Eskom	Scope of work	Majuba Power Station

Title: **Scope of Work for the Provision of Legionella Analysis in Water Samples as per ISO 11731**

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Content

1. Introduction

Majuba Power Station consists of evaporative cooling water systems which are designed to dissipate heat from water by air contact, from condenser and air-conditioning systems. However, such systems can provide an environment for the growth of many microorganisms, including Legionella. Legionella causes Legionnaires disease which is a serious infection acquired by inhalation of water droplets from cooling water systems that contain Legionella bacteria.. Legionella can grow and spread in both open- and closed-circuit cooling tower system, thus periodic monitoring and control is critical.

2. Supporting Clauses

2.1 Scope

This document details the scope of work for the service to provide Legionella analysis in water samples for the period of 5 years.

2.1.1 Purpose

To describe the scope of work for the service to provide Legionella analysis in water samples for the period of 5 years.

2.1.2 Applicability

Majuba Power Station only

2.1.3 Effective date

Effective date will be from the authorisation date.

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 17025

[2] Chemistry and microbiology standard for cooling water -24055864767

[3] SANS 11731-2:2009 Water quality — Detection and enumeration of Legionella

2.2.2 Informative

[4] Microbiological Methods Guideline- 240-55864831

2.3 Definitions

Include all definitions applicable to this document, in alphabetical order. Explain all terms used, including documents, titles and departmental references that may cause confusion if not explained.

Refer to definitions listed in recognized industry glossaries such as NRS 000 and the IEV, and use these wherever appropriate.

For NRS 000, go to www.nrs.eskom.co.za. For the IEV, contact the Eskom Information Centre.

Definition	Explanation
Legionella	Microbial species that are Gram-negative bacilli

2.4 Abbreviations

Abbreviation	Explanation
ISO	International Standard Organisation
SANS	South African National Standard

2.5 Roles and Responsibilities

Majuba Chemical Services

a) Compiles the scope of work.

b) Coordinates execution of the scope on site

c) Reviews technical submission provided by the contractor.

d) Contracts Manager for the execution of the scope of work as stipulated

2.6 Process for Monitoring

a) Customer Survey done by the contractor and is to be submitted to the employer to review contractors' performance twice a year for the duration of the contract.

b) Key Performance Indicator Table as stipulated on the NEC document for the provision of Legionella analysis.

2.7 Related/Supporting Documents

NEC document for the provision of Legionella analysis as per ISO11731

3. Provision of Legionella of service for the analysis in water samples as per ISO 11731 for 5 Years

Legionella bacteria are naturally present in all surface waters and can cause a pneumonia-like disease,

which may be fatal. This risk is increased in the older people and immunocompromised.

Legionnaires disease can only be contracted when the bacteria is inhaled into the lungs in a form of aerosol sized water droplets.

The water spray cooling zone of cooling towers is an area of increased risk due to the forced minimisation of water droplet size to facilitate maximum cooling. The region around the cooling tower where windage and spray comes to contact with personnel are the main areas of concern.

The SANS standard for Legionella specifies the need for continuous monitoring and control and reduction of the Legionella. Legionella analysis cannot be conducted at any Eskom power Station Laboratories until the laboratory is ISO 11731 accredited to be able to carry out the analysis.

3.1 Employer's requirements for the service

a) Analysis of Legionella in water samples quarterly in an accredited Laboratory as per as per ISO 11731 as and when it is required.

b) To conduct confirmation test for all positive results as and when required as per ISO 11731

c) Contractor to provide sampling bottles for the legionella samples as per ISO 11731 as and when required.

d) Contractor to provide detailed report for the analysis to the employer as and when analysis has been completed with not later than 12 days turnaround time.

e) Contractor must submit laboratory accreditation certificate yearly for the Legionella analysis for the laboratory that will be used to conduct the analysis to the employer.

f) Legionella samples must be collected quarterly and report analysis to be sent to the employer not later those 12 days after samples collection.

g) All adhoc samples to be collected as and when employer requires and report analysis not later than 12 days after samples collection.

4. Acceptance

Full Name and Surname	Designation
Jeanette Makhanya	Snr Chemist
Tshiki Mashabane	Chemical Services Manager

5. Revisions

Date	Rev.	Compiler	Remarks
November 2024	1	Nontobeko Nxumalo	New Issue

6. Development Team

- Nontobeko Nxumalo

7. Acknowledgements (if applicable)

Not Applicable.