



UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

Annexure A Gas Burners and Boilers Service and Maintenance

Scope of Work

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1 BACKGROUND & PURPOSE

Gas boilers are a critical component in heating systems. They operate by burning natural gas or liquefied petroleum gas (LPG) to heat water, which is then circulated through radiators, underfloor heating systems, or used for domestic hot water. They have relatively high efficiency, reliability, and the ability to provide consistent heat output.

The scope of work document details the maintenance requirements for gas boilers to ensure they operate at peak efficiency. This includes determining a thorough maintenance schedule, appointing qualified personnel to perform the maintenance, and enforcing safety measures throughout the maintenance process. The primary goals are to maintain system efficiency, prevent downtime, and ensure compliance with all relevant regulations and standards. By following this maintenance plan, the operators of the system can reduce the risk of failure, increase energy savings, and support the organization's sustainability objectives.

The University intends to maintain its gas boilers on different campuses. It is critical to have all gas boilers available and reliable. The gas boilers cater for hot water and central heating systems.

2 GAS BOILER LOCATIONS

Table 1: Gas boiler locations

East Campus:	<ul style="list-style-type: none"> • College House • Dalrymple House • Gate House • GR Bozolli Sports Pavilion • Green House • Hillman Building • Jubilee Hall • Old Mutual Sports Hall • Oppenheimer Life Sciences • Robert Sobukwe • Rugby Stadium Grandstands • Solomon Mahlangu House • South West Engineering • Sunnyside Residence • Sunnyside Residence OLD • Swimming Pool change rooms
West Campus:	<ul style="list-style-type: none"> • Marks Park

	<ul style="list-style-type: none"> • David Webster • Barnato Hall • Sturrock Park Soccer Academy Squash Court
Education Campus:	<ul style="list-style-type: none"> • Highfield kitchen boiler house
Knockando:	<ul style="list-style-type: none"> • Knockando Block J • Knockando Lighton • Knockando Williams Hall
Management Campus:	<ul style="list-style-type: none"> • EOH East Wing
Wits Junction Campus	<ul style="list-style-type: none"> • Wits Junction



