

All Bidders**Amendment –III**

Project: Supply, Installation, Testing & Commissioning of Modular Operation Theatres for Hospital Block, All India Institute of Medical Sciences (AIIMS), Raebareli.

IFB No. HSCC/SES/MOT/AIIMS/Raebareli/2019 dated 29.03.2019

This has reference to above IFB.

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.

S.No	Bidder's Queries	Reply
1	<p>Completion Time In your tender document the time period given to complete the entire work is 5 months,</p> <p>It is requested to its not possible to complete the entire work in the stipuled time as we had seen in earlier projects of similar kind, so kindly increase the time line to 8 months from 5 months .</p>	<p>Tender's terms and conditions prevail.</p>
2	<p>Payment Terms The payment terms in the tender document given is 65%,25%,10% and 5%, we request to kindly amend it to 80% on supply of the material,10% on installation and remaining 10% on successful , completion and trial run of the entire system. It is requested to as we have to pay GST on the 100% value and also we are paying custom duty @28% on Imported products.</p>	<p>Payment terms 70 % of the BOQ contract rates on delivery of equipments at site after inspection, passing and issue of dispatch clearance on pro-data basis. 20% of BOQ contract rates on satisfactory take over certificate by client after erection and installation, testing and commissioning of equipments on pro-data basis. 10 % of BOQ contract rates after successful completion of trial run of 30 days from the date of handover to the client on pro-data basis.</p>
3	<p>On page no 1 of technical specifications point no (m), the wall panels should be CE/UL listed/BIS/DIN 1.4301 certificated</p>	<p>Material for wall panel should be SMS.</p>

	<p>It is request to kindly ask for the material used for walls and ceiling for the MOT to be SMS. OT made of SMS material is truly called a Modular operation Theatre.</p> <p>To promote Make in India initiative of Govt of India, Imported word should not be Incorporated while asking for SMS specifications as this material is easily available in India, why to promote Imported One.</p>	Detailed Specification for Wall & Ceiling Panel is enclosed as Annexure- I
4	<p>On page no 2, of technical specifications, point no 2, clause (b)Support elements: Suspension bracket with tension spring</p> <p>It is requested to include tie rod /tension spring.</p>	Tie rod/tension spring.
5	<p>On page no 4, technical specifications, point no 7, clause (a), it is written that the control panel should be touch screen panel. This control panel should work as the central control panel for the HVAC controls, instruction board, light control, gas alarms, etc. It should be European CE/UL Listed</p> <p>It is requested to Word European should be deleted as the same specifications products are available in India and also they have been installed in the most of the AIIMS, why go for an Imported Product. We should promote Make in Indiainitiative of Govt. of India.</p>	Tender terms & conditions prevail.
6	<p>On page no 7, point no 12C, it is written same as S. No 11</p> <p>It is requested that it is same as S.no 12, not S.no 11 as 11 is PRD.</p>	Same as Sr.no 12 of tender specification.
7	<p>On page 8, TS point no 16, Electrical Installations where you are asking that on sub clause (h), that Each wall of MOT should have minimum 02 Nos 6/16A hybrid Antibacterial switch socket & 32A industrial socket at any two walls as per IEC standard and on sub clause (e), you are asking that Power sockets within the Operating Theatres ancillary areas should be matched to the rest of the hospital.</p> <p>It is requested that the word Anti bacterial switch should be deleted as if the power sockets have to match with the entire hospital switch sockets , either entire hospital switch sockets should be anti bacterial or the word antibacterial for OT switches be deleted.</p>	Each wall of MOT should have minimum 02 Nos 6/16A hybrid Antibacterial switch socket & 32A industrial socket at any two walls as per IEC standard and on sub clause (e)
8	<p>On page no 9, of TS, point no 18, HD camera system, sub clause (g),Light and Integrated Camera should have a control through Touch Panel of the control equipment placed inside the operating room</p> <p>It is requested that this is a part of the Integration for Operation Theatre, So it should be deleted.</p>	Clause "g" shall be applicable only in the Integrated OT-4 Nos. This feature is not applicable for balanced non- Integrated MOT
9	<p>On page no 10 of TS, point 18C, clause (b), Recording system should be full HD medical grade monitor LCD 19"touch screen or more and having the one TB storage space</p> <p>It is requested that the recording system should be 22" -30" Full HD grade monitor touch screen and having one TB storage space.</p>	Recording system shall have 21"-30" full HD medical graded monitor
	On page no 10 of TS, point no 18 C clause (d),	This will be the work of

