TENDER REFERENCE NO.: KK/218/2025/MOH(TC)

MINISTRY OF HEALTH
NEGARA BRUNEI DARUSSALAM

THE PROVISION OF BIOMEDICAL ENGINEERING SERVICES AT THE HOSPITALS AND HEALTH FACILITIES OF THE MINISTRY OF HEALTH FOR A PERIOD OF (5) YEARS

TENDER FEES : $5,000.00

RECEIPT NO. :

CLOSING DATE : ON TUESDAY, 28th October 2025

TIME : 2.00 PM

FOA :

THE CHAIRMAN
MINI TENDER BOARD, TENDER BOX
GROUND FLOOR, MINISTRY OF HEALTH
COMMONWEALTH DRIVE
BANDAR SERI BEGAWAN BB3910
NEGARA BRUNEI DARUSSALAM

(CLUSTERING)

SECTION 2

SPECIFICATION OF SERVICE

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1.0 INTRODUCTION

1.1 This section provides bidders with the necessary references namely scope of services, technical requirements and specifications to manage and deliver Biomedical Engineering Services (BMES) (hereinafter referred to as **The Services**) to **BMES Service Facilities.**

1.2 The Services concerns comprehensive maintenance of all biomedical equipment and other associated and allied equipment to be used at the MOH Health Facilities. The service is important to ensure biomedical equipment are functionally safe and ready for use at any point of time.

2.0 SCOPE OF WORK

2.1 General Requirements

(1) Management and Planning

i. The Company is required to provide effective and efficient management of **The Services.**

ii. The Company shall be responsible and liable in ensuring that the requirements for **The Services** and other obligations are delivered in accordance to the MOH's requirements under this Contract with a focus on patient safety and quality of service as well as awareness of cost control.

iii. The locations to be covered for the whole duration of the Contract (*here-in-after referred to* ***as BMES Service Facilities***) are listed as in **Schedule A.** The list shall also be recorded in the HSIP and updated accordingly upon any changes.

iv. The Company shall carry out all operations required by BMES in a manner to comply with all the related legislations and regulations including any new legislation and amendments as enforced during the contract period.

v. The Company shall be responsible for all costs and expenses, including but not limited to those for consultation, spare parts, installation, maintenance, consumables, and any other expenditure incurred in the operation, management, and provision of the Services under this Agreement.

vi. The Company shall be given two (2) months' prior notice to be ready to perform the Services right from the first day of commencement of contract and meet the technical service requirements for the Service.

vii. Within three (3) months upon commencement of contract, the Company shall conduct a thorough Facility Audit for the following purposes:
   a. To re-inspect the conditions of existing equipment, facilities, devices are in order for operation (first inspection conducted at tender stage);
   b. To compile relevant operating data;
   c. To plan for maintenance, replacement or upgrading works;
   d. To prepare KPI performance reporting format; and
   e. To plan for updating of asset registry;

(2) Takeover Procedures

The takeover procedures are designed to ensure a seamless transition of services from the incumbent provider to the new contractor with minimal disruption to operations. For a smooth transition of services, in conjunction with the MOH's obligations:

i. **Collaborate Effectively:**

Work closely with the awarded contractor on all service-related matters, including meetings to discuss coordinating appointments with End Users.

ii. **Provide Resource Access:**

Grant the contract exclusive, cost-free access to the Government Furnished Resources (GFR). Ensure all the GFR that are provided to the contractor for the provision of the services are in good working order and suitable for the purpose for which it is used in relation to the services.

iii. **Ensure Compliance:**

Adhere to the established Standard Operating Procedures (SOPs) for service delivery.

iv. **Facilitate Operation Requirements:**

Provide, in a timely manner and without charge, exclusive access to necessary office accommodations, data, and other facilities as specified in the relevant Purchase or Delivery Orders.

(3) Contingency Plan

i. The Company shall develop and implement contingency plan to address potential failures or crisis especially emergency response procedures for all critical equipment/services and to include the contingency of possible loss thereof.

ii. The contingency plan must be tested in one form or another on a yearly basis to ensure that all personnel is prepared for any incident or disaster such as fire, flood, explosion, landslide, terrorism, outbreak etc.

iii. The Company shall also set up Emergency Response Team @ ERT to perform emergency work and maintain the BMES Service Facility in a high state of preparedness as and when required.

iv. The ERT members shall be led by the Contract Manager and remain contactable at all times by advising their contact details including handphone numbers on 24/7 to the Hospital

v. The costs related with the standby and support of an Emergency Response Team lead by the Contract Manager and supported by the Facility for any overtime work or emergency attendance/support can be claimed.

vi. It is the total responsibility of the Company to ensure that adequate spares, materials, tool, equipment and labour are made available to perform such works and no additional claims will be entertained due to the emergency nature of any of the works and services to be executed.

(4) Human Resource and Administration

i. Manpower Management

a. The Company shall ensure proper delegation of management responsibilities and authority within the operations of the Services to achieve the objectives. Contract Manager shall be the person in charge and he/she shall be certified by education or qualified by training or experienced to manage the Service to the requirements of the MOH.

b. Key Staff to be deployed for the performance or monitoring of the Services shall include the following:

No	Position
1.	Contract Manager
2.	Assistant Manager
3.	Chief Engineer
4.	Senior Biomedical Engineer
5.	Biomedical Engineer
6.	Senior Technical Assistant
7.	Technician
8.	Health, Safety and Environment (HSE Officer)
9.	Quality Officer

Details of deployment and job description are specified as in **Schedule C.**

c. Appointment and deployment of contract manager and/or supervisors shall be notified to the Ministry of Health. Consequently, the contract managers shall work exclusively for the Company and be deployed exclusively for the provision of the Service. The Company shall update the CVs, basic duties and responsibilities of the contract manager and/or supervisors in the HSIP.

d. Replacement of any contract managers and/or supervisors shall be notified by the Company to the MOH in the event of leave e.g. medical or annual leave or resignation.

e. The Company shall provide adequate qualified and competent manpower with good language fluency in English and Malay and match the prescription to perform all the activities for the Service.

f. The Company shall provide on-call staff after office hours including working days and public holidays to any emergency case such as major medical emergency and in an event of major disaster. The Company shall provide the contact numbers of the scheduled on-call supervisor or staffs.

ii. Personnel Administration

a. Medical screening to ensure employees are medically fit;

b. Payment of statutory fees, insurances and wage in accordance with the requirements of the Labour Department, Brunei Darussalam and to adhere to the minimum wage order from the Manpower Planning and Employment Council (MPEC) including the “Skim Persaraan Kebangsaan” for its local employee;

c. Provision of insurance coverage against any liabilities arising out of claims by employees for payment of compensation under the Workmen’s Compensation Act (Chapter 74 of the laws of Brunei);

d. Ensure all non-local staff are provided the necessary medical coverage during their employment in Brunei;

e. Provision of uniform with the Company’s Logo at the Company’s expenses;

f. Application of dress code and PPEs to suit with the operating and hygiene requirements at BMES Service Facilities;

g. Vaccination and immunization programmes;

h. Provision of employees' identification passes with colour photos and barcodes;

i. Registration, tracking and maintenance of updated record on work permits and employment pass for foreign employees;

j. Security procedures and measures to deal with unauthorised access and loss of security passes;

k. Enforcement of access procedures to ensure employees do not, at any time, enter into areas which are not specified except as directed by the MOH;

l. Maintain contingency team and their contact numbers to deliver the Services when needed during off working hours;

m. Monitor and enforce staff attendance at their designated work areas during such working hours, and provide temporary replacement/relief to make up with the full strength of the employees required for the Services; and

n. Prepare duty rosters for deployment of employee and notify the MOH accordingly.

o. Install and operate Attendance Monitoring System/Unit to record and monitor attendance of personnel and track their movements and deployment on real-time basis. Ministry of Health shall be notified of the installation and placement of the Attendance Monitoring System accordingly.

iii. Attendant Services

BMES personnel may be required to provide logistic support at the BMES Service Facilities for planned tasks and ad-hoc requests. The Company shall allow the personnel to assist BMES Service Facilities to perform housekeeping for the programmes, events or service arrangement undertaken at the BMES Service Facilities.

iv. Training and Development

a. The Company shall plan and implement trainings on operations and maintenance requirement for the Service, awareness programmes on Health, Safety and Environment (HSE) issues for the personnel to ensure the effectiveness in the provision of the Services both prior to work performance and in the course of service performance.

b. Training for the engineers and technicians assigned on-site at the Contract Facilities shall be performed prior to their job assignment to ensure their familiarity of the important aspects of the provision of the Services. Refresher courses shall also be planned to the respective employees to ensure quality delivery of the Service.

c. The Company shall have a development plan and adequate training to end users to conform to the relevant regulation and codes of practices.

d. The Company shall provide at least four (4) user trainings a year to BMES Service Facility personnel involved with BMES and submit training modules to the MOH for acknowledgement. The minimum number of participants shall be decided by the BMES Service Facility. The Company shall document the agreed user training programmes in the HSIP and evaluate the effectiveness of such programmes for improvement.

v. Effective Communication and Consultation

a. The Company shall provide continuous and credible information via trainings, seminars, brochures, meetings, posters, reports or any other means to create awareness.

b. The Company shall establish communication procedures of reporting and updating on issues of the Services such as testing of system, training requirements, equipment maintenance, warranty expirations and equipment recall.

vi. Security

a. The Company shall ensure their employees are aware of and abide to security regulations of the respective BMES Service Facilities. Pilferage and damage caused by their employees to any item belonging to the BMES Service Facilities will be borne by the Company.

b. For access into the BMES Service Facilities, the Company, its employees, agents and sub-contractors must have security passes issued by the Company. The list of personnel to be issued the passes shall be approved by the Ministry of Health. For that purpose, the Company shall submit detailed listing of their employees, agents and sub-contractors to the BMES Service Facilities Administration, and complete with photographs for access to certain locations as determined by the BMES Service Facilities.

c. Staff of the Company, its employees, agents and sub-contractors shall only have access to areas as prescribed by the BMES Service Facilities and that they shall not access any facility for any purpose other than that specified for the Services. They are also liable to security check at any places within the BMES Service Facilities compound. The Company shall ensure that their personnel do not, at any time, enter into areas which are not part of the designated premises except as directed by the Ministry of Health.

d. The Company is required to establish a Security Plan to demonstrate the method of staff registration and tracking with valid permits. The Company must ensure that such records are maintained daily.

e. The Company undertakes to inform the Ministry of Health of any changes to the list of personnel and to obtain the necessary approval of the Ministry of Health.

f. The Company shall request from Ministry of Health all the individual personnel for security clearance. Consequently, the company shall issue security passes to the Company's Employees, at the Company's own costs. For admission into the Site, such passes must be worn by the Employees in a conspicuous manner so as to be easily identified by the Ministry of Health's security personnel. Such passes must be worn at all times while performing the Services on Site.

g. The Company shall at its own expense, issue "Break Time" passes to the Employees. Such passes must be worn by the Company's Employees ONLY during their break time, with prior approval from the Officer in-charge on the set time.

h. For security purposes, the Company will provide the Ministry of Health's officer in-charge with the following particulars of their workers at least one (1) month before the commencement of the services:

- Name

- Address
- Identity Card Number / Passport Number
- Gender
- Citizenship
- Expiry date of work pass (for foreign workers)

(5) Management of Outsourced Services

i. The Company shall ensure that subcontractors engaged to carry out any part of the scope of work are registered with the relevant authority and approved by the Government. The Company shall remain fully responsible for the performance of subcontractors at all times.

ii. The Company shall outsource maintenance contracts for highly specialised equipment to nominated subcontractors or authorised services of the equipment as defined under **Schedule F** and the Contract status should be updated in the HSIP.

