Amendment – XII

Dated 27.06.2018

Tender Enquiry No: HSCC/TRIHMS/ Medical Equipment/2018/01 Dated 19.02.2018

Bid sale, Submission and opening date details as mentioned, has been extended as per given in Table-1

Table I

Sr. No.	**Description**	**Detail of Items**	**Previous Date & time**	**Revised Date & time**
i	Sale Date of the tender	Item No. 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14, 15 & 20	27.06.2018, 2.30 PM	10.07.2018, 2.30 PM
ii	Closing Date & Time for receipt of Bids		27.06.2018, 2.30 PM	10.07.2018, 2.30 PM
iii	Time and date of Opening of Tender		27.06.2018, 3.00 PM	10.07.2018, 3.00 PM

Amended technical specifications for Item No. 14 "Anaesthesia Workstation" attached.

All other terms and conditions of the tender enquiry document shall remain unchanged.

Prospective bidders are advised to regularly visit HSCC website /CPP Website for corrigendum/amendments etc. if any, as these will be notified on these portals only. No separate advertisement will published in the newspapers in this regards.

Director (TRIHMS),
Tomo Ribo Institute of Health & Medical Sciences
Naharlagun. Arunanchal Pradesh.

Sr. No.	Technical Specifications	Amended Technical Specification
1.	**14. Anaesthesia Work station Machines** 1. Anaesthesia Workstation is used for delivering anaesthesia agents to the patients during surgery. The complete unit also monitors the vital signs and ventilates the patient from neonatal to adult. 2. a) Anaesthesia Workstation complete with Anaesthesia gas delivery system.;Circle absorber system.;Precision vaporiser for halothane,isoflurane and Sevoflurane ;Anaesthesia ventilator. Monitoring system to monitor Anaesthetic gases,ECG, EtCO2, Pulse Oximeter and airway pressure,NIBP, IBP (No as required) , rectal/&skin temperature. b) Essential accessories to make the system complete. 2.1 Demostration of the equipment is a must. 3. Technical Specifications 3.1 Flow management 1. Should be Compact, ergonomic & easy to use 2. Machine should provide electronic gas mixing. 3. Multi-color TFT display of at least 12" size, with virtual flow meters for O2, N2O or Air. 4. Dual flow sensing capability at inhalation and exhalation ports. 5. Should have back-up O2 control which provides an independent fresh gas source and flow meter Control in case of electronic failure. 6. Gas regulators shall be of modular design/ graphic display. 7. One no. yoke each for Oxygen & Nitrous Oxide. Separate Pipeline inlet for Oxygen , Nitrous Oxide and Air. 8. Hypoxic Guard to ensure minimum 25% O2 across all O2-N2O mixtures and Oxygen Failure Warning. 9. Should have integrated EtCO2 monitor. 10. Should display flow, volume & pressure/volume loops. **3.2 Breathing system**. 2. Latex free fully autoclavable. 3. Flow sensing capability at inhalation and exhalation ports, sensor connections shall be internal to help prevent disconnect.	**14. Anaesthesia Work station Machines** 1. Anaesthesia Workstation is used for delivering anaesthesia agents to the patients during surgery. The complete unit also monitors the vital signs and ventilates the patient from neonatal to adult. 2. a) Anaesthesia Workstation complete with Anaesthesia gas delivery system.;Circle absorber system.;Precision vaporiser for halothane,isoflurane and Sevoflurane ;Anaesthesia ventilator. Monitoring system to monitor Anaesthetic gases,ECG, EtCO2, Pulse Oximeter and airway pressure,NIBP, IBP (No as required) , rectal/&skin temperature. b) Essential accessories to make the system complete. 2.1 Demostration of the equipment is a must. 3. Technical Specifications 3.1 Flow management 1. Should be Compact, ergonomic & easy to use 2. Machine should provide electronic gas mixing. 3. Multi-color TFT display of at least **10" size or more**, with virtual flow meters for O2, N2O or Air. 4. Dual flow sensing capability at inhalation and exhalation ports. 5. Should have back-up O2 control which provides an independent fresh gas source and flow meter Control in case of electronic failure. 6. Gas regulators shall be of modular design/ graphic display. 7. One no. yoke each for Oxygen & Nitrous Oxide. Separate Pipeline inlet for Oxygen , Nitrous Oxide and Air. 8. Hypoxic Guard to ensure minimum 25% O2 across all O2-N2O mixtures and Oxygen Failure Warning. 9. Should have integrated EtCO2 monitor. 10. Should display flow, volume & pressure/volume loops. **3.2 Breathing system**. 2. Latex free fully autoclavable. 3. Flow sensing capability at inhalation and exhalation ports, sensor connections shall be internal to help prevent disconnect.

