South African Bureau of Standards

TERMS OF REFERENCE

FOR

THE SUPPLY, DELIVERY AND INSTALLATION/REPLACEMENT OF VARIOUS PIPES (CHILLER, HOT, STEAM AND POTABLE WATER) AT BLOCKS, A, C AND H.

AT

THE SOUTH AFRICAN BUREAU OF STANDARDS

(SABS GROENKLOOF, MAIN CAMPUS)

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1. BACKGROUND

The South African Bureau of Standards (SABS) is a South African statutory body that was established in terms of the Standards Act (Act No. 24 of 1945) and continues to operate in terms of the latest edition of the Standards Act, 2008 (Act No. 29 of 2008) as the national institution for the promotion and maintenance of standardization and quality in connection with commodities and the rendering of services.

As the national standardization authority, the SABS is responsible for maintaining South Africa's database of more than 6,500 national standards, as well as developing new standards, revising, amending or withdrawing existing standards. The SABS plays a critical role in ensuring safety, quality, and reliability of products and services in South Africa, and in promoting international trade through compliance with global standards.

The SABS performs several essential functions including:

Developing and promoting standards:

The SABS develops and promotes national standards across various sectors, including agriculture, engineering, construction, and consumer products. These standards aim to ensure safety, quality, and reliability of products and services in the country.

Testing and certification

The SABS provides testing and certification services to various industries to ensure compliance with national and international standards. This includes testing products and materials for safety and quality, and certifying companies and products that meet the required standards.

Research and innovation

The SABS conducts research and innovation activities to support the development of new standards and to improve existing ones. This includes collaborating with industry, academia, and government to identify emerging trends and technologies that may impact standards.

Training and capacity building

The SABS provides training and capacity building services to industry, government, and the public on the development, implementation, and compliance with standards. This includes providing training on standards development, quality management, and certification processes.

Internationally, SABS experts represent South Africa's interests in the development of international standards, through their engagement with bodies such as the International organization for standardization (ISO) and

the International Electrotechnical Commission (IEC). SABS also holds the Secretariat for SADCSTAN, the standardization body for the Southern African Development Community of 14 nations.

SABS Commercial (Pty) Ltd, a self-financing division within the SABS, offers certification, testing, consignment inspection and other services, mostly to industries. Apart from offering systems certification and product testing against the requirements of South African National Standards (SANS), SABS Commercial also operates its proprietary product certification scheme – the SABS Mark of Approval, assuring buyers that products are safe, fit for purpose and provide assurance to buyers.

Historically, the SABS also undertook certain regulatory functions on behalf of South Africa. In keeping with best international practice, this regulatory function was separated from the organization's standardization and certification activities, via the promulgation of the new Standards Act and the National Regulator for Compulsory Specifications Act in September 2008. Under these new laws, the former SABS Regulatory division separated to form the National Regulator for Compulsory Specifications (NRCS), a new organization also residing under the Department of Trade and Industry.

In carrying out its mandate, the SABS has several buildings which house the various operations. In each of these buildings, there are several pipe services inclusive of Mechanical that are channeled to provide the following:

- Air conditioning (chilled Water plant)
- Hot water piping
- Potable water
- Steam and
- Fire protection services.

The condition of the mechanical service pipes has over the years deteriorated resulting in damages with repairs having been done beyond acceptable limits, such that further repairs can no longer be implemented thus the need for the complete replacement of the service pipes. As a result, some of the services to the buildings have been terminated due the deterioration and un-repairable state of service pipes, thus affecting operations within the SABS Groenkloof Main Campus. Thus, given the dire state of the services, it has become imperative that the replacement of the service pipes be prioritized and executed as a matter of urgency.

2. SCOPE OF THE WORK

The scope of works as required by the South African Bureau of Standards will entail primarily civil, structural, electrical and mechanical works and includes the supply,

delivery and installation/replacement of various pipes (chiller, hot, steam and portable water) at various SABS buildings/blocks. This Includes the supply, delivery and installation of ancillaries/accessories required to complete installation, as well as the supply, delivery and installation of lagging or pipes shielding to insulate mainly chiller, hot and steam pipes.

The Wet Services in the identified blocks consists of:

- Domestic hot and cold-water reticulation
- Chilled water supply and return piping;
- Condenser water reticulation
- Steam reticulation;
- Condensate drain piping;
- Fire water reticulation; and
- Reverse osmosis water reticulation.

This Client thus seeks to engage a Mechanical services contractor whose responsibilities shall encompass the complete removal of existing piping work, supply, delivery, installation, and commissioning of all mentioned service pipes.