(6) Policies and Procedures

i. Master Procedures

a. All policies, technical requirements and Master Procedures BMP001 – BMP019 stated herein shall be adhered to accordingly. The list of Master Procedures is as follows:

BMP001	Hospital Specific Implementation Plan (HSIP)
BMP002	Biomedical Equipment Life Cycle
BMP003	Testing and Commissioning
BMP004	Warranty Management
BMP005	Schedule Maintenance
BMP006	Unscheduled Maintenance
BMP007	Decommissioning and Disposal of Biomedical Equipment
BMP008	User Training
BMP009	Additional Works Outside the Scope
BMP010	Analysis and Monitoring
BMP011	Uptime Guarantee
BMP012	Biomedical Engineering Services Availability
BMP013	Biomedical Equipment Audit
BMP014	Advisory Services
BMP015	Management of Spare Part
BMP016	Management of Workshop Facility
BMP017	Incidents, Hazards and Handling Contaminated Biomedical Equipment
BMP018	Quality Assurance Program
BMP019	Risk Management

b. Whilst Master Procedures provide key tasks and responsibilities of the MOH and the Company, detailed standard operating procedures (SOPs) shall be established by the Company to enable effective and efficient operations and delivery of the Services to all health facilities as listed in the contract. The documents shall be made available and understood by all personnel. The Company shall prepare complete sets of all SOPs and register them under their Quality Management System (QMS) accordingly.

ii. Hospital Specific Implementation Plan (HSIP)

The Company shall establish Hospital Specific Implementation Plan (HSIP) and to be developed together with BMES Service Facilities within the first year of contract for each BMES Service Facility. HSIP is essentially a specific plan for service delivery at the respective BMES Service Facility. It should be

updated from time to time or at least annually to reflect changes to any part of the plan. Failure to conform to the HSIP requirements shall constitute a serious non-conformance to the service standards. The HSIP shall include the following:

1. Organisation chart and staff details involved in the Service.
2. Detailed listing of zoning of User Departments.
3. Framework for Deduction Formula parameters.
4. Quality Assurance indicators and reporting mechanism.
5. Contingency Plan for various emergency, e.g., contingency measures taken during prolonged breakdown of working facilities and parts.
6. Certificates and licenses including all regulatory requirements should be valid for current year.
7. Location of working facilities and parts.
8. Any other document required to be included in the HSIP.
9. Hospital related basic information.
10. List of manpower/personnel.
11. List of BMES asset.
12. List of Scheduled Maintenance.
13. List of Training.
14. Energy Management Measures
15. List of Exemption
16. Other relevant information required by the BMES Service Facilities and conforming to the requirements of the Services and BMP.

(7) Management of Workshop and Resource Centre

i. Facilities and Workshop

a. The Company shall provide comprehensive technical resources such as facilities and workshops complete with adequate tools, test equipment, spare parts, transportation and other relevant resource to effectively carry out the scope of the Services required for delivering the Services.

b. The standard for the workshop to be installed at the hospitals is ISO 13485 or complies with the Malaysian Standard MS 2058:2018 or equivalent recognized standard.

c. Helpdesk services shall be made available at all operating BMES Service Facilities.

d. The Company shall finance all the design, construction as well as the operation and maintenance of all the facilities concerned.

e. The Company shall ensure that maintenance activities for the facilities are planned and implemented to render continuous operations and consistent quality performance as required by the Service specification.

f. Communication devices shall be provided at Company's own costs.

ii. Management of Resource Centre

a. The Company shall provide comprehensive resource centre for effective document management system to contain the technical documents such as manuals, drawings, and other related documents to carry out the scope of the Services. All the documents shall be in digital format.

b. The Company shall procure necessary technical documents from manufacturers and project consultants where available and update all the references as required.

(8) Quality and Improvement Activity

i. Quality Management System (QMS)

a. The Company shall ensure that the Service provided under the Contract is of high quality, using updated technology and conform to the Scope of Services, requirements and indicators as outlined in this specification and contract document. The Company shall conform and maintain quality assurance system to achieve ISO9001 certification.

b. The Company shall attain management standard ISO9001 Quality Management System, ISO14001 Environmental Management Standard (EMS), ISO14971 Risk Management for Medical Device and ISO55001 Asset Management within three (3) years from date of commencement of Contract.

c. The Company shall remain responsible for service quality, and the MOH's monitoring shall not diminish the Company's contractual obligations regarding quality standards.

d. The Company shall maintain records and statistics on performance of the equipment operations and maintenance including availability efficiency and reliability for continual improvement.

e. Regular audit shall be conducted to ensure compliance with biomedical equipment safety, operation and maintenance standards. Corrective and preventive actions resulting from any failure or faults originating from reported incidents, frequent work requests or from audit findings are followed through to resolution, closed and validated.

iii. Quality Assurance Program (QAP)

a. The Company shall institute and maintain a documented Quality Assurance Program (QAP) with continual improvement initiatives to raise standard of efficiency and performance reliability.

b. The Company shall maintain records and statistics on the performance of the Services including equipment and services availability, quality, activities analysis of efficiencies and recommendation for continual improvement. Analysis of performance and solutions for improvement to minimise equipment failures shall be submitted to the MOH on a quarterly basis.

c. The Company shall carry out all works necessary to guarantee maintenance uptime. Biomedical Engineering Services mut be available at any time with 100% availability.

d. The Company shall ensure biomedical equipment achieve the uptime target. Uptime guarantee target for respective type of biomedical equipment is as in **Table 1.** Illustration of uptime and downtime is depicted in **Diagram 1.**

e. The Company shall, in the event of biomedical equipment failure or breakdown, whenever necessary provide loaner equipment as per approved list.

f. The Company shall utilise alternatives services in the event of biomedical equipment failure for emergency cases.

g. The Company shall conduct asset criticality assessments and root cause analysis for major breakdowns; and frequent failures to minimise recurring failures. Analysis shall be submitted to the Government.

h. The Company shall ensure that all maintenance activities for critical areas are planned and implemented with minimal disruption to users or patients.

i. Service Improvement – The Company shall endeavour to continually improve the quality of service through implementation of Quality Assurance Programme and relevant ISO certification programmes. In addition, the Company shall institute proper documented training programme for all personnel involved in the Service, service inspections by the Company supervisors, review of fee deduction and analysis of customer or user feedback on the quality of Service. Performance report shall be submitted to BMES Service Facilities illustrating achievements against targets and the frequency as indicated below:

No.	Indicator	Target	Reporting Frequency
1.	% of PPM Completion	(100%)	Monthly
2.	% of Service Availability for Selected Equipment Type		Quarterly
	Ventilator, Intensive Care	(95%)	
	Radiographic/Fluoroscopic Units	(95%)	
	Analyzers, Laboratory, Blood Gas/pH	(95%)	
	Physiologic Monitoring Systems, Acute Care	(95%)	
	Hemodialysis Unit	(95%)	

TABLE 1: UPTIME TARGET FOR BIOMEDICAL EQUIPMENT

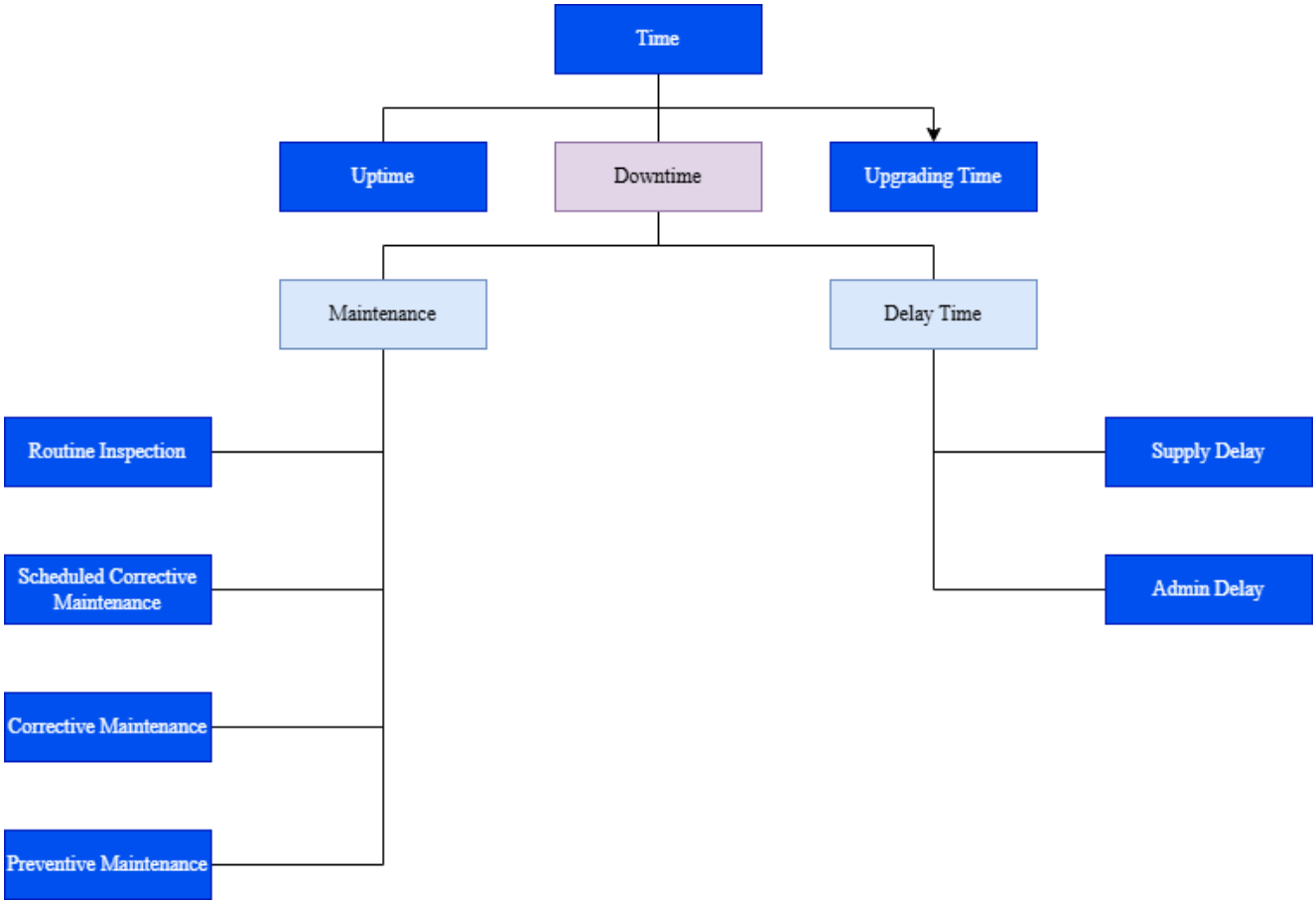
Equipment	Group	Hours	Hours/WK (Days)	Equipment <5 YRS	Equipment 5-10 YRS	Equipment >10 YRS
THERAPEUTICS						
Alternating Pressure Mattress	P	12	6	96%	92%	85%
Anaesthesia Units and Vaporisers	C	24	7	99%	95%	88%
Anaesthesia Ventilators	C	24	7	99%	95%	88%
Aspirators	C	24	7	99%	95%	88%
Defibrillators	P	24	7	99%	95%	88%
Dental Equipment	C	24	7	96%	92%	85%
Diathermy Units	C	24	7	99%	95%	88%
Electrosurgical Units	C	24	7	99%	95%	88%
Haemodialysis Units	C	24	7	99%	95%	88%
Humidifiers	C	24	7	99%	95%	88%
Hypo/Hyperthermia Units	C	24	7	99%	95%	88%
Incubators	C	24	7	99%	95%	88%
Infusion Controllers/Pumps	C	24	7	99%	95%	88%
Lasers	C	24	7	99%	95%	88%
Lithotripters	C	12	6	99%	95%	88%
Pacemakers	C	24	7	99%	95%	88%
Peritoneal Dialysis Unit	C	24	7	99%	95%	88%
Phototherapy Units	C	24	7	99%	95%	88%
Radiant Warmers	P	24	7	96%	92%	85%
Radiographic Dye Injection	C	24	7	99%	95%	88%
Radiotherapy Equipment	P	12	6	96%	92%	85%
Resuscitators	C	24	7	99%	95%	88%
Stimulators	P	12	6	96%	92%	85%
Surgical Drills and Saws	C	24	7	99%	95%	88%
Surgical tables	C	24	7	99%	95%	88%
Traction Units	P	12	6	96%	92%	85%
Ultrasonic Nebuliser	P	12	7	96%	92%	85%
Ultrasonic Therapy	P	12	6	96%	92%	85%
Ventilators	C	24	7	99%	95%	88%
DIAGNOSTIC						
Ambulatory ECG Recorder and Scanners	P	24	7	96%	92%	85%
Apnoea Monitors	C	24	7	99%	95%	88%
Blood Pressure Units (Non-invasive Inversive Electronic Units)	C	12	6	96%	92%	88%
Capnographs	C	24	7	99%	95%	88%
Cardiac Output Units	P	24	7	96%	92%	85%
Diagnostic Radiologic Imaging Units	C	24	7	99%	95%	88%
Electrocardiographs	P	12	6	96%	85%	85%
Electroencephalographs	P	12	6	96%	85%	85%
Electromyographs	P	12	6	96%	85%	85%
Electronic Thermometers	P	12	6	96%	85%	85%
Endoscopes / Bronchoscopes (Fiber Optic)	C	24	7	96%	88%	88%
Evoked Potential Units	P	12	6	96%	85%	85%
Foetal Monitors	C	24	7	99%	88%	88%
Nuclear Medicine Equipment	P	24	7	96%	85%	85%
Oximeters	C	24	7	99%	88%	88%
Oxygen Monitors and Analysers	C	24	7	99%	88%	88%
Phonocardiograph	P	12	6	96%	85%	85%
Physiologic Monitoring Systems and Monitors	C	24	7	99%	88%	88%
Pulmonary Function Analysers	P	12	6	99%	85%	85%