	4. Sensor should not require daily maintenance. 5. Bag to vent switch shall be bi-stable and automatically begins mechanical\ ventilation in the ventilator position. 6. Adjustable pressure limiting valve shall be flow and pressure compensated. **3.3 Vaporizers.** 1. New generation Vaporizer must be isolated from the gas flow in the off position and prevent the simultaneous activation of more than one vaporizer. 2. Vaporizer should mount to a Selectatec manifold of 2 vaporizers, which allows easy exchange between agents. Temperature, pressure and flow compensated vaporizers and Maintenance free - for Isoflurane,Halothane, and Sevoflurane. **3.4 Ventilation** 1. The workstation should have integrated Anesthesia Ventilator system. 2. Ventilator should have Volume Control and Pressure Controlled and SIMV modes. 3. Ventilator should have a tidal volume compensation capability to adjust for losses due to compression, compliance and leaks; and compensation for fresh gas flow. 4. The workstation should be capable of delivery of low flow anesthesia. 5. Ventilator should be capable of atleast 120-150 L/min peak flow to facilitate rapid movement through physiologic ―dead space. 6. Bypass cardiac mode in the Pressure Control mode. 7. Tidal volume: 5ml-1400ml. **3.5 1. Anesthesia Monitoring Specifications: 19" TFT Screen** a. Monitoring of vital parameters:ECG,NIBP,SPO2 and two Invasive Blood Pressure. b. Twin temperature measurement with skin and rectal probes- Two sets with each monitor c. Automatic identification and measurement of anesthetic agents, EtCO2, O2 and N2O and MAC value. FiO2 measurement. To be available either on M/c or monitor. It should have a paramagnetic sensor with O2 Sensor. d. Depth of Anesthesia Monitoring module - one per monitor with 50 sensors with each monitor e. Neuromuscular Transmission Monitoring	4. Sensor should not require daily maintenance. 5. Bag to vent switch shall be bi-stable and automatically begins mechanical\ ventilation in the ventilator position. 6. Adjustable pressure limiting valve shall be flow and pressure compensated. **3.3 Vaporizers.** 1. New generation Vaporizer must be isolated from the gas flow in the off position and prevent the simultaneous activation of more than one vaporizer. 2. Vaporizer should mount to a Selectatec manifold of 2 vaporizers, which allows easy exchange between agents. Temperature, pressure and flow compensated vaporizers and Maintenance free - for Isoflurane,Halothane, and Sevoflurane. **3.4 Ventilation** 1. The workstation should have integrated Anesthesia Ventilator system. 2. Ventilator should have Volume Control and Pressure Controlled and SIMV modes. 3. Ventilator should have a tidal volume compensation capability to adjust for losses due to compression, compliance and leaks; and compensation for fresh gas flow. 4. The workstation should be capable of delivery of low flow anesthesia. 5. Ventilator should be capable of atleast 120-150 L/min peak flow to facilitate rapid movement through physiologic ―dead space. 6. **Bypass mode in the Pressure Control mode**. 7. Tidal volume: 5ml-1400ml. **3.5 1. Anesthesia Monitoring Specifications: 19" TFT Screen** a. Monitoring of vital parameters:ECG,NIBP,SPO2 and two Invasive Blood Pressure. b. Twin temperature measurement with skin and rectal probes- Two sets with each monitor c. Automatic identification and measurement of anesthetic agents, EtCO2, O2 and N2O and MAC value. FiO2 measurement. To be available either on M/c or monitor. It should have a paramagnetic sensor with O2 Sensor. d. Depth of Anesthesia Monitoring module - one per monitor with 50 sensors with each monitor e. Neuromuscular Transmission Monitoring with

