HSCC/SES/MGMS/AIIMS/2015 Dated 28.04.2016

All Bidders

Amendment -X

Subject: Supply, Installation, Testing and Commissioning of Medical Gas Manifold System at Surgical Block, All India Institute of Medical Sciences (AIIMS), New Delhi.

IFB No. : HSCC/SES/MGMS/Surgical/AIIMS/2015

This has reference to above IFB No. for the Subject works.

The following Amendment may be noted which shall be treated as part of the tender document and to be submitted duly signed & stamp along with tender.

All the equipments should be European CE/US FDA certified or listed if applicable. In case the above are not applicable relevant DIN/EN standards should be made applicable wherever possible. In case of amendments to any standard, only the latest version will apply.

Sr. No.	Bidder's Query	Clarification/Amendment
	M/s Linde	
1	Do we have to submit Manufacturer's authorization form for imported as well as Indigeneous item or only for Imported item only ? Please note it will not be possible to submit manufacturer's authorization form for indigenous item as the local source being supplier to various MGPS vendors they will not give exclusive distributor right to any particular MGPS vendor.	Manufacturer's authorization required only for imported items.
2.	Please confirm whether Third Party inspection through Lyods/SGS/TUV should be done only for imported materials or for all materials.	Third Party inspection through Lyods/SGS/TUV should be done for all materials.
3.	**Vol –IV, Page 11 : Air Compressor** Please note Oil less scroll compressor can not deliver 10 Bar. Maximum pressure possible through Scroll Compressor is 8 Bar. As such the delivery pressure should be amended from 10 bar to 8 bar.	Delivery pressure shall be 8 – 10 bar
4.	**Vol-IV, Page 16: Item 7, Horizontal Bed Head Panel –** Please confirm the requirement of Bed Head Panel in Minor OT. We strongly feel that having Bed Head Panel in Minor OT and connecting the Gas Outlets on the panel to respective equipment through lone hose will create	One Pendant with electrical switch and sockets at least 6 nos and medical gas outlets as per table of medical gas outlets should be provided.

	tripping hazard in the OT.	
5.	**Vol-IV. Page 16: Item -7, Horizontal Bed Head Panel:** Please confirm whether the Bed Head panel will be indigenous or imported?	Imported
6.	**Vol-IV, Page 17, Item 8, ICU Pendent –** The height of the coloumn shall be defined so to leave a 46 cm (18 in) space between the floor and the bottom of the column – Please confirm if this item is imported or indigenous.	Imported
7.	**Vol-IV, Page 19, Under Valve Boxes , Point –E-** Please note the specified Bronze valves are obsolete. Kindly change the same to Brass Valves.	Brass valve shall be used
8.	**Vol-IV, Page 21:** Accessories like Flow meter, Ward Vacuum Unit, Theatre Vacuum Unit, HP & LP Tube – Please confirm whether we should quote for indigenous or imported item.	Imported
9.	**We request you to extend the bid submission date**	Bid Submission is extended till 5.05.2016.
	M/s Benson Medical Equipments (India) Pvt. Ltd.	
10.	Your technical specifications (TS) under clause no. 1e & similarly BOQ, we request to remove the scope Liquid Oxygen gas supply from scope of MGMS because this item is dealt with oxygen gas suppliers and they install, commission and maintain these tanks almost free of cost to them which includes approval, maintenance etc. To the best of our knowledge almost all the hospitals in the country including Government hospitals are having direct contact with these Oxygen suppliers.	Tender terms prevail
11.	**On page 10 of TS,** under vacuum system, please remove bacteria filtration system because this is not applicable in NFPA plant.	Tender terms prevail
12.	Please mention the words wherever applicable along with "CE marked/UL listed at all the places in the tender because all the MGPS components are not having CE for European or UK products under HTM, EN and DIN guidelines and similarly UL listing for USA products under NFPA Guidelines.	All the Equipments should be European CE/US FDA certified or listed if applicable. In case the above are not applicable relevant DIN/EN standards should be made applicable wherever possible. In case of amendments to any standard, only the latest version will apply.
13.	**On page 11 of TS,** the air compressor word should be replaced by medical air plant and surgical air plant. a)Air compressor type reciprocating should also be added	150 CFM / 4250 LPM shall prevail

	along with screw and scroll options. b)You should ask two separate plants with separate flow requirements because NFPA do not recommend combined plant for medical and surgical but they recommend separate medical air plant and separate surgical plant. c)150 CFM mentioned in the plant is equivalent is 4250 LPM where as you mentioned 2830 LPM.	
14.	**On page 12 of Technical Specifications,** requesting distribution of copper piping, you should also mention ASTM standard an option along with BS EN , similarly outer diameter & thickness should be mention in inches & gauges as per NFPA requirement, because NFPA demands ASTM –B 819 standard for MGPS piping. It is important so that one can follow one of the standards in totality, which is important and also required as per your Technical Specifications on Page 1.	Tender terms prevail.
15.	**On page 17 of the Technical specifications, panel under horizontal bedded panel** , please mention Nurse Call Module system only cut out. Also please remove the word slider with monitor tray.	Nurse call cut out shall be there. Slider monitor tray deleted.
16.	**Please clarify which items are indigenous or imported,** so costing can be worked out accordingly.	e Equipments should be European CE/US FDA certified or listed if applicable. In case the above are not applicable relevant DIN/EN standards should be made applicable wherever possible. In case of amendments to any standard, only the latest version will apply.
17.	On page 25 & 26 of Technical Specifications, Item No. 18 & 19 should be removed because these are not covered under MGPS work based on BOQ given by you or else kindly specify each & every requirement, so that actual pricing can be work out. Each and every item should also be mentioned in the BOQ , so that accurate costing can be done.	Tender terms prevail.
18.	In the absence of OT pendant in the scope of MGPS, please remove all Oxygen gas outlets.	Tender terms prevail.
19.	For any ideal MGPS installations OT pendents should be part of tender and this item must be removed from MOT	Tender terms prevail.

	tender and add in MGPS scope because it is the responsibility of the Medical gas pipelines supplier and operator to ensure a proper operation from Source to delivery point including the pendants in the scope of Modular OT supplier can compromise the operations and could lead to serious safety and responsibility issues due to the following reasons. a. In case of any fault in the gas supplies within OT there definitely would arise a dispute about the responsibility and to deliver appropriate flow and pressure bar end of supply end of OTs, similarly MOT suppliers will also not resume the responsibility of the same, hence ultimately it can lead to no one being specifically responsible for the gas supply in OT. b. We are also sure Head of Anesthesia of AIIMS will be of the same opinion, who is responsible for complete Medical Gas Pipeline System.	
	M/s PES INSTALLATIONS PVT. LTD.	
20.	**(5.2) PREQUALIFICATION DOCUMENT)** As this is in an AIIMS tender the term & condition should be same as that of the AIIMS tender. In recent tenders of AIIMS, It is mentioned that the firm should not stand deregistered / banned / blacklisted by any government authorities/organisation. We are enclosing the copy of AIIMS orthopaedic tender same clause are mentioned in the HLL, CPWD, PWD, Railway, Central Government tender etc. Copy of some tenders is attached. **We would request you to change this clause to the firm should not stand blacklisted/debarred on the date of submission of tender.**	Tender terms prevail.
21	**(APPLICATION FORM NO.- 02, POINT - 09) PREQUALIFICATION DOCUMENT)** **Should be change to if the applicant stand debarred/blacklisted in any organisation give details.**	Tender terms prevail.
22	**(PART– II, PAGE NO. - 06) BILL OF QUANTITIES** Operation of Medical Gas Manifold System please specify the number of man power required in each shift.	As per attached sheet
23	**(PART – III-1, PAGE NO. - 07) BILL OF QUANTITIES**	Operation and CMC of MGMS are mentioned separately for quoting as