Equipment	Group	Hours	Hours/WK	Equipment	Equipment	Equipment
			(Days)	<5 YRS	5-10 YRS	>10 YRS
Surgical Lights	C	12	6	99%	88%	88%
Surgical Microscopes	C	24	7	99%	88%	88%
Transcutaneous O2 and CO2 monitors	C	24	7	99%	88%	88%
Treadmills	P	12	6	96%	85%	85%
Ultrasound Imaging Units / Systems	P	12	6	96%	85%	85%
Vector Cardiographs	P	12	6	96%	85%	85%
LABORATORY						
Analysers						
- Amino Acid	P	12	6	92%	85%	85%
- Bilirubinometers	P	12	6	92%	85%	85%
- Blood Gas	P	12	6	92%	85%	85%
- Calcium	P	12	6	92%	85%	85%
Clinical Chemistry	P	12	6	92%	85%	85%
Coagulation	P	12	6	92%	85%	85%
Counter, Gamma	P	12	6	92%	85%	85%
Electrolyte	P	12	6	92%	85%	85%
Immunoassay	P	12	6	92%	85%	85%
Glucose	P	12	6	92%	85%	85%
Haematology	P	12	6	92%	85%	85%
Platelet Aggregation	P	12	6	92%	85%	85%
Atomic Absorption Units	P	12	6	92%	85%	85%
Automatic Blood Grouping Systems	P	12	6	92%	85%	85%
Automatic Microbiological Systems	P	12	6	92%	85%	85%
Blood Bank centrifuges	P	12	6	92%	85%	85%
Centrifuges	P	12	6	92%	85%	85%
Chromatographs Gas/Liquid	P	12	6	96%	92%	85%
Cytometers	P	12	6	96%	92%	85%
Electrophoresis Equipment	P	12	6	96%	92%	85%
Flame Photometers	P	12	6	96%	92%	85%
Microscopes	P	12	6	96%	92%	85%
pH Meters	P	12	6	96%	92%	85%
Spectrophotometers	P	12	6	96%	92%	85%

Note:

1. C = Critical Equipment (Including Life Support)
2. P = Patient Support Equipment
3. Operating hours and operating days are indicative only. Medical services at the MOH Health Facilities are provided at all times and the biomedical equipment may be used/operated at any time of the day or available for use at any time.
4. The above list of biomedical equipment is not exhaustive.

DIAGRAM 1 – TYPICAL UPTIME STRUCTURE



Note:

Uptime % = Uptime / (Uptime + Downtime) x 100

- Uptime = Total time of which equipment is normally required to be in clinical use.
- Downtime = Total time the equipment is unavailable for clinical use due to failure or out of calibration.
- Upgrading time = Total time during which an equipment is undergoing upgrading or replacement or when the equipment is out of service for renovations or upgrading.

(9) Health, Safety and Environment

i. Safety Management

a. The Company shall practice and develop written safety plans and activities for the provision of the Services at the respective Contract Facilities. The plans shall also include but not limited to Incident Reporting as required under the relevant acts and regulations.

b. The following are among safety activities to be conducted;

1. Establish procedures to report all unsafe condition, near miss accidents, and unsafe act of other employees or users of the biomedical equipment;

2. Provide continual safety and health education, medical check-up and immunisation program for employees, protective equipment such as safety glasses/goggle (with side shields where necessary) safety helmets, respirators, gloves, safety boots and establish safety rules for various personnel; and

3. Conduct regular safety audit; and

4. Conduct regular review meetings on safety practice and effectiveness of actions to address specific safety issues or non-compliance.

ii. Risk Assessment Management

In recognition of public health, environmental, safety and health concerns, the Company has to exercise risk management practices across the whole service delivery processes in order to minimise the following:

a. Risk of litigation for non-conformance to regulatory requirements;
b. Risk of environmental and occupational hazards;
c. Risk of service interruption due to emergencies or extensive periods of services down-time.

The Company shall identify, assess and prioritize those risks followed by coordinated and economical application of resources to minimise, monitor and control the probability and/or impact of unfortunate events or to maximise the realisation of opportunities. Relevant activities to be carried out include Risk Assessment Audits and regular communication to advise to the Hospitals on potential risk/harm to patient care.

(10) Technical Support

i. Advisory Service

a. The Company shall provide advisory services related to Biomedical Engineering Service within two (2) weeks upon request. The technical advice may relate to the following:

1. Procurement of new biomedical equipment including installation and facility requirements.
2. Testing and Commissioning
3. Maintenance
4. Usage (Including alert notice and recalls)
5. Decommissioning
6. Disposal
7. Condition Appraisal

b. The Company shall attend committee meeting to discuss and deliberate pertinent matters as requested.

c. The Company shall provide immediate notice on alerts and recalls upon receiving advice from Regulatory Authority.

ii. Management of Spare Part

a. The company shall provide and procure all the necessary spare parts to carry out maintenance services.

b. The Company shall maintain stock of genuine spare parts.

c. The Company shall maintain the just-in-time (JIT) spare part to ensure the uptime of biomedical equipment is guaranteed.

d. The Company shall make available adequate supplies of fast-moving spare parts and maintenance kits as required.

e. Reuse of spare part from decommissioned biomedical equipment shall require the Government approval (limited to obsolete equipment models and/or if spare parts have been discontinued from the market). The Company shall ensure that the equipment has gone through proper disposal procedure.

iii. Incident/Hazard/Handling Hazardous and Contaminated Equipment

a. The Company shall provide incident reports pertaining to disaster, system failure and personal injury related to the Biomedical Engineering Services activity via Incident Report System.

b. The Company shall ensure that all incidents pertaining to equipment or system failure and personal injury must be investigated and reported to the MOH Health Facilities. Incident investigation reports shall be provided with Root Cause Analysis in a timely manner and with recommendations for improvement.

c. The Company shall cooperate in the investigation of related incidents and respond to biomedical equipment alerts and recalls.

d. The Company shall implement procedures for dealing with hazardous matter and handling contaminated equipment. The Company shall ensure that all biomedical equipment has been decontaminated prior to any maintenance work. Procedures utilised for handling contaminated and hazardous material shall follow latest acts, standards and guidelines approved by the Government.

e. The Company shall monitor and respond to biomedical equipment recall notifications, advice according to procedures by the Company.

f. The Company shall assist the MOH Health Facilities in investigating adverse event incident and produce report on the maintenance history and other related information such as device alert/recall notice issued by the manufacturer.

g. The Company shall assist the MOH Health Facilities in investigating incident related to a biomedical equipment such as failure, deterioration in its effectiveness, inadequacy of labelling or instruction for use and produce report.

h. The Company shall review alerts notice received, inform the MOH Health Facilities on any biomedical equipment affected and assist the MOH Health Facilities for any action required.

i. The Company shall assist the MOH Health Facilities in any recalls of biomedical equipment if required.

j. Failure to comply with any of the requirements shall constitute a very serious non-conformance.

(11) Reports and Records

i. The Company shall provide and demonstrate implementation mechanism to ensure the accuracy of operational data in hard copy and digital mode. The Company shall ensure that all data and pertinent information on the Service and the equipment are registered completely and standardised.

ii. Any form, documents, drawings, data and specification referred to as records used for, arising from or in respect of the Services shall be the property of the MOH. All the records related to the Service in both hard copy and digital format shall be properly kept and filed securely for easy access and retrieval for inspection and analysis. The record includes updated fee of the Services, service transactions from the commencement of delivery of work and other reports as requested by the MOH.

iii. The Company shall grant the MOH or its Authorised Officers access to those records as they may reasonably require in order to ensure that the Company is in compliance with the Contract and any applicable laws.

iv. At the end of contract period, the records shall be handed over to the MOH within three (3) months after the contract expiry date. All the records shall also be retained for a minimum period of seven (7) years upon contract expiry.

v. The Company shall prepare and submit service performance reports regularly to the MOH to present various aspects of the Service including the situation of resource deployment, service challenge and issues, KPI performance and initiative or action plan to improve the Service.

vi. All reports and records deductions shall refer to BMES Management Services.

(12) Service Information and Management System (SIMAS)

i. The Company shall design, develop, test, commission, supply, deliver and install customised and integrated Service Information and Management System (SIMAS) into full operation within one (1) year from the commencement of contract. The design of SIMAS should provide the Service with a strong database on the operations and the analytics to realise service requirements.

ii. Development of SIMAS shall be coordinated by the MOH to ensure practical application for the service. Requirements for installation of SIMAS are specified under **Schedule D.**

iii. The Company shall make a provision of budget for the development and continuous maintenance and operation of SIMAS.

iv. The Company shall ensure trained personnel are employed throughout the data gathering and data entry activities to ensure integrity of data entry and provide training for the MOH personnel on the use, administration and operation of the system and software.

v. At the expiry of contract, the System shall be handed over to the MOH complete with updated record of service, source codes, system specification and manual for continuous application.

