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**TITLE STANDARD FOR APPOINTMENT OF AN
ELECTRICAL SAFETY INVESTIGATOR**

**REFERENCE
CP_TSSTAN_164**

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FOREWORD

This standard was prepared by the following Work Group member/s:

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2016

1. INTRODUCTION

Electrical Safety is considered a specialized field of electrical engineering, which is rapidly changing to meet the needs of the local and international market. Compliance to safety requirements is a key priority as thousands of people are severely injured, fatally wounded and disabled due to electrical incidents. City Power is faced with a challenge of minimizing electrical related incidents and intends to pursue the route of appointing a service provider reporting to the GM SHERQ, who is technically inclined but in the high currency electrical fraternity to guide, develop, implement, monitor and review comprehensive programmes based on best practices.

2. SCOPE

The purpose of this document is to notify the Service Providers about requirements that City Power Johannesburg has for the investigation and report submission on network related incidents.

3. NORMATIVE REFERENCES

The following documents contain provisions that, through reference in the text, constitute requirements of this specification. At the time of publication, the editions indicated were valid. All standards and specifications are subject to revision, and parties to agreements based on this specification are encouraged to investigate the possibility of applying the most recent editions of the documents listed below.

Reference	Description
IEC 614821	Flame Resistant Materials for Clothing for Thermal protection of Workers Notes: (IFR - Inherently flame resistant)
NFPA 70 E	Standard for Electric Safety in the workplace
SANS 724	Protective Clothing against the Thermal Hazards of Electric Arc
ASTM F1959-04	Standard Test Method for Determining Arc Thermal Performance Material for Clothing by electric arc exposure
CP_TSSPEC_143	Specification for Arc Rated Resistant Flash Suite Operating Kit and Accessories
CP_TSSPEC_176	Specification for Arc Rated Flame Resistant Overalls
CP_TSSPEC_191	Specification for Arc Rated Flame Resistant Winter Jackets
CP_TSSPEC_282	Specification for Arc Rated Flash Casual Wear Personal Clothing
CP_TSSPEC_127	Specification for Arc Rated Insulating Glove System

4. DEFINITIONS AND ABBREVIATIONS

The definitions and abbreviations in the above documents shall apply to this specification.

5. REQUIREMENTS

5.1 Service Provider (Investigator) shall comply to the following:

- 5.1.1 Specialized incident investigation and compilation of associated reports.**
- 5.1.2 Electrical safety auditing to best practice local and international standards.**
- 5.1.3 Organise specialized electrical safety training aligned to the NFPA 70E Arc Flash and Electrical Safety requirements.**
- 5.1.4 Engineering studies to determine arc flash energy exposure and arc flash protection boundaries.**
- 5.1.5 Engagements with Research and Development Department on latest developments on Arc Flash incidents prevention.**
- 5.1.6 Serve as an expert forensic witness for City Power in case of an arc flash and/or electrical shock type accident that may lead to arbitration, criminal or civil action.**
- 5.1.7 Provide expert advice on textiles and materials used to manufacture electrical safety PPE and further facilitate testing to International and local standards.**
- 5.1.8 Keeping City Power abreast on the latest developments in local and international safety standards which includes but are not limited to South African Bureau of Standards (SABS), International Electro-technical Commission (IEC) and the National Fire Prevention Association (NFPA).**
- 5.1.9 Advising City Power in drafting of safety related engineering technical specifications, maintenance technical specifications and procurement technical specifications for approval by the Research and Development Department.**
- 5.1.10 Strategic alignment of the City Power Business Operations to international and local legislation and best practice.**

5.2 Service Provider shall be experienced and qualified in the following:

- 5.2.1 Specialized knowledge of electrical arc flash and electrical shock standards.**
- 5.2.2 Actively involved in SABS, IEC and NFPA standard development.**
- 5.2.3 Display proof of having completed detailed network studies and electrical arc flash calculations.**
- 5.2.4 Performed arc flash incident investigations for both equipment damage and personnel injury.**
- 5.2.5 Professionally registered Electrical Engineer with 10 years or more electrical engineering experience in a power distribution environment.**
- 5.2.6 Be in possession of a Government Competency Certificate (GCC) and well versed with ORHVS.**
- 5.2.7 Access to specialized electrical shock and electrical arc flash training which is aligned and maintained to the latest revision of an internationally accredited standard.**
- 5.2.8 Rolled out electrical safety programs for large organizations. Active involvement in rolling out programs for multinational organizations will be beneficial.**
- 5.2.9 Published papers in engineering literature and willing to represent City Power at conferences and exhibitions if required.**
- 5.2.10 Experience on arc testing of clothing and equipment and understands the required test methods to achieve compliance to SABS, IEC and ASTM standards.**

6. MONITORING, REPORTING REQUIREMENTS AND PERFORMANCE MANAGEMENT

- 6.1 Service Provider shall report directly to General Manager SHERQ.
- 6.2 Service Provider shall submit and present incidents report to business as requested by General Manager SHERQ.

7. DOCUMENTATION/RECORDS

- 7.1 Service Provider shall submit detailed documentation or records on the work done to GM SHERQ in both electronic and paper format.
- 7.2 Service Provider shall keep copies of records for the period agreed to with GM SHERQ.

8. TRAINING

- 8.1 A necessary training course shall be offered to relevant City Power staff on avoiding or limiting electrical arc flash and electrical shock incidents.

9. QUALITY MANAGEMENT

A quality management system shall be set up in order to assure the quality during supply of services. Guidance on the requirements for a quality management system may be found in the following standards: ISO 9001:2015. The details shall be subject to an agreement between City Power and the Service Provider.

10. HEALTH AND SAFETY

A health and safety plan shall be set up in order to ensure proper management and compliance during supply of services. Guidance on the requirements of a health and safety plan shall be found in ISO 45001:2018 standards. The details shall be subject to an agreement between City Power and the Service Provider.

11. ENVIRONMENTAL MANAGEMENT

An environmental management plan shall be set up in order to ensure the proper environmental management and compliance is adhered to during supply of services. Guidance on the requirements for an environmental management system shall be found in ISO 14001:2015 standards. The details shall be subject to an agreement between City Power and the Service Provider. This is to ensure that services offered conforms to environmental standards and City Power SHERQ Policy.

ANNEXURE A - BIBLIOGRAPHY

None

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**ANNEXURE A – PRICING SCHEDULE FOR SERVICES OF ELECTRICAL
SAFETY INVESTIGATOR**

Pricing shall be as per Bill of Quantities (BOQ) submitted by City Power

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ANNEXURE C - REVISION INFORMATION

Date	Rev	Document title
August 2022	0	New documents