Republic of the Philippines
Department of Health
BAGUIO GENERAL HOSPITAL AND MEDICAL CENTER
BAGUIO CITY
(074) 442-4216 INC, 223,444-3165: TELEFAX: (074) 8342

TECHNICAL SPECIFICATIONS

Republic of the Philippines
Department of Health
BAGUIO GENERAL HOSPITAL AND MEDICAL CENTER
BAGUIO CITY
(074) 442-4216 INC, 223,444-3165: TELEFAX: (074) 8342

SPECIFICATIONS: PROVISION OF MACHINES, RO, CONSUMABLES	**PLEASE CHECK**	
	COMPLY	**DID NOT COMPLY**

I. MANAGEMENT

The dialysis unit shall be under the direct supervision of the Baguio General Hospital and Medical Center management, designating a unit head, thus all rules and regulations with regards to administrative and financial arrangements shall be in accordance with the memorandum of agreement with the hospital.

II FACILITIES

1. HEMODIALYSIS MACHINE Minimal Technical Specification

A. Total of 38 Conventional HD machines with the following distribution:
MAIN HD 2ND FLOOR MAIN BLDG :
Negative Machine -26 stations plus 2 backups
Hepatitis B -3 stations
Hepatitis C -1 station
COVID Area 3rd floor Flavier Bldg
Negative Machine -4 stations
Hepatitis B -1stations
Heapatis C -1 station

Technical specifications of HD Machines

1. HEMODIALYSIS MACHINES: BRAND NEW

Specifications	**Features**
Display	Full Touch Screen
Graphic Display	Yes

Dialysate Flow Rate	**(300 to 700 ml/min)**			
Dialysate Pressure	(-600 to 600mmHg)			
Dialysate dilution system	Continuous volumetric dilution using duplex pump			
Sequential/ Isolated UF	Yes			
Automatic Priming function	Yes			
Closed loop circuit continuous test	Yes			
Ultrafiltration monitoring	yes			
Blood Flow Rate	40 to 600 ml/min			
Display of treated blood volume	Yes			
Blood Detector/Sensor	Yes			
Blood Line	Universal			
Anticoagulation rate	0 to 10ml/h			
Heat + Citric	Yes			
Chemical Disinfection	Yes			
Integrated Heat Disinfection	Yes			
Coupling Disinfection	Yes			
Blood Flow Rate Side Dial Manual Rotary Switch	Yes			
Profiling Na^+	Yes			
Profiling UF	Yes (linear & exponential)			
Profiling HCO_3^-	Yes			
Acid & Bicarb Suction Noozle Tip with Rinsing	Yes			
Solenoid valve real-time continuous monitoring	Yes			
TMP auto-forecast real time continuous monitoring	Yes			
Duplex pump discharge real-time continuous monitoring	Yes			
UF pump discharge real-time continuous monitoring	Yes			
Micro particle endotoxin cut filter w/ leak test function	Yes			
Heat collection by heat exchanger	Yes			

Battery Backup	**Yes (up to 45 mins.)**			
Drain function for blood tubing line	Yes			
Auto-response (human) sensor	Yes			
Automatic Power On/Off	Yes			
Single Pump Single Needle (Click-Clack) Treatment	Yes			
Bicarbonate Treatment	Yes			
Acetate Treatment	Yes			
Fifteen minutes Auto Pre-Treatment with UF	Yes			
Patient Name input	Yes			
Internal Patient Memory Data	Up to 16 patients			
CPU system self test	Yes			
Computer Interface	Yes			
Bicarbonate (Premix & Powder)	Yes			
Acid (Premix & Powder)	Yes			
Pre-programme concentrate allowed (no. of different concentrates that can be programmed)	5 Different kinds			
Power Supply	AC (single phase) 110, 220 to 240V, 50/60Hz, 1.5kVA, Back-up battery: Ni-MH battery, 24V/500mAh			
Water Supply	Pressure range: 70 to 300 Kpa; Temperature: 10 to 30°C			

II. Central water treatment and distribution system (CWTS)

There should be a separate water treatment systems for the main hemodialysis unit (2nd floor Main Building, existing hemodialysis unit.

Reverse Osmosis Machines

Double Pass RO Machine (Brand-new)

Water treatment should ensure the production of ultra-pure dialysate and water quality appropriate for on-line production of substitution fluids for the KFP HD Facility. The 30-station HD Facility should have a Double Pass Reverse Osmosis water treatment.

1. Quality of water

1.1 must satisfy AAMI Quality Guideline on quality of water (chemical/bacteriologic)

1.2 The chemical and physical analysis of the R.O. water shall be conducted by the winning proponent in a designated testing laboratory that should follow US-based AAMI standards. This said facility should be a Department of Health accredited and BFAD-recognized laboratory.

1.3 The chemical and physical analysis of raw water shall be done quarterly by the winning proponent.

2. Construction quality

2.1 The reverse osmosis unit and associated components shall be well designed and constructed. it shall be compact and designed to protect internal components and to facilitate ease of maintenance.

2.2 The design shall provide protection for personnel against both moving and electrically energized parts.

2.3 Mechanical, electrical and pneumatic termination, connectors, sockets, switches knobs and other controls must be designed to prevent fluid, penetration and incorrect connection of fittings and couplings. Electrical wiring should be nearly arranged and handled as appropriate and must at all times comply with wiring standards.

3. Ergonomic Design

The design must address the following:

3.1 Double stage Reverse osmosis system

3.2 Controls shall be logically arranged and clearly identify their function

3.3 Switches and controls must be protected against accidental contact, resulting in inadvertent setting and monitors.

3.4Visual displays and indicators shall be easily read and interpreted

3.5 Monitors and alarms that are operator adjustable shall not allow illogical set points.

PRE-TREATMENT phase

1. The **PRE-TREATMENT** phase must include the following:

    a. **Multi-media Filter (brand new):** Media to be a mixture of anthracite, sand, garnet and gravel, to ensure the removal of particulate matter down into the media, for finer filtration and low differential pressure. The filter must incorporate a timer for backwash cycles and a valve suitable for water sampling.

    b. **Softener and Brine Tank (brand new):** (The size of the softener tank will depend on the calcium carbonate content of the feed water. Thus, raw water analysis will be required prior to installation.) The size of the tank must be enough to ensure exchange capacity (Every cubic foot of resin=3000 grams of hardness exchange capability). The flow rate should be adequate for the process to flow between regeneration cycles. The softener must incorporate a timer for regeneration cycles and a valve suitable for water sampling. The SUPPLIER PARTNER should maintain the correct amount of salt and water proportion at all times.

    c. **Granulated Activated Carbon (brand new):** Two carbon tanks are required and each should have at least **GAC Iodine #1000**. The empty Bed Contact Time (EBCT) of each tank must be five (5) minutes. This ensures the effective removal of chlorine/chloramines. Regenerated or recycled carbon cannot be used. Both tanks must incorporate timers for backwash cycles. Pressure gauges on the inlet and outlet of the tank should be fitted to monitor the pressure drop (delta pressure). Each tank must have sample valves suitable for water sampling between tanks and after the second tank. The chlorine water analysis shall be conducted and the results thereof shall trigger the replacement of the carbon tank.