	Operation should be deleted and it should be only comprehensive charges for the complete Medical Gas Manifold System including spares, repair or replacement of defective equipments/parts, tolls, tackles, accessories, consumables, labour charges etc.	per attached sheet. Revised BOQ is attached.
24	**(PAGE. NO. – 1, LAST PARA) VOLUME – IV, TECHNICAL SPECIFICATION** The design & selection of items should be of international standard like NFPA 99(latest version) standard and UL listed or DIN EN (latest version) and UL listed/CE marked or HTM 02 01 (latest version) standard and CE marked. It should be changed to 'The design & selection of items should be of international standard like NFPA 99(latest version) standard and UL listed **where ever applicable** or DIN EN (latest version) and UL listed **where ever applicable** /CE marked or HTM 02 01 (latest version) standard and CE marked'. **Because UL listed is only applicable for electronic components.**	'The design & selection of items should be of international standard like NFPA 99(latest version) standard and UL listed **where ever applicable** or DIN EN (latest version) and UL listed **where ever applicable** /European CE marked or HTM 02 01 (latest version) standard and European CE marked'.
	(SR. NO. – 3A) VOLUME – IV, PAGE-9, TECHNICAL SPECIFICATION It should be changed to 200-220 cfm or ± 10 %	It should be 200-220 cfm .
25	**(POINT- 5) VOLUME – IV, PAGE-10, TECHNICAL SPECIFICATION** The system shall have UL listed/CE marked control panel It should be changed to 'The system shall have UL listed **where ever applicable**/CE marked control panel'.	European CE marked/UL listed wherever applicable
26	**(POINT- 9) VOLUME – IV, PAGE-10, TECHNICAL SPECIFICATION** The item should be CE marked /UL listed It should be changed to 'The item should be CE marked /UL listed **where ever applicable'.**	European CE marked/UL listed wherever applicable.
27	**(SR. NO. – 4A) VOLUME – IV, PAGE-11, TECHNICAL SPECIFICATION** It should be changed to 'The system shall be consisting of Oil free Compressed Air System to provide system capacity **150 scfm/2830 LPM or ± 10%** at 10 bar to be delivered to the hospital with necessary standby as per the requirement of relevant standard along with allied equipment, suitable tank and	System capacity **150 scfm/4250 LPM or ± 10%** at 8-10 bar.

	control panel'.	
28	**(SR. NO. – 4A, POINT NO. - 01) VOLUME – IV, PAGE-11, TECHNICAL SPECIFICATION** The medical air compressors shall be of the totally oil-less air-cooled design/ Screw/Scroll. Each compressor shall be belt driven by a suitable HP, 3 phase, 50 cycle, 415volt, motor. **Reciprocating type compressor should be also allowed as per NFPA-99.**It should be changed to 'The medical air compressors shall be of the totally **oil-less air-cooled design/ Screw/Scroll/Reciprocating**. Each compressor shall be belt driven by a suitable HP, 3 phase, 50 cycle, 415volt, motor'.	Tender terms prevail.
29	**(SR. NO. – 4A, POINT NO. - 03) VOLUME – IV, PAGE-11, TECHNICAL SPECIFICATION** The system shall have UL listed/CE marked control panel. It should be changed to 'The system shall have UL listed **where ever applicable** /CE marked control panel'.	European CE marked/UL listed wherever applicable.
30	**(SR. NO. – 4A, POINT NO. - 13) VOLUME – IV, PAGE-12, TECHNICAL SPECIFICATION** The item should be CE marked /UL listed It should be changed to'The item should be CE marked /UL listed **where ever applicable'.**	European CE marked/UL listed wherever applicable.
31	**(SR. NO. – 6-i-LAST POINT) VOLUME – IV, PAGE-15, TECHNICAL SPECIFICATION** The item should be CE marked /UL listed It should be changed to'The item should be CE marked /UL listed **where ever applicable'.**	European CE marked/UL listed wherever applicable
32	**(1st POINT) VOLUME – IV, PAGE-16, TECHNICAL SPECIFICATION** The item should be CE marked /UL listed It should be changed to'The item should be CE marked /UL listed **where ever applicable'.**	European CE marked/UL listed wherever applicable.
33	**(SR. NO. – 7, POINT NO.- 1) VOLUME – IV, PAGE-16, TECHNICAL SPECIFICATION** The item should be CE marked/US FDA /UL listed	European CE marked/UL listed wherever applicable.

	It should be changed to 'The item should be CE marked/US FDA /UL listed **where ever applicable'.**	
34	**(SR. NO. – 08, 3rd PARA) ICU PENDANT, VOLUME – IV, PAGE-17, TECHNICAL SPECIFICATION** The columns shall be made of aluminium profiles ensuring medical gas supply and full access to accessories and pipes in 3 compartments individually closed by 2 removable covers (complying with international standards). Non removable covers are prohibited. It should be changed to 'The columns shall be made of aluminium profiles ensuring medical gas supply and full access to accessories and pipes in **2-3** compartments individually closed by 2 removable covers (complying with international standards). Non removable covers are prohibited'.	Tender terms prevail.
35	**(SR. NO.– 08, 8th PARA) ICU PENDANT, VOLUME – IV, PAGE-17, TECHNICAL SPECIFICATION** The section of the profiles so assembled must be able to resist important shocks (bed with patient) without damaging the column, or causing equipment to fall over. Its bearing capacity shall be 150 kg (3 cwt) minimum. It should be changed to'The section of the profiles so assembled must be able to resist important shocks (bed with patient) without damaging the column, or causing equipment to fall over. Its bearing capacity shall be **100-150 kg** (3 cwt) minimum'.	Load bearing capacity shall be **100-150 kg.**
36	**(SR. NO.–08,LAST POINT) ICU PENDANT, VOLUME–IV,PAGE-18, TECHNICAL SPECIFICATION** Item should be CE marked/US FDA certified /UL listed It should be changed to 'Item should be CE marked/US FDA certified /UL listed**where ever applicable'.**	European CE marked/US FDA certified /UL listed wherever applicable.
37	**(SR. NO.–13A,LAST POINT) ACCESSORIES, VOLUME–IV,PAGE-21, TECHNICAL SPECIFICATION** It should be CE marked /UL listed It should be changed to'It should be CE marked /UL listed **where ever applicable'.**	European CE marked/US FDA certified /UL listed wherever applicable.

38	**(SR. NO. – 15B, LAST POINT) FULLY AUTOMATIC CARBON DI-OXIDE CONTROL PANEL, VOLUME–IV, PAGE-23, TECHNICAL SPECIFICATION** The control panel should be CE marked /UL listed It should be changed to 'The control panel should be CE marked /UL listed **where ever applicable'.**	European CE marked/UL listed wherever applicable.
39	**(SR. NO.–16, 8th PARA) FULLY GAS OUTLET (NO. AS PER TABLE ANNEXED, VOLUME–IV, PAGE-24, TECHNICAL SPECIFICATION** The outlets should be CE marked /UL listed It should be changed to 'The outlets should be CE marked /UL listed **where ever applicable'.**	European CE marked/UL listed wherever applicable.
40	**(SR. NO. – 16 , 4thPARA) ALTERNATELY GAS OUTLET, VOLUME – IV,PAGE - 25, TECHNICAL SPECIFICATION** The outlets should be CE marked /UL listed It should be changed to 'The outlets should be CE marked /UL listed **where ever applicable'.**	European CE marked/UL listed wherever applicable.
41	**(NOTE: – 2ND POINT) VOLUME – IV,PAGE - 27, TECHNICAL SPECIFICATION** The bidder should quote rates for **operation of manifold system during DLP.** **Please specify the number of man power required in each shift.**	Mentioned in the attached sheet.
	M/s MDD Medical Systems (India) Pvt. Ltd.	
42	**SCOPE OF WORK** 1.) **Various services**. Please refer to scope of work mentioned on page No. 8 of special conditions of contract You have mentioned scope of work to include services like Civil, Electrical, HVAC, fire fighting works etc. and even obtaining approval from local authorities, electrical inspector, water, sewage, electricity connection etc. Subsequent to our inspection of the site, we are aware that all these services have either already been awarded to contractors or are in the process of being awarded. Therefore please clarify,	Tender Terms & Conditions prevails.

	how the same can be in the scope of MGPS contractor **2. Liquid Oxygen Tank** As you are aware that none of the Medical Gas pipeline system providing companies manufacture, liquid oxygen tanks, as such it is strongly emphasized that liquid oxygen tank should be removed from the scope of this tender and same should be procured separately via separate tender directly from the manufacturers. **You have asked for capacity of 20 KL, which in our opinion is too high. Please clarify the same.**	
43	**<u>TECHNICAL SPECIFICATIONS</u>**	
	NFPA 99 VS. HTM 02-01 SPECIFICATIONS As you have rightly given alternate detailed specifications of both the above standards in the case of Alarm Systems and Medical Gas Outlets, we request you to kindly give alternate specifications of HTM standards, also in the case of Vacuum Plant, Compressed Air plant, O2 Automatic Control Panel, and N2O Automatic Control Panel, and AGSS, as the present specifications are of for these equipments are as per NFPA 99 standard. For your kind perusal and ready reference we are enclosing the detailed specifications as per HTM standard for these items.	Tender Terms & Conditions prevails.
44	**Item Sr. No. 1-B - Fully Automatic Oxygen Control Panel –** Flow capacity of greater than 2000 LPM is highly excessive. Please make it 1500-2000 LPM, at 50 to **70** psi which will be more than sufficient for the subject installation	Capacity 1500-2000 LPM, at 50 to **70** psi
45	**Item Sr. No. 1-B - Fully Automatic Nitrous Oxide Control Panel –** Flow capacity of greater than 700 LPM is highly excessive. Please make it 500-700 LPM at 50 to 70 psi, which will be more than sufficient for the subject installation	Capacity 500-700 LPM at 50 to 70 psi,
46	**Item Sr. No. 3 – Vacuum system** Capacity of 6230 LPM mentioned in on the lower side. It should be approximately 7000 LPM. Please amend the same. Please specify the number of vacuum pumps, which would be running to supply the desired design capacity and also the number of vacuum pumps which should be as standby. This is required in order that all bidders should be on the same platform for a fair and “apple to apple” comparison Please ensure that the plant specifications frequency should be 50 Hz and not 60 Hz, as only 50 Hz is used in India	Capacity 7000 LPM ±10%. Frequency- 50Hz

