

**MINISTRY OF HEALTH & FAMILY WELFARE  
(GOVT. OF INDIA)**

**DR. RAJENDRA PRASAD GOVT. MEDICAL COLLEGE,  
TANDA, KANGRA**

**Tender**

**for**

**Supply, Installation, Testing & Commissioning of Medical Gas  
Manifold System at existing Hospital and at Superspeciality Block  
at Dr. Rajendra Prasad Govt. Medical College , Tanda (Kangra).**

**VOLUME – V**

**BILL OF QUANTITIES (BOQ)**

**September 2013**



( Consultants & Engineers for Mega Hospitals & Laboratories )  
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**Tender No. HSCC/PG-III/SSB-Tanda/MGMS/2013**

BILL OF QUANTITY (BOQ)											
Item No.	Description	2	Unit 3	Qty 4							
	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 one year Defect liability period) and 5 years 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.										
	<b>PART - I</b>										
Item No.	Description	2	Unit 3	Qty 4	Unit Rate Figure 5	(In Rs.	Unit Rate in words	6	Amount	7	Rs
<b>1</b>	<b>OXYGEN SYSTEM</b>										
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		Nos.	690							
1e	Oxygen Cylinders ( D- Type) for Manifold as per Specifications enclosed		Nos.	50							
1f	Liquid Oxygen System with 10 KL Tank complete as required with all accessories as per technical specification		Lot	1							
1g	High Pressure tubing flexible having Antistatic core as per ISO with proper colour coded complete as per specifications.		mtr	1100							
<b>2</b>	<b>Nitrous Oxide System</b>										
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	3 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.		Nos.	44							
2e	Nitrous oxide Cylinders ( D- Type) for Manifold as per Specifications.		Nos.	19							
2f	High Pressure tubing flexible having Antistatic core as per ISO with proper colour coded complete as per specifications.		mtr	280							

<b>3</b>	<b>VACUUM SYSTEM</b>				
3a	Vacuum system shall be Triplex (Two working & One Standby) 228 cfm capacity (i.e Two pumps together produce vacuum of 228 cfm capacity.) complete as per specifications.	Set	1		
3b	Vacuum Terminal Outlets with probes/adapters complete as per specifications.	Nos.	690		
3c	Flexible tubing having Antistatic core as per ISO with proper colour coded complete as per specifications.	Metre	1110		
<b>4</b>	<b>AIR COMPRESSOR</b>				
4a	The system shall be consisting of one set i.e Quadruplex (Three working and one standby) capacity of approx. 150 scfm(When three compressors are working) at 8.5bar air compressors, allied equipment, suitable tank and control panel 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)	Nos.	123		
4c	For C.A. (7 Bar)	Nos.	11		
4d	High Pressure tubing flexible having Antistatic core as per ISO with proper colour coded complete as per specifications.	Metre	1110		
<b>5</b>	<b>DISTRIBUTION PIPING (Indigenous)</b>				
	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	108 mm Odx 1.5 mm thk	Metre	740		
c	76 mm ODx 1.5mm thk	Metre	970		
d	54mm ODx 1.2mm thk	Metre	1960		
f	42mm ODx 1.2mm thk	Metre	3220		
g	28mm ODx 0.9mm thk	Metre	5280		
h	22m ODx 0.9mm thk	Metre	9850		

i	15mm ODx 0.9mm thk	Metre	11450			
j	12mm ODx 0.7mm thk	Metre	4820			
<b>6</b>	<b>ALARM</b>					
	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	14			
c	3 S	Nos	9			
d	2 S	Nos	15			
<b>7</b>	<b>HORIZONTAL BED HEAD PANELS</b>					
	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 aluminium profiles with powder coating and shall accommodate the gas outlets, electrical sockets etc. complete as per specifications.	Set	72			
<b>8</b>	<b>VALVE BOX</b>					
a	Valve Box - 2 Gas Services	Nos	15			

