	<b>Calibration, Maintenance and Repairs of electrical &amp; electronic NDT Equipment incl. Supply of Spares (TGS NDT Services)</b>  <b>SCOPE OF WORK</b>	<b>Turbo Gen Services</b>
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## **1. Purpose**

The purpose of this document is to define the products and services required from a contractor for provision of Calibration, Maintenance and Repairs of Electrical & Electronic Equipment services to ERI – TGS, NDT Services department.

## **2. CONTEXT FOR CALIBRATION, MAINTENANCE AND REPAIRS OF NDT EQUIPMENT**

For Non-Destructive Testing (NDT) to be reliably carried on any component, the performance of NDT equipment must be top notch all the time producing reliable inspection results. However, hard use, hard conditions, and time can come together to wear down NDT equipment. But investing in high-quality equipment can increase the likelihood that equipment will last a long time and maintain high levels of performance with the right care. NDT equipment maintenance can keep production and performance working smoothly, without disruption for larger cost savings in the long run.

**Calibration** – The essential parameters of NDT equipment are the basis of performance. Keeping these calibrated ensures precise measurements and flawless imaging. Calibration is the heart of quality assurance. Many equipment manufacturers offer calibration services with factory trained technicians to ensure that every instrument calibration follows strict procedures. Once the calibration is completed, instruments are returned with a Certificate of Calibration for proof of traceability to international standards.

**Firmware Updates** – Regular firmware and security updates can add valuable features, keeping equipment running efficiently and up to date. With the right equipment manufacturer, this is included in an advanced maintenance care plan.

**Preventative Maintenance** – Most times, you can't afford to have inspection delays or stoppages. Preventative maintenance offered in a care plan means not waiting until something goes wrong. It can ensure that your inspection products are continually achieving maximum uptime and peak performance levels.

## **3. Scope of Work**

To supply periodic calibration and maintenance of electrical and electronic Non-Destructive Testing (NDT) equipment, as categorised below. In summary:

For electrical & electronic NDT equipment, the following will be required:

- Calibration (Periodic, usually annual)
- Repairs (As and when it becomes necessary)
- Supply of spares (As and when it becomes necessary)

The scheduling of the periodic calibration intervals will be the responsibility of the NDT Services department. Repairs and supply of spares for repairs are on an as and when basis driven by the condition assessment during calibration and maintenance.

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**The list of NDT Services equipment covered by this scope includes:**

- a. Ultraviolet Light Meters (Brands – Spectroline & Goldilux)
- b. Ultrasonic (UT) Flaw Detectors (according to EN12668 – 1) (Brands – Krautkramer, Olympus & Sonatest)
- c. MPI Benches and Power Packs (Brands – Magnaflux, Magswerke, Mag 50 and Tiide)
- d. Gauss Meters (Brand – F.W. Bell)
- e. Eddy Current machines (Brands – Nortec & Zetec MIZ-200)
- f. Ultrasonic Testing Phased Array machines (Brands – Olympus Omniscan MX, M2M, Tomoscan, Z-Scan (Zetec), Phased Array UT equipment (SyncScan 512MB), UT Machines (SIUI Smaror)
- g. Ultrasonic Testing Thickness Meters (Brands – Krautkramer & Karl-Deutsch)
- h. Crack Depth Meters (Brands – Karl-Deutsch)
- i. Hardness Testers (Brands – Krautkramer)
- j. Ultraviolet Lights (Brand - EV6000)
- k. Magnetic Yokes (Brands – Magnaflux Y6)
- l. TSIS Boresonics System (Brand – Zetec & Phoenix ISL)

The quantities per equipment item listed above are given in the price listing accompanying this scope.

**NB:** The above scope shall be carried out by a contractor with a valid **ISO 17025 Accreditation** required for electronic NDT equipment lab repairs and calibration.

An external audit may be conducted by an Eskom Rotek Industries team on the contractor before any contract or work is awarded. The audit will determine if the capacity and capabilities of the awarded contractor as compared to the scope of work and execution period.




**4. Reporting**

A calibration certificate will accompany every equipment attended to for either calibration, maintenance, or repairs.

**5. Supporting Documents**

- a. ISO 17025 General requirements for the competence of testing and calibration laboratories
- b. Evaluation criteria
- c. Price listing

**6. Document Supported by:**

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