10	<p>Patch panel for power & signal to be laid down for 32" LCD Monitor at wall of MOT</p> <p>It is requested that this is the work of the Integration Company who will be awarded the tender for OT Integration</p>	the Integration Company who will be awarded the tender for OT Integration
11	<p>On page no 10 of TS, point no 18 C clause (f), it is written that it recording system Should be flushed mounted on the OT wall with suitable frame.</p> <p>It is requested that it will be mounted on the OT wall with suitable frame not flushed.</p>	Tender terms & conditions prevail
12	<p>On page 11, point no 20A and 20B,</p> <p>The weight carrying capacity of the arm for Pendants both for Anesthetist and Surgeon pendants is written as should not less than 180 Kgs.</p> <p>It is requested that it should be not be less than 150kgs as different companies pendants have different carrying capacities and also it comes under class 1 of medical devices, so does not need 4 digit notified body number.</p>	150-180 Kg.
13	<p>On page no 11 & 12, TS</p> <p>you have asked that the Pendant Service Heads for Anesthetist and Surgeon pendants should be modular with minimum 800mm head</p> <p>It is requested that different companies have different sizes for Pendant Heads, so it should be 600mm or more as our pendants can accommodate all the desired provisions for Gases and electricals on 600mm head as our shelves are not on the Head. So range can be given from 600mm or more so that every company gets chance to participate.</p>	Tender terms & conditions prevail.
14	<p>On page no 4 of TS, point no 6, sub clause (c),</p> <p>It is requested that the line should be deleted as now a days LED perphial lights are used and they donot need reflectors.</p>	Reflectors- Deleted
15	<p>Itis requested to kindly ask CE marked products in Storage Unit, X-film Viewer, Double Leaf door system, Operating List Board. It will ensure that you will get products of reputed makes and Good Quality.</p>	Tender terms & conditions prevail.
16	<p>On page 14, of Ts , point no 2, After sales service centre should be available at the city of Hospital on 24 (hrs) X 7 (days) X 365 (days) basis.</p> <p>It is requested that it will be established when the NOA is awarded to the company for this particular tender.</p>	It should be established when the NOA is awarded to the company for this particular tender.
17	<p>Also kindly clarify on page no 15 of TS, point no 5, the site modifications work should completely comply with AERB requirements, if any.</p>	Tender terms & conditions prevail.
18	<p>Also request to extend the dates of the tender atleast by 15-20 days from the day of uploading of the amendments.</p>	Mentioned at the bottom of the Amendment sheet.