The scope of work shall cover the followings buildings.

- Block A – Administration Building
- Block C – Chemical Building and the
- Block HG/HL – Acoustic/Electronics Building

2.1 Building A - Administration Block

This building is a multi-story which has in place eight Floor and four service shafts which have the following services to be replaced.

- Chiller water Reticulation
- Hot water and Cold water
- Steam

2.2 Building C - Chemical Block

This building is a multi-story which has in place eleven floor levels and six service shafts which have the following services to be replaced.

- Chiller water Reticulation
- Hot water and Cold water
- Steam
- Fire protection.

2.3 Building H- Acoustic/Electronics Building

This building is a multi-story which has three floor levels and four service shafts which have the following services to be replaced.

- Chiller water Reticulation
- Hot water and Cold water
- Steam

The appointed contractor shall be responsible removal and installation of the existing pipe work in the service shaft from the ground floor to the upper floors for the mentioned services in each block as described above.

The work is required to carried out with minimal service interruption, this is due to the site being live site and services are ongoing. Execution of works shall consider notification and liaising with each building occupants and client project team with deadlines.

3. NORMS, APPROVALS, QUALITY AND STANDARDS

The following norms, quality and standards will be used during the contract period for the replacement of pipe work in the three buildings.

- SANS 10400 – National Building Regulations
- SANS 10400 Part P – Drainage
- SANS 1200 – Standard Specifications for Engineering Construction
- SANS 10252 – 1 Water Supply Installations for Buildings
- SANS 62-1: Code of Steel pipes.

The quality of materials and workmanship will be monitored and measured during the construction period against these policies.

The specification of material to be employed shall be of first-class quality and all materials shall be subjected to the approval of the end user client and the Engineer. Materials to be used under the subsequent Contract must comply with South African Bureau of Standards for piping services required.

4. DESIGN REQUIREMENTS

4.1 Standard National Specifications

The latest edition, including all amendments up to date of the SANS specifications, publication and codes of practice shall be read in conjunction with site specific specifications and shall be deemed to form part thereof.

5. CONTRACTING REQUIREMENTS

The mechanical contractor shall have experience in renovation of pressurized pipe work and working with chiller plant equipment, steam pipe and potable cold and hot water reticulation systems. The Contractor must demonstrate that they have done installations in National Key Point (NKP) facilities and capability in working with Multi-story Buildings. The building systems for the project are of a specialized nature and the suppliers and installing contractors must be experienced and reputable. The employees of the Contractor and his company shall be vetted to ensure Given the sensitivity of workspace.

Local Empowerment and onsite training are a compulsory requirement for the contractor to promote the use of local manpower where it can be effectively employed without delaying the project or providing inferior installation works.

The use of the specialists' work will be preferred for the use in areas of lifting equipment, hot work and working platform portions of the contract. The main reason is that the engineer / client and the contractor have input in the selection of the most suitable contractor and the control of the contractor remains with the client.

6. SPECIFIC COMPONENTS.

6.1 Specification For Steam Piping Installation

The replacement of steam pipe shall encompass the replacement of the following materials in the services shaft

- Steam pipe.
- Laging of steam pipe
- Steam traps.
- Valves

6.2 SPECIFICATIONS OF CHILLED WATER PIPE

The replacement of chilled water pipe shall encompass the replacement of the following materials in the services shaft as follows:

- Chilled water pipe supply and return
- Laging of Chilled Water pipe
- Pressure and Flow monitoring.
- Valves

6.3 SPECIFICATIONS FOR HOT WATER, POTABLE & FIRE WATER

The replacement of chilled water pipe shall encompass the replacement of the following materials in the services shaft as follows:

- Chilled water pipe supply and return
- Laging of Hot water pipe
- Pressure and Flow monitoring.
- Valves

7. ENVIRONMENTAL CONDITIONS

The equipment shall be installed in security area that is manned by security personal from a central point.

7.1 Warranty

The material to be supplied shall have warrant to the original end user that the equipment is as per South Africa National Standards safety requirements and in case where international standards of safety can be used shall be deemed to satisfactory as agreed by engineer, if such a challenge arises.

Products, Inc. (the “Product”) shall be free from defects in material and workmanship under normal use for a period of thirty-six (36) months from the date of installation or forty-two (42) months from the date of shipment of the Product, whichever comes first, at the premises of the original end user.

7.2 Quality Assurance

7.2.1 Reliability

The material and installation shall be shall be complete installation of piping and of reliable quality and as such the selected contractor shall ensure that they provide material that has no compromise to safety of persons to operate it and to the premises in which it is meant to operate.

