

PART 3: SCOPE OF WORK

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C3.1: EMPLOYER'S SERVICE INFORMATION

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1 Description of the service

1.1 Executive overview

SECTION 1: GENERAL SCOPE

Refurbishment of Hitachi, David Brown and Premium Milling Plant Gearboxes Input shaft bearing assembly on "as and when" required basis at Grootvlei Power Station

Call out of personnel

When input cartridge defect detected, a call out will be initiated for personnel to come strip input assembly and be taken to workshop for repairs.

Strip and assess gearbox input cartridge

Upon stripping and assessing the bearing assembly, the contractor shall notify the client to be present to witness the damage. Scope will be established and repair program shared.

Repairs

From scope, a Quality Control Plan will be developed approved by the end user. It will be signed off during repairs and on delivery of the input bearing assembly to site. On site QCP will be developed for installation into the insitu gearbox and be signed on completion of installation.

Testing and verification

Oil supply will be verified prior to gearbox side cover's box up through spray nozzles. Supplier to be on site during the oil spray to verify oil supply to input bearings

Commissioning

Testing will only be during first run of the gearbox.

The following checks will be performed by the manufacturer on the bearings:

Bearings should be removed, if possible, without damaging them, it is good practice to replace all bearings. Generally, the use of the old bearings is not recommended.

- Visually inspect the rolling elements and raceways for signs of wear and damage.
- Check the outer races for signs of movement in the bearing bores of the case and for signs of fretting and corrosion.
- Check the wear patterns of the bearing races for indications of misalignment.

The following checks will be performed by the manufacturer on the shafts:

- MPI the shaft with attention to keyways, fillet radii and changes in section of the shaft.
- Check all bearing seats for signs of wear.
- Measure the bearing seats to check fits and tolerances and compare with the selected or specified bearing.
- Check oil seal tracks for signs of damage or wear.

The following checks will be performed by the manufacturer on the other items:

- Record the details of all fastenings (nuts and bolts), dowels, washers, locking screws, seals and gaskets.
- Visually inspect all covers, oil catchers, loose bearing housings etc.

Repairs

The information gathered in the above inspections by Eskom and the manufacturer, and any specific Eskom requirement will determine the scope of work to repair.

Therefore, a re-manufactured gearbox input bearing housing, the following items will be included in the scope of work and supply:

- The replacement of all rolling element bearings.
- The replacement of all nuts and bolts.
- Re-boring the bearing sleeves after skimming the joint faces.
- Machining, Re-lining and boring of bearing sleeves if required.
- Replacement of all keys and re-cutting of all keyways if required.

Testing and Verification

Quality Assurance Tests, Inspections and Documentation

The following documentation, inspections and tests are required when re-manufacturing, refurbishing or repairing gearbox input bearing housing.

Production Schedule and Quality Control Plans (QCP's):

The supplier shall submit to Eskom detailed quality control plans for remanufacture, refurbishment or repair of the input housing bearing assembly. QCP's should include QCP's for the manufacture or repair of individual components. The supplier should also provide a time-based production schedule to Eskom prior to starting work.

Checks and documentation required on the casing:

- MPI report on bearing bores and mounting feet.
- Dye Penetrant Report on bearing housing

Checks and documentation required for shafts:

- Material certificates for new shafts and keys.
- Stamp identification on shaft ends.

Information required on bearings:

Bearing numbers, bearing clearance and brand name for all replaced Bearings.

Transportation

Gearbox Input shaft bearing housing should be transported in such a manner as to prevent damage to the bearings and housing assembly and to prevent the ingress of dirt.