19	<p>1. Pg. 1 of Volume -IV Technical Specifications WALL PANELING SYSTEM CEILING PANELING SYSTEM</p> <p>It should be 0.8mm 304 Grade Stainless Steel sandwich (both side 0.8mm sheet) panel with core consisting of rigid polyurethane foam, which has been injected under high pressure, with a minimum density of 40 kg/m³.</p> <p>It transpired in the prebid meeting held on 15 April 2019 that panels would be changed to SMS type.</p> <p>We request you to take reference of AIIMS Gorakhpur & Bhatinda HITES/PCD/AIIMS-IV/13/MOT/18-19 dt. 14.02.2019 where the specifications are same as asked for in AIIMS Rae Bareilly. We request you to retain the wall and ceiling panels to Stainless steel 304 grade thereby attracting more bidders.</p>	Revised specification for Wall & ceiling Panelling System of SMS is enclosed.
20	<p>Pg. 4 of Vol. IV Technical Specifications 7. Touch screen control panel 20" or more</p> <p>f) Control of the operating light (major and satellite and camera control (on/off and intensity control) should be provided.</p> <p>Only ON/OFF functionality can be controlled through touch screen control panel. Camera intensity cannot be controlled through touch screen control panel. Request you to delete intensity control from this point.</p>	Control of Operating light shall be with ON/OFF functionality. Intensity of control of Camera is deleted.
21	<p>Pg. 13 of Vol. IV Technical Specifications 22. Isolation transformer</p> <p>Capacity is not mentioned in the specification. Request you to provide the capacity required.</p>	Capacity of Isolation Transformer 20 -25 KVA.
22	<p>Completion Period 5 Months from the date of order of commencement</p> <p>It is requested to Time for completion of work should be amended to 180 days from the date of approval of drawing, BOQ, Color approval, handing over of site in all respect whichever is later.</p>	Tender terms & conditions prevail.
23	<p>Payment Term 65 % of the BOQ contract rates on delivery of equipments at site after inspection, passing and issue of dispatch clearance on pro-data basis.</p> <p>25% of BOQ contract rates on satisfactory take over certificate by client after erection and installation, testing and commissioning of equipments on pro-data basis.</p> <p>10 % of BOQ contract rates after successful completion of trial run of 30 days from the date of handover to the client on pro-data basis.</p> <p>It is requested You are requested to kindly amend the payment terms of tender as follows:</p> <p>85% on delivery of Material, 10% on installation and balance 5% of submission of FAC</p> <p>Or</p> <p>80% on delivery of Material, 10% on installation and balance 10% of submission of FAC</p>	<p>Payment terms 70 % of the BOQ contract rates on delivery of equipments at site after inspection, passing and issue of dispatch clearance on pro-data basis.</p> <p>20% of BOQ contract rates on satisfactory take over certificate by client after erection and installation, testing and commissioning of equipments on pro-data basis.</p> <p>10 % of BOQ contract rates after successful completion of trial run of 30 days from the</p>

		date of handover to the client on pro-data basis.
24	<p>Page No.16 of Technical Specifications, Volume –IV Dismantling and Demolishing</p> <p>It is requested that All the works mentioned in Note 3 is part of Civil agency work. You are requested to kindly delete Note-3 from the scope of work of Modular OT bidder.</p>	Tender terms & conditions prevail.
25	<p>Responsibility of Bidder, Point No.2</p> <p>Bidder shall execute all required civil, electrical and peripheral lighting, plumbing, air-conditioning system(Ducting inside the OT), demolition and other works as may be required for complete installation and trouble-free functioning of the operation theatres as a part of the "turnkey work". Necessary coordination with fire-safety vendor for the installation of fire safety sensor/instrument inside the MOT and also other necessary coordination with civil contractor to be done by the MOT bidder.</p> <p>It is requested that Since our work is confined inside Modular OT only, we request you to kindly delete this clause or specifically mention the work to be done by MOT Bidder with item name and rates should be mentioned in the BOQ of tender.</p>	Tender terms & conditions prevail.
26	<p><u>Technical Points</u></p> <p>It is requested that Kindly add the line stating Wall Panels, Ceiling Panels and Hermetically Sealed Doors should be of same Make and Material, i.e SMS and same standard, i.e European CE or UL Listed.</p>	Revised specification for Wall & ceiling Paneling System of SMS is enclosed as Annexure - I Hermetically sealed doors shall be made of same material of wall Panel i.e SMS
27	<p>Item No.1 Wall Paneling System</p> <p>Clearance between inner panel and outer wall should be sufficient to allow the maintenance personnel for service. This closed space should be flushed continuously to eliminate dust and bacterial accumulation.</p> <p>It is requested that This point is invalid. Being a Seamless Structure we cannot allow any service passage. Hence this point should be deleted from tender technical specifications.</p>	Revised specification for Wall & ceiling Paneling System is enclosed as Annexure-I. Service passage behind the seamless structure is deleted.
28	<p>Item No.2 Ceiling Paneling System</p> <p>Support elements: Suspension bracket with tension spring.</p> <p>It is requested that Suspension is provided through threaded rod with bracket instead of tension spring to maintain the strength of wall and Ceiling panel.</p> <p>Kindly amend the line and mention "Support elements: Suspension bracket with tension spring /</p>	Revised specification for SMS Wall & ceiling Paneling System is enclosed as Annexure –I.