47	**Item Sr. No. 4 - Compressed Air plant –** There is apparently error in the capacity mentioned as 150 scfm/ 2830 lpm. As you know, 150 scfm works out to be 4250 LPM. Please correct the same. You have mentioned oil less Screw / Scroll compressors. Please mention 'Oil injected rotary Screw compressors with filtration / Scroll compressors'. As you know Screw Compressors are oil injected with multi stage filtration system, as mentioned in HTM 02-01 standards. Please specify the number of air compressors, which would be running to supply the desired design capacity of 150 scfm, and also the number of compressors which should be as standby. This is required in order that all bidders should be on the same platform for a fair and "apple to apple" comparison Please ensure that the plant specifications frequency should be 50 Hz and not 60 Hz, as only 50 Hz is used in India	Capacity 150 scfm/ 4250 LPM Frequency-50Hz
48	**Item Sr. No. 5 – Distribution Piping Indigenous** As the copper pipe is to be of medical grade, please mention that same should be "BSi Kite mark" certified which is important quality certification for medical grade copper pipe manufacturing process and it was specified in earlier AIIMS and HSCC tenders	Tender Terms & Conditions prevails
49	**Item Sr. No. 7 – Bed head panels** Please clarify whether you want Indian or Imported, as it is not mentioned and not clear in the tender documents.	Imported
50	**Item sr. No. 8 – ICU Pendants** Specifications are exclusively of one manufacturer.Particular values of weight bearing capacity and length etc. are mentioned at present. Please amend and generalize the same.	Weight bearing capacity 100-150 Kg
51	**Item Sr. No. 11 – Anesthesia Gas Scavenging system** Considering the number of OT's (14 nos.) the capacity should be specified as 2920 LPM. It may kindly be mentioned, in order to establish an "apple to apple" comparison. Please ensure that the plant specifications frequency should be 50 Hz and not 60 Hz, as only 50 Hz is used in India	Frequency – 50Hz
	CLARIFICATIONS REGARDING BILL OF QUANTITY	
52	**Part I** **Item 1a. Oxygen manifold system**	For 1a and 2a Tender terms prevail

	It is not mentioned how many, if at all, oxygen filled cylinders are to be supplied with the manifold. **Item 2a. Nitrous Oxide manifold system** It is not mentioned how many, if at all, Nitrous Oxide filled cylinders are to be supplied with the manifold. **Item 13-b – Theatre Vacuum unit** It is asked for the same to have Digital indication of the suction, whereas your tender specifications ask for Digital / Analogue indication. Please clarify that in your BOQ also, it should be digital / analogue indication	For 13b Vacuum gauge shall be **analog/digital** indication
53	**Part III** Sr. No. 1 – You have asked for operation and comprehensive maintenance charges. Please clarify, whether you want single price for both the services as normally operation and running is quoted separately from Comprehensive Maintenance Charges	Price for Operation and price for CMC will be separated as per the Revised BOQ.
	Alternative to NFPA-99 Speciifcations **HTM 0201 specifications**	Tender terms prevail
54	**1.b Oxygen Fully Automatic Changeover Control Panel of 1500lpm to 2000lpm:** It should fully complies and meets with the requirements of the UK DOH Health Technical Memorandum 02-01 (HTM 02-01) standards only. It shall be provided with a copy of the certificate of origin. Automatic Changeover Manifolds shall be duly CE marked to the Medical Device Directive 93/42/EEC under the auspices of notified body no.Under this directive, med gas products are classified as Class IIb Medical Devices. It shall be provided with a copy of the certificate of origin. It should have all regulators which should be adiabatic certified. The manifold control panel shall be designed and certified for use with oxygen at 200 bar and 60°C. Auto-ignition testing shall be carried out and a copy of the test report shall be shall be provided for review. Central regulator panel with cylinder headers each side. Headers are complete with gas specific cylinder tailpipes. Pre-wired for alarm connection to BMS outputs. Central regulator panel with cylinder headers each side. Headers are complete with gas specific cylinder tailpipes. Pre-wired for alarm connection to BMS outputs. All components degreased for oxygen use. Mild steel powder coated enclosure with Perspex window. The manifold control system shall be powered by an extra low voltage on board supply. The controller shall include normally closed alarm connections and two sets of BMS connections for both normally open and normally closed operation. Line pressure shall be continuously monitored by an electronic pressure switch; mechanically actuated pressure switches are not acceptable. There shall be a manual changeover button to enable selection of the duty bank. 50 W cartridge heaters with thermostat control: N2O and O2/N2O manifolds. Two non-return valves, one for each bank, shall be provided within a line pressure manifold block and shall provide gas tight isolation of each bank during maintenance and ensure supply continuity in the event of any upstream component failure. In the event of a low line pressure	Tender terms prevail

	condition, both solenoid valves shall open to enable both banks to deliver gas and restore normal pipeline pressure. A manifold status panel shall be provided with colour coded LED indication lights for the following operating and fault indications: □ Power On (Green) □ High Line Pressure (Red) □ Low Lin e Pressure (Red) □ Reserve Low (Amber) □ Left Bank Running (Green) □ Left Bank Low (Amber) □ Left Bank Empty (Amber) □ Right Bank Running (Green) □ Right Bank Low (Amber) □ Right Bank Empty (Amber) The Interface Indicator shall be provided with colour coded LED indication lights for the following operating and fault indications: □ Normal (Green) □ Duty Bank Empty (Amber) □ Standby Low (Amber) □ Reserve Bank Low (Amber) □ Pipeline Pressure Fault (Red) □ System Fault (Red) In the event of a power supply failure, both solenoid valves shall open to enable gas to be supplied from both cylinder banks simultaneously until restoration of the power supply.	
55	**2.b N2O Fully Automatic Changeover Control Panel of 500lpm to 700lpm:** It should fully complies and meets with the requirements of the UK DOH Health Technical Memorandum 02-01 (HTM 02-01) standards only. It shall be duly CE marked to the Medical Device Directive 93/42/EEC under the auspices of notified body no.Under this directive, med gas products are classified as Class IIb Medical Devices. It shall be provided with a copy of the certificate of origin.It should have all regulators which should be adiabatic certified. The manifold control panel shall be designed and certified for use with oxygen at 200 bar and 60°C. Auto-ignition testing shall be carried out and a copy of the test report shall be shall be provided for review.Central regulator panel with cylinder headers each side. Headers are complete with gas specific cylinder tailpipes. Pre-wired for alarm connection to BMS outputs. Central regulator panel with cylinder headers each side. Headers are complete with gas specific cylinder tailpipes. Pre-wired for alarm connection to BMS outputs. All components degreased for oxygen use. Mild steel powder coated enclosure with Perspex window. The manifold control system shall be powered by an extra low voltage on board supply. The controller shall include normally closed alarm connections and two sets of BMS connections for both normally open and normally closed operation. Line pressure shall be continuously monitored by an electronic pressure switch; mechanically actuated pressure switches are not acceptable. There shall be a manual changeover button to enable selection of the duty bank. 50 W cartridge heaters with thermostat control: N2O and O2/N2O manifolds. Two non-return valves, one for each bank, shall be provided within a line pressure manifold block and shall provide gas tight isolation of each bank during maintenance and ensure supply continuity in the event of any upstream component failure. In the event of a low line pressure condition, both solenoid valves shall open to enable both banks to deliver gas and restore normal	Tender terms prevail