2.2 Operations Management

a) Maintenance Management

i. The Company shall ensure biomedical equipment is maintained and functions in accordance to the manufacturer's specifications and recommendations or to the intended purpose of that equipment according to the operational requirements.

ii. The Company shall undertake a program of predictive/condition monitoring, planned and scheduled maintenance for all biomedical equipment.

iii. The Company shall ensure qualitative and quantitative test are carried out on biomedical equipment to ensure its safety and performance is in accordance with act, regulations, relevant standard and manufacturer's specifications.

b) Testing And Commissioning

i. The Company shall manage Testing and Commissioning and Acceptance Testing as well as safety and performance on all newly introduced biomedical equipment.

ii. The Company shall comply with relevant acts and regulations.

iii. The Company shall conform to relevant standards approved by the Government such as Radiation Protection Order, 2018 – Radiation Protection Act, Chapter 228.

iv. The Company shall conform to relevant safety requirements approved by the Government.

v. The Company shall follow all recommendations from manufacturers.

vi. For biomedical equipment without manufacturer's manual, the Company shall follow the procedures from the latest edition of the ECRI Institute publication (Procedures for Inspection and Preventive Maintenance Manual), Hospital Engineering Planned Preventive Maintenance (HEPPM) or other relevant publications approved by the government.

vii. The Company shall ensure that biomedical equipment is identified and tagged for easy reference and identification.

c) Warranty Management

i. The Company shall submit reports on warranty management; keep relevant information, documents and manuals.

ii. The Company shall manage the defect list and coordinate rectification with the contractor during warranty period.

iii. The Company shall comply with relevant acts and regulations.

iv. The Company shall conform to relevant standards and safety requirements approved by the Government.

v. The Company shall follow all recommendations from manufacturers.

d) Scheduled Maintenance

i. The Company shall carry out schedule maintenance activities for all biomedical equipment:

ii. The Company shall comply with relevant acts and regulations.

iii. The Company shall conform to relevant standards and safety requirements approved by the Government.

iv. The Company shall follow all recommendations from manufacturers.

v. For biomedical equipment without manufacturer's manual, the Company shall follow the procedures from latest edition of the ECRI Institute publication (Procedures for Inspection and Preventive Maintenance Manual)

or Hospital Engineering Planned Preventive Maintenance (HEPPM) or other relevant publications approved by the Government.

e) Unscheduled Maintenance

i. The Company shall carry out unscheduled maintenance activities for biomedical equipment. The Company shall comply with relevant acts and regulations.

ii. The Company shall conform to relevant standards and safety requirements approved by the Government.

iii. The Company shall respond within sixty (60) minutes on-site for normal calls and shall not exceed fifteen (15) minutes on-site for emergency calls. Response time are time taken from initial request made by the user to the time trained technical personnel physically present to assess the request and update status.

iv. The Company shall perform equipment troubleshooting and report the analysis and maintenance solution to bring the equipment to optimal function.

v. Emergency call refers to a situation involving biomedical equipment failure in high-risk or critical areas that threatens patient life and safety, requiring immediate action to minimize interruption of clinical services.

vi. Corrective Maintenance shall be carried out within seven (7) working days.

vii. Twenty-four (24) hours coverage (on-call basis) and all response time requirements shall apply.

viii. The Company shall conduct relevant maintenance calibration, safety tests and functional checks following the manufacturer's recommendation after each repair work. The activity shall be documented.

f) De-Commissioning and Disposal.

i. The Company shall safely remove/relocate unwanted biomedical equipment (without replacement) from user sites to designated areas within the MOH Health Facilities after carrying out Technical Inspection Report (TIR) and approved by BME.

ii. The Company shall provide advice on safe removal and disposal of biomedical equipment.

g) Additional works outside the scope

i. The Company shall identify additional works outside the scope and propose to the Government for approval. The project shall be completed within the agreed period.

3.0 PAYMENT OF SERVICE CHARGES

i. **Service Charges**

a. The Company's service charges fee shall be claimed according to the agreed charges for the respective BMES Service Facilities grouping. The fee shall be net-offed against omitted equipment being disposed or added upon new equipment being installed after the commencement of contract.

b. The Government shall be entitled to make deductions on the overall monthly charges based on the shortfall of the expected service performance.

ii. KPI for Performance Measurement

a. Prior to installation of Service Information and Management System (SIMAS), the total claimable amount of fee is subjected to review of the Company's monthly performance rating as stated below:

PERFORMANCE RATING	% OF CLAIMABLE AMOUNT
91% - 100%	100%
81% - 90%	90%
71% - 80%	80%
61% - 70%	70%
51% - 60%	60%
50% and below	50%

b. Upon implementation of SIMAS, the expected service performance or the KPI for the service and deduction for the shortfall will be applied. The KPIs and deduction indicators for the Service are provided under **Schedule E.**

c. The Hospital reserves the right to terminate the Service contract if the Company's performance does not meet the KPIs or consistently falls below the Hospital's standards.

d. The Company shall prepare and submit monthly invoices for each hospital facility and address to the respective Chief Executive Officers or Senior Administrators of the Hospital.

4.0 LIST OF SCHEDULES

Schedule A	BMES Service Facilities
Schedule B	List of BMES Assets
Schedule C	Manpower Requirements
Schedule D	Service Information and Management System (SIMAS)
Schedule E	Key Performance Indicators (KPIs)
Schedule F	Subcontracting of Specialised Equipment

SECTION 3

TENDER SUBMISSION FORMS

CONTENTS

SCHEDULE A

TENDER FORM

To:

TENDER REFERENCE NO: KK/218/2025/MOH(TC)

INVITATION TO TENDER FOR
THE PROVISION OF BIOMEDICAL ENGINEERING SERVICES AT THE HOSPITALS AND HEALTH FACILITIES OF THE MINISTRY OF HEALTH FOR A PERIOD OF FIVE (5) YEARS

_____

TENDER OF (*name of tenderer*) _____

Company/Business Registration No _____

Tender Closing Date: _____

1	**Business Proposal** complete with the proposed Biomedical Engineering Services to be offered (carrying out all scopes of the services related to **the maintenance of biomedical equipment to all hospitals and health facilities)** as well as all the associated activities and resources for the operation.
2.	Price quote for **each scope of Service (***To use the provided template below and attach to the Tender Form* **)**

SCHEDULE B – PRICE PROPOSAL FORM

1. PRICE OFFER AND CONDITIONS

1.1. Tenderer shall state their price of the following;

a. Summary of the total price of the whole service **per year** (Table 1);
b. Breakdown of total price for each BMES Service Facilities (Table 2);
c. Breakdown of total price for equipment group stating service charges for each unit and the total price for the equipment group (Table 3);
d. Tenderer shall propose their service rate for Post Warranty Period and During Warranty Period for each asset group (Table 4).

As much as possible, Tenderer shall follow World Health Organization (WHO) Universal Medical Device Nomenclature System (UMDNS)/Global Medical Device Nomenclature (GMDN) to prepare their grouping of asset.

1.2. Tenderer shall provide their proposal based on the details provided.

1.3. TABLE 1: PRICE SUMMARY

PROJECT DESCRIPTION	TOTAL PRICE B$ (PER YEAR)	TOTAL PRICE B$ (FOR FIVE YEARS)
THE PROVISION OF BIOMEDICAL ENGINEERING SERVICES AT THE HOSPITALS AND HEALTH FACILITIES OF THE MINISTRY OF HEALTH FOR A PERIOD OF FIVE (5) YEARS		

1.4. TABLE 2: PRICE DETAILS BY BMES SERVICE FACILITIES

No.	Facilities	Location	Price/Year
Hospital Raja Isteri Pengiran Anak Saleha			
1	Hospital Raja Isteri Pengiran Anak Saleha	Brunei - Muara	
	Pusat Perkembangan Kanak-Kanak, Kiarong (Off-site)		
	Pusat Amal Cerah Sejahtera, Subok (Off-site)		
	Mental Health Unit, Kiarong (Off-site)		
	Klinik Perkhidmatan Berkhatan, Kiarong (Off-site)		
Hospital PMMPMHAMB, Tutong			
2	Hospital Tutong PMMPMHAMB	Tutong	
	Pusat Pengasingan Kebangsaan (NIC)		
	Perkembangan Pusat Pengasingan Kebangsaan (NICE)		
Hospital Suri Seri Begawan, Kuala Belait			
3	Hospital Suri Seri Begawan, Kuala Belait	Belait	

No.	Facilities	Location	Price/Year
Hospital PIHM, Temburong			
4	Hospital PIHM, Temburong	Temburong	
Jabatan Perkhidmatan Kesihatan			
5	Pusat Kesihatan Berakas *Berakas Health Centre*	Brunei – Muara	
	Pusat Kesihatan PAPHMWHB, Rimba-Gadong *PAPHMWHB Health Centre, Rimba-Gadong*		
	Pusat Kesihatan Muara *Muara Health Centre*		
	Pusat Kesihatan Jubli Perak, Sengkurong *Jubli Perak Health Centre, Sengkurong*		
	Pusat Kesihatan Jubli Emas, Bunut *Jubli Emas Health Centre, Bunut*		
	Pusat Kesihatan Pengkalan Batu *Pengkalan Batu Health Centre*		
	Pusat Kesihatan PAPHRSB, Sg. Asam *PAPHRSB Health Centre, Sg. Asam*		
	Health Promotion Centre including School Health and Wellness Centre		
	Klinik Kesihatan Sg. Besar *Sg. Besar Health Clinic*		
	Klinik Penjara Jerudong *Jerudong Prison Clinic*		
	Klinik Kesihatan Kg. Bolkiah 'B' *Kg. Bolkiah 'B' Health Clinic*		
	Unit Tahanan & Pemulihan, Jerudong		
	Brunei International Airport Clinic		
	Pusat Kesihatan Lamunin *Lamunin Health Centre*	Tutong	
	Pusat Kesihatan Sg. Kelugos *Sg. Kelugos Health Centre*		
	Pusat Kesihatan Telisai *Telisai Health Centre*		
	Pusat Kesihatan Tutong *Tutong Health Centre*		
	Klinik Al-Islah, Kg. Kupang *Al-Islah Clinic, Kg. Kupang*		
	Klinik Penjara Maraburong *Maraburong Prison Clinic*		
	Pusat Kesihatan Seria *Seria Health Centre*	Belait	
	Pusat Kesihatan Sg. Liang *Sg. Liang Health Centre*		
	Klinik Kesihatan Sukang *Sukang Health Clinic*		
	Klinik Kesihatan Labi *Labi Health Clinic*		
	Klinik Kesihatan Bangar *Bangar Health Clinic*	Temburong	
Jabatan Perkhidmatan Kesihatan Alam Sekitar			
6	Pusat Pemeriksaan Kesihatan Berakas *Berakas Health Screening Centre*	Brunei – Muara	

No.	Facilities	Location	Price/Year
	National Tuberculosis Coordinating Centre, Kiarong (NTCC)		
	Foreign Workers Health Screening		
	Environmental Health Division		
	Pejabat Kesihatan Tutong *Tutong Health Office*	Tutong	
	Unit Koordinasi TB Pejabat Kesihatan Tutong *Tutong Health Office TB Coordination unit*		
	Pejabat Kesihatan Belait *Belait Health Office*	Belait	
	Pejabat Kesihatan Temburong *Temburong Health Office*	Temburong	
Perkhidmatan Pergigian			
7	Hospital Raja Isteri Pengiran Anak Saleha	Brunei – Muara	
	Pusat Pergigian Negara *National Dental Centre*		
	Pusat Kesihatan Berakas *Berakas Health Centre*		
	Pusat Kesihatan PAPHMWHB, Rimba-Gadong *PAPHMWHB Health Centre, Rimba-Gadong*		
	Pusat Kesihatan Muara *Muara Health Centre*		
	Pusat Kesihatan Jubli Perak, Sengkurong *Jubli Perak Health Centre, Sengkurong*		
	Pusat Kesihatan Jubli Emas, Bunut *Jubli Emas Health Centre, Bunut*		
	Pusat Kesihatan PAPHRSB, Sg. Asam *PAPHRSB Health Centre, Sg. Asam*		
	SR Amar Pahlawan		
	SR Anggerek Desa		
	SR Bendahara Sakam		
	SR Dato Mahawangsa		
	SR Dato Marsal		
	SR Delima Satu		
	SR Jerudong		
	SR Lumapas		
	SR Mabohai		
	SR Mentiri		
	SR Pengkalan Batu		
	SR Mata-Mata (PPSD Sahibul)		