	threaded rod”.	
29	<p>Item No.5Internal HVAC Ducting and Exhaust System The exhaust air cabinets should be openable and cleanable. It is requested that The Exhaust Air Cabinet is cleanable but not Openable. Kindly delete the word "Openable" from tender technical specifications</p>	.The exhaust air cabinets should be cleanable.
30	<p>Item No.6Peripheral Lighting and Clean room Luminaries - Point No. a To provide peripheral lighting and clean room luminaries with intensity min 500 Lux, it should be 8 in numbers for each OT. Should be with highly specular anodized aluminum reflectors and optical antiglare system.</p> <p>It is requested that LED Luminaries don't require reflector, hence it should be amended from highly specular anodized aluminum reflectors to highly specular anodized aluminum only.</p>	Should be with highly specular anodized aluminum.
31	<p>Point No. c The reflectors should be of high quality, cleanable and non-deteriorating.</p> <p>It is requested to LED Luminaries don't require reflector, hence it should be deleted from the technical specifications.</p>	Reflectors – Deleted.
32	<p>Point No. d The white luminaries body should be made of sheet steel/ perfectly powder coated, supplied ready for connection optionally for individual or series circuit with digital electronic control gear in multilamp technology.</p> <p>It is requested to Multilamp technology is not required, since we are providing LED's. Kindly delete the word "Multilamp Technology" from tender technical specifications.</p>	Multilamp technology – Deleted.
33	<p>Kindly add: Size of Peripheral Light should be 2' x 2' size.</p>	Size of Peripheral Light should be 2' x 2' size.
34	<p>Item No.7TOUCH SCREEN CONTROL PANEL, Point No. a The control panel should be touch screen panel. This control panel should work as the central control panel for the HVAC controls, instruction board, light control, gas alarms, etc. It should be European CE/UL Listed.</p> <p>1) It is requested to The Control Panel shall work as the Central Control Panel for the HVAC Controls, Touch Screen, ON/ OFF Operation of OT Light. Kindly delete word “Instruction Board” from the specification.</p> <p>2) Complete OT Light can't be controlled from Touch Screen Control Panel, only On/OFF operations can be provided. Kindly amend OT Light Control” and mention ON/OFF control of OT Light to be provided.</p>	<p>1) Control Panel shall work as Central Control Panel.</p> <p>2) ON/OFF control of OT light shall be provided</p>
35	<p>Point No. d The medical gas alarm should indicate high and low gas pressures for each gas service present in the OT including vacuum.</p> <p>It is requested to Ref. Medical Gas Alarm - Vacuum does not have</p>	In case of Vacuum, medical gas alarm should indicate normal/low indication.

	high/low indication. The only indications available in vacuum are normal / low. Please amend the same.	
36	<p>Point No. f Control of the operating light (major and satellite and camera control (on/off and intensity control) should be provided.</p> <p>It is requested to The Intensity of OT Light can't be controlled from Touch Screen Control Panel, only On/OFF operations can be provided. Kindly delete the word "intensity control" from the specification.</p>	ON/OFF operation of OT light shall be made. Intensity control is deleted.
37	Kindly add Touch Screen Control Panel and Isolation Panel System (IPS) should be of same make, same standard, i.e European CE.	Tender terms & conditions prevail.
38	<p>Item No.8, X RAY FILM VIEWER Point No. e) – Body should be of extruded Aluminum powder coated black with bacteria resistant and disinfectant resistant finish.</p> <p>It is requested to Kindly amend it to Body should be of extruded aluminum powder coated with bacteria resistant. "Black" word should be deleted from tender technical specifications.</p>	Body should be of extruded aluminum powder coated with bacteria resistant and disinfectant finish.
39	<p>Item No.9, STORAGE UNIT - Point No. a The storage unit should be made with minimum 1.0 mm thick stainless steel panels and should be with same finish of OT Walls.</p> <p>It is requested to The thickness mentioned of SS Panel of 1 mm is company specific. Kindly amend it to 0.8mm -1mm thick SS Panel.</p>	Thickness – 0.8 mm – 1mm thick SS panel.
40	<p>Point No. d The overall size should be approx. 200 cm X 120 cm X 40 cm</p> <p>It is requested to The dimension of the Storage Unit mentioned is not standard as recommended for Modular OT's. Please amend this to 210 cm x 120 cm x 35 cm (approx), because depth of 40 cm will take more space.</p>	The overall size should be approx. 200 cm X 120 cm X 40 cm / 210 cm x 120 cm x 35cm
41	<p>Item No.12, HERMETICALLY SEALED DOORS Point No. h Door opening handle should be strong and sturdy. Material should be of SS (gloss finish). It is requested to It is mentioned that Door handle should have glossy finish. Kindly amend it to glossy / Matt finish.</p>	Glossy/Matt finish
42	<p>Point No. h Should be provided with high quality cylindrical lock.</p> <p>It is requested to kindly amend it to cylindrical / ESPg lock.</p>	Cylindrical / ESPg lock
43	<p>Point No. i Air Tightness 99.99% at a pressure of 100 Pa</p> <p>It is requested to Air tightness of 99.99% is maintained at a pressure of 75Pa instead of 100 Pa. Please amend the same.</p>	Tender terms & conditions prevail.
44	Point No. l	1) "The Doors and controls