The following abbreviations are used in this Service Information:

Abbreviation	Meaning given to the abbreviation
OBL	Outside battery limits

2 Management strategy and start up.

2.1 The *Contractor's* plan for the service

The *Contractor* submits only one programme, which incorporates the programmes of all his Sub-contractors if any. The interface points between his different Sub-contractor's works and the *Contractor's* works are clearly identified. The Contractor's programme submitted for approval in terms of this contract indicates the proposed periods for all activities and prices. For each activity, the start date, completion date, activity duration, predecessors and links to activities are clearly indicated. This programme will be captured in SAP which is the system that has been adopted by the *Employer* for all planning, progress monitoring and reporting on the Grootvlei site

NB: A draft copy of your programme indicating all tasks to be performed for the project from Start to finish is to be provided as a tender returnable before contract award

2.2 Management meetings

The *Employer* and the *Contractor* (and any other co-opted members) meet as and when required to report the overall progress and as a minimum, the following is addressed:

- *Contractor's* current activities progress and planned finish dates.
- *Contractor's* planned start and finish dates for the *works*
- *Contractor's* and *Employer's* programme agenda compared for problematic differences.
- The progress of any other relevant activities.
- To discuss any technical or commercial issues

Management Meetings will be held on a as and when required basis between the *Service Manager* and the *Contractor*. The venue for these meetings is as determined by the *Service Manager*

These meetings will be chaired by the *Service Manager* as follows:

Title and purpose	Approximate time & interval	Location	Attendance by:
Risk register and compensation events	TBA	TBA	<i>Employer, Contractor, Supervisor, and Other co-opted members</i>
Overall contract progress and feedback(KPI)	TBA	TBA	<i>Employer, Contractor, Supervisor, and Other co-opted members</i>

All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions. Any action of the *Service Manager, Supervisor, Contractor* and Other co-opted member implied in the minutes of the meetings are to be confirmed by a separate communication given in accordance with this contract.

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

The *Contractor* submits to the *Service Manager* an organogram showing his people and their lines of authority / communication

2.4 Documentation control

Feedback required must include the following information for works or task completed or to be carried out:

- Summary of work done
- Estimated time duration with regard to the future work required
- Budget cost price with regard to the future work required
- Bill of materials with regard to future work required
- Criticality of the work

2.5 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 certificate.

INVOICES:

All invoices to be emailed to:
invoiceseskomlocal@eskom.co.za

The invoice shall be addressed to Eskom Holdings SOC Limited as follows:
Eskom Holdings SOC Limited
Accounts Payable Department
Grootvlei Power Station
Private Bag X
2420 Grootvlei

VAT NUMBER: 4740101508

- Name and address of the Contractor and the Service Manager;
- The contract number and title;
- The task order number
- Contractor's VAT registration number;
- The Employer's VAT registration number 4740101508;
- Description of service provided for each item invoiced based on the Price List;
- Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT;
- Copy of task assessment signed by both the Contractor and the Service Manager

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

The following *works* are provided by the *Contractor* in accordance with the *Work Information*:

- Removal, installation and commissioning of whole of the *works*;
- Testing and certification
- All the Quality Documentation signed off with no outstanding actions to be resolved;
- The *works* have been in service continuously for at least two weeks with no sign of any abnormalities being present.
- At *Completion*, the *Contractor* submits all technical documentation for the *works* in accordance with the *Employer's* documentation requirements.
- *Completion* takes place after the *Service Manager* has verified the submitted documents.

2.6 Management of work done by Task Order

A task order will be issued on an as and when required basis to the *Contractor* by the *Employer's* representative, on the work that needs to be done. This task order will be accompanied by a SAP 45 (order) number for reference purposes when the *Contractor* invoices.

3 Health and safety, the environment and quality assurance

3.1 Health and safety risk management

The *Contractor* provides own personal protective equipment and clothing for the employee's safety. The *Contractor's* Site Manager in charge of the *Contractor's* employees, will make sure that the *Contractor's* employees have their PPE on, at all times during working hours.

- The *Contractor* must ensure that the works complies with the OHS Act 85 of 1993.
- The *Contractor* will provide all SABS Approved Personal Protective Equipment to its employee's as identified in the Risk Assessment
- The *Contractor* is responsible for procurement of PPE and equipment in accordance with the OHS act and site specific requirements, including the use thereof as necessary.
- The *Contractor* shall provide and demonstrate to the Employer a suitable and sufficiently documented health and safety plan, based on the Employer's documented health and safety specifications, which shall be applied from the date of commencement of and for the duration of the construction work. The plans will be approved by the Employer's Safety Officer.
- The *Contractor* will comply with ISO45001

3.2 Environmental constraints and management

The *Contractor* shall comply with environment management system, ISO 14001 and the Grootvlei Environmental Procedures as listed in the specification table. This includes the identification, collection, storage, transportation and disposal of waste. Hazardous waste shall be disposed in line with the applicable environmental legislation. It is important to note that all spillages must be cleaned immediately and reported to the *Service* Manager as soon as possible. It is the responsibility of the polluter to clean all spillages and for the rehabilitation of the polluted land.