    All carbon should be acid washed, and not steam activated carbon which can easily clog filters and RO. Carbon shall be replaced every 12 months or earlier if high chlorine concentrations are detected.

    d. **Sediment Filtration Cartridge:** Filters of 1 and 5 micron rating shall be installed for RO membrane protection against fine sediment and carbon fines. There should be two gauges to monitor the inlet versus the outlet pressures across the filter. The filters shall be changed on a weekly basis. All filter changes shall be recorded in a logbook that must be kept on site.

    e. **Ultra violet sterilizer (brand new):** The strength of the ultra violet rays should be commensurate to the volume of water to be supplied to the HD units. Regular maintenance of the UV device should be performed which include continuous monitoring of radiant energy output that activates an audible and visual alarm, routine cleaning of the quartz sleeve and replacing the lamp at least annually or sooner if recommended by the manufacturer.

2. **REVERSE OSMOSIS UNIT** should incorporate the following features:

a. System Methodology The required system is a direct feed reverse osmosis system wherein the water travels in a continuous circle throughout the facility without any branching off.

A specific water flow rate, along with a minimum and maximum pressure, as detected by a FLOW METER installed at the end of the distribution loop, should be maintained. Therefore, proper piping size must be determined to achieve higher flow rates for the system that will give higher flow velocities. All permeate plate per station should be brand new (standard size) and must comply with the latest standard set by AAMI.

b. Automatic Control System: The tendered system must operate via Electrical based control system to provide fully automatic operation of unit functions

c. Systems Alarm Permeate conductivity and percentage recovery alarm limits must be preset. They should not be operator adjustable. Other system operational alarms should be displayed. It should not be possible to reset any alarm indication until the cause has been rectified. An audible signal and visual display must accompany any system operational alarm. The audible signal may be muted for a set period, but may not be cancelled until the cause of the alarm has been rectified.

d. Available power on-site: 220 volts-single phase, 60 hertz. (BGHMC power on-site 220, 1 phase but 3 phase is possible upon request from the engineering department)

e. Feed Pump must have a back up pump with automatically transfer if other pump is malfunctions. During Operations automatic transfer every 1 hour to prevent water stagnant.

f. Distribution Pump must have a back up pump with automatically transfer if other pump is malfunctions. During Operations automatic transfer every 1 hour to prevent water stagnant.

g. The following areas should be supplied with RO water:

1) Hemodialysis treatment areas
2) Reprocessing Room
3) Acid/Bicarbonate Mixer Room
4) Equipment Room

h. The R.O. room should be kept clean and orderly and there should be no leaks from any of the tanks, tubes and pipes at any time.The winning proponent's engineer should be present to supervise the change of the R.O. membranes and any other major maintenance activity. The repair and maintenance of the equipment; replacement of materials and consumables should be shouldered by the winning proponent including materials

and device. Any additional installation of water distribution loop or emergency set up from the treatment areas should be provided by the winning proponent

i. The SUPPLIER PARTNER's engineer should be present to supervise the change of the R.O. membranes and any other major maintenance activity.

j. Any additional installation of water distribution loop or emergency set up from the treatment areas should be provided by the SUPPLIER PARTNER.

3. WATER QUALITY

a. **RO membranes:** Thin Film Composite (TFC) Spiral Wound Membranes are required for this installation. A Double Pass Reverse Osmosis is the required configuration where permeate from the first set of membranes provides the feed water for the second set of membranes. This configuration will produce permeate of ultra-pure quality. The required permeate feed rate is 1600 ml per Hour. The water recovery must be > 50% (master) on the first stage and 75% (slave) on the second stage in order to minimize water wastage. Reject water should not be re-used as raw water in the water treatment system.

The number of membranes depends on the number of machines and volume of water that passes through the RO.

b. **Permeate Quality:** The rejection characteristics of TFC membranes, with pre-treatment and operating parameters conforming to manufacturer recommendations are required for water for dialysis use. Therefore, as a minimum requirement, the quality of permeate within the distribution loop shall at all times conform to or exceed the current American Association of Medical Instruments (AAMI) standards for the quality of water for dialysis use.

c. **Permeate Distribution Loop:** To assure continuance of the quality of permeate within the distribution loop, particular attention must be given to the loop material, the method of installation and connection of dialysis machines to the loop

1)Loop Material should be:

i. medical grade
ii. Heat resistant to > 110 ^{0}C.
iii. chemical resistant
iv. low friction allowing high velocities with low ΔP
v. Smooth interior surface offering minimal possibilities of bacterial proliferation

2) Method of Installation:

i. Continuous, free flowing loop, of minimal length with no dead ends
ii. No glues or adhesives are to be used
iii. Connection to the loop for dialysis machines and ancillary equipment, must be via couplings that are stainless steel, quick connecting, and self-sealing.

d. **Pressurization pump** The requirement is that a minimum pressure of 60 PSI be maintained within the loop under all normal operating conditions, at a minimum flow rate of one meter /second, and that the recirculation pump be accurately sized, with relation to loop piping diameter and loop length. A back up pressure pump should be installed by the SUPPLIER PARTNER, with bypass connection to the main water system in case of downtime.

e. **Ultra-filter** Inclusion of an ultra-filter within the permeate distribution loop that is heat resistant to a minimum of 100 ^{0}C.

f. **Drainage** Drainage of effluent from the dialysis machines must allow for a minimum of 30 mm air gap between each machine drain outlet and the drainage piping. Piping material should be a minimum of 110mm diameter medical grade uPVC gray pipe, and have a minimum 3^0 slope to the main drainage point. Up to five machine drain outlets may converge to a common (pouring basket/basin).

g. **Cleaning and Disinfection**

1) Loop Distribution

1) Chemical Disinfection

Monthly disinfection of the water distribution loop, using any of the approved chemicals as recommended by AAMI, to be supplied and performed by the proponent engineer.

2) RO membranes:

Cleaning and Chemical Disinfection: Cleaning of the RO membrane-element, i.e. the removal of scale and bio-growth (bacterial slime) should be performed whenever the RO product water flow rate has declined by 10% or its conductivity has increased by 50% (i.e., The 10/50 Rule). The cleaning technique should follow the acid-base cleaning sequence.

i. Any type of deposit on the membrane or other parts of the system should be removed with an alkaline cleaner before disinfecting. Removal of these deposits, which harbor microorganisms, will maximize the degree of disinfection. After alkaline cleaning, flush the system with RO permeates.

ii. Clean the RO system with acid (e.g., 0.1 percent by volume hydrochloric acid or 0.4 percent by volume phosphoric acid) to remove any iron from the membrane surface. Flush the unit with RO permeate.

iii. Circulate a solution of 0.20-0.25 percent hydrogen peroxide diluted with RO permeate at a temperature below 25°C (77°F) for 20 minutes. A pH of 3-4 gives optimal biocidal results and longer membrane lifetime.

iv. Allow the elements to soak in the disinfecting solution for 2-12 hours. A soak time of 2 hours would be expected to kill more than 90 percent of the bacteria, whereas a 12-hour soak time would achieve a 99 percent kill. Hydrogen peroxide or a mixture of hydrogen peroxide and peracetic acid has been used successfully for disinfecting reverse osmosis (RO) systems.

v. Hydrogen peroxide / peracetic acid are the recommended chemicals for cleaning and disinfecting the RO membranes.

h. NOISE

The noise level from the installed system shall not exceed 65dB measured at a 1-meter distance from the point of entry to the systems location area.

i. **UPGRADES**

The system design should incorporate components that are within industry standard allowing local availability to prevent prolonged downtime in the event of equipment malfunction

j. MANUALS

Operator and Technical manuals in original and English format must be provided in 2 copies.

k. ACCEPTANCE TESTING

1) Final acceptance testing of the complete installation is the ultimate responsibility. Cost of testing should be shouldered by the SUPPLIER PARTNER.