	<p>The door and controls should comply with IEE regulation. All motors used should be DC brushless motors with essential isolation from mains.</p> <p>It is requested to</p> <ol style="list-style-type: none"> 1) Please note that the IEE Wiring Regulations are the standard to which all domestic and industrial wiring conforms and not hospital Doors wiring. Hence we recommend amending it to “The Doors and controls should comply with EU Directives”. You are requested to kindly amend the same accordingly. 2) Motor shall be PMDC Motor instead of DC Brushless Motor. Kindly amend the same 	<p>should comply with IEE regulation/EU Directives”.</p> <ol style="list-style-type: none"> 2) Motor shall be DC Brushless Motor/ PMDC Motor.
45	<p>Item No.12BDOUBLE LEAF DOOR SYSTEM (SIZE 2.1 X 1.8) Door made with 0.8mm thick Double Skinned SS 304 sheet on both sides</p> <p>It is requested to Double skinned SS-304 sheets with thickness of 0.6mm instead of 0.8mm thick. Please amend the same to 0.6mm 0.8mm thick SS-304 sheet.-</p>	<p>Thickness 0.6 mm - 0.8 mm SS 304 Sheet.</p>
46	<p>1.2 mm thick GPSP Powder coated door frames totally flush with the wall panel.</p> <p>It is requested that Door frames are made of 2.5mm thick anodized aluminum 6063 T6 instead of GPSP Powder Coated. Please amend the same.</p>	<p>1.2 mm thick GPSP powder coated door frames/2.5 mm thick anodized aluminum 6063 T6.</p>
47	<p>Double glazed view panel 6 mm thick float glass fixed in double panel in both the leaf</p> <p>It is requested View Panels- it will be 5mm thick tempered glass instead of 6mm thick float glass since tempered glass are hardened and high quality glass sheet specially designed for use in Hospital / Healthcare purpose.</p>	<p>5mm thick tempered glass/ 6mm thick float glass.</p>
48	<p>Item No.13, VIEW WINDOW (1.5m x 1m and 2m x 1.5m)</p> <p>It is requested to The standard size of view window with Motorized Blind recommended for Modular OT is 1000mm x 1000 mm. You are requested to kindly amend the same accordingly.</p>	<p>Tender terms & conditions prevail.</p>
49	<p>Point No. d</p> <p>The assembled thickness of the Window should be minimum 33 mm.</p> <p>It is requested The assembled thickness of view window should be 33 – 40mm (approx)</p>	<p>Assembled thickness shall be 33-40mm</p>
50	<p>Point No. d</p> <p>The window blinds should be operated with Remote Control and manually.</p> <p>It is requested Window blind can be operated with remote control only.</p>	<p>Tender terms & conditions prevail.</p>
51	<p>Item No.18, OT Light – LED</p> <p>Such Lighting system should have the following technical</p>	<p>c. Field Size Diameter: 15 to 28 cm (+/-10%)</p>