No.	Facilities	Location	Price/Year
	SR Raja Isteri Fatimah		
	SR Sengkurong		
	SR Serasa		
	SR Sg. Kebun		
	SR Sultan Umar Ali Saifuddien Muara		
	SR Yayasan Sultan Haji Hassanal Bolkiah		
	St. Andrew's School		
	SM Chung Hwa Cubicle 1		
	SM Chung Hwa Cubicle 2		
	SM Chung Hwa Cubicle 3		
	SR Pulaie		
	Hospital Tutong PMMPMHAMB	Tutong	
	SR Bukit Beruang		
	SR Keriam		
	SR Kiudang		
	SR Kupang		
	SR Muda Hashim		
	SR Penanjong		
	SR Tumpuan Telisai		
	Hospital Suri Seri Begawan, Kuala Belait	Belait	
	Pusat Kesihatan Seria *Seria Health Centre*		
	Pusat Kesihatan Sg. Liang *Sg. Liang Health Centre*		
	SR Ahmad Tajuddin		
	SR Kuala Belait		
	SR Labi		
	SR Lumut		
	SR Muhammad Alam		
	SR Panaga		

No.	Facilities	Location	Price/Year
	SR PSJPAM Kg. Pandan		
	SR PSNPMY Lorong 3		
	SR Sg. Liang		
	SR Sg. Teraban		
	Chung Hwa Kuala Belait		
	Chung Ching Seria		
	SR SUAS Kuala Belait		
	Hospital PIHM, Temburong		
	SR Puni Temburong	Temburong	
	SR Sultan Hassan Temburong		
Perkhidmatan Renal			
8	Unit Renal Hospital Raja Isteri Pengiran Anak Saleha *Hospital Raja Isteri Pengiran Anak Saleha Renal Unit*	Brunei - Muara	
	Pusat Dialisis Rimba *Rimba Dialysis Centre*		
	Pusat Dialisis Kiarong *Kiarong Dialysis Centre*		
	Pusat Dialisis Tutong *Tutong Dialysis Centre*	Tutong	
	Pusat Dialisis Kuala Belait *Kuala Belait Dialysis Centre*	Belait	
	Unit Renal Temburong *Temburong Renal Unit*	Temburong	
Perkhidmatan Saintifik			
9	Main Branch (Commonwealth Drive)	Brunei - Muara	
	Serasa Branch		
	Madaras Branch (Pharmaceutical Services Department building)		
Perkhidmatan Makmal			
10	Hospital Raja Isteri Pengiran Anak Saleha	Brunei - Muara	
	National Reference Virology and Mycobacteriology Laboratories, Sumbiling		
	Hospital Tutong PMMPMHAMB	Tutong	
	Clinical Molecular Diagnostics Laboratory for Infectious Diseases (CMDLID)		
	Hospital Suri Seri Begawan, Kuala Belait	Belait	
	Hospital PIHM, Temburong	Temburong	
Perkhidmatan Farmasi			

No.	Facilities	Location	Price/Year
11	Pharmaceutical Services Department, Madaras	Brunei - Muara	
		TOTAL FOR ONE (1) YEAR	
		TOTAL FOR FIVE (5) YEARS	
		DISCOUNT (IF APPLICABLE	

1.5 TABLE 3: PRICE DETAILS BY EQUIPMENT GROUP

No.	Equipment Grouping (UMDNS)	No. of Unit	Charges per Unit	Total Charges / YEAR	Equivalent Post-Warranty Rate (%)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
TOTAL					

Note:

1. UMDNS - Universal Medical Device Nomenclature System
2. GMDN – Global Medical Device Nomenclature

1.6 TABLE 4: SERVICE CHARGES POST WARRANTY FEE AND DURING WARRANTY FEE

1.6.1 POST WARRANTY SERVICE FEE

i. The Company shall provide the charges for comprehensive maintenance for each equipment group after warranty period (post-warranty).

ii. The service fee for Post Warranty shall be the amount of fee per year by each asset group as per Table 3.

1.6.2 DURING WARRANTY SERVICE FEE

i. The company shall propose their service rate for warranty management (Reference: Section 2 on Warranty Management) by Contract Value or Purchase Value of asset below:

No.	Equipment Purchase Value	Service Rate % of Contract / Purchase Value
1		
2		
3		
4		

2. DECLARATION

1. We offer and undertake on your acceptance of our Tender to provide the above-mentioned services in accordance with your Invitation To Tender.

2. Our Tender is fully consistent with and does not contradict or derogate from anything in your Invitation To Tender. We have not qualified or changed any of the provisions of your Invitation To Tender.

3. We shall execute a formal agreement in the appropriate form set out in **Section 4 – Contract of the Invitation To Tender** together with such further terms and conditions, if any, agreed between the Government and us.

4. OUR OFFER IS VALID FOR **TWELVE (12) CALENDAR MONTHS** FROM THE TENDER CLOSING DATE.

5. When requested by you, we shall extend the validity of this offer.

6. We further undertake to give you any further information which you may require.

Dated this day of 2025.

Tenderer's official stamp:

_____

Signature of authorised officer of Tenderer
Name:

Designation:

SCHEDULE C - INFORMATION SUMMARY

2.1 Tenderers shall provide in this Schedule the following information:

a. Management summary

b. Company profile (including Contractor and sub-contractor(s), if any)

c. Years of experience (as of the Tender Closing Date) of the Contractor and sub-contractor(s) in:

d. Other information which is considered relevant

SCHEDULE D – SUB-CONTRACTS

3.1 Tenderers shall complete Table 3.1 with information about all the companies involved in the provision of the services and items specified in this tender. This shall include details about the Contractor and each sub-contractor involved, as well as their respective responsibilities.

3.2 Tenderers shall also indicate in Table 3.1 any alliance relationship established with each sub-contractor. An alliance is defined as a formal and binding business relationship between the allied parties.

Table 3.1 - Responsibility Table

Company Name	Responsibility Description	Alliance Relationship between Contractor and Sub-contractor(s)		
		Alliance Exists? (Y/N)	Date Established	Alliance Description
Contractor				
		Not Applicable	Not Applicable	Not Applicable
Sub-contractor(s)				

SCHEDULE E – COMPANY'S BACKGROUND

4.1 Each of the companies involved in this tender, including Contractor and sub-contractor(s) (if any), shall provide information on the company's background, scope of operations, financial standing and certified copy of its Certificate of Incorporation or Certificate of Registration (as the case may be).

SCHEDULE F – REFERENCES

5.1 Tenderers shall submit a list of customers in Table 5.1 to whom the Contractor has provided similar services and items as specified in this tender in the recent 5 years as of the Tender Closing Date.

Table 5.1 References of previous customers

Customer Name and Address	Customer Type (Govt or Quasi Govt)*	Contact Person	Title	Contact Number, Fax Number and E-mail Address

***Note: Tenderers shall indicate whether the customer is a Government or Quasi Government organisation. A Quasi Government is defined as an organisation which (1) is managed and controlled by the Government; or (2) has at least 50% shares being held by the Government. Please leave the column blank if the customer is neither a Government or Quasi Government organisation.**

5.2 The Ministry of Health shall treat all the information submitted under this schedule in strict confidence.

5.3 The Ministry of Health reserves the right to contact the references for tender assessment purposes.

SCHEDULE G - DECLARATION

7.1 Tenderers shall complete and submit the Declaration form below.

PENGAKUAN INTEGRITI PENENDER
TENDERER'S INTEGRITY DECLARATION

SCHEDULE H – SITE VISIT FORM

COMPANY NAME : _____

DATE OF SITE VISIT : _____

I hereby on behalf of my Company has made a Site Visit to the work location on the date stated above and understand the work requirement(s) and all specification stated in this Tender document.

I (My Company) also agree not to make any additional claim to MOH should any accident(s) or damage(s) occur during the contract period.

CONTRACTOR'S SIGNATURE

_____

NAME: _____

DATE: _____ **COMPANY STAMP**

FOR OFFICIAL USE ONLY

VERIFIED BY S.O./O.I.C.

_____

NAME: _____

DATE: _____ **DEPARTMENT STAMP**

The Contractor must fill in this form and obtain signature from the S.O./O.I.C. as verification for having visited the Site. Failing to do so will lead to **disqualification** from this Tender.

SCHEDULE A

BMES SERVICE FACILITIES

NO.	FACILITIES	LOCATION
HOSPITAL RAJA ISTERI PENGIRAN ANAK SALEHA		
1	Hospital Raja Isteri Pengiran Anak Saleha	Brunei - Muara
	Pusat Perkembangan Kanak-Kanak, Kiarong (Off-site)	
	Pusat Amal Cerah Sejahtera, Subok (Off-site)	
	Mental Health Unit, Kiarong (Off-site)	
	Klinik Perkhidmatan Berkhatan, Kiarong (Off-site)	
HOSPITAL TUTONG PMMPMHAMB		
2	Hospital Tutong PMMPMHAMB	Tutong
	Pusat Pengasingan Kebangsaan (NIC)	
	Perkembangan Pusat Pengasingan Kebangsaan (NICE)	
HOSPITAL SURI SERI BEGAWAN, KUALA BELAIT		
3	Hospital Suri Seri Begawan, Kuala Belait	Belait
HOSPITAL TEMBURONG PIHM		
4	Hospital PIHM, Temburong	Temburong
JABATAN PERKHIMATAN KESIHATAN		
5	Pusat Kesihatan Berakas *Berakas Health Centre*	Brunei – Muara
	Pusat Kesihatan PAPHMWHB, Rimba-Gadong *PAPHMWHB Health Centre, Rimba-Gadong*	
	Pusat Kesihatan Muara *Muara Health Centre*	
	Pusat Kesihatan Jubli Perak, Sengkurong *Jubli Perak Health Centre, Sengkurong*	
	Pusat Kesihatan Jubli Emas, Bunut *Jubli Emas Health Centre, Bunut*	
	Pusat Kesihatan Pengkalan Batu *Pengkalan Batu Health Centre*	
	Pusat Kesihatan PAPHRSB, Sg. Asam *PAPHRSB Health Centre, Sg. Asam*	
	Health Promotion Centre including School Health and Wellness Centre	
	Klinik Kesihatan Sg. Besar *Sg. Besar Health Clinic*	
	Klinik Penjara Jerudong *Jerudong Prison Clinic*	
	Klinik Kesihatan Kg. Bolkiah 'B' *Kg. Bolkiah 'B' Health Clinic*	
	Unit Tahanan & Pemulihan, Jerudong	
	Brunei International Airport Clinic	

NO.	FACILITIES	LOCATION
	Pusat Kesihatan Lamunin *Lamunin Health Centre*	Tutong
	Pusat Kesihatan Sg. Kelugos *Sg. Kelugos Health Centre*	
	Pusat Kesihatan Telisai *Telisai Health Centre*	
	Pusat Kesihatan Tutong *Tutong Health Centre*	
	Klinik Al-Islah, Kg. Kupang *Al-Islah Clinic, Kg. Kupang*	
	Klinik Penjara Maraburong *Maraburong Prison Clinic*	
	Pusat Kesihatan Seria *Seria Health Centre*	Belait
	Pusat Kesihatan Sg. Liang *Sg. Liang Health Centre*	
	Klinik Kesihatan Sukang *Sukang Health Clinic*	
	Klinik Kesihatan Labi *Labi Health Clinic*	
	Klinik Kesihatan Bangar *Bangar Health Clinic*	Temburong
JABATAN PERKHIDMATAN KESIHATAN ALAM SEKITAR		
6	Pusat Pemeriksaan Kesihatan Berakas *Berakas Health Screening Centre*	Brunei – Muara
	National Tuberculosis Coordinating Centre, Kiarong (NTCC)	
	Foreign Workers Health Screening	
	Environmental Health Division	
	Pejabat Kesihatan Tutong *Tutong Health Office*	Tutong
	Unit Koordinasi TB Pejabat Kesihatan Tutong *Tutong Health Office TB Coordination unit*	
	Pejabat Kesihatan Belait *Belait Health Office*	Belait
	Pejabat Kesihatan Temburong *Temburong Health Office*	Temburong
PERKHIDMATAN PERGIGIAN		
7	Hospital Raja Isteri Pengiran Anak Saleha	Brunei - Muara
	Pusat Pergigian Negara *National Dental Centre*	Brunei - Muara
	Pusat Kesihatan Berakas *Berakas Health Centre*	Brunei - Muara
	Pusat Kesihatan PAPHMWHB, Rimba-Gadong *PAPHMWHB Health Centre, Rimba-Gadong*	Brunei – Muara
	Pusat Kesihatan Muara *Muara Health Centre*	
	Pusat Kesihatan Jubli Perak, Sengkurong *Jubli Perak Health Centre, Sengkurong*	
	Pusat Kesihatan Jubli Emas, Bunut *Jubli Emas Health Centre, Bunut*	