2) At the time of final acceptance, all relevant parties involved must be present.
3) Prior to ANY hemodialysis treatment being performed, the criteria of performance standards should be complied with. will give its final approval on the suitability and conformity of the installed water treatment system, together with the Proponent Representative. Issuance of a Certificate of Acceptance should coincide with the start of the cooperation period.

4.4 Water quality

4.4..1 RO Membranes, Thin film Composite (TFC) Spiral Wound Membranes, are required for this installation.The preferred configuration is double pass Reverse Osmosis where permeate from the first set of membranes provides the feed water for the second set of membranes. This configuration will produce permeate of ultra-pure quality. The required permeate feed rate is 1600ml per hour. The water recovery must be> 50% on the first stage and 75% on the second stage in order to minimize water wastage. .Reject water should not be re-used as raw water in the water treatment system. The number of membranes depends on the number of machines and volume of water that passes through the RO

4.4.2 Permeate Quality. The rejections characteristics of TFC membranes, with pre-treatment and operating parameters conforming to manufacturer recommendations are required for water for dialysis use. Therefore, as a minimum requirement, the quality of permeate within the distribution loop shall at all times conform to or exceed the current American Association of Medical Instruments (AAMI) standards for the quality of water for dialysis.

4.4.3 Permeate Distribution Loop. To assure continuance of the quality of permeate within the distribution loop, particular attention must be given to the loop material, the method of the installation and connections of dialysis machines to the loop.

Loop material should be

4.4.3.1 Material chosen must be of medical grade
4.4.32.It should be heat resistant to >110 ○ C
4.4.3.3 Have low friction allowing high velocities with low △P
4.4.3.4 chemical resistant
4.4.3.5 Have a smooth interior surface offering minimal possibilities of bacterial proliferation

Method of installation

4.4.3.6 Be installed as a continuous, free looping loop, of minimal length with no dead ends
4.4.3.7 No glues or adhesives are to be used

4.4.8 Connection to the loop for dialysis machines and ancillary equipment must be via couplings that are stainless steel, quick connecting, self- sealing couplings (Swagelok or similar)

4.4.5. Pressurization pump. The requirement is that a minimum pressure of 60 PSI be maintained within the loop under all normal operating conditions, at a minimum flow rate of one meter /second, and that the recirculation pump be accurately sized, with relation to loop piping diameter and loop length. A back up pressure pump should be installed by the winning proponent, with bypass connection to the main water system in case of downtime.

4.4.6Ultra-filter. Inclusion of an ultra-filter within the permeate distribution loop that is heat resistant to a minimum of 100^0C.

4.4.7 Drainage, Drainage of effluent from the dialysis machines must allow for a minimum 30mm air gap between each machine drain outlet and the drainage piping. Piping material should be a minimum 110 mm diameter medical grade uPVC gray pipe , and have a minimum 3 ○ slope to the main drainage point. Up to five machine drain outlets may converge to a common tundish.

4.4.8. Cleaning and disinfection

4.4.8.1 Loop Distribution

4.4.8.1.1 Chemical Disinfection - Monthly disinfection of the water distribution loop, using any of the approved chemicals as recommended by AAMI, to be supplied and performed by the proponent engineer.

.4.4.82 RO membranes: Cleaning and Chemical Disinfection: Cleaning of the RO membrane-element, i.e. the removal of scale and bio-growth (bacterial slime) should be performed whenever the RO product water flow rate has declined by 10% or its conductivity has increased by 50% (i.e., The 10/50 Rule). The cleaning technique should follow the acid-base cleaning sequence.

1. Any type of deposit on the membrane or other parts of the system should be removed with an alkaline cleaner before disinfecting. Removal of these deposits, which harbor microorganisms, will maximize the degree of disinfection. After alkaline cleaning, flush the system with RO permeates.

2 Clean the RO system with acid (e.g., 0.1 percent by volume hydrochloric acid or 0.4 percent by volume phosphoric acid) to remove any iron from the membrane surface. Flush the unit with RO permeate.

3Circulate a solution of 0.20-0.25 percent hydrogen peroxide diluted with RO permeate at a temperature below 25°C (77°F) for 20 minutes. A pH of 3-4 gives optimal biocidal results and longer membrane lifetime.

4. Allow the elements to soak in the disinfecting solution for 2- 12 hours. A soak time of 2 hours would be expected to kill more than 90 percent of the bacteria, whereas a 12-hour soak time would achieve a 99 percent kill. Hydrogen peroxide or a mixture of hydrogen peroxide and peracetic acid has been used successfully for disinfecting reverse osmosis (RO) systems.

5 Hydrogen peroxide / peracetic acid are the recommended chemicals for cleaning and disinfecting the RO

membranes

4.4.9 SUPPORT- In case of equipment malfunction and other technical problems, proponent must state the availability of technically qualified personnel, and their qualifications. (at least 1 assigned for BGHMC, the Turn around time of service shall be the following:

10.1 Support team shall be informed within 1 hour
10.2 Support team shall reply within 1 hour,
10.3 Repairs shall be done within 24-36 hours to avoid down time.

A sufficient number of back-up HD machines and RO component parts and consumable items, and minimum inventory requirement as required by BGHMC should always be available.

1) At proximity to the location
2) In Baguio City
3) Estimated time of repair completion

There should be no machine downtime for this HD facility

4.4.10 NOISE The noise level from the installed system shall not exceed 60Db measured at a 1-meter distance from the point of entry to the systems location area. The noise level from the installed system shall not exceed 65dB measured at a 1-meter distance from the point of entry to the systems location area.

4.4.11 UPGRADES The system design should incorporate components that are within industry standard allowing local availability to prevent prolonged downtime in the event of equipment malfunction

4.4.12 MANUALS
2 copies, in original format of both operator and Technical manuals must be made available to BGHMC

4.4.13 ACCEPTANCE TESTING

1 Final acceptance testing of the complete installation is the ultimate responsibility of the BGHMC . **Cost of testing should be shouldered by the Winning Proponent.**

2 At the time of final acceptance, all relevant parties involved must be present.

3 Prior to ANY hemodialysis treatment being performed, the BGHMC'**s criteria of** performance standards **should be complied with. BGHMC** will give **its** final approval on the suitability and conformity of the installed water treatment system, together with the Proponent Representative. Issuance of a Certificate of acceptance should coincide with the start of cooperation period

5. Service and Maintenance*(to be provided during the life of the contract)*

i. technical consideration	5.1 Safety requirements of the HD machines ▪ Monitors shall be designed so that the monitor cannot be disabled by unauthorized personnel. ▪ The sound emitted by audible alarms cannot be put to silent mode for more than 5 minutes 5,2 Labeling and documentation requirements ▪ The term "labeling" as used in this document, includes any written material accompanying any water treatment device or system, such as instructions for use and operator's manuals, or any instructions or control feature markings attached to the device or system. 5.3 Device markings ▪ All water outlets in the facility shall be labeled to indicate treated or untreated water. ▪ All water sampling ports should be properly labelled. 5.4 Product literature The proponent shall provide literature to the facility that contains but not limited to the following information: 5.4.1 A description of the **HD machines, R.O.** or system, including a list of monitors, alarms and component devices provided as standard equipment 5.4.2 Schematic diagram of the **HD machines, R.O** or system showing the location of any valves, in-line monitors or sampling ports. 5.4.3 Operating specifications, such as maximum and minimum input water temp, pressure and flow rate, limits on input water quality, pressure of product water at various flow rates, and maximum output of product water. 5.4.4 Detailed instructions for use including start up; testing and calibration; operation and meaning of alarms; operational adjustments to monitors, alarms and controls and connection to other equipment. 5.4.5 For UV irradiators, a disclosure statement from the manufacturer that the effectiveness of the device in killing specific bacteria under specified operating conditions, and recommendation that the UV irradiators be followed by an ultrafilter or other bacteria-reducing and endotoxin-reducing device. 5.4.6 Typical life expectancy, capacity, or indication of the end of life of components that are nondurable or require periodic regeneration or reconstitution and a statement that additional information on component life expectancy or capacity relative to their products is available upon request.		

