sent in PDF format only.
   - Each PDF file should contain one invoice; or one debit note; or one credit note only as Eskom's SAP System does not support more than one PDF being linked into workflow at a time.
   - Your E-mail may contain more than one PDF file (e.g. 2 invoices on 2 separate PDF files in one e-mail)
   - For Foreign invoices, suppliers will still be required to physically deliver hard copies of original documents to the respective documentation management centers even though you have e-mailed those invoices
   - A PDF file that was created directly from a System meets the definition of original document and is allowed (including saving documents from excel to PDF, word to PDF etc.)
   - An Invoice that was printed and then scanned to PDF by the Vendor is not acceptable as this is not an original tax invoice by SARS definition but a copy.
   - The following wording needs to appear on the invoice: "Your invoice is encrypted in order to comply with SARS requirements that invoices and statements sent electronically are tamperproof."
   - If there is Cost Price Adjustment (CPA) on your invoice, it is recommend that the Contractor issue a separate invoice for CPA so that if there are any issues on the CPA the rest of the invoice can be paid while resolving the CPA issues.
   - You do not require a goods receipt (GR) number to submit your invoices. When the GR number is received, you can then send the GR number to the FSS contact center at FSS@eskom.co.za or 011 800 5060.
   - All queries and follow up on invoice payments should made by contacting the FSS Contact Centre: Tel: 011 800 5060
5. Payment will be made within 30 Days after receipt of an acceptable invoice at the address stated in the order and the acceptance of the goods by Eskom. Payments are made on Friday's only.
6. If CPA is applicable, the contract manager and the *Contractor* must confirm the increase/decrease with the QS department BEFORE the revised prices are stated on the Invoice. The QS and Contract Manager must confirm the escalation with the Financial Department before it may be implemented.

7. It is important that the value stated on the Invoice must be the same as the value stated on the order. If the Invoice value is different from the Order value payment of the invoice will be delayed. It is strongly recommended that if there are any discrepancies on the Invoice, it be rectified with the Buyer BEFORE it is submitted for payment.

3 Health and safety, the environment and quality assurance

3.1 Health and safety risk management

The *Contractor* complies with the health and safety requirements contained in the General Works Information.

3.2 Environmental constraints and management

The *Contractor* complies with the environmental requirements contained in the General Works Information.

3.3 Quality assurance requirements

The *Contractor* complies with the quality requirements contained in the General Works Information.

4 Procurement

4.1 Minimum requirements of people employed

1. All Semi-skilled personnel are in possession of valid grade 10 certificates or NQ4.
2. All Artisans are both qualified and in possession of a valid trade test certificate or in possession of a competency certificate issued by the OEM. 2 years minimum experience required.
3. All Supervisors are qualified and in possession of a valid diploma, and must have undergone supervisory training from a reputable institution. 2 years minimum experience required.
4. All project managers, site managers and project leaders must have undergone training in contracts management (e.g. NEC3), any technical discipline (e.g. construction, civil, mechanical, electrical, C&I), managerial course (e.g. project management, etc.) from reputable institutions. 2 years minimum experience required.
5. The *Contractor* will provide trained personnel for the implementation of all work.
6. The *Contractor* remunerates his employees at not less than the proclaimed statutory wage (Minimum Wages Act). Failure in this regard will result in non-performance and therefore immediate termination of the contract.

In order to fully evaluate a tender, the *Contractor* is to submit an organogram, which is to include the relevant skills levels.

According to the SKILLS DEVELOPMENT ACT 97 OF 1998, the following definition for artisans and trades are emphasised:

- **artisan** means a person that has been certified as competent to perform a listed trade in accordance with this Act. (Definition of “artisan” inserted by section 1(a) of Act 37 of 2008)
- **trade** means an occupation for which an artisan qualification is required in terms of section 26B. (section 1(i) of Act 37 of 2008)

Section 26C section 2 (a) states the following – “No person, whether employed or self-employed, may hold themselves out to be qualified as an artisan in a listed trade unless that person is registered as an artisan in terms of subsection (1)”

With reference to the Act, all personnel are adequately qualified for the task to be performed. Qualifications of all staff to be submitted to the Service Manger two weeks prior to commencement of work and approval of qualifications of staff to be granted within one week of receipt of qualifications.