NO.	FACILITIES	LOCATION
	Pusat Kesihatan PAPHRSB, Sg. Asam *PAPHRSB Health Centre, Sg. Asam*	
	SR Amar Pahlawan	
	SR Anggerek Desa	
	SR Bendahara Sakam	
	SR Dato Mahawangsa	
	SR Dato Marsal	
	SR Delima Satu	
	SR Jerudong	
	SR Lumapas	
	SR Mabohai	
	SR Mentiri	
	SR Pengkalan Batu	
	SR Mata-Mata (PPSD Sahibul)	
	SR Raja Isteri Fatimah	
	SR Sengkurong	
	SR Serasa	
	SR Sg. Kebun	
	SR Sultan Umar Ali Saifuddien Muara	
	SR Yayasan Sultan Haji Hassanal Bolkiah	
	St. Andrew's School	
	SM Chung Hwa Cubicle 1	
	SM Chung Hwa Cubicle 2	
	SM Chung Hwa Cubicle 3	
	SR Pulaie	
	Hospital Tutong PMMPMHAMB	Tutong
	SR Bukit Beruang	
	SR Keriam	
	SR Kiudang	

NO.	FACILITIES	LOCATION
	SR Kupang	
	SR Muda Hashim	
	SR Penanjong	
	SR Tumpuan Telisai	
	Hospital Suri Seri Begawan, Kuala Belait	Belait
	Pusat Kesihatan Seria *Seria Health Centre*	
	Pusat Kesihatan Sg. Liang *Sg. Liang Health Centre*	
	SR Ahmad Tajuddin	
	SR Kuala Belait	
	SR Labi	
	SR Lumut	
	SR Muhammad Alam	
	SR Panaga	
	SR PSJPAM Kg. Pandan	
	SR PSNPMY Lorong 3	
	SR Sg. Liang	
	SR Sg. Teraban	
	Chung Hwa Kuala Belait	
	Chung Ching Seria	
	SR SUAS Kuala Belait	
	Hospital PIHM, Temburong	Temburong
	SR Puni Temburong	
	SR Sultan Hassan Temburong	
PERKHIDMATAN RENAL		
8	Unit Renal Hospital Raja Isteri Pengiran Anak Saleha *Hospital Raja Isteri Pengiran Anak Saleha Renal Unit*	Brunei - Muara
	Pusat Dialisis Rimba *Rimba Dialysis Centre*	
	Pusat Dialisis Kiarong *Kiarong Dialysis Centre*	
	Pusat Dialisis Tutong *Tutong Dialysis Centre*	Tutong

NO.	FACILITIES	LOCATION
	Pusat Dialisis Kuala Belait *Kuala Belait Dialysis Centre*	Belait
	Unit Renal Temburong *Temburong Renal Unit*	Temburong
PERKHIDMATAN SAINTIFIK		
9	Main Branch (Commonwealth Drive)	Brunei - Muara
	Serasa Branch	
	Madaras Branch (Pharmaceutical Services Department building)	
PERKHIDMATAN MAKMAL		
10	Hospital Raja Isteri Pengiran Anak Saleha	Brunei - Muara
	National Reference Virology and Mycobacteriology Laboratories, Sumbiling	
	Hospital Tutong PMMPMHAMB	Tutong
	Clinical Molecular Diagnostics Laboratory for Infectious Diseases (CMDLID)	
	Hospital Suri Seri Begawan, Kuala Belait	Belait
	Hospital PIHM, Temburong	Temburong
PERKHIDMATAN FARMASI		
11	Pharmaceutical Services Department, Madaras	Brunei - Muara
Total		11 Groupings 90 Service Facilities

SCHEDULE B

LIST OF BMES ASSETS

List of BMES Assets

i. There are 19,154 equipment.
ii. Make use of the proposed data to prepare the equipment groupings and price proposal form.
iii. Asset grouping should combine all asset of similar types irrespective of whether they are active or not.
iv. The Company is to note that the complete BMES list of assets is in a digital format, in the form of Excel.
v. Data to be provided in softcopy per specimen copy.

BME NO	DESCRIPTION	B[illegible]	MODEL	SERIAL NO	LOCATION
BME10761	15KG SCALE WITH STAND	HICO [illegible]	HS-15K	HS0013032	RIPAS HOSPITAL
BME10762	15KG SCALE WITH STAND	[illegible]	HS-15K	HS0011617	RIPAS HOSPITAL
BME10763	15KG SCALE WITH STAND	[illegible]	HS-15K	HS0010716	RIPAS HOSPITAL
BME17970	24 HRS AMBULATORY BP MONITORING SYSTEM	[illegible]	BPRO T6200	PR104531 (MASTER)	RIPAS HOSPITAL
BME17971	24 HRS AMBULATORY BP MONITORING SYSTEM	[illegible]	BPRO T6200	AS LISTED	RIPAS HOSPITAL
BME17821	24 HRS AMBULATORY BP MONITORING SYSTEM	[illegible]	DTE-60002-Z	DTZ-1L02236	W&C CENTRE
BME7638(a)	24 HRS AMBULATORY BP MONITORING SYSTEM	[illegible]	BPRO	PR102931	RIPAS HOSPITAL
BME7638(A)	24 HRS AMBULATORY BP MONITORING SYSTEM	HEALTHSTATS INTERNATIONAL	MC3100	E0751XBKJKCJ011	RIPAS HOSPITAL
BME7638(b)	24 HRS AMBULATORY BP MONITORING SYSTEM	HEALTHSTATS INTERNATIONAL	BPRO	PR102932	RIPAS HOSPITAL
BME7638(B)	24 HRS AMBULATORY BP MONITORING SYSTEM	HEALTHSTATS INTERNATIONAL	MC3100	08310252	RIPAS HOSPITAL
BME7638(c)	24 HRS AMBULATORY BP MONITORING SYSTEM	HEALTHSTATS INTERNATIONAL	BPRO	PR103933	RIPAS HOSPITAL
BME7638(C)	24 HRS AMBULATORY BP MONITORING SYSTEM	HEALTHSTATS INTERNATIONAL	MC3100	08310253	RIPAS HOSPITAL
BME7638(D)	24 HRS AMBULATORY BP MONITORING SYSTEM	HEALTHSTATS INTERNATIONAL	MC3100	08310254	RIPAS HOSPITAL
BME7638(d)	24 HRS AMBULATORY BP MONITORING SYSTEM	HEALTHSTATS INTERNATIONAL	BPRO	PR903934	RIPAS HOSPITAL
BME7638(E)	24 HRS AMBULATORY BP MONITORING SYSTEM	HEALTHSTATS INTERNATIONAL	MC3100	08310255	RIPAS HOSPITAL
BME7638(e)	24 HRS AMBULATORY BP MONITORING SYSTEM	HEALTHSTATS INTERNATIONAL	BPRO	PR903935	RIPAS HOSPITAL
BME7638(F)	24 HRS AMBULATORY BP MONITORING SYSTEM	HEALTHSTATS INTERNATIONAL	MC3100	08310256	RIPAS HOSPITAL
BME7638(f)	24 HRS AMBULATORY BP MONITORING SYSTEM	HEALTHSTATS INTERNATIONAL	BPRO	PR903936	RIPAS HOSPITAL
BME7638(G)	24 HRS AMBULATORY BP MONITORING SYSTEM	HEALTHSTATS INTERNATIONAL	MC3100	08310257	RIPAS HOSPITAL
BME7638(g)	24 HRS AMBULATORY BP MONITORING SYSTEM	HEALTHSTATS INTERNATIONAL	BPRO	PR903937	RIPAS HOSPITAL
BME7638(H)	24 HRS AMBULATORY BP MONITORING SYSTEM	HEALTHSTATS INTERNATIONAL	MC3100	08310258	RIPAS HOSPITAL
BME7638(h)	24 HRS AMBULATORY BP MONITORING SYSTEM	HEALTHSTATS INTERNATIONAL	BPRO	PR903938	RIPAS HOSPITAL
BME7638(I)	24 HRS AMBULATORY BP MONITORING SYSTEM	HEALTHSTATS INTERNATIONAL	MC3100	08310259	RIPAS HOSPITAL
BME7638(i)	24 HRS AMBULATORY BP MONITORING SYSTEM	HEALTHSTATS INTERNATIONAL	BPRO	PR903939	RIPAS HOSPITAL
BME7638(J)	24 HRS AMBULATORY BP MONITORING SYSTEM	HEALTHSTATS INTERNATIONAL	MC3100	08310260	RIPAS HOSPITAL

SCHEDULE C

MANPOWER REQUIREMENTS

1.0 JOB POSITIONS AND RESPONSIBILITIES

1.1 The Company shall at all times employ qualified, experienced and competent Key Staff and employees for performance of the Service. The positions are essentially site-based or support staff from the Company's head office. The following positions are identified as the minimum requirements to be based on-site to deliver the Service:

a) HQ SUPPORT

- To provide support to Operation Team on-site.
- May be placed at HQ or BMES Service Facilities

No.	Position	Portfolio	Deployment	Total Headcount
1	Contract Manager	▪ Overall management of biomedical engineering services ▪ Strategic planning, budgeting, and resource allocation ▪ Contract and vendor management ▪ Regulatory compliance and reporting ▪ Stakeholder communication and client satisfaction	▪ 1 for HQ	1
2	Assistant Manager	▪ Daily operations and service oversight ▪ Team supervision and workload distribution ▪ Customer service and stakeholder engagement ▪ Assist in audits, compliance, and reporting ▪ Deputise for the Manager when required	▪ 1 for all Hospitals ▪ 1 for Health Centres & Clinics, Renal Services, Dental Services, Scientific Services, Laboratory Services	2
3	Health, Safety and Environment (HSE) Officer	▪ Monitor and enforce health and safety compliance ▪ Conduct risk assessments and audits ▪ Organize safety drills and training ▪ Investigate incidents and implement preventive measures ▪ Support environmental sustainability initiatives	▪ 1 for all facilities ▪ Site visit as required	1
4	Quality Officer	▪ Monitor service quality and adherence to standards ▪ Coordinate internal audits and quality checks ▪ Ensure proper documentation and traceability ▪ Analyse data for continuous improvement ▪ Support certification and accreditation processes	▪ 1 for all facilities	1

b) OPERATION STAFF

- Shall be placed on site

No.	Position	Portfolio	Deployment	Total Headcount
1	Chief Engineer	▪ Oversee service delivery and maintenance schedules ▪ First point of contact for technical support escalations ▪ Customer service coordination ▪ Maintain technical documentation and reports	▪ 1 for Hospital RIPAS ▪ 1 for Hospital PMMPMHAMB ▪ 1 for Hospital SSB ▪ 1 for Hospital PIHM ▪ 1 for Hospital Health Centres & Clinics ▪ 1 for Renal Services ▪ 1 for Dental Services ▪ 1 for Scientific Services ▪ 1 for Laboratory Services	9
2	Senior Biomedical Engineer (SBME)	▪ Lead high-level diagnostics, repairs, and preventive maintenance ▪ Supervise and mentor engineers and technicians ▪ Evaluate new technologies and equipment specifications ▪ Liaise with departments on equipment planning ▪ Support in compliance with standards	▪ 2 for Hospital RIPAS	2
3	Biomedical Engineer (BME)	▪ Perform equipment maintenance, repairs, and calibrations ▪ Maintain accurate maintenance logs and service reports ▪ Participate in commissioning and installation of equipment ▪ Ensure compliance with safety and performance standards ▪ Provide technical support to users and departments	▪ 2 for Hospital RIPAS ▪ 1 for Hospital PMMPMHAMB ▪ 1 for Hospital SSB ▪ 1 for Hospital PIHM ▪ 1 for Health Centres & Clinics ▪ 1 for Renal Services ▪ 1 for Dental Services ▪ 1 for Scientific Services & Laboratory Services	9
4	Senior Technical Assistant (STA)	▪ Assist engineers in technical tasks and reporting ▪ Supervise technicians for routine tasks	▪ 2 for Hospital RIPAS ▪ 1 for Hospital PMMPMHAMB	11

