Eskom	SCOPE OF WORK	Grootvlei Power Station

To supply, deliver, Inductively Coupled Plasma Optical Emission Spectroscopy instrument then train staff on how to use it at Grootvlei power station water laboratory. Service instrument for period of 60 months on as and when required basis.

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I. INTRODUCTION

Grootvlei Power Station consists of 3 wet cooled units which produce 200MW each at full load, during the process of electricity generation, the station uses cation results from Inductively Coupled Plasma Optical Emission Spectroscopy to minimize scaling cations. These ions contribute to condenser scaling, that results in load losses. Grootvlei power station require this instrument to be able to perform the necessary chemistry monitoring.

ISO 9001 quality management system (QMS) states that all the instruments used for testing to be serviced and calibrated for reliable results. Grootvlei Power Station, Chemical Services will require the supplied instrument to be serviced for period of 60 months on as and when required basis to comply with ISO 9001 QMS.

2. SUPPORTING CLAUSES

2.1 Scope

The scope of work is outline below:

Grootvlei power station require Ion Chromatography instrument for analysis of water, to be supplied and installed then training of staff. The instrument requires service and maintenance as per ISO 9001 Quality management on a yearly basis and as and when service is required during breakdowns. The supplier must supply us with consumables (as per price list) to run the instrument for a period of 60 months and must be available during callouts as per clause X17 appendix A.

Supply instrument as per below specification

a) Instrument must be able to analyse water samples from parts per billion (PPB) to parts per million (PPM). Must be able to produce repeatable results at 2.5ppb and less.
b) Instrument must use software and computer to run.
c) There must be an automated sampler with sample rack and operating with no risk of contamination between low level and high level.
d) Must be interchangeable between low level and high level.
e) It must be a bench top analyser.
f) Must be able to accept a wide range calibration for low level and for high level.
g) Must be able to detect multiple elements of periodic table.
h) Must use plasma

Scope of Service.

Service of Inductively Coupled Plasma Optical Emission Spectroscopy.

- Ensure flow of gases is happening as per design.
- Ensure the sample analysis is occurring according to design.
- Ensure instrument is producing required results by running standards.
- Ensure all the deviations are corrected.
- Change spares that are due for replacements during service.

- Supply spares for the instrument.
- Ensure instrument is running optimally.
- Provide calibration certificates.
- Provide calibration and service report detailing all work done.
- Provide sticker on the side of the instrument indicating date serviced, next service date and signature of service engineer.
- Perform detailed service of the instrument to check all the components that should be checked on annual service.

Applicability

This document shall apply to Eskom Grootvlei Powe Station, Chemical Services, Water Laboratory.

2.2 Normative / Informative References

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs.

2.2.1 Normative

[1] ISO 9001: 2015 – Quality Management Systems requirements.

2.2.2 Informative

[1] Not applicable

2.3 Definitions

[1] Not applicable

Abbreviation	Description
QMS	Quality Management System
ICP-OES	Inductively Coupled Plasma Optical Emission Spectroscopy
PPB	Parts Per Billion
PPM	Parts Per Million

2.4 Roles and Responsibilities

It is the responsibility of Chemical Services supervisor to ensure the instrument supplied is of correct specification, serviced and calibrated.

2.5 Process for Monitoring

- The process for monitoring will be governed by calibration and service schedules.

2.6 Related/Supporting Documents

- Calibration certificates

3. EMPLOYERS OBJECTIVES AND PURPOSE OF THE WORKS.

To ensure the instrument is serviced, calibrated and is reliable to conduct test as per ISO 9001 QMS.

3.1 SCOPE OF WORK Price List

Item nr	Description	Unit	Expected Quantity	Rate	Price
1	**Supply, Deliver and Install Benchtop Inductively Coupled Plasma Optical Emission Spectroscopy Instrument.**				
1.1	Supply of new Inductively Coupled Plasma Optical Emission Spectroscopy instrument (Including delivery and installation), Package includes: • Windows-based operating software. • External PC Tower, keyboard, and mouse,19". • Operating supplies. 230VAC, 50/60Hz, 30Amps.	EA	1		
Total					R
2	Service of Inductively Coupled Plasma Optical Emission Spectroscopy Instrument and Supply Consumables				
1	Service of ICP-OES instrument	Year	5		
2	Service labour- Engineer	Hr	100		
3	Travelling cost	Km	1500		
4	SHE file	Sum	1		

5	Medicals	EA	5		
6	PPE (Safety Shoe, Goggles, and lab coat)	EA	5		
7	Police clearance	EA	5		
Total					R
3	Consumables to run Inductively Coupled Plasma Optical Emission Spectroscopy instrument for 60 months. We run 20 samples per day. Add the list of consumables that we will be able to use on a day to day running of instrument for five years.				
1		Ea			
2		Ea			
3		Ea			
4		Ea			
5		Ea			
6		Ea			
7		Ea			
8		Ea			
9		Ea			
10		Ea			
11		Ea			
12		Ea			
13		Ea			
n					

4. AUTHORISATION

5. REVISIONS

Date	Revision	Compiler	Remarks
October 2025	01	Mpho Netshidzati	New document

6. DEVELOPMENT TEAM

The following people were involved in the development of this document:

- Mpho Netshidzati

7. ACKNOWLEDGEMENTS

Not applicable.