The *Contractor* submits requests to change any pre-approved staff together with proof of qualifications for approval prior to changing the staff.

4.1.1 Responsible an appointed Supervisor

Contractor to have a Responsible person (RP) who will be responsible for permits when required. Contractor must also have an Appointed supervisor on site when RP are off site for the day.

4.1.2 Key Competencies and Experience

4.1.2.1 Supervisors and/or Project Managers/Supervisors:

1. Capability to read and interpret drawings.
2. Ability to read and understand scopes of work.
3. Technically competent on the use Microsoft Packages (excel, outlook, Microsoft word). Proof of training required.
4. Knowledge of how to generate inspection/ refurbishment reports.
5. Maintain high standards despite pressing deadlines.
6. Demonstrates knowledge of Valve refurbishment, skills, equipment and procedures.
7. Is alert in a high-risk environment; follows detailed procedures and ensures accuracy in documentation and data
8. At least 2 years valve refurbishment and Supervisory/Project management experience

4.1.2.2 Valve fitters

1. Ability to use/operate the required equipment/tools
2. Maintain high standards despite pressing deadlines.
3. At least 2 years valve refurbishment experience

4.1.2.3 Semi-Skilled

1. At least 1 year valve refurbishment experience

4.2 Subcontracting

4.2.1 Preferred subcontractors

All subcontractors need to be approved by the *Service Manager* before the subcontractor gets to site.

4.2.2 Subcontract documentation, and assessment of subcontract tenders

The *Contractor* prepares subcontract documentation. The use of the NEC system is recommended on how subcontract tenders are to be issued, received, assessed and awarded.

4.2.3 Skills Development

The *Contractor* complies with the skills development requirements contained in the SDL requirements section.

4.3 Plant and Materials

4.3.1 Specifications

All materials used are as per the OEM specifications. It is the *Contractor's* responsibility to have the information available, if verifications need to be made.

4.3.2 Correction of defects

Refer to 2.9 Low Service Damages on page number 11

4.3.3 Plant & Materials provided "free issue" by the *Employer*

1. Scaffolding, lagging removal and replacement of lagging will be provided by the *Employer*.
2. Any equipment and / or plant related instruments that might obscure the work are of the *Contractor* needs to be carefully removed with the help of the *Employer*, no equipment / instruments must be removed without the consent of the *Employer*.

4.3.4 *Contractor*'s procurement of Plant and Materials

1. All soft spare kits are supplied by the *Contractor*.
2. All tools and equipment used to refurbish the plant are supplied by the *Contractor*.

5 Working on the Affected Property

5.1 *Employer*'s site entry and security control, permits, and site regulations

The Entry to site is only approved once the following is adhered to:
1. The Contractors Safety file is to be approved by the *Employer*'s Safety department.
2. All personnel must undergo screening for Criminal records and outstanding warrants
3. Site-specific induction is to be done by all personnel and needs to be arranged two weeks prior to the outage start.
4. Refer to the General Works information

5.1.1 Permits

1. The *Contractor* will ensure that he/she is informed of all the requirements of Eskom's Plant Safety Regulations and ORHVS and that he/she at all times comply to the requirements of these Regulations.
2. The *Contractor* provides Authorised Supervisor(s) in terms of the Plant Safety Regulations.
3. The *Contractor* trains enough staff to cover for leave periods as well as night shifts, if required. Training will be provided by Eskom Majuba and is done according to a schedule, thus arrangements need to be made with the *Service Manager* well in advance.
4. At least two supervisors should be authorised within 3 months of contract award.