3.3 Quality assurance requirements

The *Contractor* shall be required to demonstrate by means of a Contract Quality Plan (CQP) that this organisation is so structured that all the requirements of the specification will be properly monitored and controlled. The Contract Quality Plan (CQP), which must include the Quality Control Plan (QCP), is to be drafted in accordance with GVL0390 Control of Quality Control Plans and the Supplier Contract Quality Requirement Specification (QM58). The *Contractor* submits Quality documents to *Service* Manager on Contract award for approval prior to commencement of work.

No work may commence unless the Contract Quality Plan and Quality Control Plan documents have been approved in writing and a copy submitted to *the Service* Manager. The *Contractor*, in conjunction with *the Service* Manager must sign off all Quality Control documents after completing all work as per the agreed scope. The *Contractor* to submit a copy of the final signed off documents/data packages to *the Service* Manager within one (1) week after completion of work.

The *Contractor* shall be required to read and fully understand the contents of the Supplier Contract Quality Requirement Specification (QM58) and a copy is to be kept in possession or on premises. The contractor shall be subjected to scheduled assessments/audits if Eskom deems it necessary.

ISO 9001 and the Supplier Contract Quality Requirement Specification (QM58) shall remain applicable in the event of the contract being extended or modified for reasons permitted

By signing and accepting this contract the *Contractor* acknowledges and agrees to comply with and adhere to Eskom's policies and procedures (current and/or latest revisions) including the Supplier Contract Quality Requirement Specification (QM58).

3.4 Plant and Materials

3.4.1 Specifications

Where no standards, specifications, guidelines and procedures are available, the *Contractor* will work according to the Generation Quality manual and professional guidelines. Where possible, standards will be reflected in the Task Order (refer to the table's below).

Number	Title	Issued by
Act 85 of 1993	Occupational Health and Safety Act and Regulations	<i>Contractor</i>
SABS 1431-1987	Material Specifications	<i>Contractor</i>
	Basic Condition of Employment Act, 1997	<i>Contractor</i>
240-28981069	Environmental Policy	<i>Employer</i>
240-29828394	Waste management	<i>Employer</i>
240-30008949	Safety, Health and Environmental Specifications for Contractors	<i>Employer</i>
240-30008949	Mechanical, Electrical & Personal Protection	<i>Employer</i>
240-29129309	Injury/Accident Reports & Investigation	<i>Employer</i>
32-93	Eskom's Standard for Vehicle safety specification	<i>Employer</i>
32-421	Eskom Vehicle and driver safety management	<i>Employer</i>
240-29091616	Life saving Rules	<i>Employer</i>
240-39405720	Non – smoking policy	<i>Employer</i>
SANS 7592	Calibrated round steel lifting chains	<i>Employer</i>
CIDB 8ME	Contractor Registration Certificate	<i>Contractor</i>
SANS 7531	Wire rope slings for general purposes	<i>Employee</i>
SANS 1596	Drop forges eyebolts and eye nuts for lifting purposes	<i>Employer</i>
004/4830	Grootvlei Power Station Health and Safety Specification Rev 01	<i>Employer</i>
QM 58	Supplier Contract Quality Requirement Specification	<i>Employer</i>
36-775	Control of Plant Construction Repair and Maintenance Welding	<i>Employer</i>
36-1162	Weld Defect Classification and Reporting Procedure	<i>Employer</i>
36-504	Welding of High Pressure Temperature Tube and Pipework	<i>Employer</i>
39-60	Contract Quality Policy Requirements	<i>Employer</i>
PGZ – 45-24	HAZOP Guidelines	<i>Employer</i>
240-39012269	Control of Quality Plans	<i>Employer</i>
ISO 14001	Environmental Management System	<i>Contractor</i>
ISO 45001	Occupational Health and Safety Management System	<i>Contractor</i>
ISO 9001	Quality Management System	

3.4.2 Correction of defects

The defects will be listed and corrective actions will be planned according to the priority of the defects. Where Permits to Work are required, the work will be planned with the Production Department.