Figure 1: East and West Campus building locations

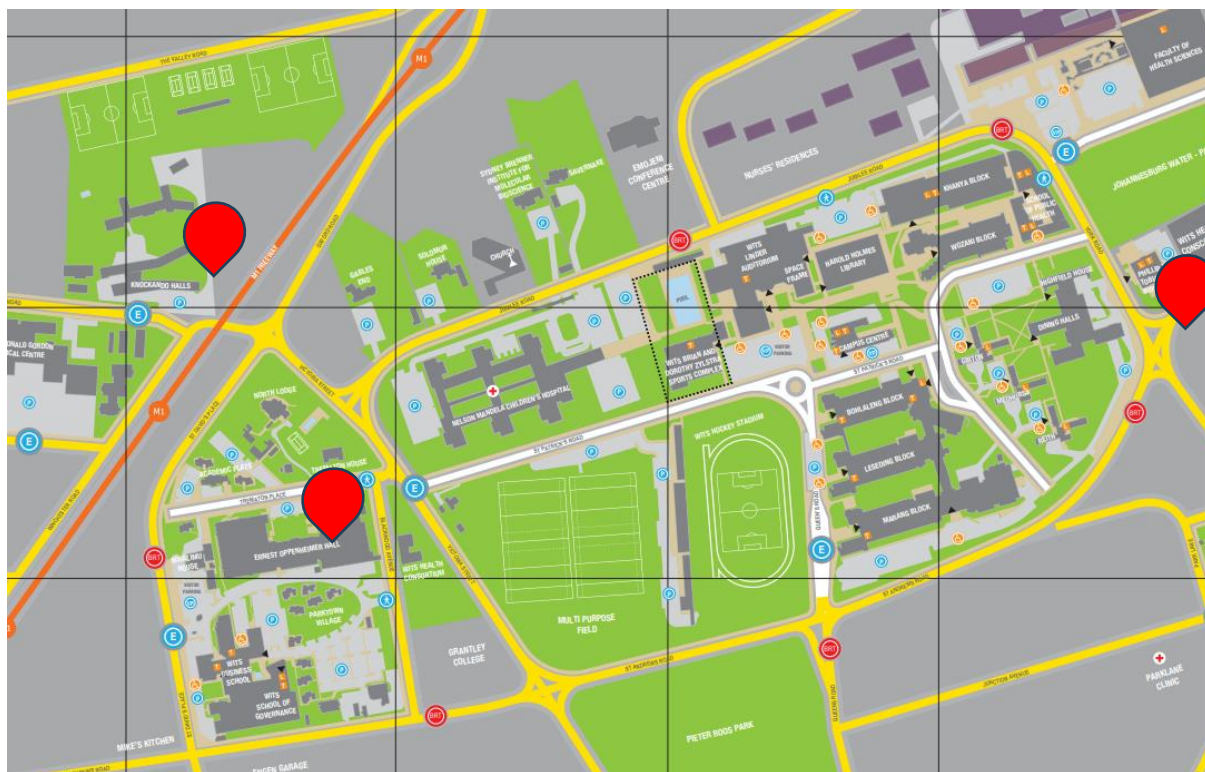


Figure 2: Knockando, EOH and Highfield buildings

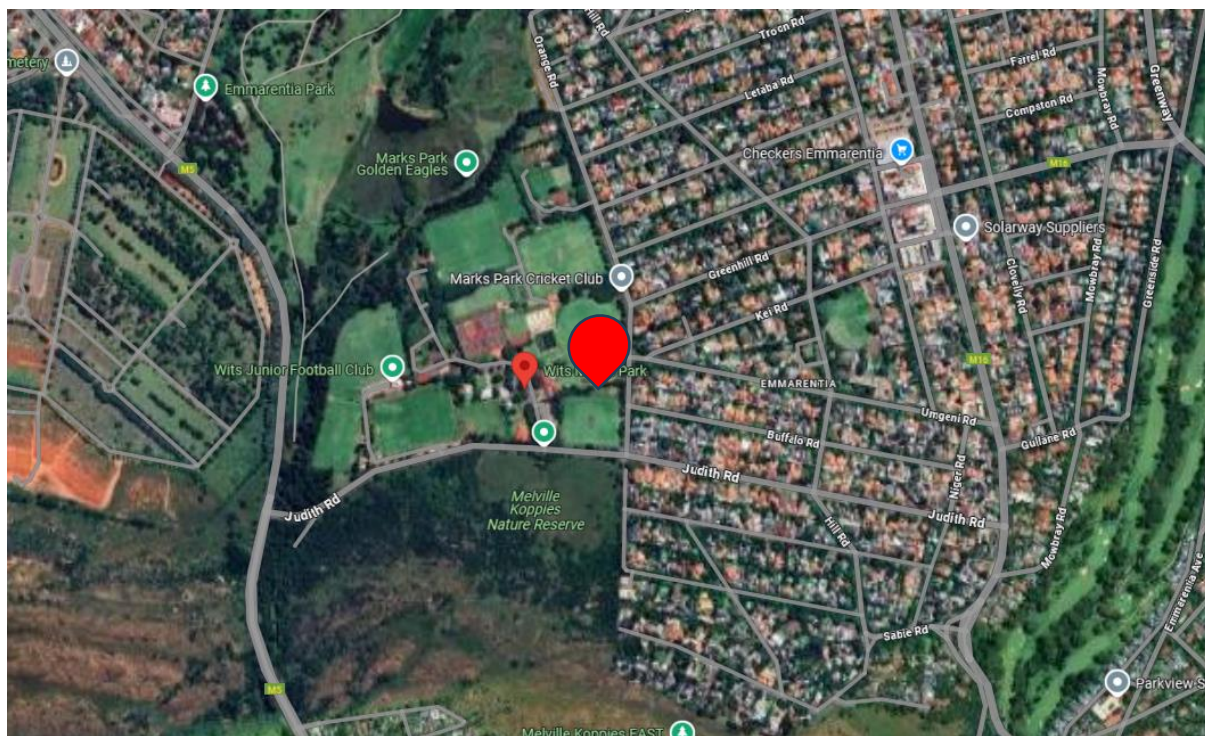


Figure 3: Marks Park

3 DEFINITIONS AND ABBREVIATIONS

Definitions, abbreviations, and applicable standards section provides contextual information at both the tender and contract stages to ensure clarity in the interpretation of the Scope of Works (SOW) and identification of overarching legislation, policies, procedures and guidelines that will govern the resulting work. The purpose of this section is to mitigate ambiguity and misunderstanding that could lead to poor proposals at the tender stage or default, breach or dispute at the contract stage.

“Breakdowns” Defined as an event which prevents equipment from providing its required service (attributed break-down) and which was not because of an external factor, misuse/abuse of the equipment or at the specific direction of the University.