5.2 People restrictions, hours of work, conduct and records

5.2.1 Time Clocking

1. The *Contractor* uses a biometric time clocking system.
2. No clocking will result in non-payment of hourly based, accommodation and travelling expenses.
3. If a person clocked in but not out or did not clock in, but clocked out, the person will not receive payment for that specific day.
4. Proof of clocking to be submitted to the *Employer* from files directly generated from the clocking system (no manual intervention)

5.2.2 Hours of work

1. Normal Eskom working hours are:
    a. Monday to Thursday **07:30 - 16:45**
    b. Fridays **07:30 - 12:30**
2. Outage working hours are :
    a. Monday to Friday **07:00 - 19:00 or as required by the SOW**
    b. Saturday to Sunday **07:00 – 19:00 or as required by the SOW**
3. Overtime rules are adhered to as determined by the Department of Manpower.
4. All Timesheets are to be kept for records purposes i.e. man-hours worked safely etc.
5. Other hours will be determined as per critical path activities during outages/breakdowns.
6. Daily time sheet must be kept up to date of normal and overtime worked at all times.
7. All overtime worked must comply with Eskom rest period requirements.

5.3 Records of *Contractor*'s Equipment

1. The *Contractor* to declare all equipment and tools via a pre-set up list at the main entrance, where removal permit will be issued by Security personnel.
2. *Contractor* need to have a list of inventory of their equipment on site. Proof of site entrance needs to be provided before equipment can be removed from site.

5.4 Equipment provided by the *Employer*

1. Overhead cranes and Hoists are situated in certain areas in the plant and available should the *Contractor* require to use them.
2. The *Employer* is entitled to withdraw use of the said Equipment, should proper care not be ensured.

5.5 Site services and facilities

5.5.1 Provided by the *Employer*

1. Toilets at the four corners of the power station
2. Power points where available, own cables to be routed
3. Water points, where available
4. Compressed air (Service air), where available
5. NDT services, to be pre-arranged with the *Service Manager*
6. Site establishment area.
7. Scaffolding.

5.5.2 Provided by the *Contractor*

1. Containers, for dressing rooms, office and dining
2. Tools, equipment and consumables
3. Portable 380V electrical distribution boards, and supply cables to and from the boards for all his power supply requirements to execute the services.
    a. *Contractor*s' Electrical Distribution Boards complies with OHSA as referred to in the Electrical Installation Regulations and the Electrical Machinery Regulations. Each board brought on site has a certificate of compliance issued by an accredited person.
    b. The *Contractor*s' Electrical Distribution Boards must be installed at a time negotiated with the Electrical Maintenance Manager, or prior to the possession date. Distribution boards will be connected to a 380V three phase AC power supply by the *Employer*, only after the *Contractor* has submitted the valid certificate of compliance.
    c. All *Contractor*s' Electrical Distribution Boards are earthed to the steel structure of the plant.
4. Accommodation
5. Transport
6. Office furniture, equipment and stationary

7. Meals. The *Contractor* or any of his employees or subcontractors may buy take away meals from the fast food outlet on site, if available.
8. Telecommunications
9. Everything else necessary for providing the Service.

6 List of drawings

6.1 Drawings issued by the *Employer*

All relevant drawings are available on request from the Majuba Documentation Centre.

Annexure A: Table of low service damages (X17)