All work will be scheduled via the Employer's SAP System. The Employers Plant Safety Regulations will be adhered to under a responsible person in terms of the plant safety regulations. Where history needs to be captured, defects will be raised on the SAP Stem and the history will be captured on the Works Orders. Comprehensive reporting is to be submitted after each inspection.

4 Working on the Affected Property

- The *Contractor* complies with all site regulations issued by the *Employer*.
- All work valued in accordance with the Price List unless otherwise specified. Actual quantities will be determined where applicable based on the requirements of each Task Order. The *Contractor* provides all necessary information required by the *Employer* to determine the cost at the assessment date for monthly costs and for each Task Order.
- The *Contractor* may use any Equipment he sees fit for the purpose as long as the use thereof does not damage or interfere with any Plant, buildings or roads. All equipment used shall be in good order and comply with all the relevant safety rules and regulations.
- The *Contractor* and his employees are required to conduct themselves at all times in a proper and orderly manner while on the *Employer's* premises. The *Contractor* and his employees will, in particular, be required to refrain from smoking and cooking on the *Employer's* premises. It must be noted that the *Employer* will take immediate steps to institute criminal investigation in the event of any suspected criminal acts e.g. theft etc.
- The *Contractor* is required to clean and remove any debris and rubble arising from any work done under any agreement originating from this Contract to ensure that the *Employer's* premises are left in a clean condition after doing any work. All building debris will be dumped at a dedicated site identified by the *Employer*.
- No asbestos-based products to be used in supplied materials or form part of any temporary *Works* or plant and equipment brought onto the site.
- The *Contractor* and its employees required to work onsite must first obtain the required access permit for site before commencing any work. This is obtained by completing a site specific induction, medical and associated paper work. No vehicles will be allowed access to site unless this has been pre-approved by the *project Manager* / security and a valid permit for vehicle access has been issued.
- Only parts that meet the original manufacturer's requirements shall be used.
- The contractor will be required to be accredited by the SABS to be able to issue the valid calibration certificates.

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

- The *Contractor* provides security necessary for the protection of the *Works* at all times until the completion of the whole of the *Works*.
- The *Contractor* is informed of the access procedures through Site Regulations and note that such procedures may change depending on the prevailing security situation.
- All persons entering the Grootvlei site pass through the control points at the main access gate and are required to have temporary permits that are issued to *Contractor's* staff on request. All persons submit ID documents with the application for temporary permits. If it is necessary to bring equipment onto site a list is submitted which is verified by security staff prior to equipment entering the security area.
- If any *Contractor's* staff are transferred from Grootvlei or leave site, the person's permit is handed over to the *Supervisor*. The *Contractor* ensures that personnel leaving site are transported out of the security area and that the permit is returned.
- No firearms, weapons, alcohol, illegal substances and cameras (including cell phones with cameras) are permitted on site. Any person suspected of being under the influence of alcohol is tested and if proved positive, is refused entry to the security area.
- No "private work" is carried out for or on behalf of any Eskom employee.
- The generator area and the other units are barricaded and out of bounds and only authorised persons are permitted. Areas outside the site are out of bounds to the *Contractor's* staff.
- Under no circumstances shall the *Contractor* recruit outside Grootvlei Power Station's security gate. An applicable local office for recruitment shall be used.
- Note that the speed limit on the site is 40 kph. The vehicle permit to enter Power Station of any

persons contravening any traffic act on site is cancelled.