“Call-out” A demand on the Service Provider to act because of equipment or related failure, requiring the Service Provider to visit the site outside of scheduled maintenance.

“Down time” The period the equipment is not in operation due to equipment failure, Breakdowns, unplanned repairs and periodic re-commissioning/re-adjusting of the equipment systems. This includes the response and repair time.

“Safety” The operational requirements regarding the Occupational Health and Safety Act 85 of 1993, current relevant regulations, codes and standards.

“Unit” The equipment in its singular form.

“University” Is the University of the Witwatersrand, Johannesburg.

“Visits” The scheduled visits to the premises to verify the equipment and space has been used and maintained in accordance with the Agreement.

The table below is terms and acronyms used in the SOW.

Table 2: Acronyms

Term / Acronym	Definition
OHS	Occupational Health and Safety
kW	Kilo Watts
kPA	Kilo Pascal
SANS	South African National Standards
SOW	Scope of Work
W	Watt

4 STANDARDS & REGULATIONS

The following documents contain provisions that, through reference in the text, constitute requirements of this specification. 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. The work to be carried out must also conform to any other

municipal by-laws, national and international standards that may be applicable to the systems and equipment installed. The work must conform to the Service Level Agreement.

- SANS 10252-1: 2018 Edition 3.2 Water supply and drainage for buildings, Part 1: Water supply installations for buildings.
- SANS 10103, The measurement and rating of environmental noise with respect to land
- SANS 347, Categorization and conformity assessment criteria for all pressure equipment.
- Occupation Health and Safety Act, Act 85 of 1993 - Guidance Notes to the Pressure Equipment Regulations 17 July 2009
- SANS 10087: The handling, storage, distribution and maintenance of liquefied petroleum gas in domestic, commercial, and industrial installations
- SANS 10142: The wiring of premises
- Municipal by-laws
- National Building Regulations SANS 10400

5 SCOPE OF WORK

This contract covers preventative and corrective maintenance of gas boilers for the University of the Witwatersrand. The contract scope of work and tasks include:

- Once-off inspection of equipment - The Service Provider shall inspect the gas boilers located at the various buildings.
- The Service Provider shall develop maintenance schedules that will also indicate the order of priority of tasks.
- Carrying out servicing, preventative maintenance and corrective maintenance or repairs of the equipment for gas boilers.
- Supply and installation of all mechanical and electrical spare parts for the gas boilers as and when recommended by the Service Provider during the periodic reviews or for emergencies.
- The required service also includes a 24-hour, Monday to Sunday emergency service, as and when required by the University at the gas boilers
- It is also a requirement that the health and safety protocols are observed to prevent injury to personnel and workers.
- Once maintenance work has been carried out by the Service Provider, maintenance reports must be submitted to the University for acceptance
- Additionally, the Service Provider shall meet with the university's facilities management to review the maintenance work performed and develop strategies to optimise the use of the systems.

- The maintenance schedule and procedures will be periodically reviewed and updated to align with the latest statutory requirements, international standards, and maintenance history.

The service provider will be required to provide a maintenance schedule within two (2) weeks of issuing a purchase order.

Upon completion of preventative and corrective maintenance activities, a report shall be submitted to the university, including but not limited to:

- The equipment being serviced
- The maintenance tasks performed, such as inspections, repairs, replacements, etc. This will include readings, test results and checklists.
- Issues that were encountered during the service and the actions taken to resolve them.
- Recommendations for future maintenance.
- Materials used, including quantity and cost.
- Record of the personnel involved in the maintenance activities.
- Faults found and their priority.
- Date of maintenance activity.

The report must be submitted to the University, and the subsequent services must be aligned accordingly.

This contract covers the maintenance of the following equipment:

Table 3: Gas boiler details

No.	Location	Qty	Make	Type	System
1	College House	4	Hamworthy Hydrotherm Gas Fired	R300	Hot Water
2	College House	2	Hamworthy Hydrotherm Gas Fired	R300	Central Heating
3	Dalrymple House	5	Rinnai REU-VCM2837FFC-SA	C	Hot Water
4	Dalrymple House	2	Rinnai REU-VCM2837FFC-SA	C	Central Heating
5	Gate House	1	Hamworthy Hydrotherm Gas Fired	R300	Hot Water
6	GR Bozolli Sports Pavilion	3	Hamworthy Hydrotherm Gas Fired	R300	Hot Water