5.5 Maintenance

5.5.1 Other maintenance and service instructions, including recommended preventive maintenance, emergency urgent or routine maintenance/ calibration, procedures and schedules, recommended monitoring schedules, troubleshooting guidelines, service information, and a warning of the consequences if maintenance instructions are not followed.

5.5.2 Information about germicides and cleaning agents known to be compatible with materials used in the device, and information about chemicals with which materials used in the device are compatible

Ii Lifetime service

iii.Availability of spare parts

iv.Availability of dedicated service personnel to the institute (Biomed Engineer), 24/7.

v. Accessibility to address any machine malfunction, failure, and technical problems

vi Response time in answering service calls within one (1) hour from time of call and machine down time should not be more than 4 hours.

vii. Maintenance calibration –monthly

5.6 Testing Standards and Frequency

The BGHMC recommend schedule for testing of water for hemodialysis and shall be strictly implemented and test results must be regularly submitted to the BGHMC Hemodialysis Unit and recorded.

2. SUPPLIES Treatment Supplies, Furniture and Fixtures and Maintenance Supplies

The TREATMENT SUPPLIES as listed below should be made available in packaged form and issued accordingly on a per treatment basis:

HD treatment	Quantity
Hi flux dialyzer	1
Blood lines	1
Put on kit	1
Put off kit	1
Normal saline solution 1 liter	2
Micropore roll (single patient use)	1
Heparin (fistula)	1
Heparin (catheter)	2

Qty.	Main hemodialysis unit	Qty.	COVID area	Remarks
	1. Hemodialysis Chair – comfortable and functional			To be pulled out at the end of contract
30	Inclusive of 2 back-up chairs for observation	4	2 negative 1 Hep C 1 Hep B	
	Must have a comfortable, wide and movable armrest that permits optimal placement of the arms and 2pcs side laminated side table			
	Adjustable to horizontal and Trendelenburg position			
	Flexible for patient comfort			
	Must be mobile yet stable and Heavy duty and made with solid wood frame			
	Cushions must be comfortable with head rest cushion			
	Durable upholstery and made of leather			
	Adjustable footrest to fit leg length of the patient			
	Must have simultaneous single pedal caster lock			
	With Cup Holder and Mobile Phone/Tablet Holder			

	1. Reprocessing Machines						
5	Reprocessing machine with the following features, but not limited to, for non-reactive Hepatitis B patients.			To be pulled out at the end of contract			
	Automated cycle Rinsing and Reverse UF Program						
	Automated fill program with data management system.						
	Can accommodate conventional, high efficiency and high flux dialyzers.						
	Pressure Dialyzer Leakage Tester						
	Programable timer for Rinsing and Reverse UF Program						
	Can detect blood leak in seconds						
	Header cap leak test						
	Capable of volume re-test, if field volume detect						
	Total Cell Volume Test						
	Capable more than 10 Reuse per Dialyzer						
	Can Efficiently Reuse Low and high Flux Dialyzer						
	Pressure Inlet Monitoring Compatible with any type of disinfectant						
	Can Process multiple dialyzer at the same Time						

	Fiber glass lavatory with stainless steel frame					
	2. Dialyzer					
1pc	Dialyzer (8 reuse) PROVISION OF HIGH FLUX AND LOW FLUX DIALYZERS The minimum use of reuse factor on the dialyzer will depend on the DECISION of the nephrologist. The first 8 reuse of dialyzers (FREE) shall be included in the cost of the dialysis package. The cost shall be shouldered by the patient in case the nephrologist requires the use of a new set.	1pc	For severe/critical COVID patients, the dialyzers shall be single use, charged accordingly.			
	a. Biocompatible High flux, high efficiency dialyzers, b. Low flux dialyzers as needed KσA> urea 450 ml/min Urea Clearance > 200ml/min Kuf>15ml/min B2-microglobulin clearance>20ml/min Surface area>1.5to 1.8 Steam sterilized /Gamma		High flux, high efficiency dialyzers, .			
1 pc	Pediatric patient – high flux KσA> urea 200 ml/min Urea Clearance > 200ml/min Surface area> 0.4 to 1.5 Steam sterilized /Gamma	1 pc				
	3. Bloodlines (per treatment)					
1pc	a. Single use bloodlines, 6 mm or 8mm diameter for regular HD	1pc	Single use bloodlines, 6 mm or 8mm diameter, with transducers protector: arterial			

	with transducers protector: arterial pillow or chamber if applicable		pillow or chamber if applicable			

4. Hemodialysis Solution				
1	Sodium bicarbonate bag/cartridge or 5 L container at least 500 gms for regular HD	1	Sodium bicarbonate bag/cartridge or 5 L container at least 500 gms for regular HD	
1 5 liters per container only	Minimum of 1 x 5 liters Acid solution: potassium-free, potassium 2mmol/L, potassium 4mmol/L, low calcium bath (1.5 mmo/L) – factory pre-mix solution Acid solution 5 L (premix)	1	Minimum of 1 x 5 liters Acid solution: potassium-free, potassium 2mmol/L, potassium 4mmol/L, low calcium bath (1.5 mmo/L) – factory pre-mix solution Acid solution 5 L (premix)	
2L	Normal saline-plastic bottle or bags, non glass container , for initiation and termination of treatment	2L	Normal saline-plastic bags: additional 1L for heparin – free prescriptions	
	Sterilant solution for dialyzers (hydrogen peroxide with per acetic acid)		Sterilant solution for dialyzers (hydrogen peroxide with peracetic acid)	

5. Anticoagulant				
	Heparin unfractionated regular stock of 1000u/ml/ vial, 5 ml /treatment 1 vial for AVF 2 vials for catheters	1 vial	Heparin, regular stock of 1000u/ml/ vial , 5 ml /treatment	