	with all accessories. One set with each monitor. f. Cardiac Output measurement facility by thermo dilution technology with all accessories- one set for three monitors. g. 24hrs of graphical and numerical trending. h. Should have Hemodynamic, Oxygenation and Ventilation calculation package. Should also have Ventilation Data available on monitor. i. Should include inbuilt Anaesthesia record keeping software facility in all OT monitor to document anesthesia event using standardized menu based entries. l. Monitor should be USFDA approved 2. Display of Ventilator: a. Tidal volume (VT). b. Inspiratory/expiratory ratio (I:E) c. Inspiratory pressure (Pinspired) d. Pressure limit (Plimit). e. Positive End Expiratory Pressure (PEEP). 3.6 Centralised Monitoring and Networking: Web Browsing feature for browsing near real time waveforms and graphical & numerical trend up to 24hrs remotely through telephone dial in facility. Compatible with HIS system of the hospital. 3.7 Automatic Recording System. 4. System Configuration Accessories, spares and consumables. 4.1 Anaesthesia Gas Delivery system -01. 4.2 Circle absorber -01. 4.3 Ventilator -01. 4.4 Monitor -01. 4.5 Vaporiser Halothane -01. 4.6 Vaporiser Sevoflurane -01. 4.7 Vaporiser Isoflurane -01 & Vaporizer Desflurane -01. 4.8 Adult and Paediatric autoclavable silicone breathing circuits -02 ea. 4.9 Reusable IBP Transducer -04. Reusable IBP cables -04. Disposable Transducers - 100. 4.10 Disposable domes-100. 4.11 Temp probe Skin reusable- 02. 4.12 Temp probe Rectal Reusable-02. 4.13 Accessories Anesthetic gases-01 set.	all accessories. One set with each monitor. f. Cardiac Output measurement facility by thermo dilution technology with all accessories- one set for three monitors. g. 24hrs of graphical and numerical trending. h. Should have Hemodynamic, Oxygenation and Ventilation calculation package. Should also have Ventilation Data available on monitor. i. Should include inbuilt Anaesthesia record keeping software facility in all OT monitor to document anesthesia event using standardized menu based entries. l. Monitor should be **USFDA/ European CE/ BIS** approved 2. Display of Ventilator: a. Tidal volume (VT). b. Inspiratory/expiratory ratio (I:E) c. Inspiratory pressure (Pinspired) d. Pressure limit (Plimit). e. Positive End Expiratory Pressure (PEEP). 3.6 Centralised Monitoring and Networking: **Deleted.** 3.7 Automatic Recording System. 4. System Configuration Accessories, spares and consumables. 4.1 Anaesthesia Gas Delivery system -01. 4.2 Circle absorber -01. 4.3 Ventilator -01. 4.4 Monitor -01. 4.5 Vaporiser Halothane -01. 4.6 Vaporiser Sevoflurane -01. 4.7 **Vaporiser Isoflurane -01.** 4.8 Adult and Paediatric autoclavable silicone breathing circuits -02 ea. 4.9 Reusable IBP Transducer -04. Reusable IBP cables -04. Disposable Transducers - 100. 4.10 Disposable domes-100. 4.11 Temp probe Skin reusable- 02. 4.12 Temp probe Rectal Reusable-02. 4.13 Accessories Anesthetic gases-01 set. 4.14 Depth of Anesthesia Sensors-100 adult & 100 pediatric. 4.15 Accessories for Cardiac Output module- 01 set.