	pipeline pressure. A manifold status panel shall be provided with colour coded LED indication lights for the following operating and fault indications: □ Power On (Green) □ High Line Pressure (Red) □ Low Line Pressure (Red) □ Reserv e Low (Amber) □ Left Bank Running (Green) □ Left Bank Low (Amber) □ Left Bank Empty (Amber) □ Right Bank Running (Green) □ Right Bank Low (Amber) □ Right Bank Empty (Amber) The Interface Indicator shall be provided with colour coded LED indication lights for the following operating and fault indications: □ Normal (Green) □ Duty Bank Empty (Amber) □ Standby Low (Amber) □ Reserve Bank Low (Amber) □ Pipeline Pressure Fault (Red) □ System Fault (Red) In the event of a power supply failure, both solenoid valves shall open to enable gas to be supplied from both cylinder banks simultaneously until restoration of the power supply.	
56	**3. Imported Quaduplex 7250lpm Medical Vacuum Plant 3 Phase 50 Hz (Package Unit)** It should fully complies and meets with the requirements of the UK DOH Health Technical Memorandum 02-01 (HTM 02-01) standards only. It shall be duly CE marked to the Medical Device Directive 93/42/EEC under the auspices of notified body no. Under this directive, med gas products are classified as Class IIb Medical Devices. It shall be provided with a copy of the certificate of origin.Three identical vacuum pumps should be working and two standby. Comprising of Pentaplex rotary vane vacuum pumps (5 x 11kw 2400kpm each), 2 x 3625lpm each working as duty and 2 x 2400lpm as standby. 4 x 15KW rotary vane vacuum pump base/floor mounted (2400 lpm flow rates of each pump). 3 x 3000 liters capacity vertical vacuum receiver tanks. 79dBA sound pressure level. 76mm OD pipe work and 42mm is exhaust pipe. The Medical Vacuum Plant shall be fully tested. A test certificate shall be provided showing the results of the tests, including the free-air flow rate obtained at an inlet vacuum of 450 mmHg. Type testing of plant flows or testing in component form is not acceptable.Vacuum pumps shall be air-cooled, oil lubricated rotary vane type suitable for both continuous and frequent start/stop operation at nominal inlet vacuum levels of between 475 mmHg and 650 mmHg. Rotors shall be driven by directly coupled totally enclosed fan-cooled electric motors. Pump inlets shall include a wire mesh filter and integral non-return valve to prevent oil suck back and pressure increases in the vacuum system. Each vacuum pump shall be provided with an oil mist eliminator delivering a virtually oil-free exhaust. Each pump shall be fitted with anti-vibration pads between the pump foot and mounting frame and an	Tender terms prevail

	oil level sight glass. A pressure switch shall be included to provide an indication that the pump is operating normally once it has been called into service. Vacuum Pump Starter Units :Pump starter units shall be provided with Direct-On-Line (DOL) motor starters for nominal motor powers up to 7.5 kW and Star-Delta (Wye-Delta) motor starters for motors above 7.5 kW. Each motor shall be protected by a thermal overload relay. The incoming supply shall terminate at a door interlock isolator. An ammeter shall be fitted to each starter panel indicating the current drawn by the motor. Each pump starter unit shall incorporate a 24V transformer that provides power to the Plant Control Unit such that complete control of the plant is maintained in the event of a single power supply failure. The pump starter unit shall provide LED indication lights for the following operating and fault conditions: • Mains Supply On (Green) • Selected (Green) • Called For (Green) • Operating (Green) • Control Circuit Failed (Amber) • Overload Tripped (Amber) • Over Temperature, if fitted (Amber) • Pump Fault (Amber) • Pump Failed (Amber) Plant Control Unit :The Plant Control Unit shall incorporate an intuitive menu driven display for access to operational information and service functions. A securely protected engineer's mode shall also be provided that can only be accessed by authorised personnel to modify operational parameters. The Plant Control Unit central control system shall operate at extra low voltage and include BMS connections for plant fault, plant emergency, reserve fault and pressure fault. A mechanical backup pressure switch shall ensure continued system operation in the event of a control system or transducer malfunction. The Plant Control Unit shall incorporate an intuitive menu driven LCD display, providing easy access to system operational information and alarm resets. The Interface Indicator shall be provided with colour coded LED indication lights for the following operating and fault indications: • Normal (Green) • Plant Fault (Amber) • Plant Emergency (Amber) • Check Status (Amber) • Pipeline Pressure Fault (Red) • System Fault (Red) Vacuum Vessel(s) :3 x 3000ltrs Vacuum vessels shall comply with BS 5169:1992 and be manufactured from heavy gauge fusion welded steel with a minimum wall thickness of 5 mm and dished ends with a minimum wall thickness of 6 mm. Total vacuum vessel volume shall be at least 100% of the plant capacity in 1 minute in terms of free air aspired at normal working pressure. Where only a single vessel is supplied it shall be connected to the bacteria filters in parallel with the pumps such that operation of the system can continue during receiver isolation for periodic internal inspection. The vessel shall include a drain valve and a 100 mm nominal diameter vacuum gauge complete	

	with isolating valve. Bacteria Filters :Quaduplex arrangement of bacteria filters shall be provided, incorporating high efficiency filter elements. Each filter shall be generously sized to carry the full plant design flow capacity with a pressure drop not exceeding 22 mbar (16.5 mmHg). Bacteria Filter elements shall have penetration levels not exceeding 0.005% when tested by the sodium flame method in accordance with BS 3928:1969 utilising particles in the 0.02 to 2 micron size range. Each filter shall be provided with a differential pressure gauge. A drain flask shall be connected to each filter. Drain flasks shall be manufactured from transparent Pyrex with a polymer coating on the inner and outer surfaces in order to maintain a seal in the event of inadvertent breakage of the Pyrex flask. All drain fl asks shall be suitable for sterilisation and be connected via a manual isolating valve.	
57	**4.0 Imported 4560lpm Quaduplex 11 Bar Medical Air Plant 3 Phase 50 Hz (Package Unit)** It should fully complies and meets with the requirements of the UK DOH Health Technical Memorandum 02-01 (HTM 02-01) standards only. It shall be duly CE marked to the Medical Device Directive 93/42/EEC under the auspices of notified body no. Under this directive, med gas products are classified as Class IIb Medical Devices. It shall be provided with a copy of the certificate of origin.Medical Air Plant of 11bar for both 4bar MA4 Air supply and SA7 Air supply. Quaduplex(4 x 22kw SCREW compressors), with duplex drier and filtration, • 2 x 22KW (2280lpm) each screw air compressor will always be running to produce 7200lpm. • 2 x 22KW (2280lpm) each screw air compressor will be stand by. • 4 x 22KW each screw air compressor base frame mounted. • 3 x 1500 liters capacity vertical air receiver. • 2 x air dryer. • 68dBA sound pressure level. • 42mm OD pipe work. Each base frame mounted screw compressor will provide 2280lpm air flow. EMC certificate copy must be submitted. Compressors shall be directly driven by EFC IP55 energy saving CEMEP Class EFF1 high efficiency electric motor. Medical Air Plants are intended to provide a continuous supply of medical quality air conforming to the European Pharmacopoeia medicinal air monograph (ref. 1238), for respiratory use in healthcare facilities. The system shall be duplex such that the supply is maintained in single fault condition. Standby compressors shall be provided such that the specified volumetric flow is achieved with either one reserve compressor on standby where an automatic backup manifold of sufficient capacity is provided, or two compressors not running if the backup manifold is unable to deliver the medical air system design flow. Medical Air Plants shall be supplied fully tested and comply with the United Kingdom Department of Health (DoH) publication HTM 02-	Tender terms prevail

	01 and NHS Model Engineering Specification C11. The entire Medical Air Plant shall be factory tested. A test certificate shall be provided showing the results of the tests, including the free-air flow rate obtained at normal working pressure. Type testing of plant flows or testing in component form is not acceptable. Penlon Medical Gas Solutions Medical Air Plants are CE marked to the Medical Device Directive 93/42/EEC under the auspices of notified body no. 0088 (Lloyd's). Under this directive, Medical Air Plants are classified as Class IIb Medical Devices. **Medical Air Compressors** Compressors shall be oil injected rotary screw compressors suitable for both continuous and frequent start/stop operation at a nominal outlet pressure of 1100 kPa (11 bar). Compressors shall be supplied with a block and fin style after cooler with a dedicated quiet running fan to maximise cooling and efficiency. A multistage oil separator capable of achieving 2ppm oil carry over shall be fitted to minimise contamination and maintenance. EFF1 (CEMEP) rated TEFC, IP55 class F electric motors shall be used and incorporate maintenance-free greased for life bearings. Motors with lower efficiency ratings are not acceptable. A mechanical back-up facility shall ensure continued operation in the event of a control system malfunction. The control system shall normally employ automatic rotation of the lead compressor to maximise life and ensure even wear. Compressor shall be provided with Star-Delta (Wye- Delta) motor starters and each motor shall be protected by a thermal overload relay. The incoming supply shall terminate at a door interlock isolator. An ammeter shall be fitted to each starter panel indicating the current drawn by the motor. **Purification Module** The duplexed filter and dryer module shall incorporate high efficiency oil filters, heatless regenerative desiccant dryers, impregnated activated carbon filters and bacteria filters. Contaminants in the delivered air downstream of the bacteria filters. Each dryer tower shall have the water concentration in the delivered air continuously monitored by a dedicated sensor providing an alarm indication for high dew point on the respective dryer as backup to the alarm provided by the hygrometer with digital display. The outlet air pressure shall be regulated through a duplex arrangement of non-relieving pressure regulators and protected from over-pressure by duplex pressure safety valves. The output of the both dryers shall be joined to a common pipe prior to entering the pressure regulators to allow either pressure regulator to be used with either dryer. **Plant Control Unit** The central control system shall provide an intelligent human machine interface incorporating on board flash memory and real-time clock for recording operational parameters in the in-built event log. The central control system shall operate at low voltage and include BMS connection for plant fault, plant emergency, reserve fault and pressure fault. Visualisation of plant inputs, outputs and status through a web	