b	Valve Box - 3 Gas Services	Nos	9		
d	Valve Box - 5 Services	Nos	14		
<b>9</b>	<b>ANAESTHETIC PENDANT</b>				
	Should be double Arm Pendant horizontal movement. One swivel arm of 800 mm and another of 600 mm. Both arms should have electromagnetic/pneumatic brake, Swiveling angle should be 330° complete as per specifications.	Nos	11		
<b>10</b>	<b>ANAESTHETIC GAS SCAVENGING SYSTEM (AGSS) (Imported)</b>				
	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		
	AGSS Terminal Outlets with probes/adapters complete as per specifications	Nos.	44		
	AGSS Hose Assembly	Nos.	44		
<b>11</b>	<b>ELECTRICAL DISTRIBUTION PANEL (Indigenous):-</b>				
	Panel shall incorporate isolators for the Isolator for Medical system. I. Compressed air system. II. Isolator for Medical Vacuum System III. Isolator for AGSS System.	Nos.	1		
<b>12</b>	<b>ACCESSORIES</b>				
11.1	<b>Oxygen Flowmeter with Humidifier</b> (0-15 litres/minute) with adapter, tubing etc. complete with all the required accessories and shall be complete as per specifications	Sets	549		
11.2	<b>Theatre vacuum unit.</b> 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	40		
11.3	<b>Ward Vacuum Unit</b> wall mounted type complete with all accessories as required and as per specifications.	Set	514		
<b>13</b>	<b>CIVIL CONSTRUCTION OF PLANT ROOM AND MANIFOLD ROOM</b>				
	Construction of Manifold room (40'x30') and Plant Room (25'x30') complete including, foundations, brick works, reinforced concrete work, Kota Flooring, plastering, Painting, aluminium frame and flush shutters 30mm thick for doors, aluminium frame and shutter with 4mm thick clear float glass and aluminium grill for windows, painting, roofing in Powder coated CGI sheets over truss and purlins, water supply and Toilet, internal electrical installations, power and telephone conduit and wiring, external service connection etc complete as per standard CPWD Specifications.	Lot	1		
<b>14</b>	<b>LIQUID OXYGEN AREA</b>				
	Liquid Oxygen Area (15mtr x 9 mtr) surrounded with industrial typed Fencing of height 2mtrs. fabricated from Angle posts and 10 swg Diamond Mesh welded into MS frame from ISA 75x75x8 And Double leaf Gate 5mtr x 2mtrs of same material of Fencing. Gate should have lock and key arrangement from outside and should be opened outside. A 9Kg DCP Fire Extinguisher and sand Bucket should be provided at one corner of the installed area. Electrical Earthing Point and Electrical Power socket and proper lighting should be provided. A Hard Stand with Anti Crash Barrier of 1.2mtr height-3 Nos of area 9.5mtr x 5.0 mtrs should be provided in the Liquid Oxygen Area. RCC Hard Stand should be suitable for 40 MT Tank. Thickness of Concrete 150mm and the slope 1:200. Size of Concrete Plinth should be suitable to 10KL LMOTank. Proper signages should be fitted at the proper location. 1/2" water Tap with 6m Hose shall be provided at the installed area.	Lot	1		
	Low Pressure Silicon Tubing	mtr	2000		
	<b>TURNKEY</b>	Lot	1		

<b>Part-II</b>								
	Item No.	1	Unit 3	Qty 4	Unit Rate In Rs (in Figure) 5	Unit Rate in words 6	Amount 7	Rs
1	<b>Operation Charges</b> for the complete Medical Gas Manifold System during one year Defect Liability Period as per the contract.							
<b>Part-III</b>								
	Item No.	1	Unit 3	Qty 4	Unit Rate In Rs (in Figure) 5	Unit Rate in words 6	Amount 7	Rs
1	<b>Comprehensive Maintenance Charges</b> 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				
	5th Year		Job	1				
	<b>SUB TOTAL Rs.</b>							
<b>SUMMARY OF RATES QUOTED</b>								
	TOTAL (PART-I)							
	TOTAL (PART-II)							
	TOTAL (PART-III)							
	Grand Total Amount (PART - I + PART - II+PART III) (in Figures) :-							

**Note**

- 1 The above format of Bill of Quantity(BOQ) should be neatly hand written.
- 2 The BOQ in any other format than the above format or typed written shall be rejected
- 3 The above quoted rates will be inclusive of all taxes, duties and other charges.
- 4 Cutting and overwriting should be avoided. Correction should be countersigned always.
- 5 In case any error between Unit rate in figure and unit rate in words, the unit rate in words shall be considered
- 6 Using of fluid should be avoided
- 7 Rates of Operation charges and CMC shall be for evaluation and ranking purpose

SEAL & SIGN OF THE BIDDER