Low Service Damage Description	Value of Low Service Damages	Limit of Low Service Damage
Service delaying the Outage Critical Path agreed schedule (Delaying other *Contractor*(s) from starting/completing their work)	0.5% per total value of the Task orders for the outage per day	Limited to 10% of the total value of the Task Order(s) for the outage
Service delays not finishing as per agreed upon project plan submitted and approved by the *Service Manager*	0.5% per total value of the Task orders for the outage per day	Limited to 10% of the total value of the Task Order(s) for the outage
Submission of documents not as per agreed upon Contract Document Submittal Schedule in this service agreement	0.25% per total value of the Task orders for the outage per day	Limited to 10% of the total value of the Task Order(s) for the outage
Non-response of NCR within 3 days	0.25% per total value of the Task orders for the outage per day	Limited to 10% of the total value of the Task Order(s) for the outage
Handover of completed data books per outage within 7 days from outage completion.	0.25% per total value of the Task orders for the outage per day	Limited to 10% of the total value of the Task Order(s) for the outage
Personnel not adequately qualified as per 4 Procurement	0.25% per total value of the Task orders for the outage per day	Limited to 10% of the total value of the Task Order(s) for the outage
Defect(s) is/are because of poor quality from the *Contractor's* work performed as per paragraph 2.9	0.5% per total value of the Task orders for the outage per day	Limited to 10% of the total value of the Task Order(s) for the outage

Annexure B:

Table 1: Turbine safety valves (PRV) refurbishment scope

Condensate Valves

KKS Number	Size	Temp(DegC)	Design Pressure	Description	Manufacturer	Valve to be set at
0LAA10AA401	200/250	200	0.54 MPA	DST Flanged PRV	Crosby	540 KPa
0LAA10AA402	200/250	200	0.54 MPA	DST Flanged PRV	Crosby	540 KPa
0LAA10AA403	200/250	200	0.54 MPA	DST Flanged PRV	Crosby	540 KPa
0LAA10AA404	200/250	200	0.54 MPA	DST Flanged PRV	Crosby	540 KPa
0LAA10AA405	200/250	200	0.54 MPA	DST Flanged PRV	Crosby	540 KPa
0LAA10AA406	200/250	200	0.54 MPA	DST Flanged PRV	Crosby	540 KPa
0LCA62AA501	450	150	1.72MPA	LPH 1 Condensate bypass Flanged	Dewrance	1720 KPa
0LCA14AA601	450	150	1.72MPA	LPH 2 Condensate bypass Flanged 14	Dewrance	1720 KPa
0LCA42AA601	450	150	1.72MPA	LPH 2 Condensate bypass Flanged 42	Dewrance	1720 KPa
0LCA62AA503	450	150	1.72MPA	LPH 3 Condensate bypass Flanged	Dewrance	1720 KPa
0LCC10AA402	100/150	200	0.35 MPA	LPH 3 Shell relief Flanged	Crosby	1250 KPa
0PAB12AA601	15	200	1.25 MPA	CW 12 Cond LH OUT PRV	IMI Bailey Birkett	1250 KPa
0PAB12AA601	15	200	1.25 MPA	CW 12 Cond LH OUT PRV	IMI Bailey Birkett	1250 KPa
0PAB12AA601	15	3.2	3.1 MPa	HX 14 CW Outlet PRV	Lesser PRV	3100 KPa
0PAB12AA601	15	3.2	3.1 MPa	HX 13 CW Outlet PRV	Lesser PRV	3100 KPa
0PGA35AA501	200/250	350	1.52	AUX STEAM OUTLET	Fisher PRV	1520 KPa
0PAB22AA601	200/250	350	1.52	AUX STEAM OUTLET 22	Fisher PRV	1520 KPa
0PAB12AA601	200/250	350	1.52	AUX STEAM OUTLET 12	Fisher PRV	1520 KPa
0PAB11AA406	200/250	350	1.52	AUX STEAM OUTLET 11	Fisher PRV	1520 KPa
0PAB21AA406	200/250	350	1.52	AUX STEAM OUTLET 21	Fisher PRV	1520 KPa
0PAB22AA406	200/250	350	1.52	AUX STEAM OUTLET 22	Fisher PRV	1520 KPa
0LBG35AA501	200/250	350	1.52	AUX STM 35 AIR EJR SAFETY RELIEF V	Fisher PRV	1520 KPa