6. Access Dressing kit Catheter dressing PUT ON KIT	

1roll	Plaster 85 ”L ≥ (single patient use)	1pr	Plaster 85 ”L ≥ (single patient use)			
4 pcs	Sterile 4x4 gauze pad	4 pcs	Sterile 4x4 gauze pad			
2 pcs	Surgical loop mask	2 pcs	Surgical loop mask			
2 pcs	Chlorhexidine 2% swab stick / pack	2 pcs	Chlorhexidine 2% swab stick / pack			
2 pcs	Chlorhexidine prep pad (same with fistula kit)	2pcs	Chlorhexidine 2% swab stick / pack			
1 pr	Sterile gloves; powderless	1pr	Sterile gloves; powderless			
I pr	Clean gloves; powderless	1 pr	Clean gloves; powderless			
	Other supplies needed for initiation of catheter (separate from kit)		**Other supplies needed for initiation of fistula (separate from the kit)**			
2PCS	10 cc syringe ; luer lock	2 pcs	10 cc syringe ; luer lock			
2PCS	3 cc syringe ; luerlock	2pcs	3 cc syringe ; luerlock			
1pc	20 cc syringe; luer lock	1pc	20 cc syringe; luer lock			
1pc	Transparent dressing (10cmx12cm(hypoallergenic)	1pc	Transparent dressing (10cmx12cm(hypoallergenic)			
1pc	Under pad or absorbable pad (8.5x11”L)	1pc	Under pad or absorbable pad (8.5x11”L)			
	FISTULA DRESSING PUT ON KIT					
4pcs	Sterile 2x2gauze pad:pre-packed	4pcs	Sterile 4x24gauze pad: sterile: pre-packed			
1 roll	Plaster (hypoallergenic) 75’80’long;individual use	1 roll	Plaster (hypoallergenic) 75’80’long;individual use			
2pcs	Chlorhexidine prep pad; 2% plus 70% isopropyl alcohol sachet with high moisture content, low linting, stain and fragrance free, approximately 4.5 x 8.5 cm, and plus 2 extra pads for cleaning excessively dirty	2pcs	Chlorhexidine prep pad; 2% plus 70% isopropyl alcohol sachet with high moisture content, low linting, stain and fragrance free, approximately 4.5 x 8.5 cm, and plus 2 extra pads for cleaning excessively dirty access cleaning excessively dirty access			

4 pairs	(various sizes) Clean gloves; nitrile, powderless; and provision of another 2 pairs for cleaning / disinfecting dialysis chairs and machines	4 pairs	(various sizes) Clean gloves; nitrile, powderless; and provision of another 2 pairs for cleaning / disinfecting dialysis chairs and machines			
1pc	Under pad; small for access arm (8.5x11"L)	1pc	Under pad; small for access arm (8.5x11"L)			
	Other supplies needed for initiation of fistula (separate from the kit)		**Other supplies needed for initiation of fistula (separate from the kit)**			
1 pair	AVF needles; sizes must be available G14-17; with and without back-eye	1 pair	AVF needles; sizes must be available G14-17; with and without back-eye			
1 pc	20 cc syringe; luer lock	1 pc	20 cc syringe; luer lock			
2 pcs	10 cc syringe ; luer lock	2pc s	10 cc syringe ' luerlock			
2 pcs	3 cc syringe ; luerlock	2 pcs	3 cc syringe ; luerlock			
	FISTULA Take-off kit dressing		**FISTULA Take-off kit dressing**			
4pcs	Pressure dots or cherry balls; plus extra 2 for bleeders (separate pack of 2 inside the kit)	4pcs	Pressure dots or cherry balls; plus extra 2 for bleeders (separate pack of 2 inside the kit			
2pcs	Plaster strip with gauze approximately 2" W x 4-5" L	2pcs	Plaster strip with gauze approximately 2" W x 4-5" L			
2 pairs	Clean nitrile, powderless gloves, or unlimited provision of gloves in case patient bleeds or disconnection of needles occurs (various sizes, sterile)	2 pairs	Clean nitrile, powderless gloves, or unlimited provision of gloves in case patient bleeds or disconnection of needles occurs (various sizes, sterile)			
	CATHETER DRESSING Take-off kit		**CATHETER DRESSING Take-off kit**			
6 pcs	4x4 gauze pad (pre-packed) for termination purposes	6 pcs	4x4 gauze pad (pre-packed) for termination purposes			
2prs	Sterile gloves; powderless	2 prs	Sterile gloves; powderless			

1 pr	Clean gloves; powderless; unlimited supply	1 pr	Clean gloves; powderless; unlimited supply	
2PCS	3cc syringe (luer lock) separate from the kit	2pcs	3cc syringe (luer lock) separate from the kit	
2pcs	Adapter or Hep-lock	2pcs	Adapter or Hep-lock	

Note : All clean gloves must be nitrile powderless or non-latex & unlimited supply for cleaning and disinfecting patient dialysis equipment. (PRE/POST CLEANING, PROCESSING OF MACHINE/DIALYZER, minimum of 10 pairs per treatment)

*All sterile products should be properly labeled, sealed & packed in an easy- tear pack; with sterility indicator and expiration date.
*All syringes should be luer lock.
*****Surgical masks should be with loop on both ends (unlimited stock/supply)

7. Miscellaneous Supplies	
1 pc	Intravenous line with regulator (not for gravity) infusion)
1 pc	Test strip for presence of sterilant (post reprocessed dialyzers)
1 pc	Test strip for sterilant residuals before use of dialyzer
2 pc	Blue plastic clamps for each stations
10 pcs	Plastic buckets for mixing low level disinfectant for cleaning surfaces of machines chairs; plus 2 buckets for in-patient unit.
	Unlimited supply of disposal rags or disposable towels for machine; surfaces and chair cleaning with disinfectant safe for their machine, non-irritating to patients
57 staff	Level 3 PPE for staff a. Disposable surgical mask (1 per staff/treatment) b. Reusable full face shield (1 per staff per month) c. Disposable long sleeve fluid repellant gown (1 per staff per treatment)
3 pcs	Emergency box with lid , pull handled, wheels for supplies and materials in case of disaster or emergency (fire, earthquake, power-outage, etc.) PLASTIC, NON-POROUS MATERIAL. 2 medium

	1 large			
2	MSD's (for out and in-patient unit) all chemicals should be provided with MSDs to include lists of hazardous materials used in the unit with symbols (provided in binders) all chemicals must be BFAD approved and registered.			
Each machine	Sharps containers (red or transparent); big mouth, non-porous, puncture-proof containers with HAZMAT / BIOHAZARD sticker			
500 ml, 15 bottles per day 24 gallons per month 4 gallons per month 4 liters per day	*70% isopropyl Alcohol *Household bleach unscented hypochlorite solution) *Antibacterial liquid soap Disinfectant solution for machines			
2pcs	Tape sealer with refillable TAPE for bagged re-used dialyzers (1 red/ 1 blue or black) + barcode (readily replaced and refilled anytime) by winning proponent			
1 pc per dialyzer use (8 pieces per dialyzer)	transparent colored plastic bags for dialyzers (red and clear white)			
4 assorted color coded bags per treatment	yellow/black/green/red plastic bags for infectious waste			
5 pcs	Infectious yellow waste containers with cover; rolling type, large size (for dialyzers and bloodlines)			
15 pcs	Waste containers 5-6 gal capacity , rectangular 5 infectious 5 green waste 5 black waste			
15pcs	Plastic bucket with loop handle on the sides (yellow or red only) for used dialyzer & bloodlines transport from machines 10 pcs = Negative Hep patient (red) 5 pcs = Hepatitis B/C patients (yellow)			

Unlimited" supply applies to items that are frequently used during the Hemodialysis Treatment. These items should be readily replaced or refilled at any time. These items include but not limited to gloves, masks and put-on kits. Services should not be hampered by the lack of these supplies.