7.2.2 Maintainability

The contractor shall provide at least 12 months’ maintenance service period to installation work and material supplied for all three building piping services in shaft, in such a service level agreement shall be required to be supplied for approval to render maintenance of such equipment for a period of 12 months.

The contractor shall as much as is possible ensure that the equipment installed has spares available locally and can be maintained by competent personnel once maintenance period lapses.

7.2.3 Factory Test

The contractor shall ensure factory tests are done and have proof of such documents for material supplied.

8. MECHANICAL COMPLIANCE AND CONNECTIONS.

All mechanical compliance requirements for the three services shall be the sole responsibility of the contractor to supply at the end of the work. Even where not stated it’s the sole responsibility of the contractor to ensure the cost and certification is allowed for in the pricing of issuing of compliance certificates.

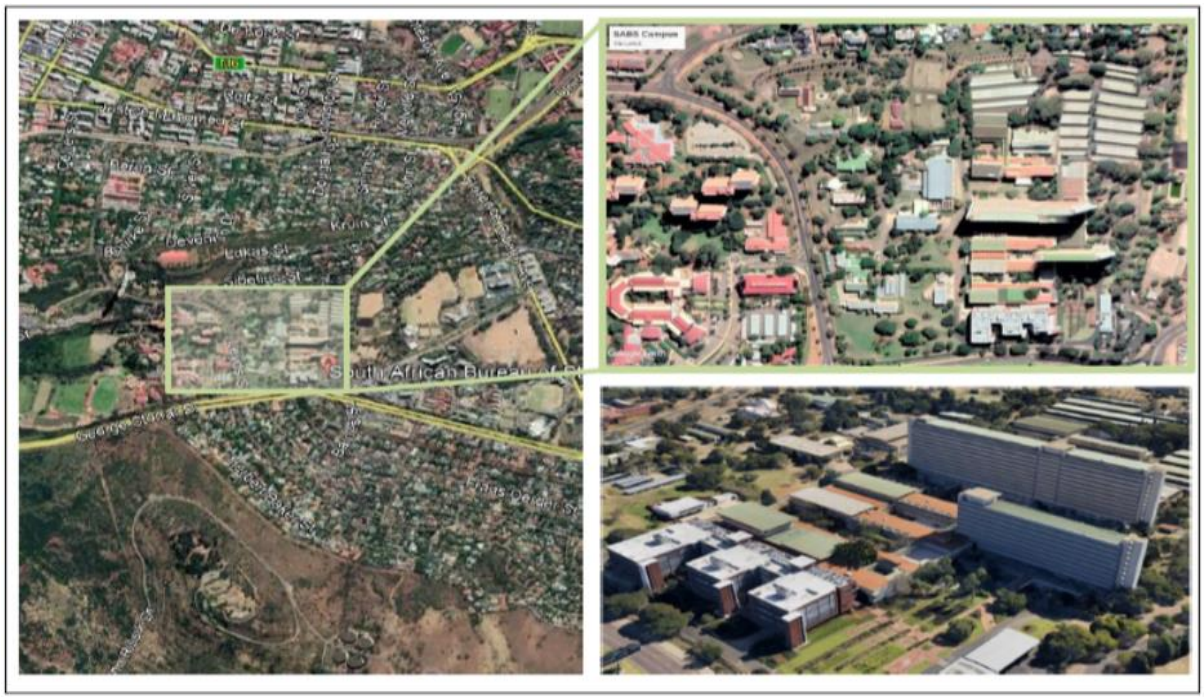
9. INTER -RELATED SERVICES

The contractor shall make sure all work that is related to the renovation and installation of pipes is coordinated with building occupants and client to ensure minimal interruptions of services. This is the sole responsibility of contractor to identify and facility their service without delaying or being delayed in work coordination.

10. LOCATION OF WORKS

The works are located at The South African Bureau of Standards, Main Campus, 1 Dr Lategan Rd, Groenkloof, Pretoria, 0027.

Site Location	Longitude	Latitude
Site Co-ordinates	25° 46′ 10.61″ S	28° 12′ 45.53″ E



11. PROJECT DURATION

The project duration is six (6) months from time of site hand over.

12. PENALTIES FOR LATE COMPLETION

The penalties for late completion shall be calculated on a calendar day basis and as prescribed by the National Department of Public Works Guidelines. The actual amount will be concluded and detailed in the contract data of the winning service provider accordingly.

Please do also note that any remedial works as a result of the contractors' fault encountered as the works are executed will be at the cost of the contractor.