No.	Location	Qty	Make	Type	System
7	Green House	1	Hamworthy Hydrotherm Gas Fired	R300	Central Heating
8	Hillman Building	4	Hamworthy Hydrotherm Gas Fired	R300	Central Heating
9	International House	1	Hamworthy Hydrotherm Gas Fired	R300	Hot Water
10	Jubilee Hall	5	Hamworthy Hydrotherm Gas Fired	R300	Hot Water
11	Jubilee Hall	8	Hamworthy Hydrotherm Gas Fired	R300	Central Heating
12	Old Mutual Sports Hall	5	Hamworthy Hydrotherm Gas Fired	R300	Hot Water
13	Oppenheimer Life Sciences	2	Hamworthy Hydrotherm Gas Fired	R300	Hot Water
14	Oppenheimer Life Sciences	8	Hamworthy Hydrotherm Gas Fired	R300	Central Heating
15	Robert Sobukwe	14	Hamworthy Hydrotherm Gas Fired	R300	Central Heating
16	Rugby Stadium Grandstands	3	Hamworthy Hydrotherm Gas Fired	R300	Hot Water
17	Soccer Stadium Grandstand	1	Hamworthy Hydrotherm Gas Fired	R300	Hot Water
18	Solomon Mahlangu House	14	Hamworthy Hydrotherm Gas Fired	R300	Central Heating
19	South West Engineering	4	Hamworthy Hydrotherm Gas Fired	R300	Central Heating
20	Sunnyside Residence	4	Rinnai REU-VCM2837FFC- SA	C	Hot Water
21	Sunnyside Residence OLD	8	Hamworthy Hydrotherm Gas Fired	R300	Central Heating
22	Swimming Pool change rooms	1	Hamworthy	R300	Hot Water

No.	Location	Qty	Make	Type	System
			Hydrotherm Gas Fired		
23	Highfield kitchen boiler house	1	CIB Unigas M-PR.S.ZA.A.0.32	NG550 570 kW	Central Heating
24	Highfield kitchen boiler house	1	CIB Unigas M-PR.S.ZA.A.0.32	NG550 570kW	Central Heating
25	Highfield kitchen boiler house	10	Hamworthy Hydrotherm Gas Fired	R300	Hot Water
26	Knockando Block J	3	Paloma PH-27RDVE(2)	46,5 kW	Central Heating
27	Knockando Block J	1	Paloma PH-27RDVE(2)	46,5 kW	Hot Water
28	Knockando Lighton	4	Hamworthy Hydrotherm Gas Fired	R300	Hot Water
29	Knockando Lighton	3	Hamworthy Hydrotherm Gas Fired	R300	Central Heating
30	Knockando Williams Hall	1	Weishaupt G3/1-E	630 kW	Central Heating
31	EOH East Wing	8	Rinnai REU-VCM2837FFC- SA	C	Hot Water
32	Marks Park	1	Hamworthy Hydrotherm Gas Fired	R300	Hot Water
33	Sturrock Park Soccer Academy Squash Court	1	Hamworthy Hydrotherm Gas Fired	R300	Hot Water
34	David Webster	4	Rinnai REU- VRM2632WC-AK	45.9 kW	Hot Water
35	Wits Junction	6	Rinnai REU- VRM3237WC-AK	57,8 kW	Hot Water
36	Barnato Hall	10	Hamworthy Hydrotherm Gas Fired	R300	Hot Water



A



B



C



D

Table 4: Installed Gas boilers A) Rinnai, B) CIB Unigas, C) Paloma, D) Hamworthy

6 SCOPE FOR MAINTENANCE OF GAS BOILERS – CORRECTIVE MAINTENANCE

Corrective maintenance for this work can be regarded as any service work outside the scheduled intervals. It can also include emergency repair or the replacement of components to correct errors or malfunctions, including parts and labour.

The corrective maintenance process will begin with a response to a call or observation made during routine maintenance. It will require an additional quotation to be approved by the university before the

work commences. The call-out, labour rates and rates for parts (markup) are to be as per the tendered rates.

7 SCOPE FOR MAINTENANCE OF GAS BOILERS – PREVENTIVE MAINTENANCE

All preventive maintenance activities must be performed in accordance with the operation and maintenance manuals, which feature a similar system configuration to the plumbing system, as well as the maintenance guidelines provided by the manufacturers.

Maintenance work shall be carried out by an appropriate technician who shall perform a risk assessment before initiating any work.

The combustion plant should be serviced annually or if required by supplier guidelines, but depending on site conditions, more frequent checks may be required. Components with increased wear and tear or whose design lifespan is or will be exceeded before the next service should be replaced as a precaution.