	4.14 Depth of Anesthesia Sensors-100 adult & 100 pediatric. 4.15 Accessories for Cardiac Output module- 01 set. 4.16 Accessories for neuromuscular transmission monitor- 01 set. 4.17 Standard accessories to make all parameters working- 01 set. 4.18 Disposable Adult & Paediatric circuits- 100 ea. 4.19 HME filters.- 100. 4.20 Vital Parametrer Accessories-01 Set. 4.21 Nellcor/Masimo SpO2, Adult, Ped., Neonatal Sensor-2each. 4.22 NIBP/Adult, Ped., Neonatal Cuff – 2 each. 5. Environmental factors. 5.1 The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%. 5.2 The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%. 5.3 Shall meet IEC-60601-1-2:2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility. 5.4 Safe disposal system of waste anaesthetic gases should be either in place or should be recommended along with the bid if not available. Supplier will be held responsible if this is not ensured at the time of installation. 6. Power Supply. 6.1 Power input to be 220-240VAC, 50Hz,/440 V 3 Phase as appropriate fitted with Indian plug. 6.2 Resettable over current breaker shall be fitted for protection. 6.3 Suitable Servo controlled Stabilizer/CVT. 6.4 UPS of suitable rating shall be supplied for minimum 1 hour backup for the entire system. 7. Standards, Safety and Training. 7.1 Should be FDA or CE approved product. 7.2 Electrical safety conforms to standards for electrical safety IEC-60601 /IS-13450. 7.3 Manufacturer should be ISO certified for quality standards. 7.4 Certified to be compliant with IEC 60601-2-13-Medical Electrical equipment part 213: Particular requirements for the safety of Anaesthesia Workstations.	4.16 Accessories for neuromuscular transmission monitor- 01 set. 4.17 Standard accessories to make all parameters working- 01 set. 4.18 Disposable Adult & Paediatric circuits- 100 ea. 4.19 HME filters.- 100. 4.20 Vital Parametrer Accessories-01 Set. 4.21 Nellcor/Masimo SpO2, Adult, Ped., Neonatal Sensor-2each. 4.22 NIBP/Adult, Ped., Neonatal Cuff – 2 each. 5. Environmental factors. 5.1 The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%. 5.2 The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%. 5.3 Shall meet IEC-60601-1-2:2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility. 5.4 Safe disposal system of waste anaesthetic gases should be either in place or should be recommended along with the bid if not available. Supplier will be held responsible if this is not ensured at the time of installation. 6. Power Supply. 6.1 Power input to be 220-240VAC, 50Hz,/440 V 3 Phase as appropriate fitted with Indian plug. 6.2 Resettable over current breaker shall be fitted for protection. 6.3 Suitable Servo controlled Stabilizer/CVT. 6.4 UPS of suitable rating shall be supplied for minimum 1 hour backup for the entire system. 7. Standards, Safety and Training. 7.1 Should be **FDA or CE or BIS** approved product. 7.2 Electrical safety conforms to standards for electrical safety IEC-60601 /IS-13450. 7.3 Manufacturer should be ISO certified for quality standards. 7.4 Certified to be compliant with IEC 60601-2-13-Medical Electrical equipment part 213: Particular requirements for the safety of Anaesthesia Workstations. 7.5 Should have local service facility .The service provider should have the necessary equipment recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the

	7.5 Should have local service facility .The service provider should have the necessary equipment recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual. 7.6 All imported components like anaesthesia machine, monitor and ventilator should be from one manufacturer/principal. 7.7 Back to back warranty to be taken by the supplier from the principal to supply spares for a minimum period 10 years. 7.8 Comprehensive warranty for 2 years and provision of CMC for next 5years. 8. Documentation. 8.1 User Manual in English. 8.2 Service manual in English. 8.3 List of important spare parts and accessories with their part number and costing. 8.4 Certificate of Calibration and inspection from the factory. 8.5 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out. 8.6 List of Equipment available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual. 8.7 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/Para number of original catalogue/data sheet. Any point ,if not substantiated with authenticated catalogue/manual, will not be considered. 8.8 Must submit user list and performance report within last 5 years from major hospitals.	service/maintenance manual. 7.6 All imported components like anaesthesia machine, monitor and ventilator should be from one manufacturer/principal. 7.7 Back to back warranty to be taken by the supplier from the principal to supply spares for a minimum period 10 years. 7.8 Comprehensive warranty for 2 years and provision of CMC for next 5years. 8. Documentation. 8.1 User Manual in English. 8.2 Service manual in English. 8.3 List of important spare parts and accessories with their part number and costing. 8.4 Certificate of Calibration and inspection from the factory. 8.5 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out. 8.6 List of Equipment available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual. 8.7 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/Para number of original catalogue/data sheet. Any point ,if not substantiated with authenticated catalogue/manual, will not be considered. 8.8 Must submit user list and performance report within last 5 years from major hospitals.