	browser, using a simple Ethernet connection shall be available. The central control unit shall incorporate a user friendly 5.7" high-definition colour display with clear pictograms and LED indicators, providing easy access to system operational information. **Digital Dew Point Display** The purification module shall incorporate a ceramic dew point hygrometer with an accuracy of ±1°C in the range -20 to -80°C atmospheric dew point and 4-20 mA analogue output. Aluminium oxide or palladium wire sensors are not acceptable. An alarm condition shall trigger on the dryer control panel if the dew point exceeds a -46°C atmospheric (67 ppm v/v) set point. Volt-free contacts shall be included to enable the dew point alarm signal (Plant Emergency) to be connected to a central medical gas alarm system and/or building management system (BMS). **Air Receiver(s)** Air receivers shall comply with BS EN 286-1;+A2 2005 and be manufactured from heavy gauge fusion welded steel with a minimum wall thickness of 5 mm and dished ends with a minimum wall thickness of 6 mm. Total air receiver volume shall be at least 50% of the plant capacity in 1 minute in terms of free air delivered at normal working pressure. Air receiver shall be connected to the dryer in parallel such that operation of the system can continue during receiver isolation for periodic internal inspection. The receiver assembly shall be fitted with a pressure safety valve set at 11 bar. The receiver shall be further protected by a fusible plug and include a 100 mm nominal diameter pressure gauge complete with isolating valve. Each air receiver shall be fitted with an electrically actuated drain valve with integral solid-state timer providing user adjustable opening time and actuation frequency. The valve shall be fitted with a manual test button and LED indication lights to show operating status. The drain shall be protected from blockage by debris with a strainer. Float type mechanically actuated drain valves are not acceptable. Drain valves to be connected locally to a single phase supply.	
58	**11. Imported Duplex AGSS System 2920lpm 3 Phase 50Hz.** It should fully complies and meets with the requirements of the UK DOH Health Technical Memorandum 02-01 (HTM 02-01) standards only. It shall be duly CE marked to the Medical Device Directive 93/42/EEC under the auspices of notified body no. Under this directive, med gas products are classified as Class IIb Medical Devices. It shall be provided with a copy of the certificate of origin.Duplex AGSS System - Twin stand alone AGSS pumps of 3 phase 2920l/min capacity each with built in flow indication and pressure regulation valve. Mounted on single frame with control panel and separate warning label. One pump will be standby with the other in operation. • 2 x 3KW Nominal Motar per blower • 1 x DOl starter. • 54mm service connection. • Weight 120Kg	Tender terms prevail.

	Anaesthetic Gas Scavenging (AGS) Plants are intended to provide a continuous low level vacuum supply to pipeline systems in healthcare facilities for the removal of waste anaesthetic gases captured from patient breathing circuits via AGS receivers. The plant shall be a duplex configuration such that the vacuum supply is maintained in single fault condition. The stated volumetric flow rate shall be delivered with one blower on standby. AGS Plants shall comply with BS EN ISO 7396-2 and United Kingdom Department of Health (DoH) publications HTM 02-01, HTM 2022 and NHS Model Engineering Specification C11. The entire AGS Plant shall be skid mounted, fully assembled and factory tested as a complete system. A test certificate shall be provided showing the results of all tests, which shall include the free-air flow rate obtained with the system delivering a working pressure of -125 mbar gauge. Type testing or testing in component form is not acceptable. Regenerative Blowers :Two equally sized regenerative blowers shall be provided. Blowers shall be oil-less, air cooled side channel regenerative type, suitable for both continuous operation and frequent start/stop. The motor shall be directly coupled to a fully enclosed impeller with contact free operation. All bearings shall be sealed and greased for life, requiring no further lubrication in service. Each pump shall be provided with a 'Mode Select' switch incorporated into the plant control unit to enable the pump to be run continuously (in hand operation) or automatically as and when required by the plant control unit. Each motor shall also be afforded protection by means of a thermal overload relay with a manually reset function. Plant Control Unit :The plant control unit shall incorporate a transformer to provide a nominal 24 V a.c. electrical supply to all internal controls and remote start switches and an interlock isolator shall be integrated into control panel door. The plant control unit shall be provided with neon indicator lights for the following operating and fault conditions: • Power On (Green) • Standby Run (Amber) • Pump Failed (Red) The plant control panel shall include a switch to enable manual selection of the duty pump; the other thereby being designated as standby. Pressure at the pipeline interface shall be continuously monitored by a pressure switch with diaphragm sensing element and shall be adjustable between -25 and -100 mbar gauge pressure and shall be factory set to -65 mbar gauge pressure. If the duty blower fails or is unable to cope with the system demand, the standby blower shall be called to operate and a 'Standby Run/Duty Failed' indication shall illuminate on the plant control panel and each remote start switch. If both blowers fail or the system is otherwise unable to maintain a pipeline vacuum level above the pressure switch set point, a 'System Failed' indication shall be initiated. The vacuum level at the plant inlet shall be displayed on 63 mm nominal diameter pressure gauge mounted on the plant control unit. The pressure gauge shall have a scale range of 0 to -400 mbar gauge pressure and have an accuracy of +/-2% or better across the middle half of the scale range. Swing type check valves shall be installed in the pipes connected to the blower inlet ports. At the pump outlets, each exhaust pipe shall be provided with a polymer coated autoclavable Pyrex drain flask at the lowest point.	

59	**11a.Imported AGSS Plastic Remote Indicator** It should fully complies and meets with the requirements of the UK DOH Health Technical Memorandum 02-01 (HTM 02-01) standards only. It shall be CE marked with the notified body number specified. It shall be provided with a copy of the certificate of origin. It shall be provided with a copy of the certificate of origin. It should be flush mounted, white ABS 24 volt on/off room controller indicating 'red' plant failed, 'amber' duty pump failed and 'green' mains airflow on.	Tender terms prevail.
60	**15b CO2 Fully Automatic Changeover Control Panel of 500lpm to 700lpm:** It should fully complies and meets with the requirements of the UK DOH Health Technical Memorandum 02-01 (HTM 02-01) standards only. It shall be duly CE marked to the Medical Device Directive 93/42/EEC under the auspices of notified body no.Under this directive, med gas products are classified as Class IIb Medical Devices. It shall be provided with a copy of the certificate of origin.It should have all regulators which should be adiabatic certified. The manifold control panel shall be designed and certified for use with oxygen at 200 bar and 60°C. Auto-ignition testing shall be carried out and a copy of the test report shall be shall be provided for review.Central regulator panels with cylinder headers each side. Headers are complete with gas specific cylinder tailpipes. Pre-wired for alarm connection to BMS outputs. Central regulator panel with cylinder headers each side. Headers are complete with gas specific cylinder tailpipes. Pre-wired for alarm connection to BMS outputs. All components degreased for oxygen use. Mild steel powder coated enclosure with Perspex window. The manifold control system shall be powered by an extra low voltage on board supply. The controller shall include normally closed alarm connections and two sets of BMS connections for both normally open and normally closed operation. Line pressure shall be continuously monitored by an electronic pressure switch; mechanically actuated pressure switches are not acceptable. There shall be a manual changeover button to enable selection of the duty bank. 50 W cartridge heaters with thermostat control: CO2 manifolds. Two non-return valves, one for each bank, shall be provided within a line pressure manifold block and shall provide gas tight isolation of each bank during maintenance and ensure supply continuity in the event of any upstream component failure. In the event of a low line pressure condition, both solenoid valves shall open to enable both banks to deliver gas and restore normal pipeline pressure. A manifold status panel shall be provided with colour coded LED indication lights for the following operating and fault indications: □ Power On (Green) □ High Line Pressure (Red) □ Low Line Pressure (Red) □ Reserve Low (Amber) □ Left Bank Running (Green) □ Left Bank Low (Amber) □ Left Bank Empty (Amber) □ Right Bank Running (Green) □ Right Bank Low (Amber) □ Right Bank Empty (Amber) The Interface Indicator shall be provided with colour coded LED indication lights for the following operating and fault indications: □ Normal (Green)	Tender terms prevail.