- The *Contractor* complies with the Grootvlei Site Regulations, a copy of which is available for perusal at the *Project Manager's* offices.
- Any subject within the authority of the *Service Manager* may be addressed by a Site Regulation.
- Before work starts on site, an inaugural meeting is held with the *Contractor* and the *Service Manager* to explain all requirements of the Site Regulations.
- The *Contractor* is issued with a file of current Site Regulations on arrival. The file remains the property of the *Service Manager* and the *Contractor* is responsible for its maintenance and updating as revised regulations are issued by the *Service Manager*.

4.2 People restrictions, hours of work, conduct and records

It is very important that the *Contractor* keeps records of his people working on the Affected Property, including those of his Subcontractors. The *Service Manager* shall have access to them at any time. These records may be needed when assessing compensation events.

4.3 Health and safety facilities on the Affected Property

The *Contractor* provides, at his cost, a First Aid service to his employees. In the case where these prove to be inadequate, like in the event of a serious injury, the *Employer's* Medical Centre and facilities will be available.

Outside the *Employer's* office hours, the *Employer's* First Aid Services will only be available for serious injuries and life threatening situations.

The *Employer* will be entitled, however, to recover the costs incurred, for the use of the above *Employer's* facilities, from the *Contractor*.

4.4 Equipment provided by the Employer

Scaffolding will be provided by the Employer, request for scaffolding must be made at least 24hrs in advance. The employer will make available equipment such as mobile crane, forklift, cherry picker, tractor.

The *Contractor* provides accommodation and transport for all his employees engaged in the execution of the works. This includes the needs of his subcontractors.

4.5 Site services and facilities

4.5.1 Provided by the Employer

Electricity

All points of supply requested by the *Contractor* are provided in terms of quantity and location at the discretion of the *Service Manager*.

No connection is made to the permanent installation at the Power Station without the prior acceptance of the *Service Manager*.

No guarantees of power supply quality are given and power supply outages of some duration may occur without warning. Planned outages are also a possibility. The *Contractor* makes arrangements at his own expense to improve continuity and quality of power where necessary for any reason and no claim of any nature relating to power failures is considered.

220 and 380V power source will be available near the off-terrace site area. It is the *Contractor's* responsibility to connect to this power source and obtain statutory Certificate of Compliance for such a connection or installation. The use of this power supply is used to cater for the *Contractor's* office

requirements and is not to be used for any construction purpose. Construction power is available to the *Contractor* within the main turbine and boiler house.

All installations or equipment connected to a supply of electricity provided free of charge by the *Employer* shall comply with all relevant safety regulations and requirements. Failure to comply with the safety requirements may lead to immediate disconnection.

The *Contractor* shall provide, at his own expense, all temporary wiring and cabling to lead power from the point of supply or distribution boards, to the various points where it is required, maintain same and remove on completion.

ii. Compressed Air

Compressed air is available for the *Works*. The variation of pressure in the air supply and or breakdown in the supply shall not be grounds for an extension of time or compensation if it causes a delay.

iii. Water

The *Employer* provides a water connection point at the *Contractor's* off-terrace site yard. The *Contractor* provides, at his own cost, all connection fittings, pipe work, temporary plumbing and pumps necessary to lead the water from the *Employer's* points of supply to the various points where it is required. The *Contractor* is responsible to maintain these facilities and to remove it at completion of the whole of the *Works*.

The *Project Manager* does not guarantee continuity of supply and the *Contractor* makes his own provision for standby supplies to maintain continuity of work. Claims of any nature relating to discontinuity of water supply are not considered.

iv. Telecommunication

The *Contractor* provides his own telecommunication facilities.

v. Roads

Main access roads are surfaced and complete and may be used by the *Contractor* with the necessary care. The *Employer* maintains the site roads, described above, to a fair condition. Any costs incurred by the *Project Manager* from damage caused to underground services, structures and the like as a result of the *Contractor* not using the prescribed routes, is recovered from the *Contractor*.

The *Contractor* provides temporary access points from the prescribed routes and roads to the points where the *Contractor* is required to perform work, having first obtained permission in writing from the *Supervisor*.

vi. Sanitary Facilities

All the *Contractor's* personnel are expected to make use of the Station Terrace sanitary facilities. The *Contractor* provides additional facilities as required at own cost