The university and system operators shall be informed in advance of any testing or system shutdown.

Before system inspection and maintenance, appropriate safety measures to prevent overheating must be implemented.

All testing instruments shall be calibrated before use.

The central heating systems operate during the winter months for a period of four months, from May 1st to September 1st. A service is required before this period to ensure that the boilers operate optimally. Additionally, maintenance and inspections will be conducted during the four months of operation.

Every pressure vessel shall be subjected to an internal and external inspection and a hydraulic test to a pressure of 1.25 times the design pressure by an approved inspection authority for in-service inspection appointed by the University in writing at intervals not exceeding 36 months as per the Occupation Health and Safety Act, Act 85 of 1993 - Guidance Notes to the Pressure Equipment Regulations.

As per Occupation Health and Safety Act, Act 85 of 1993 - Guidance Notes to the Pressure Equipment Regulations: All piping and pipelines to be inspected and tested following the relevant in-service health and safety standard: Provided that where the health and safety standard does not prescribe in-service inspections and test intervals, such intervals shall be determined by a risk-based inspection applying sound engineering practice: Provided further that such inspection and test for Category II equipment and higher as categorized in terms of SANS 347 shall be performed by a competent person referred to in regulations 1 of the General Machinery Regulations, 1988.

Tests shall be performed by the manufacturer/supplier or by an approved inspection authority for in-service inspection appointed by the University in writing, as applicable standards.

A maintenance schedule must be provided, detailing materials, quantities, and costs.

A copy of all type test and routine test reports shall be provided.

Written report or service sheet of any testing, inspection, examination, investigation and/or assessment undertaken and execution of any repairs by the Service Provider.

The maintenance schedule shall include, but is not limited to, the following tasks:

7.1 Weekly

The weekly services can be summarized as follows. Please note that these services will also coincide with the monthly, quarterly, biannual, annual and 3-year activities.

Table 5: Weekly maintenance tasks

No.	Components of Gas Boiler	Weekly Maintenance Task Description
1	Gas boilers	Visual inspection Monitor operation, check that boiler stops and starts correctly, check for unusual vibration.
2	Electronic Control Board (PCB), Controls and controllers	Check to make sure temperature and pressure readings are within range. Communicate any error codes to your service manager.
3	Pilot flame	Visual Inspection of Flame

7.2 Monthly

In addition to the weekly activities, the monthly maintenance activities are as follows:

Table 6: Monthly maintenance tasks

No.	Components of Gas Boiler	Monthly Maintenance Task Description
1	System Monitoring and Data Logging System	Maintain a log of cumulative electrical energy consumption (kWh to date), operating temperature, and flow rate against date.
2	Electrical connections and wiring	Check electrical connections Check Earthing and bonding. Check for correct operation -Test panel for the correct operating sequences and functions of all controls and safeties. Test and verify the operation of all amp and volt meters. Test all indicator lamps.
3	Combustion air ducting	Check for leaks, blockages, or signs of wear
4	Drainage system and lines	Check for blockages

These activities are also applicable to quarterly, biannual, annual and 3-year activities

7.3 Quarterly

In addition to the weekly and monthly activities, the quarterly activities are as follows:

No.	Components of Gas Boiler	Quarterly Maintenance Task Description
1	Electronic Control Board (PCB), Controls and controllers	Clean
2	Hydronic piping	Inspect pipework for cracks, leaks, damage, or insulation degradation. Look for sagging and defects and replace if needed. Check for airlocks and blockages, ensuring proper drainage slopes. Monitor for abnormal temperatures, stopping circulation and releasing excess pressure if necessary.
3	Low water cutoff	Test or inspect
4	Combustion head	Remove, check and clean
5	Ignition and detection electrodes	Check and clean, adjust if necessary
6	Sliding and rotating parts	Check and grease

These activities are also applicable to biannual, annual and 3-year activities.

7.4 Biannual

In addition to the weekly, monthly, and quarterly activities, the biannual activities are as below:

Table 7: Biannual maintenance tasks

No.	Components of Gas Boiler	Biannual Maintenance Task Description
1	Water filter	Clean the inlet water filter

These activities are also applicable to annual and 3-year activities.