8. Others Equipment/Accessories				
	Main HD UNIT		MICU	Remarks
I unit	Emergency cart trolley –red with cardiac board, and accessories • Lightweight and easy to maneuver • Threaded stem 3” twin casters with break or lock • Dimensions: 29-32”Wx24.5-28”Dx46.5-50”H • Pre-threaded holes on sides and back easily mount accessories • New dual push handles • ABS plastic molded top with handrails on both sides to prevent stuff from falling out for protection and easy clean up stainless steel frame durable 5” easy roll casters with lock mount to non-marking material with 5 drawers at 3”, 3”, 6”, 6”, 9” • High impact stabilizer base includes: • -cardiac board and brackets • -IV pole and bracket • -oxygen tank bracelets • -collapsible side shelf • -utility hooks • -railing supports • -2”cut and clip divider system • -100 plastic seals • Parts are available locally • Polymer material - RED • Top compartment with			To be pulled out at the end of contract

	separate security or break away lock • With coded break away lock • Drawer dividers • IV rod • Oxygen cylinder holder • Transparent Top drawer cover					
1 unit	Cardiac monitor with defibrillator biphasic or AED, ECG machine (functional) • Power Supply Input: 220 VAC, 6-Hz with built in rechargeable battery pack • Output Energy: Mode select knob from 2 to 360 joules biphasic ECG • Lead: 12 leads • Color display • Built-in memory of at least 100 patients in auto mode • Patient data can be stored on USB flash drive • Power supply: 220V-6-Hz with battery pack • Print name/ID label, HR, axis, interval, voltage measurement, averages and interpretation • Minimum printing width of 90mm • Defibrillator and Electro Magnetic Interference protected • HL7 compatible for data transfer • Electrode Leads – replaceable when needed (chargeable to patient) • < 14 lbs weight • LCD display • AED and manual mode • 200 maximum joules • ECG monitoring • 3-lead patient cable • Rolling /tracing paper (stock c/o winning proponent) • External paddle • Rechargeable battery			To be pulled out at the end of contract		

	Accessories • Patient cable • Reusable patient Electrodes (limb and chest) • Power cord • Ground wire • Carrying case • Include cart/trolley with drawer and 2 or 4 lockable casters Consumables • ECG recording paper 5 rolls a month • ECG gel – 2 gels a month Parameters • HHHR, P-R interval, P duration, QRS duration, T axis, R (V5), S (V1), R (V5) + S(V1) • Consumables c/o the private proponent					
2 units	Bag-valve device (1 adult mask and 1 pedia mask)	2 unit	Bag-valve device	To be pulled out at the end of contract		
2 sets	Laryngoscope with straight and curve blades (adult and pedia) o Fiber optic (LED) bulbless curve blades o Surgical Stainless steel blades (2,3,4) o Stainless handle o Steam Autoclavable			To be pulled out at the end of contract		
	Consumables, e.g. batteries c/o the private proponent					
20 units	Oxygen gauge with flow meter			To be pulled out at the end		

				of contract		
6 units	Glucometer (Institute-approval device for non-reactive Hep patients; Inclusive of 1 unit for hepatitis B-C patients with compatible strips (refillable) care of winning proponent			To be pulled out at the end of contract		
5 units	Suction machines • Portable/electric • Lightweight; plastic mould less than 10 kg • unbreakable plastic jar (1-2L) • Low-noise level .55dB • Dimension (will fit into the top shelf of E-cart) • 220V • Disposable bacteria filter (with replacement stocks) c/o winning proponent • with CE mark/ ISO Standard			To be pulled out at the end of contract		
30 units	Blood pressure apparatus (rolling-type); non-mercurial as back-up or alternative use for BPM • with stand and casters • with basket • Dial face at least 6" x 6" • Bandage cuff (adult)-Velcro type • Inflation bag (adult)latex-free • Rubber valve with airflow control (latex-free)	1 units	Blood pressure apparatus (rolling-type); non-mercurial as back-up or alternative use for BPM	To be pulled out at the end of contract		
15pcs	Stethoscopes (specs) • two-sided chest piece • Stainless Steel chestpiece • combination diaphragm and bell type			To be pulled out at the end of contract		

	• rubberized ear tips o one pair spare ear tips, spare diaphragm					
15 units	Thermoscan thermometers • Power supply Input: Battery-operated • Range of measurement: 32-40 degrees Centigrade (minimum) • LCD display • memory display			To be pulled out at the end of contract		
1 unit	Transport stretcher • heavy duty, made of quantity PE materials, aluminum alloy and stainless steel • Weight: not more than 68 kg • At least 200 kg load capacity • 6 "high quality ball caster wheels with individual lock • Adjustable height • Easy to manipulate/steer • 4" mattress-with side rails • IV hook • oxygen tank 10lbs with gauge humidifier oxygen tank holder suitable to 10 lbs.		NONE	To be pulled out at the end of contract		
5 units	Drop light	1 unit	Drop light	To be pulled out at the end of contract		
1	Biomedical refrigerator • Power supply: 220-240v VAC, 60Hz • Capacity: 100 liters • AVR compatible with equipment • With Thermometer			To be pulled out at the end of contract		

30 units	Pulse oximeter • portable • lightweight • range: Spo2 0-100%; +/ -% • Pulse 25-255 BPM; +/-2BPM • Continuous battery conditionindicator • Beep sound land and alarm should have separate volume control • Audio and visual alarms for both upper and lower saturation and heart rate • reusable adult fingerprobe LED display of heart rate and oxygen saturation			To be pulled out at the end of contract		
10 units	Heating pad, replaceable	2	Heating pad	To be pulled out at the end of contract		
Unlimited	Plastic ice cube bags					
3 pcs	Hospital Room Divider / or Bed Screen 4 panels (blue) / unit; detachable cloth panels (laundry c/o winning proponent) Screen divider	1 pc	Screen divider	To be pulled out at the end of contract		
4 units	Heavy duty push cart; stainless base for solutions/gallons transport (in/out patient's unit), chemical resistant wheels, non- metal			To be pulled out at the end of contract		
2 unit	Heavy duty pushcart for transporting dialyzers (from reprocessing room to treatment room)			To be pulled out at the end of contract		

1 unit	Utility cart\, transport cart for office supplies			To be pulled out at the end of contract		
6 pcs	Plastic cabinet/drawer (transparent white) with 4-drawers for supplies and materials (dimensions H – 61.3 x W- 43.5 x L – 33.5)			To be pulled out at the end of contract		
1 unit	Standard stand weighing scale (detecto type or equivalent) with provision of tests weight, e.g. (5kg) with height meter or rod	1 unit	Standard stand weighing scale (detects type or equivalent) with provision of tests weight, e.g. (5kg)	To be pulled out at the end of contract		
1 unit	Test weight of 5 kg (certified)					
1 unit	Electronic weighing scale, capable of accommodating wheelchair and stretcher or bed (with provision of test weight; e.g. 5kg.			To be pulled out at the end of contract		
1 unit	Dialyzer storage rack (plastic mold with capacity of 400 plus, separate rack for Hep C patients and Hep B patients			To be pulled out at the end of contract		
	Unlimited supply Devices or Meters with Test Strips for the following: ▪ Conductivity ▪ Resistivity ▪ TDS (Total Dissolved Solutes) ▪ Hardness ▪ pH			To be pulled out at the end of contract		

	▪ Total chlorine			
I unit	Panel Mount Digital Thermometer (Industrial/ warehouse) ▪ Approximate size: 62 x 30 x 19mm ▪ Temperature scale – Centigrade, Fahrenheit			
1pc	MSDS (Material Safety Data Sheet) a technical document which provides detailed and comprehensive information on a controlled product related but not limited to: ▪ health effects of exposure to the product ▪ hazard evaluation related to the product's handling, storage or use measure to protect workers at risk of exposure ▪ Emergency procedures. ▪ With 16 categories *all chemicals must be BFAD approved and registered; also to include wall-mounted single-shelf stand			

Note: * Unlimited supply or to be replaced when damaged or when they become unserviceable.
All consumables for the above equipment or devices c/o the winning proponent.