	⍰ Duty Bank Empty (Amber) ⍰ Standby Low (Amber) ⍰ Reserve Bank Low (Amber) ⍰ Pipeline Pressure Fault (Red) ⍰ System Fault (Red) In the event of a power supply failure, both solenoid valves shall open to enable gas to be supplied from both cylinder banks simultaneously until restoration of the power supply.	
	M/s Drager	
61	**STANDARDS –** Standard DIN EN 737 is superseded by EN ISO 7396-1, therefore request you to please replace all EN 737 standards for medical gas pipeline system to EN ISO 7396-1, our product certified & fully complied with EN ISO 7396-1 standards.	All EN 737 standards for medical gas pipeline should be replaced by EN ISO 7396-1 standards.
62	**Liquid Medical Oxygen Storage Tank:** We request you to please remove LMO from the scope of supply. LMO is a complex issue which involves Oxygen supply for 5 years. Only 3 companies dealing with LMO i.e. Linde, Praxair, INOX. INOX supports only MDD, MPS, and PES. Linde will quote LMO with his own Medical gas system & will not authorize any other company for LMO. Praxair doesn't operate in Delhi & hence Praxair will not authorize any company for LMO. LMO being part of Medical Gas pipeline tender limits the competition to 3 companies namely MDD**, MPS, and PES**. For Broader participation of companies we once again request you to remove LMO from scope of supply of Medical Gas Pipeline System.	Tender terms prevails.
63	**4.0 Air compressors**: Oil free Compressor: It is not mandatory to provide oil free compressors because the final quality of air is depends on filtration system to as per European Pharmacopeia . It is only mandatory in NFPA standard therefore it should not be made mandatory for ISO and HTM solution providers. As per HTM / EN DIN ISO standard Oil Based Compressor are also allowed. Hence you are requested to change the same. Draeger does not Manufacture Oil Free Compressor as we follow HTM and EN ISO Standard.	Oil free/Oil based Air compressor should be provided with proper multiple stages of filtration system and drying system to produce air of breathing quality.
64	**7.0 Horizontal Bed head Panel**: Please clarify Indian or Imported.	Imported
65	**8**.0 ICU Pendant: Please clarify Indian or Imported.	Imported
66	Please check the CE certicifate requiment of components.	All equipment being demanded should be European CE/US FDA certified or listed if applicable. In case the above are not applicable

		DIN/EN standards should be made applicable wherever possible. In case of amendments to any standard, only the latest version will apply.
67	**2.0 Pre-Qualification criteria:** International work orders acceptable. Please clarify. It is not mentioned in the tender.	Tender terms prevail.
68	Kindly Confirm the Each compressor & Vacuum flow requirement in the tender to offer.	Tender terms prevail.
69	**9.0 Valve Boxes**: This item is also an important and essential component in the distribution system as gases will pass through the isolation valves and if isolation valves are not as per medical grade then it will add impurities into the gases. Therefore this item should also be considered as per medical device certification and should be imported. European CE certified or UL listed.	Certified European CE/UL listed.
70	**10. Isolation Valve**: This item is also an important and essential component in the distribution system as gases will pass through the isolation valves and if isolation valves are not as per medical grade then it will add impurities into the gases. Therefore this item should also be considered as per medical device certification and should be imported. European CE certified or UL listed.	Certified European CE/UL listed.
71	Last date: 07.03.2016. Extension in dates for Tender Submission: We have to arrange EMD & other important documents for tender from Germany & it is not possible for us to submit tender by 07.03.2016. To arrange all documents including EMD we have to take approval from Germany. Hence request you to please extend tender date atleast by 30 days from the date of Technical amendment for us to participate in this tender. We seek your support and understanding to help us participating in said tender.	Bid submission has been extended till 05.05.2016.
	M/s Medical Product Services	
	Commercial Clarifications for Medical Gas Pipeline System	
72	**1- Existing Clause of the Tender** **Volume-I, Pre-Qualification Documents; Prequalification Criteria, Clause no. 2.2**	Tender Terms & Conditions prevails.

	(ii) Experience of having successfully completed similar work during last 7 years ending last day of month previous to the one in which tenders are invited should be either of the following : Three similar* completed works costing not less than the amount equal to 40% of the estimated cost. Or Two similar* completed works costing not less than the amount equal to 50% of the estimated cost. Or One similar* completed work costing not less than the amount equal to 80% of the estimated cost. The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to the last date of receipt of application for tender. One completed work of any nature (either part of 2.2,(ii) or separate one costing not less than the amount equal to 40% to the estimated cost with some Central/State Government organisation/Central Autonomous body/Central Public Sector Undertaking. ***Similar nature of works means supply, installation, testing & commissioning of Medical Gas Manifold System.** **<u>Requested</u>** We request the clause of the tender to be amended as value of executed works shall be brought to current costing level by enhancing the actual value of work at **cumulative** rate of 7% per annum, calculated from the date of completion to the last date of receipt of application for tender. You would appreciate that the calculation in all Financial organisations such as banks is always calculated on the basis of Cumulative and not Simple rate of interest. We also request that TDS Certificate should be asked for the justification of the order value against the experience of similar nature of work. Kindly clarify that clause mentioned as "One completed	

	work of any nature (either part of 2.2,(ii) or separate one costing not less than the amount equal to 40% to the estimated cost with some Central/State Government organisation/Central Autonomous body/Central Public Sector Undertaking". Kindly clarify One completed work of any nature means.	
	2- <u>Existing Clause of the Tender</u> **<u>Pre-Qualification Criteria, 2.2 (ii), 4th Paragraph</u>** A Certificate from client for completion of works(s) must be submitted along with application. Own works/Certification of agencies shall not be considered. **<u>Request</u>** Please appreciate 99% of the tenders are floated by the Tender empowering Agencies. Complete work right from tendering, evaluation, award of work and till completion and commissioning of work the same is being looked after by agencies such as M/s HLL, M/s HSCC, M/s EIL, M/s Mecon, M/s PWD, M/s CPWD, M/s L&T, V3S etc. Hence the completion certificate is also provided by the consultants, which is itself Authority to issue completion certificate onbehalf of owner. Hence this clause may please be amended as certificate of agencies should be considered.	Tender Terms & Conditions prevails.
	3- <u>Existing Clause of the Tender Document</u> **<u>Volume-III, Page no. SCC-9, Clause no. 1.5 Time for Completion</u>** The successful Bidder shall complete the Works within 4(Months) **Calendar months** from Consultant's order to commence the Work. **<u>Requested</u>** We request the Delivery Schedule may please be amended as 6 (Month) Calendar months instead of 4 (Four) Calendar months as mentioned. You would appreciate that this is a Big Project and arranging such a huge quantity of material takes lot of time and resources. The manufacturing itself	The completion period will be 4 month.

	takes 2 months and subsequently the shipment/transaction also takes minimum of 2 months time. How we can meet the 4 months delivery schedule. This is a project and not mere supply of equipments which is a tedious job and involve lot of stages and most of the items like Bed Head Panel, AGSS System, Air System, Vaccum System, Oxygen Control Panel, N2O Control Panel, Co2 Control Panel etc items are imported for which procurement only starts after approval of final drawing which is a time consuming process so we hereby request you to kindly increase the delivery schedule.	
	4- <u>Existing Clause of the Tender Document</u> **<u>Volume III, Special Conditions of Contract, Page no. SCC-39, Clause no. 21.0 Terms of Payment</u>** For purposes of estimating the contract value of works executed for certificate of payment, the following norms shall be followed: 1) 65% of the BOQ contract rates on delivery of equipments at site after inspection and passing on pro-data basis. 2) 25% of BOQ contract rates on satisfactory certification by client after erection and installation, testing and commissioning of equipments on pro-data basis. 3) 10 % of BOQ contract rates after successful completion of trial run of 30 days from the date of handover to the client. **<u>Requested</u>** We request, the payment terms should be ; - 70% of payment should be released on delivery of goods. - 20% of payment may please be released on installation and testing.	Tender Terms & Conditions prevails.

	- 10% payment on commissioning and successful testing and handover.	
	5- <u>Existing Clause of the Tender Document</u> **<u>Volume V, Bill of Quantities (BOQ), Existing BOQ Item, 2</u>** Part III : Operations and Comprehensive Maintenance Charges for the complete Medical Gas Manifold System. **<u>Requested</u>** We request the Operations and Comprehensive Maintenance Charges (CMC) should be separate, as both are different things and accordingly the price should also be asked separately. Therefore Kindly delete Operation (24x7) in Part III which is added along with Comprehensive Maintenance Charges. Secondly, we request the Comprehensive Maintenance Charges (CMC) should be fixed/freezed. After the defect liability period, we have come across in many tenders that the bidders play with the main prices i.e. they add the CMC charges in main price bid itself and when the turn comes of CMC they raise their hands. In many states for example Rajasthan, Maharashtra etc they have fixed the Annual Maintenance Charges as 2% and Comprehensive Maintenance Charges as 4%, copy enclosed for your ready reference. By doing this, apple to apple comparison of tender can be evaluated.	Tender Terms & Conditions prevails.
	6- <u>Existing Clause of the Tender Document</u> **<u>Detailed Tender Information, Last date to fill/upload the tender through e-tendering</u>** As mentioned, the Last date to fill/upload the tender through e-tendering is 22.01.2016, 14.30 hrs. Since this is a big and prestigious tender and most of the items are imported subsequently lot of clarifications/confirmations on technical specifications are required from foreign principals. Please appreciate the pre-bid meet which has held on 18.01.2016 and subsequently the bidders will submit their Technical & Commercial Clarifications/suggestions.	Bid submission date is extended till 05.05.2016.