7.5 Annual

In addition to the weekly, monthly, quarterly, and biannual activities, the annual activities are as below:

Table 8: Annual maintenance tasks

No.	Components of Gas Boiler	Annual Maintenance Task Description
1	System Monitoring and Data Logging System	Visual inspection
2	Electronic Control Board (PCB), Controls and controllers	Check for fault codes.
3	Vent system	Inspect for blockages or damage
4	Vent damper	Test the damper function and ensure it opens/closes properly.
6	Motors and fans	Clean
7	Heat exchanger	Flush to prevent lime scale build-up. Treat or condition water to maintain water quality.
		Clean, check connections and wiring, and test water pH levels
8	Cast iron heat exchanger	Inspect for soot, scale, and corrosion. Brush clean if needed.

No.	Components of Gas Boiler	Annual Maintenance Task Description
9	Combustion circuit	Check the combustion circuit's gas-tightness, check combustion quality.
10	Combustion chamber	Inspect refractory lining for cracks or deterioration.
11	Pressure relief valve	Operate the valve manually once a year. Lift test, ensure proper function.
12	Gas control valve assembly	Check for leaks, proper operation, and secure connections.
13	Ignition system	Inspect spark ignitor and flame sensor.
14	Ignitor/flame rod	Inspect, clean carbon buildup, and verify flame sensing.
15	Gas burner assembly	Clean burners, inspect flame pattern, check for blockage or corrosion.
16	Sensors	Flow and temperature sensors - clean and check readings, replace if faulty.
17	Condensate drain	Check for clogs
18	Draft hood	Check for obstructions or corrosion. Verify correct draft.
19	Aquastat control	Verify setpoints, calibrate, check wiring and sensor.
20	Refractory insulation	Check for wear or damage; replace if needed.
21	Bypass servo assembly	Test and inspect for correct modulation.

These activities are also applicable to 3-year activities.

7.6 3-year

In addition to the weekly, monthly, quarterly, biannual and annual activities, the 3-year activities are as below:

Table 9: 3-year maintenance tasks

No.	Components of Gas Boiler	3-year Maintenance Task Description
1	Gas boilers	Pressure vessel testing
2	Thermal fuse harness	Inspect for overheating or damage; test continuity.

A summary of all the activities above is presented in Table 10

Table 10: Summary of Gas boilers maintenance task descriptions and intervals

No.	Components of Gas Boiler	Maintenance Task Description	Service intervals					
			3 years	Annually	Bi-Annually	Quarterly	Monthly	Weekly
1	Gas boilers	Pressure vessel testing	✓					
		Visual inspection Monitor operation, check that boiler stops and starts	✓	✓	✓	✓	✓	✓

No.	Components of Gas Boiler	Maintenance Task Description	Service intervals					
			3 years	Annually	Bi-Annually	Quarterly	Monthly	Weekly
		correctly, check for unusual vibration						
2	System Monitoring and Data Logging System	Visual inspection	✓	✓				
		Maintain a log of cumulative electrical energy consumption (kWh to date), operating temperature, and flow rate against date.	✓	✓	✓	✓	✓	
3	Electrical connections and wiring	Check electrical connections	✓	✓	✓	✓	✓	
		Check Earthing and bonding.	✓	✓	✓	✓	✓	
		Check for correct operation -Test panel for the correct operating sequences and functions of all controls and safeties. Test and verify the operation of all amp and volt meters. Test all indicator lamps.	✓	✓	✓	✓	✓	
4	Electronic Control Board (PCB), Controls and controllers	Clean	✓	✓	✓	✓		
		Check to make sure temperature and pressure readings are within range.	✓	✓	✓	✓	✓	✓
		Communicate any error codes to your service manager.	✓	✓	✓	✓	✓	✓
		Check for fault codes.	✓	✓				
5	Vent system	Inspect for blockages or damage	✓	✓				
6	Combustion air ducting	Check for leaks, blockages, or signs of wear	✓	✓	✓	✓	✓	
7	Vent damper	Test the damper function and ensure it opens/closes properly.	✓	✓				
8	Motors and fans	Clean	✓	✓				

No.	Components of Gas Boiler	Maintenance Task Description	Service intervals					
			3 years	Annually	Bi-Annually	Quarterly	Monthly	Weekly
9	Heat exchanger	Flush to prevent lime scale build-up. Treat or condition water to maintain water quality.	✓	✓				
		Clean, check connections and wiring, and test water pH levels	✓	✓				
10	Cast iron heat exchanger	Inspect for soot, scale, and corrosion. Brush clean if needed.	✓	✓				
11	Drainage system and lines	Check for blockages	✓	✓	✓	✓	✓	
12	Hydronic piping	Inspect pipework for cracks, leaks, damage, or insulation degradation. Look for sagging and defects and replace if needed. Check for airlocks and blockages, ensuring proper drainage slopes. Monitor for abnormal temperatures, stopping circulation and releasing excess pressure if necessary.	✓	✓	✓	✓		
13	Low water cutoff	Test or inspect	✓	✓	✓	✓		
14	Combustion head	Remove, check and clean	✓	✓	✓	✓		
15	Combustion circuit	Check the combustion circuit's gas-tightness, check combustion quality.	✓	✓				
16	Combustion chamber	Inspect refractory lining for cracks or deterioration.	✓	✓				
17	Ignition and detection electrodes	Check and clean, adjust if necessary	✓	✓	✓	✓		
18	Sliding and rotating parts	Check and grease	✓	✓	✓	✓		
19	Water filter	Clean the inlet water filter	✓	✓	✓			