No.	Position	Portfolio	Deployment	Total Headcount
		▪ Ensure preventive maintenance schedules are followed ▪ Troubleshoot equipment issues beyond basic technician level ▪ Monitor spare parts inventory and maintenance KPIs	▪ 1 for Hospital SSB ▪ 1 for Hospital PIHM ▪ 2 for Health Centres & Clinics ▪ 1 for Renal Services ▪ 1 for Dental Services ▪ 1 for Scientific Services ▪ 1 for Laboratory Services	
5	Technician	▪ Carry out preventive and corrective maintenance on equipment ▪ Report faults and maintenance activities ▪ Basic calibration and testing ▪ Maintain tools and service areas ▪ Follow HSE and infection control protocol	▪ 6 for Hospital RIPAS ▪ 2 for Hospital PMMPMHAMB ▪ 2 for Hospital SSB ▪ 1 for Hospital PIHM ▪ 4 for Health Centres & Clinics ▪ 2 for Renal Services ▪ 3 for Dental Services ▪ 1 for Scientific Services ▪ 1 for Laboratory Services	22
6	Helpdesk Operators	▪ Frontline support system ensuring timely technical assistance, equipment uptime ▪ Service request management ▪ Technical dispatch coordination ▪ PM scheduling ▪ Follow-up and closure ▪ User support and troubleshooting	**Refer to 1.4**	28

1.2 Those personnel based on-site shall also be supported by qualified staff in other management disciplines like the examples below:

i. Quality Management
ii. Procurement and Logistics
iii. Personnel Recruitment and Administration
iv. ICT System/Technical Support
v. Safety and Security

1.3 The total manning requirement by the Hospital and Health Facilities are as follows:

NO.	FACILITIES	CHIEF ENGINEER	SBME	BME	STA	TECHNICIAN	HELPDESK OPERATORS
1	HQ	-	-	-	-	-	-
2	Hospital RIPAS	1	2	2	2	6	14
3	Hospital PMMPMHAMB	1	0	1	1	2	
4	Hospital SSB	1	0	1	1	2	
5	Hospital PIHM	1	0	1	1	1	
6	Health Centres & Clinics	1	0	1	2	4	14
7	Renal Services	1	0	1	1	2	
8	Dental Services	1	0	1	1	3	
9	Scientific Services	1	0	1	1	1	
10	Laboratory Services	1	0		1	1	
TOTAL MANPOWER		**9**	**2**	**9**	**11**	**22**	**28**
GRAND TOTAL		**81**					

1.4 Manning distribution for helpdesk operators are as follows:

No.	Groupings	No. of Helpdesk Operators
Group A		
1	Hospital Raja Isteri Pengiran Anak Saleha	Morning - 8 Afternoon - 4 Night – 2
2	Hospital Tutong PMMPMHAMB	
3	Hospital Suri Seri Begawan, Kuala Belait	
4	Hospital PIHM, Temburong	
Group B		
5	Health Centres & Clinics	Morning - 8 Afternoon - 4 Night – 2
6	Renal Services	
7	Perkhidmatan Pergigian	
8	Dental Services	
9	Scientific Services	
10	Laboratory Services	
	Total	28

1.5 The Company shall ensure that the required manpower level is maintained throughout the Contract Period. Proposal to lower the minimum manning shall be submitted for the MOH approval and only implemented upon approval. However, under the circumstances the existing manning is not sufficient to meet the Service's requirement, the Company shall straight away add without requiring for approval to ensure the service's works are completely carried out to service requirements. Variation to the cost of additional workers shall be borne by the Company.

2.0 JOB REQUIREMENTS

2.1 The Company shall recruit the right candidate for the job and assign appropriate scope of work to the respective positions in order to deliver and comply with the service requirements and to affect the service level that is satisfactory to the users.

2.2 Minimum requirements and job descriptions for leading positions are specified below:

i. CONTRACT MANAGER

Job Summary
Head the Company's personnel for the Service, responsible for fulfilment of service obligation i.e., development of service infrastructure and component, total deployment of resources and performance level of the Services for the duration of this Contract.
Focal point for communication and report directly to the MOH. Authorised Representative on the overall management and planning to develop the Service and meet KPI targets.
Ensure full implementation of policies and procedures of work processes to demonstrate consistent delivery of quality services performance and adhere to regulations and guidelines in force.
Head the Company's ERT and lead to conduct action plan during contingencies.

Qualification:
Bachelor's Degree in Engineering/ Social Sciences/ Humanities from a recognised institution.

Experience:
Minimum five (5) to seven (7) years' work experience in any industry of which three (3) years at managerial capacity with good exposures on contractual aspects in safety, quality, work planning and performance.

Skills:
Excellent communication skills and English literate.

ii. ASSISTANT MANAGER

Job Summary
Managing BMES activities, ensuring operational goals are met, analysing performance, implementing improvements, ensuring compliance with regulations, and fostering positive relationships while supporting budget management and other assigned duties.

Job Requirements
Qualification:
Bachelor's degree in Engineering, Facilities Management, Business Administration, Health Services Management, or a related field from recognised Higher Learning Institution or equivalent.
Experience:
5+ years of experience in operations management, facilities management, or a similar field, with a strong focus on service delivery, compliance, and leadership. Experience in the healthcare industry.

iii. CHIEF ENGINEER

Job Summary
Overseeing and coordinating the team's activities to ensure the efficient maintenance, repair, and troubleshooting of medical equipment, while ensuring compliance with safety standards and regulations.

Job Requirements
Qualification:
Bachelor's degree in Engineering, Facilities Management, Business Administration, Health Services Management, or a related field from recognised Higher Learning Institution or equivalent.

Experience:
Minimum five (5) years working experience in hospital equipment maintenance environment.

Skills:
Good organizing, leadership, planning and communication skills, computer literate, high critical thinking and problem solving.

iv. SENIOR BIOMEDICAL ENGINEER

Job Summary
Carry out breakdown, corrective, planned preventive maintenance biomedical equipment in accordance to technical Requirement and Performance Indicator and Hospital Specific Implementation Plan.

Job Requirements
Qualification:
Master in Electronics Engineering/Medical Electronics from recognised Higher Learning Institution or equivalent.

Experience:
Minimum five (5) years working experience in hospital equipment maintenance environment.

Skills:
Good organizing, leadership, planning and communication skills, computer literate, high critical thinking and problem solving.

v. BIOMEDICAL ENGINEER

Job Summary
Carry out breakdown, corrective, planned preventive maintenance biomedical equipment in accordance to technical Requirement and Performance Indicator and Hospital Specific Implementation Plan.

Job Requirements
Qualification:
Degree in Electronics Engineering/Medical Electronics from recognised Higher Learning Institution or equivalent.

Experience:
Fresh graduate or one (1) year working experience in hospital equipment maintenance environment.

Skills:
Good organizing, leadership, planning and communication skills, computer literate, high critical thinking and problem solving.

vi. SENIOR TECHNICAL ASSISTANT

Job Summary

Maintaining Biomedical equipment in accordance to Technical Requirement and Performance Indicator and Hospital Specific Implementation Plan.

Job Requirements

Qualification:

Diploma in Electronics Engineering/Medical Electronics from recognised Higher Learning Institution or equivalent.

Experience:

Three (3) year working experience (Diploma) or five (5) year working experience (Certificate) in related field.

Skills:

Good organising, planning and communication skills, computer literate, high critical thinking and problem solving. Well versed with biomedical electronics equipment.

vii. TECHNICIANS

Job Summary

Carry out breakdown, corrective, planned preventive maintenance on all biomedical equipment at Service Centre in accordance to Technical Requirement and Key Performance Indicator and Hospital Specific Implementation Plan (HSIP).

Job Requirements

Qualification:

Diploma in Electronics Engineering/Medical Electronics from recognised Higher Learning Institution or equivalent.

Experience:

Fresh graduate or one (1) year working experience in related field.

Skill:

Good organisation and communication skills, computer literate, high critical thinking and problem solving. Well versed with biomedical electronics equipment.

viii. HELP DESK OPERATOR

Job Summary

Serve as the first point of contact for all biomedical engineering service requests and issues. This role involves receiving, logging, and tracking service calls, coordinating with technical teams, and ensuring prompt and efficient resolution of problems related to medical equipment. The Helpdesk Operator is responsible for maintaining accurate records, providing timely communication to stakeholders, and supporting the smooth operation of biomedical engineering services. In addition, the role includes maintaining and updating the biomedical equipment inventory database or asset management system. This involves recording detailed asset information (e.g., equipment type, model, serial number, and location), tracking the movement, condition, and utilization of equipment across departments or facilities, and coordinating the tagging and labeling of medical devices for accurate identification and monitoring. Ensuring the integrity and accuracy of asset inventory data is a critical part of the role.

Job Requirements

Qualification:

Minimum Diploma in Biomedical Engineering, Information Technology, or a related technical field. Additional certifications in customer service or IT support are an advantage.

Experience:

At least one (1) – two (2) years of experience in a helpdesk or call centre environment, preferably in a healthcare or engineering-related field. Familiarity with medical equipment service workflows is a plus.

Skill:

Strong communication and interpersonal skills. Basic technical understanding of biomedical equipment and maintenance terminology, proficient in using helpdesk software, ticketing systems, and MS Office tools, good organizational and multitasking abilities, able to work under pressure and handle emergency service calls, fluency in both written and spoken English; knowledge of local language(s) is an added advantage.

SCHEDULE D

SERVICE INFORMATION AND MANAGEMENT SYSTEM (SIMAS)

1.0 DEVELOPMENT OF SYSTEM

1.1 The Company shall develop the SIMAS together with the MOH nominated contractor.
1.2 Development cost for the installation shall be budgeted at around BND $175,000.00
1.3 However, this cost may vary due to many factors such as customisation processes and requirements. Any variation to the budget will be advised to the appointed Company accordingly.

2.0 MAINTENANCE REQUIREMENT

2.1 The Company shall maintain the system throughout the contract, ensuring the system to operate effectively and efficiently.

2.2 The SIMAS will be a shared platform supporting five (5) non-clinical support services. The Company shall provide maintenance budget and kept to 30% of the development budget to ensure the system meets the operational and reporting needs of all services using it.

3.0 DATA MANAGEMENT

3.1 The Company is responsible to manage and maintain data from the Service over the contract period. On this premise, the Company shall establish Service Information and Management System or SIMAS capable of effecting many benefits including the following:

i. Setting a database of all records that are relevant to the Service;
ii. Recording all transaction data arising from the conduct of all activities defined by the Service requirements (*operation data*);
iii. Facilitating customer services via record of all queries, requisitions and complaints by users of the Service and Help-Desk responses thereto
iv. Generating meaningful analysis and reports that can be used and referred for many purposes especially those of KPIs for the Service.

3.2 In principle, the Company shall establish all the database necessary to demonstrate compliance to the Service requirements and KPI standards especially those defined under the Scope of Services and Specification for this contract. Some of the data and reports below are provided to demonstrate that the Company will have to browse through the service requirements and extract important field of information to be established accordingly:

i. Key Performance Indicators (KPIs)
ii. Record of equipment maintenance schedule
iii. Record of spare parts and stock levels
iv. Record of equipment life cycle
v. Record of reports generated
vi. Record of contracts
vii. Record of SLA
viii. Record of vendors and vendor performance
ix. Record of RFID tags
x. Record of workorder

3.3 All such data shall be promptly archived and handed over at the expiry of the Company's contract to the MOH both in the software native format and readable format such as .pdf, .csv, .xls, .mdb etc as appropriate.