	We sincerely request M/s HSCC to kindly provide us minimum of 45 days after Final Amendment of Tender to incorporate all the changes/amendments, enabling us to prepare and submit Competitive bid. Accordingly we request the tender may please be extended.	
	Technical Suggestion for MGPS - Volume IV of Tender Specification	
	Page 2, Technical Specification 1.a **Oxygen Manifold** Each header bar shall be provided with 20 numbers of cylinder pigtail connections to suit cylinder valves as per IS 3224. **Requested** As this is a quality product. For quality assurance the product must be European CE Marked with 4 digit number/UL listed.	Tender terms prevail
	Page 7, Technical Specification 1f. **High Pressure Tubing Flexible** High Pressure tubing flexible having Antistatic core as per ISO with proper colour coded complete as per specifications. **Requested** It is mentioned that the High Pressure Flexible Antistatic core as per ISO. The ISO standard is only for colour. It should be European CE Marked with 4 digit number/UL listed.	European CE marked/UL listed wherever applicable
	Page 8, Technical Specification 2.a **Nitrous Oxide Manifold** Each header bar shall be provided with 8 numbers of cylinder pigtail connections to suit cylinder valves as per IS 3224. **Requested** For quality assurance the product must be European CE Marked with 4 digit number/UL listed.	Tender terms prevail
	Page 9, Technical Specification 3.0 **VACUUM (SUCTION) SYSTEM .** Vacuum system shall be of system capacity 220 cfm/6230 LPM at 19" Hg to be delivered to the hospital with necessary standby as per the requirement of relevant International Standard. **Requested**	European CE marked/UL listed wherever applicable

	We assume that you will add stand by Vacuum system as per standard pls clarify. The product must be European CE Marked with 4 digit number. This should be mentioned below the specifications that wherever it is required UL listed to be enclosed.	
	Page 11, Technical Specification 4.0 **AIR COMPRESSORS** The system shall be consisting of Oil free Compressed Air System to provide system capacity 150 scfm/2830 LPM at 10 bar to be delivered to the hospital with necessary standby as per the requirement of relevant standard along with allied equipment, suitable tank and control panel. **Requested** The system shall be consisting of Oil free Compressed Air System to provide system capacity (150 scfm/4250 LPM as mentioned in the price bid. In technical Specification 2830 LPM is mentioned. We assume it is misprint. Kindly clarify. We request you to change in Technical specification as it is writen by mistake. This is a scroll technology we have adopted, max delivery pressure in scroll is 8 bar. Hence we request the range should be 8 to 10 bar. The product must be European CE Marked with 4 digit number. This should be mentioned below the specifications that wherever it is required UL listed to be enclosed.	Capacity 150 scfm/4250 LPM European CE marked/UL listed wherever applicable
	Page 16, Technical Specification 7.0 **HORIZONTAL BED HEAD PANELS (HBHP)** **1800MM LONG** Pre OT (Outlets- Oxygen -1, Vacuum-1, Medical Air-1), Post OT- (Outlets- Oxygen -2, Vacuum-2, Medical Air-1) Minor OT (Outlets- Oxygen -2, Vacuum-2, Nitrous-1, Medical Air-1, Surgical Air-1 and AGSS-1) **Requested** Confirm us whether the medical gas outlet is provision or Inbuild in Bed head panel. pls clarify.	Outlets should be supplied with the Bed Head Panel
	Page 17, Para 8. **ICU PENDANT** **Technical Specification:-**	Medical gas Outlet - Oxygen - 2 , Air 4 - 1, Vac - 2

	Medical gas Outlet - Oxygen - 2 , Air 4 - 1, Vac - 2 **Requested** Confirm us whether the medical gas outlet is provision or In build in ICU Pendant. pls clarify. Rotation has not mention in Specification rotation should be 330 deg to 360 deg with Electrical brake. Please note it is agreed during pre-bid meet that it is required. **Technical Specification:-** Two attached stainless steel tubes of a diameter of 30 mm (1.2 in) and a height of 150 cm (59 in) shall be laterally installed on supports placed 20 cm (8 in) away from the body of the column so to hold accessories (syringe pumps, a monitoring unit, a shelf, a rail, and so on...) without denying access to medical gas and power supply equipment. **Requested:-** we request you to delete this items as this technology is Old and only Infusion pump will hang in ICU Pendant. Please note it is agreed during pre-bid meet.	Tender terms prevail
	Page 19, Technical Specification, 11.0 **Anesthesia Gas Scavenging System** **Requested:-** It must be mentioned that, it should be European CE Marked with 4 digit number and also this should be mentioned below the specifications that wherever required UL listed to be enclosed.	European CE marked/UL listed wherever applicable
	Page 21, Technical Specification 13.b **Ward Vacuum Units** Collection bottle 500 and 2000ml with mounting arrangement. **Requested:-** 500 ml bottle is used for ward. 2000 ml bottle is used for Critical area so pls it is our request mention the qty for 500 ml & 2000 ml bottle. It should be mentioned that, it should be European CE Marked with 4 digit number/UL listed.	European CE marked/UL listed wherever applicable Bottle shall be 1500-2000 ml
	Page 21, Technical Specification 13.c **Theatre Vacuum Unit** **Requested:-** Theatre Vacuum Unit should be European CE marked with 4 digit number/UL Listed has not been mentioned.	European CE marked/UL listed wherever applicable
	Page 7, Technical Specification 1f.	European CE marked/UL listed

	High Pressure Tubing Flexible High Pressure tubing flexible having Antistatic core as per ISO with proper colour coded complete as per specifications. **Requested:-** It is mentioned that the High Pressure Flexible Antistatic core as per ISO. The ISO standard is only for colour. It should be European CE marked with 4 digit number/UL Listed.	wherever applicable
	Volume V-BOQ, 13.b **Theatre Vaccum Unit** The Vacuum regulator will be step less adjustable and have large vacuum gauge providing digital indication of the suction supplied by the regulator complete with all accessories and as per specifications. **Requested:-** We request it should be the vacuum regulator will be step less adjustable and have large vacuum gauge providing **analog/digital** indication of the suction supplied by the regulator complete with all accessories and as per specifications.	Vacuum gauge shall be **analog/digital** indication

It is clarified that any machine/component/attachment mentioned in the tender should confirm to latest international norms and certification applicable to it. Non confirming items will only be accepted if no other option is available/exists.

Bidder should follow the tender terms & condition for the unanswered queries.

The bid submission date is extended from 02.05.2016 to 05.05.2016 and bid security should be valid for 180 days from the date of bid submission ie. from 05.05.2016.

All other terms & conditions remain unchanged.

Chief General Manager

For & on behalf of Director (AIIMS)

MANPOWER PLANNING				
MGMS				
S.No.		Morning	Day	Night
1.	Supervisor	1	1	
2.	**PLANT ROOM**			
	Skilled Operator	1	1	1
	Helper	1	1	
3.	**MANIFOLD ROOM**			
	Skilled Operator	1	1	1

ALL INDIA INSTITUTE OF MEDICAL SCIENCES
NEW DELHI

e- TENDER

FOR

Supply, Installation, Testing & Commissioning of Medical Gas Manifold System for Surgical Block at All India Institute of Medical Sciences, New Delhi

VOLUME –V

BILL OF QUANTITIES (BOQ)

DECEMBER 2015

(Consultants & Engineers for Mega Hospitals & Laboratories)
E - 6 (A), Sector - I, NOIDA (U.P.) - 201 301 (INDIA)

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Tender No. HSCC/SES/MGMS/Surgical/AIIMS/2015