No.	Components of Gas Boiler	Maintenance Task Description	Service intervals					
			3 years	Annually	Bi-Annually	Quarterly	Monthly	Weekly
20	Water filter assembly	Remove and clean debris from the water filter.	✓	✓				
21	Pressure relief valve	Operate the valve manually once a year. Lift test, ensure proper function.	✓	✓				
22	Gas control valve assembly	Check for leaks, proper operation, and secure connections.	✓	✓				
23	Ignition system	Inspect spark ignitor and flame sensor.	✓	✓				
24	Ignitor / flame rod	Inspect, clean carbon buildup, and verify flame sensing.	✓	✓				
25	Burner flame	Visual Inspection of Flame	✓	✓	✓	✓	✓	✓
26	Gas burner assembly	Clean burners, inspect flame pattern, check for blockage or corrosion.	✓	✓				
27	Sensors	Flow and temperature sensors - clean and check readings, replace if faulty.	✓	✓				
28	Condensate drain	Check for clogs	✓	✓				
29	Draft hood	Check for obstructions or corrosion. Verify correct draft.	✓	✓				
30	Aquastat control	Verify setpoints, calibrate, check wiring and sensor.	✓	✓				
31	Refractory insulation	Check for wear or damage; replace if needed.	✓	✓				
32	Bypass servo assembly	Test and inspect for correct modulation.	✓	✓				
33	Thermal fuse harness	Inspect for overheating or damage; test continuity.	✓					

8 RESPONSE TIMES

The required response time for call-outs for faults and other events is as follows:

- Priority 1 – Emergencies – the Service Provider shall be on site within 1 hour. These can include, but are not limited to, gas leaks or a gas alarm.
- Priority 2 – Urgent (In the case of an alarm on the system) – the Service Provider shall be on site within 2 hours. These can include, but are not limited to, no hot water or a water outage.

Any work/event requiring extended repair time shall be discussed and agreed upon with the University.

9 WARRANTY

All equipment supplied and work done under this contract shall be guaranteed by the Service Provider to give at least Twelve (12) months of trouble-free and accurate service under operation conditions. Equipment that failed to give such service will be examined by an independent testing facility and, if found to be defective in workmanship or materials, shall be replaced by the Service Provider free of charge with equipment with the same guarantee as per the original offer.

10 CHANGE MANAGEMENT

Any changes to the maintenance schedule or adjustments to the tasks being performed must be communicated to the University at least 30 days in advance. This process ensures that the necessary review and approval can take place, allowing for a smooth operation and minimal disruption to services.

11 TIMEFRAMES AND DELIVERABLES

Table 11: Time frames and deliverables

No.	Services / Deliverables	Deliverable Due Date	Acceptance Criteria
0	Once-off inspection	Upon contract commencement	Report
1	Compliance with Health and Safety Requirements	Annually	Report
2	Provide preventative maintenance	Every week over a 5-year period	Maintenance Report
3	Provide preventative maintenance	Monthly over a 5-year period	Maintenance Report
4	Provide preventative maintenance	Quarterly over a 5-year period	Maintenance Report
5	Provide preventative maintenance	Bi-annually over a 5-year period	Maintenance Report
6	Provide preventative maintenance	Annually over a 5-year period	Maintenance Report
7	Provide major service for all pressure vessels	Upon contract commencement and in 3 years	Report and service certificate

12 CONTRACTUAL MATTERS

12.1 Contract duration

The contract duration will be 5 years.

12.2 **Maintenance Approach**

The Service Provider shall be available 24 hrs a day, 7 days a week, including holidays. The service provider shall provide preventative maintenance support every week over a 5-year period. The major services will occur annually, with monthly and bi-annual manual maintenance tasks also taking place as per the OEM requirements.