3.4 As part of setting up the database, the Company shall conduct a collection and compilation of facility data and inventories during the mobilisation period and the facility data collected and compiled shall then be secured and keyed in the SIMAS. The nature of the information shall be categorised and scheduled according to building, block, unit and area of the information.

3.5 The Company shall be solely responsible on the accuracy of the information. The Company shall observe and abide by all statutory requirements in relation to data protection.

3.6 Proper system for data back up and maintenance of the system shall be in place and is deemed inclusive of the Company's price for the Service.

3.7 Helpdesk operators shall be trained and assigned to provide coordinated support across all hospitals and health facilities, ensuring timely response and service continuity.

4.0 HARDWARE

4.1 The Company shall be responsible to set-up the hardware for Help Desk at every Service Facility for providing a minimum of Database Server, Application Server, Backup Server and Web Server each with a 100% redundant function. The hardware and associated software shall be capable of handling the deployment and subsequent operations of the SIMAS at all hospitals and health facilities.

4.2 The Company shall provide laptop/desktop and Internet connection for the access of the SIMAS software for their staff and Help-Desk including the following:

i. Networking system: Secure hospital-wide Wi-Fi for real-time updates.
ii. Internet connectivity of suitable bandwidth to ensure reliable connection to the Facility Management Software via Internet.
iii. GSM or latest mobile messaging features for alert functions (either at Help Desk or at remote hosting site)

4.3 All the above deployments shall involve the Company being responsible for the associated hardware and software including maintenance throughout the Contract Period and upon completion, the Company shall conduct data integrity tests, compile and handover the data to the Government.

5.0 SOFTWARE

5.1 The software shall be able to accommodate the workflow processes of the Service. All efforts required for any customisation to accommodate such workflow/required features shall be deemed included in the Contract Price. All such customisation required shall be made within six (6) months from Commencement Date (*Full Operations*).

5.2 The Company shall be solely responsible to ensure the software is robust and capable of handling all the users' request without any data lagging and perform efficiently. The Company shall regularly review software performance and update where necessary to meet the demands throughout the contract period. One of the software features should include compatibility with mobile devices for field staff.

5.3 The software shall be for a multi-user environment, whereby users can be grouped according to their roles and the software shall be able to be accessed via Internet securely. Where required secure connection shall be provided for such access and data encryption technologies to be adopted to allow a secure transaction.

5.4 The software shall be a web-based database application and shall be customised by the Company to suit the Service requirements. At any time during the Contract period, enhancement of the SIMAS shall be carried out to meet changes in the MOH requirements without any additional cost to the Government.

5.5 The Company shall provide maintenance services in respect of the SIMAS software, hardware, network and database. The software shall be maintained to include the provision of updates and new releases of the system software if such updates and new releases do not require any change or re-design of the database or source code of the

SIMAS. Updates and new releases of the system software shall be provided by the Company as and when it is available and without additional cost to the Government.

5.6 The software shall have an interactive desktop for each user which shall prompt on the actions required by the user via active links that would lead the user to the respective action areas. The software shall also have features to generate email alert messages to users within/outside the system.

5.7 The software shall have document management features which shall include but not limited to the following:

i. Features to maintain facility related documentations, manuals, drawings, which can be associated with their corresponding versions/revisions (version control) complete with check-in/check-out facility.
ii. Features to view uploaded document format such as .dwg, .dwf, .docx, .xlsx, and .pdf files through an in-built viewer without the need for their native software.

5.8 The software is expected to run 24/7. As such, the Company shall propose suitable system to ensure its availability in the event of any hardware/software failure.

5.9 The Company shall enhance the SIMAS to be installed to enable for integration with BruHIMS. The development cost for additional modules and integration shall be budgeted by the Company.

5.10 The software shall have Help-Desk Management features which shall include but not limited to the following:

i. Application features to record complaints as cases and to associate them with follow-up actions.
ii. Features for complaints to various levels of criticality.
iii. Features for keying in requisitions details and map them to the inventory record.
iv. Features to generate service levels and key performance indicators which shall form a basis for measuring the Company's performance.
v. Feature to schedule workforce and generate histograms of the work force deployed over a particular period.
vi. Features to alert Contract Manager and any other selected users via SMS on selected alert user requirements or situation such as biomedical equipment needing urgent repairs.

6.0 TRAINING

6.1 The company shall provide comprehensive training to all designated users on SIMAS components below: -

i. Design and Specifications of SIMAS;
ii. Installation and Maintenance; and
iii. Usage and Application.

6.2 The company shall be responsible for providing all necessary training and logistics to ensure effective training delivery. This includes, but not limited to:

i. Training materials e.g., user manuals
ii. Training demonstration
iii. Audio-visual equipment e.g., laptop, projector

7.0 HANDOVER

7.1 <u>Ownership</u>

All data, information and other materials (whether in original or derivative form) provided by the MOH for or in connection with the implementation of the Service, acquired by the Company in the course of carrying out such implementation, shall at all times be the exclusive property of the Government.

7.2 In the event that this Contract is terminated or upon the Expiry Date, the Company shall, at its own cost and expense, immediately upon such termination or expiration of the Contract, submit to the MOH:

i. The source codes for the software developed, including the editable versions thus far at no additional cost to the MOH; and

ii. All the SIMAS developed, the relevant back-up hardware, software, relevant updated manuals, configuration documentation, installation compact discs, latest hardware and software inventory lists and other related documentation.

SCHEDULE E

KEY PERFORMANCE INDICATORS (KPIS)

1.0 KEY PERFORMANCE INDICATORS

1.1 The Company's performance will be based on a set Key Performance Indicators (KPIs) related to delivery activities and performance requirements as illustrated below:

No.	Key Deduction Indicators	%	Weightage
B1	All service requests shall be responded by the Company's trained technical personal within the timeframe as stipulated in the Agreement.	100%	20%
B2	Unscheduled maintenance works including relevant maintenance calibration, safety tests and functional checks shall be completed within seven (7) working days.	100%	20%
B3	Scheduled maintenance shall be carried out as per schedule and according to the procedure as specified in the Agreement. Scheduled maintenance shall include complete safety and performance tests.	100%	15%
B4	All biomedical equipment shall be functioning and maintained to ensure uptime target as specified in the TRKPI are met.	100%	25%
B5	T&C and Warranty Management of newly introduced biomedical shall be managed and performed according to the Agreement and related acts, standards and regulations.	100%	10%
B6	Asset registration and inventory done to schedule	100%	10%

1.2 General description of the Key Performance Indicators (KPIs) are provided below:

Indicator B1: Response Time

- Response time refers to time taken from initial request by the user to the time trained technical personnel is physically present to assess the request. Response time for online request is calculated from the time the request is received by the Company.

- All service requests shall be responded by the Company's trained technical personal within the timeframe as stipulated in the Agreement:

  - Normal Call - within 60 minutes (1 hour)
  - Emergency Call High Risk - within 15 minutes (0.25 hour)

- Emergency call refers to a situation involving biomedical equipment failure in high-risk or critical areas that threatens patient life and safety, requiring immediate action to minimize interruption of clinical services.

- Deduction demerit shall be imposed upon occasion of the Company fails to provide onsite response within the stipulated timeline and/or the responder is not a competent person to assess user request.

- Deduction amount shall be based on the frequency of event times certain rate to be formulated later.

Indicator B2: Repair Time

- Repair time refers to the period when service request is generated until the work is completed. Deduction shall be calculated after seven (7) calendar days until the unscheduled maintenance is completed.

- All unscheduled maintenance works including relevant maintenance calibration, safety tests and functional checks shall be completed within seven (7) calendar days. Not completing repair works according to the Service specifications is a non-conformance and applicable for Fee Deduction.

- Administrative details of the verification process and relevant application or exemption shall be formulated accordingly.

Indicator B3: Scheduled Maintenance

- The Company shall carry out scheduled maintenance including Planned Preventive Maintenance (PPM), Routine Inspection (RI) Scheduled Corrective Maintenance (SCM), Predictive Maintenance and Maintenance Calibration as per schedule and according to the procedure as specified in the Agreement. Scheduled maintenance shall include complete safety and performance tests.

- Deduction shall be imposed for the applicable month(s) until the work order is closed i.e., if the Company fail to complete Scheduled Maintenance according to the procedures or specified schedule.

Indicator B4: Uptime Target

- All biomedical equipment shall be functioning and maintained to ensure specified uptime target is met for each calendar year.

- The minimum uptime target shall be 85% for the year. Details on the method of calculation and applicable procedures shall be developed accordingly.

Indictor B5: Testing & Commissioning and Warranty Management

- For newly procured and upgraded biomedical equipment, the Company shall witness and verify that T&C is carried out by the supplier, undertaking relevant safety and performance tests and verify that the tests results fall within acceptable parameters before handing over to the user.

- The Company shall also manage the warranty programmes to ensure all the necessary processes and procedures are complied with.

- Fee deduction shall be imposed to the Company upon failure to verify T&C exercises and warranty management activities not carried out completely.

Indicator B6: Asset registration and inventory update

- Asset listing shall be continuously updated upon performance of Unscheduled or Scheduled Maintenance for current period and also upon any omission and addition.

- Fee deduction shall be applied upon finding of discrepancies between asset registry and inspection findings on actual assets on-site.

2.0 PERFORMANCE ASSESSMENT

2.1 The Company shall provide full support and input to the Facility Manager and the Government to monitor performance of the Company. The Company's performance shall be monitored by the MOH's Representatives by the application and use of KPI's and monthly performance monitoring data. The performance shall be monitored based on Performance Monitoring Report for all performance indicators to be submitted by the Company monthly.

2.2 These KPI records shall be agreed with Government at the start of the Contract. Within three (3) months after the issuance of the Letter of Award, the Company shall propose a standard format for recording the KPI's and Performance Monitoring Form. Upon approval of the format, the Company shall capture all cases reported/received in respect to the KPI's and generate monthly report for the Government and Government Representatives. The Performance Monitoring Form should include

i. The key requirement specifications as detailed in this contract.
ii. Identification of previously identified areas of non-compliance, and the dates of identification.
iii. Identification if those areas of non-compliance which have been rectified, where this rectification has been confirmed by the Government.

2.3 The Government will inform the Company of the items of non-compliance no less than fourteen (14) days prior to the subsequent month's site visit. Where the Company has not rectified the items of non-compliance prior to the subsequent months visit the Company will incur additional penalties to the monthly spot deductions until the case is closed.

2.4 Should the Company's score fall below the required standards for KPI's and Performance Monitoring, the Company shall activate an escalation procedure to bring the service up to the required standard by the next monthly assessment.

2.5 The Government may recover Liquidated Damages as a debt due by the Company or deduct the amount from any monies due or becoming due to the Company.

2.6 A final performance rating and payment will then be calculated based on how the Company deliver the targets of the KPIs.

SCHEDULE F

SUBCONTRACTING OF SPECIALISED EQUIPMENT

BIOMEDICAL ENGINEERING SERVICES (BMES)
SPECIALISED EQUIPMENT/SYSTEMS

A. The Company shall engage specialised outsourced contractors to perform maintenance for advanced technology biomedical equipment or systems due to the following factors:

1. Compliance with the statutory laws and/or regulations; or
2. Unavailability of in-house competency;

B. The types of equipment / system under the specialised category are as follows:

i. Scanning Systems, Magnetic Resonance Imaging
ii. Radiographic/Fluoroscopic Systems, Angiographic/Interventional
iii. Scanning Systems, Computed Tomography
iv. Radiographic System, General Purpose