BILL OF QUANTITY							
	The prices are to be quoted in the below mentioned form and shall include the Supply, installation, testing , commissioning of **Medical Gases Manifold System, Operation and its maintenance (during 1 year Defect liability period)** and 4years Operation (24x7) and CMC at site including all the equipments, ancillary materials as specified and all such items what so ever which may be required to fulfill the intent and purpose as laid down in the specifications, conditions and or the drawings.						
	PART - I						
Item No.	**Description** **2**	**Unit** **3**	**Qty** **4**	**Unit Rate (In Figure) 5 Rs.**	**Unit Rate 6**	**(In Words) Rs.**	**Amount Rs 7**
1	**OXYGEN SYSTEM**						
1a	Oxygen Manifold of 20+20 Cylinders capacity(Bulk cylinder D Type). The Oxygen Manifold should be hydraulically tested to 3500 psig pressure. The Oxygen Manifold shall be complete with all accessories etc as required complete as per specifications.	Set	1				
1b	Fully Automatic Control Panel for the Oxygen Manifold system complete with all accessories etc. complete as per specifications	Set	1				
1c	10 Cylinder Emergency Oxygen Manifold with a high flow regulator with gauges and safety valves complete with all accessories etc. as required complete as per specification	Set	1				
1d	Terminal (Oxygen) outlets with probes/adapters complete as per specifications **(Outlets for OT are included in the OT package)**	Nos.	272				
1e	Liquid Medical Oxygen System with**20 KL Tank** complete as required with all accessories as per technical specification	Nos.	1				
1f	High Pressure tubing flexible having Antistatic core as per ISO with proper colour coded complete as per specifications.	mtr	1088				
2	**Nitrous Oxide System**						
2a	Nitrous Oxide Manifold of 8+8 Cylinder capacity(Bulk cylinder D Type). The Nitrous Oxide Manifold should be hydraulically tested to 3500 psig pressure. The N2O manifold shall be complete with all accessories etc. and complete as per specifications	Set	1				
2b	Fully Automatic Control Panel for N2O system and complete with all accessories etc. as required and complete as per specifications	Set	1				
2c	4 Cylinder Emergency Nitrous Oxide complete with high flow regulator with gauges, safety valve and other accessories etc. complete in all respect complete as per specifications	Set	1				
2d	Nitrous Oxide Terminal Outlets with probes/adaptors complete as per specifications**(Outlets for OT are included in the Modular OT package)**	Nos.	11				
2e	High Pressure tubing flexible having Antistatic core as per ISO with proper colour coded complete as per specifications.	mtr	44				

3	**VACUUM SYSTEM**					
3a	Vacuum system shall be of system capacity 220 cfm/6230 LPM at 19" Hg to be delivered to the hospital with necessary standby as per the requirement of relevant International Standard complete as required as per specifications.	Set	1			
3b	Vacuum Terminal Outlets with probes/adapters complete as per specifications **(Outlets for OT are included in the OT package)**	Nos.	272			
3c	Flexible tubing having Antistatic core as per ISO with proper colour coded complete as per specifications.	Metre	1088			
4	**AIR COMPRESSOR**					
4a	The system shall be consisting of Oil free Compressed Air System to provide system capacity 150 scfm/4250LPM at 10bar to be delivered to the hospital with necessary standby as per the requirement of relevant standard complete in all respect and as per specifications	Set	1			
	Compressed Air Terminal Outlets with probes/adapters complete as per specifications.					
4b	For C.A. (4 Bar) **(Outlets for OT are included in the OT package)**	Nos.	108			
4c	For C.A. (7 Bar) **(Outlets for OT are included in the OT package except Minor OT)**	Nos.	8			
4d	High Pressure tubing flexible having Antistatic core as per ISO with proper colour coded complete as per specifications.	Metre	464			
5	**DISTRIBUTION PIPING (Indigenous)**					
	Medical graded Copper pipes shall be solid drawn, tempered, seamless, phosphorous deoxidized, non-arsenic and degreased for oxygen service. The chemical composition shall be as per BS-6017: 1981 Table 2, Cu-DHP grade. Distribution Copper Pipe manufactured as per BSEN:13348 complete with dew point apparatus and carbon monoxide monitoring facility as per specifications.					
a	76.1 mm ODx 1.5mm thk	Metre	200			
b	54mm ODx 1.2mm thk	Metre	400			
c	42mm ODx 1.2 mm thk	Metre	450			
d	28mm ODx 0.9 mm thk	Metre	1500			
e	22m Odx 0.9 mm thk	Metre	3000			

f	15mm ODx 0.9 mm thk	Metre	3500			
g	12mm ODx 0.7 mm thk	Metre	2000			
6	**ALARM**					
	Master (Main) Alarm Panel to indicate any abnormality of gas pressures and other failures of the system. The alarm system shall be complete with digital display, sensor module and power supply. The alarm shall be complete with all indications controls, wirings, accessories etc. complete as required and as per specifications.	Set	1			
	Area Alarms for all critical areas The alarm system shall be complete with pressure sensors, indications alarms etc. and with all accessories as required as per specifications.					
a	5 S	Nos	16			
c	3 S	Nos	7			
d	2 S	Nos	11			
7	**HORIZONTAL BED HEAD PANEL**					
	Bed head panels for installation of outlets with provision for mounting necessary gas outlets. The bed head panel shall be provided with electrical points, switches, wiring etc . The panels shall be made in extruded aluminum profiles with powder coating and shall accommodate the gas outlets.	Set	60			
8	**ICU PENDANT**					
	A rust-inhibitive coated anchoring plate shall ensure its fixing between the concrete ceiling and false ceiling for a later mounting of the column after the fixing of ceilings. The successful tenderer shall contact the other contractors regarding the necessary power supply (LV and ELV) and medical gas outlets.	Nos	35			
9	**VALVE BOX**					
a	Valve Box - 2 Gas Services	Nos	12			
b	Valve Box - 3 Gas Services	Nos	7			
d	Valve Box - 5 Services	Nos	16			

10	**ISOLATION VALVE** complete as per specifications.					
a	54mm	Nos	10			
b	42mm	Nos	10			
c	28mm	Nos	10			
d	22 mm	Nos	120			
e	15 mm	Nos	120			
11	**ANAESTHETIC GAS SCAVENGING SYSTEM (AGSS)**					
11a	Duplex Medical Vacuum System The system shall comprise of two oil less rotary vane vacuum pumps, a control panel and a receiver all mounted on a common base frame. One pump shall be a standby The system shall be complete with all accessories as required and as per specifications.	Set	1			
11b	AGSS Terminal Outlets with probes/adapters complete as per specifications **(Outlets for OT are included in the OT package)**	Nos.	9			
11c	**AGSS Hose Assembly**	Nos.	9			
12	**ELECTRICALDISTRIBUTION PANEL**					
	Panel shall incorporate isolators for the Isolator for Medical I. Compressed air system. II. Isolator for Medical Vacuum System III. Isolator for AGSS System.	Nos.	2			

13	**ACCESSORIES**					
13.a	**Oxygen Flowmeter with Humidifier** (0-15 litres/minute) with adapter, tubing etc. complete with all the required accessories and shall be complete as per specifications	Sets	324			
13.b	**Theatre vacuum unit**. The vacuum regulator will be step-less adjustable and have large vacuum guage providing digital indication of the suction supplied by the regulator complete with all accessories and as per specifications.	Set	60			
13.c	**Ward Vacuum Unit** wall mounted type complete with all accessories as required and as per specifications.	Set	264			
14	**Low Pressure Silicon Tubing**	mtr	500			
15	**CARBON DI OXIDE SYSTEM**					
15a	4 +4 Cylinder Co2 Manifold with gauges and safety valves complete with 8 Nos Pigtail pipes & 4 Nos non-return valves with middle frame all accessories etc. complete as per specification	Set	1			
15b	Automatic CO2 Control Panel 1500 LPM with heater Systemomplete as per specification	Nos.	1			
15c	2 Cylinder Emergency Carbon di Oxide complete with high flow regulator with gauges, safety valve and other accessories etc. complete in all respect complete as per specifications	Set	1			
15d	Terminal (Carbon di Oxide) outlets with probes/adapters completeas per specification **{Outlets for OT are included in the Modular OT package except Minor OT) complete in all respect complete as per specifications**	Nos.	8			
15e	High Pressure tubing flexible having Antistatic core as per ISO with proper colour coded complete as per specifications.	Nos	32			
16	**GAS OUTLETS AS MENTIONED ABOVE**	Nos				
17	**CIVIL CONSTRUCTION OF MANIFOLD ROOM** complete in all respect complete as per specifications	Nos.	1			
18	**CONSTRUCTION OF LIQUID OXYGEN AREA** complete in all respect complete as per specifications	Nos.	1			
19	**TURNKEY**	Lot	1			
				SUB TOTAL Rs.		
	Part-II					
	Item No. 1	**Unit**	**Qty 4**			**Amount Rs 7**
1	**Operation Charges for the complete Medical Gas Manifold System during one year Defect Liability Period as per the contract.**	Nos	1			
				SUB TOTAL Rs.		

	Part-III					
	Item No. 2	**Unit 3**	**Qty 4**			**Amount Rs 7**
1	**Operation(24x7)** for the complete Medical Gas Manifold complete in all respect after completion of DLP as per the contract.					
	Ist Year	Job	1			
	2nd Year	Job	1			
	3rd Year	Job	1			
	4th Year	Job	1			
2	**Comprehensive Maintenance Charges** for the complete Medical Gas Manifold System including spares, repair or replacement of defective equipments/parts, tolls, tackles, accessories, consumables, labour charges etc. complete in all respect after completion of DLP as per the contract.					
	Ist Year	Job	1			
	2nd Year	Job	1			
	3rd Year	Job	1			
	4th Year	Job	1			
				SUB TOTAL Rs.		
	SUMMARY OF RATES QUOTED					
	TOTAL (PART-I)					
	TOTAL (PART-II)					
	TOTAL (PART-III)					
	Grand Total Amount (PART - I + PART - II + PART - III) (in Figures) :-					
	Grand Total in Words: Rupees					