All planned work shall be carried out during normal working hours (7:00 to 17:00, Monday to Friday) at the cost tendered for in the Bill of Quantities. Visits to the premises will be as scheduled for the Service Provider to carry out maintenance work as per the specification.

The University shall issue the Service Provider with the Academic Calendar for each year. This document shall contain key dates that may limit the nature of the work that may take place.

The Service Provider shall produce and issue to the University a written report or service sheet of any testing, inspection, examination, investigation and/or assessment undertaken and execution of any repairs by the Service Provider.

12.3 **Reporting**

The Service Provider shall submit two types of documents to the University on an ongoing basis, namely:

- A service log, after every service or inspection.
- A monthly report.

The service logs must highlight items described in Section 4: Scope of Works.

Monthly reports will be required by the University, which document all maintenance activities and incidents for that period. The reports are to be succinct and compiled with care. The reports referred to here are separate from the service reports but can be deemed to communicate a summary of events for the month.

12.4 **Housekeeping**

All rubbish and waste arising from the work must be removed, and the site and buildings left in a clean and tidy condition.

12.5 **Sub-Contracting**

Any work requiring the use of a subcontractor shall be subject to prior approval of the University.

12.6 **Workmanship**

Works with poor workmanship and unauthorized spares will not be accepted. Acceptance of the maintenance work shall be by means of review and approval of the submitted and fully completed

service log by the University. The University may, from time to time, elect to witness any of the tests or inspections relating to the maintenance activities or request a retest to satisfy the University personnel of satisfactory functioning of the equipment.

The University reserves the right to withhold payments until the quality of the Services is acceptable. The Service Provider must have a quality management system such as ISO9001:2015 or similar in place, and proof of such is to be provided with the bid. The quality management system must encompass, but not be limited to:

- Structured record keeping and retrieval.
- Record keeping for an established duration.
- The Issuance of reviewed service logs by authorised personnel.

In addition to the services being fit for purpose, they should also meet the manufacturer's performance standards.

12.7 Failure to Comply

The Services will be monitored, and penalties will be imposed. Penalties will be imposed as follows:

If the service provider fails to adhere to the provisions of the priority levels described herein, the University reserves the right to levy a penalty fee against the service provider (in line with university policy). Continuous violation of these provisions will result in the contract being terminated.

13 QUALIFIED PERSONNEL

It is a requirement that personnel performing and overseeing works which the Service Provider is appointed for be suitably qualified and accredited in the specific trade as required by this specification.

The Gas technician must have:

- a minimum of 5 years relevant gas boilers experience,
- be registered with SAQCC as a Gas Practitioner in the correct category (commercial or industrial) and gas type (NG)
- relevant trade qualifications,
- Must be authorised to work on gas boilers of up to 630 kW.

The Plumber must have:

- a minimum of 5 years' experience post qualification
- relevant gas boilers experience,
- relevant trade qualifications

All electrical work on water heating systems must be performed by a qualified registered electrical worker and comply with the relevant wiring codes of practice and standards.

The Electrician must have

- a minimum of 5 years' experience post registration,
- relevant gas boilers experience,
- registration with the Department of Labour (wireman's license)
- Trade Qualification with NQF Level 5 or higher.

14 HEALTH AND SAFETY

It is a requirement for the appointed Service Provider to submit and maintain a health and safety file every year for the duration of the contract.

Further, some standard considerations for the safety procedures include, but are not limited to:

- Having a second person present during maintenance activities in the event of an accident.
- Ensuring that emergency situations are detected promptly and that help is provided quickly.
- Ensuring that suitably trained personnel perform the required maintenance functions.
- Wearing of personal protective equipment.
- Comply with SAQCC – GAS Pressure Equipment Regulations in addition to the Occupational Health and Safety Regulations for Vessels Under Pressure.
- Having the relevant permits

15 SERVICE LEVELS

15.1 Technical Support

The tender shall be inclusive of all breakdown maintenance, 24-hour emergency call-out and preventative maintenance visits every week over a 5-year period on gas boilers. A fully priced pro-forma maintenance agreement must be submitted with the tender, catering for preventative visits and a 24-hour emergency call-out facility. The number of bona fide service technicians employed and stationed in Gauteng shall be stated in the tender, including response time.

15.2 Payment/Spend Analysis

Please note that the University does not allow upfront payments. All payments will be made within 30 (thirty) days of submission of an invoice. However, where an EME, as per the B-BBEE Codes, has been appointed as a successful service provider, shorter payments may be considered as part of supplier development, subject to Central Finance (Creditors) approval