	Office Equipment/furniture fixtures		Office Equipment/furniture fixtures	Remarks
2 unit	Water dispenser (hot and cold)			To be pulled out at the end of contract
2	Standby rechargeable light			To be pulled out at the end of contract
10 pcs	Watcher's chair: single seater (plastic heavy duty) w/o back rest inclusive of 5 unit cushioned chair with back rest	2	Watcher's chair; single seater (plastic-heavy duty) w/o back rest	To be pulled out at the end of contract
5 units	Desktop computer Display. Size. 15.60-inch-21-inch Processor. Processor. Intel Core i3 6th Gen 6006U. ... Memory. RAM. 8GB-16GB		1 unit covid area	To be pulled out at the end of contract

	Graphics. Graphics Processor. Intel Integrated HD Graphics 520. ... Storage. Hard disk. 256GB-500GB Connectivity. Wi-Fi standards supported. 802.11 Inputs. Pointer Device. Touchpad. (with AVR, UPS) and printer Printing Method. On-demand inkjet Nozzle Configuration. 180 Nozzles Black, 59 Nozzles per **Color**. Minimum Droplet Size. 3 pl, With Variable-Sized Droplet Technology. Ink Technology. Dye Ink. Printing **Resolution**. 5,760 x 1,440 DPI. Category. Home, Office Desktop. All-in-One Functions. Print, Scan, Copy. for database management with corresponding computer tables and chairs ^*wireless keyboard and mouse; with DVD Drive, Windows 10 Pro or latest Licensed Windows Pro version, at least 600VA Uninterruptible Power Supply – Line Interactive **(UPS),** to be updated as needed					

5 units	Inkjet printer (colored); ***Network capable*** 1 – Reception 1 – Cashier, Billing, PHIC\, 1- custodian of winning proponent 2 nurse station			To be pulled out at the end of contract		
50 pcs	Initial and replaceable supply of plastic clipboard for each station and log sheets			To be pulled out at the end of contract		
300 pcs	Initial and monthly replaceable supply of patient expandable folder/binder chart; 3’” thick, 3-hole punch with 1 pc 3-hole puncher, (unlimited supply thereafter)			To be retained at BGHMC		
10 units	Posture chair for nurse station			To be pulled out at the end of contract		
6 units	Small office side table, durable for nurse station 32 L”x24’’W,doctors office			To be pulled out at the end of contract		
1 set	Office table w/ side table and 3-drawer rolling cabinet with executive chair			To be pulled out at the end of contract		
6 sets	Gang chair (for patients and visitors) 4 -seater iron steel; powder coated; heavy duty		NONE	To be pulled out at the end of contract		
2 units	Intercom connecting all areas (reception area, treatment area, and locker room/donning/doffing area)			To be pulled out at the end of contract		
4	IV STAND POLE • Material: Stainless steel • Height Adjustment range: • 152-213cm (60-84 inches) 2 to 4 hooks (2HOOKS			To be pulled out at the end of contract		

2	Mayo Table and Tray Mobile Type Height Adjustment range: 152-213 cm (60-64 inches			To be retained at BGHMC		
3	MINOR SURGICAL SET • Components: • Curved Mayo Scissor 8” • Kelly Forceps curve, 6” • Knife handle with blades • metal tray cover • Metzembaum scissor, 8” • Mosquito Forcep, curve • needle Holder, 8” • Skin retractors • Straight mayo scissors • Tissue forceps withteeth • Tissue forceps withoutteeth • Thumb Forcep			To be retained at BGHMC		
4 units	Fire extinguisher			To be pulled out at the end of contract		
5 units	Metal chrome finish locker – 9 person capacity locker/unit, gray Height 178cm Width 88cm Depth 50cm					
4	Adequate number of air conditioning units for treatment are (4 split type)			To be pulled out at the end of contract		
Continuous supply/reproduction of papers, office supplies, printer ink cartridges and all other consumables. Defective						

furniture shall be replaced within one (1) week from notification

Project Scope to be provided by the winning proponent

PARTICULARS	HD FACILITY	REMARKS
1. Treatment Area		
Utility Cabinets		
i. Wooden utility cabinets including hardwares, laminates/paint	new	Items that will be retained at BGHMC
Plumbing System		
i. distribution pipes, fittings, connectors and outlets for the supply of R.O. Water (Loop)	new	To be pulled out at the end of contract
ii. pipes, fittings, connectors and outlets going to main drainage line system	new	To be pulled out at the end of contract
Electrical System		
i. Electrical outlets or sockets compatible to the HD machine and other equipment needed during treatment	new	To be pulled out at the end of contract
ii. wires and conduits	New	To be pulled out at the end of contract
3. Equipment /Repair Room		
i. S.S. Sinks, Faucets and countertops	new	To be pulled out at the end of contract
4. R.O. Unit		
i. Full System	new	To be pulled out at the end of contract
ii. Electrical Power Source	480V AC 60Hz 3-Phase and 220V AC	To be pulled out at the end of contract
	60Hz 3-Phase	
Any voltage requirement other than stated above shall be the responsibility and expense of the winning proponent		

Note: Items that will be pulled out at the end of contract shall be provided with Asset Sticker by the winning

proponent and should be properly documented.

III. Service and Maintenance program for the FACILITY and EQUIPMENT

1. Cost of laundry to be shouldered by the winning proponent
   Out Patient seat covers and blanket
2. Waste disposal cost shall be shouldered by the winning proponent which includes but is not limited to the following: all hemodialysis-related wastes like used/contaminated supplies –bloodlines, pellets from pulverized dialyzers or whole dialyzers, syringes, needles, gauze, cotton balls, and sharps, etc.
3. All HD machines, chairs, blood pressure apparatus, weighing scales, glucometers, digital thermometers, cardiac monitors, reprocessing machines, and the R.O. system, should always be maintained in good working condition by ensuring regular calibration on a monthly basis and when deemed necessary
4. Upon the award of the contract, the proponents in requested to outline in detail the different processes for the service and the maintenance program carefully identifying the emergency and routine jobs necessary for the equipment units to be in full service.
5. The service and maintenance program shall also include other works required in order to address restoration of equipment to full service if unforeseen events may prevent equipment from being used.
6. Changes in treatment protocol including changes in medical management influenced by local and international requirements as recommended by nephrologists on quality healthcare standards, shall be grounds for review of the contract including possible change in the contract rate.
7. The proponent shall have an emergency preparedness program that is made up of contingency measures to equip both staff and patients alike through education and training and eventually minimize damages to property and human lives as well as an assurance of the continuity of care. Also, the proponent should be able to provide dialysis services to all patients of BGHMC in complete shifts in situations that would require short term or long term temporary closure of the facility like water outage or water supply interruption, earthquake and fire, which might lead to interruption of treatment sessions, or an outbreak of disease short and long term (aside from covid) others

8. The necessary information required in the service and maintenance program are the following:

   1. Response time to emergency calls within 1 hour and routine calls within 4 hours from time of notification.
   2. 24-hour service call unit for Outpatient and inpatient
   3. Number of Service Engineers available for the project including a dedicated engineer and custodian.
   4. Availability of the spare parts

5. Location of spare parts
6. Delivery of spare parts as needed
7. Software upgrades of data base system as needed
8. Company support (manual instruction book, educational support materials, medical and technical support)

9. After issuance and receipt of notice to proceed (NTP) , There will be a 3week transition period from the current contract to the winning bidder. The prospective bidder shall submit a detailed plan and schedule to ensure no disruption of services for the dialysis patients during the said transition period. (This includes changing of the facility machines, reverse osmosis water systems, chairs, etc.) The plan is subject for approval by BGHMC - JATC .