Feed water Safety Valves

KKS Number	Size (mm)	Temp(DegC)	Design Pressure	Description	Manufacturer	Valve to be set at
0LAD51AA403	150/200 NB	220	1.7 MPa	Shell PVR Flanged – HP HTR 5A	Sempell	1700 KPa
0LAD52AA403	150/200 NB	220	1.7 MPa	Shell PVR Flanged – HP HTR 5B	Sempell	1700 KPa
0LAD61AA403	150/200 NB	220	1.7 MPa	Shell PVR Flanged – HP HTR 6A	Sempell	5500 KPa
0LAD61AA407	150/200 NB	75	5.5 MPa	PVR Flanged – HP HTR 6A	Sempell	5500 KPa
0LAD62AA403	150/200 NB	220	1.7 MPa	Shell PVR Flanged – HP HTR 6B	Sempell	5500 KPa
0LAD62AA407	150/200 NB	75	5.5 MPa	PVR Flanged – HP HTR 6B	Sempell	5500 KPa
0LAB68A401	20 NB	160	29 Mpa	HP HTR 5B feed inlet relief valve	Sempell	29 MPa
0LAB65AA401	20 NB	160	29 Mpa	HP HTR 5A feed inlet relief valve	Sempell	29 MPa

Aux Cooling WATER PRV'S and Lub Oil System

KKS Number	Size (mm)	Temp(DegC)	Design Pressure	Description	Manufacturer	Valve to be set at
0PGA11AA503	20NB	100	500KPa	Aux Cooling safety Valve 11	Wil Brod	500KPa
OPGA12AA503	20NB	100	500KPa	Aux Cooling safety Valve 12	Wil Brod	500KPa
OPGA13AA503	20NB	100	500KPa	Aux Cooling safety Valve 13	Wil Brod	500KPa
OPGA14AA503	20NB	100	500KPa	Aux Cooling safety Valve 14	Wil Brod	500KPa
OPGA26AA502	20NB	100	500KPa	Aux Cooling safety Valve 26	Wil Brod	500KPa
OPGA27AA502	20NB	100	500KPa	Aux Cooling safety Valve 27	Wil Brod	500KPa
OPGA31AA503	20NB	100	500KPa	Aux Cooling safety Valve 31	Wil Brod	500KPa
OPGA32AA503	20NB	100	500KPa	Aux Cooling safety Valve 32	Wil Brod	500KPa
OPGA41AA503	20NB	100	500KPa	Aux Cooling safety Valve 41	Wil Brod	500KPa
OPGA42AA503	20NB	100	500KPa	Aux Cooling safety Valve 42	Wil Brod	500KPa
OPGA51AA503	20NB	100	500KPa	Aux Cooling safety Valve 51	Wil Brod	500KPa
OPGA52AA503	20NB	100	500KPa	Aux Cooling safety Valve 52	Wil Brod	500KPa
OPGA61AA503	20NB	100	500KPa	Aux Cooling Safety Valve 61	Bailey Birkett	500KPa
OPGA62AA503	20NB	100	500KPa	Aux Cooling Safety valve 62	Bailey Birkett	500KPa
MAV10AA506	200	100	96KPa	Lub Oil safety Valve 506	Wil Brod	96KPa
MAV10AA510	200	100	135KPa	Lub oil filters byp relief	Wil Brod	135KPa

MKG34AA701	50	40	1.0KPa	Casing prv	Fisher	Pilot 450KPa and Main valve 550KPa
MKW14AA001	50	65	1.25MPa	Seal oil MOP PRV	Broady	1.25MPa
MKW31AA001	65	65	1.1MPa	AC Seal oil discharge PRV	Broady	1.1MPa
MKW41AA001	65	65	1.0MPa	DC Seal oil Discharge PRV	Broady	1Mpa
MXA73AA507	15	230	10.8MPa	FRF Conditioner Pump Discharge PRV	Atlas	10.8MPa

Air compressor

KKS Number	Size (mm)	Temp(DegC)	Design Pressure	Description	Manufacturer	Valve to be set at
QFB01AA602	50/80	25	1600 KPa	CA SUP 01 RECEIVER PRV	LESSER	1600 KPa