10. Physical Plant Facilities requirements

The supplier and his project engineer must have close coordination with the hospital engineering department from planning to implementation. Only the plans which are duly approved by the Medical Center Chief and the DOH National Center for Health Facilities Development (NCHFD) shall be adopted for implementation.

a. Winning bidder shall coordinate with BGHMC where water treatment area is located, supply and installation of various plumbing pipes for connection from main water treatment system.
b. Supply and installation of various stainless steel tanks with total capacity of at least 25,000 liters.

c. Provision for a reprocessing area and installation of dialyzer rack.
d. Must have 2 holes seamless sink stainless steel x 1.5 mm thick.
e. Installation of various plumbing pipes for connection from RO source to each treatment area/station.
f. Supply and installation of power cable for each station, including that from the generator (please coordinate with engineering)
g. Panel board
h. Enough circuit breakers for hemodialysis machines, reprocessing machines, others
i. Supply and installation of air conditioning units in designated treatment area
j. OFF SITE WAREHOUSE

The supplier may submit offers which provide for superior specifications and/or better terms at no extra cost to BGHMC.

11. In cases of repeated problems with operations resulting in downtime of treatment, the BGHMC may secure an independent consultant to be selected by **JATC** to review the problem and make recommendation as to the proper solutions. The fees of the independent consultant will be paid by the winning proponent.

12. In case the winning proponent fails to satisfactorily deliver goods or render services under the contract within the specified delivery schedule, inclusive of duly granted time extensions, if any, the winning proponent shall be liable for damages for the delay and shall pay the **BGHMC** liquidated damages, an amount equal to one-tenth (1/10) of one percent

(1%) of the cost of the delayed goods or unperformed services scheduled for delivery for every day of delay until such goods or services are finally delivered and accepted by the **BGHMC**. The imposition of Liquidated Damages shall be without prejudice to other remedies available to **BGHMC**

Other incidental expenses such as transportation for patients to dialysis in another facility, admission/hospitalization costs, etc will be for the account of the winning proponent.

Formula of Penalty

HD Treatment Cost	**Amount in Pesos**
A. Shall refer to actual transportation expenses incurred by patient and BGHMC HD staff during disruption of dialysis services	**A**
B. Margin of Profit shall refer to the difference between the BGHMC HD Treatment Fee and the LFPT for patients who opted on their own to have their HD done in another dialysis center of their choice	**B**
C. For patients affected by the shutdown or disruption: Actual charges for hospital bills incurred including outpatients services on laboratory tests conducted, medications required, rehabilitations fees performed as well as professional fees of doctors and professionals, for the entire treatment course.	**C**
GRAND TOTAL	**A+B+C**

13. BGHMC reserves the right of ownership over any fixtures (such as water tanks, dialysate water distribution loop, etc) and Installations upon termination of this contract. Likewise, if BGHMC decides not to keep particular fixtures, the winning proponent shall be responsible for dismantling and disposing of the same at no cost to BGHMC

14.Any changes in the provisions after contract signing should be discussed with the JATC, and subject to final approval by the Medical Center Chief , before implementation.

1. JATC Chairman: Head HD Center

Members:

2 Active Plantilla Consultants HD

Supervisor & Head nurse

BGHMC Engineering representatives
Winning proponent representatives
BGHMC Administrative representatives
Adviser: BGHMC Administrative Consultant

2. Should meet at least every 3 months
3. Review duties of winning proponent, review HD treatment issues, contract compliance, etc.
4. If there are any issues that cannot be decided on, this shall be referred to the MCC for final action

III. ANY CHANGES IN THE PROVISIONS AFTER CONTRACT SIGNING SHALL BE DISCUSSED WITH THE TWO BEFORE IMPLEMENTATION.

CORRECTIONS/Addendum:

Personnel of the hemodialysis Center Project shall be provided by Baguio General Hospital and Medical Center: Said personnel shall be trained by the provider (winning bidder) for three (3) weeks.
The following personnel shall be provided by winning bidder (custodian)

The costs needed for the facilities/waste disposal shall be shouldered by the provider (winning bidder),

Monthly Microbial analysis, Physical analysis (every 6 months) shall be shouldered by provider of main hemodialysis unit and extension unit

Additional Responsibilities of the provider (winning bidder)

1. Shall have their own maintenance personnel to maintain and repair their facilities and provide monthly maintenance reports, replacement of filters, etc.
2. Shall provide at least 1 month buffer of supplies to prevent delays in treatment

3. Provider (winning bidder) shall coordinate with the Hospital's Engineering office regarding the AVR.

4. Provider shall shoulder water bills, electric bills, waste disposal, cost of filters, cost of repairs, and cost of water analysis.

TECHNICAL EVALUATION CHECKLIST: ***Conventional HD Machine (brand and model)***

Descriptions	Please check	
	Pass	Fail
1.General Function		
1.1 HD, SLEDD, iso UF capable		
2. Body and Parts		
1.1 rust proof and corrosion resistant		
3. Required Operational Features		
3.1 Colored screen display		
3.2 Graphical presentation of treatment parameters and ease of reading alarm parameters		
3.3 Easy programming of treatment parameters		
3.4 Ease of lining and priming connection and disconnection of treatment		
3.5 Decalcification program		
Electrical safety features with tolerance level of +/-10%; single phase		
1. Automatic self- test of the machine, hydraulic, sensors, limits, software and screen function (Functional Test)		
2. Safety alarms/ parameters which include: (for proper functioning and safety of the patient)		
2.1 Air detector		
2.2 Blood leak detector		
2.3 Conductivity safety		
2.4 Temperature		
2.5 Venous line clamp		

	2.6 First alarm indicator- allows diagnosis for the cause of the alarm					
	2.7 Closed volumetric balancing chamber – accurate fluid removal (ultrafiltration) at the end of each treatment (+/- 200ml from the target ultrafiltration volume)					
	2.8 Automatic setting of pressure (venous; arterial; TMP) limits when blood flow is adjusted					
	3 Integrated disinfection system- heat and chemical					
	4 Battery back- up for emergency power failure alarm (e.g. provide memory back-up of program)					
	5 Memory back-up of dialysis program during power failure					
	6 Programmable heparinization with heparin pump alarm					
	7 Dialysate flow alarm					
	8 Ultrapure filter					
	9 BLOOD FLOW rate capability between 50-600ml/min					
	10 Variable dialysate flow range at 300-700 ml/min					
	11 Programmable mixing ratio of the concentrate according to various potassium levels. (potassium free, 2 **mmol**/L potassium, 4**mmol**/L potassium)					
	12 Blood pressure monitor					
	13 Closed system (no contact with air) of online bicarbonate production					
	Total :					

Note: **Post Qualification Criteria:** 1. In the post qualification phase, **the proponent with the lowest calculated bid** will be required to bring three (3) units each of their conventional dialysis machines for actual use on patients for evaluation of all the criteria as specified in terms of reference for a period of two (2) weeks. 2. The machines will be evaluated using the pass / fail criteria only		

NOTE: THIS IS PREPARED FOR 1 YEAR CONTRACT