	<p>specifications</p> <p>c. Field Size Diameter: 20 to 28 cm (+/-10%)</p> <p>I. Dimming Range: 50% -100%</p> <p>It is requested to Few Light features are company specific, request you to kindly amend the same as under:</p> <p>c. Field Size Diameter: 15 to 28 cm (+/-10%)</p> <p>I. Dimming Range: 50% -100% or 30% to 80%</p>	<p>I. Dimming Range: 50% -100% or 30% to 80%</p>
52	<p>Point No. p</p> <p>Surgical Light System Should be compliant with relevant European CE with 4 digit notified body / USFDA certified or Declaration of Conformity for quoted model with ISO 13485 issued by 4digit notified body.</p> <p>It is requested Please note Declaration of Conformity is not issued by 4 digit notified body hence this line should be deleted and mention that "Declaration of Conformity for quoted model with ISO 13485".</p>	<p>Surgical Light System Should be compliant with relevant European CE with 4 digit notified body / USFDA certified or Declaration of Conformity for quoted model with ISO 13485.</p>
53	<p>Item No.18B, HD FLAT PANEL MEDICAL GRADE MONITOR</p> <p>It is requested that You have not added few necessary features for HD Flat Panel Monitor. Kindly add the below points:</p> <ol style="list-style-type: none"> 1. It should be Medical Grade Class-1 Device and European CE Declaration of Conformity to be provided. 2. HD Flat Panel Monitor should be done according to IP 54 regulations. 3. ESG Safety Glass Cover is must to protect the Monitor Screen from breakage and for additional Safety of Patient. 4. For optimizing the quality of Pictures, kindly add it should have Dicom Preset, BT 709, BT 1886 features. 5. Video Connectors on the back side of Monitor is to be hide by Cover of Aluminum from the Back side of Monitor. 6. Monitor should be integrated by Command Bar shown in the front side of Monitor. 	<p>Tender terms & conditions prevail.</p> <p>-It should be Medical Grade Class-1 Device and European CE Declaration of Conformity to be provided.</p> <p>-HD Flat Panel Monitor should be done according to IP 54 regulations.</p> <p>-ESG Safety Glass Cover is must to protect the Monitor Screen from breakage and for additional Safety of Patient.</p> <p>-For optimizing the quality of Pictures, kindly add it should have Dicom Preset, BT 709, BT 1886 features.</p> <p>-Video Connectors on the back side of Monitor is to be hide by Cover of Aluminum from the Back side of Monitor.</p> <p>-Monitor should be integrated by Command Bar shown in the front side of Monitor.</p>

54	<p>Item No.18C , RECORDING SYSTEM Point No.b) - Recording System should be full HD medical grade monitor LCD 19" touch screen or more.</p> <p>It is requested to The size of Recording System mentioned of 19" touch screen is less. Standard size is minimum 21". Please amend the same accordingly.</p>	21"-30"
55	<p>It is requested to The technical specifications mentioned for imported Recording system are very low end. Kindly add the below mentioned points also:</p> <ol style="list-style-type: none"> 1. Recording System should have P-CAP Multi-Touch Display 2. It should be Medical Grade Class-1 Device and European CE Declaration of Conformity to be provided. 3. Recording System should be done according to IP 54 regulations. 4. ESG Safety Glass Cover is must to protect the Monitor Screen from breakage and for Additional Safety of Patient. 5. Ref. Storage Space - Along with 1 TB Storage, it should also have 1 SSD in addition for operating system. 6. Since Streaming is necessary for recording system which can be used for teaching purpose, Kindly add Recording system should be integrated with streaming. 	<p>-Recording System should have P-CAP Multi-Touch Display -It should be Medical Grade Class-1 Device and European CE Declaration of Conformity to be provided. -Recording System should be done according to IP 54 regulations. -ESG Safety Glass Cover is must to protect the Monitor Screen from breakage and for Additional Safety of Patient. -Ref. Storage Space - Along with 1 TB Storage, it should also have 1 SSD in addition for operating system. -Since Streaming is necessary for recording system which can be used for teaching purpose, Kindly add Recording system should be integrated with streaming.</p>
56	<p>Item No.19, MONITOR- DIGITAL DISPLAY (PACS / HMIS) Point No. a</p> <p>Medical Grade Monitor size should be minimum 32 inch.</p> <p>It is requested to Size of Monitor may be company specific. Kindly amend it to 31- 32 inch Monitor.</p>	Min. 31- 32 inch Monitor.
57	<p>The specifications provided for PACS Monitor is not sufficient. Kindly add below mentioned points.</p> <ol style="list-style-type: none"> 1. PACS Monitor has to be equipped with integrated Monitor. 2. It should be Medical Grade Class-1 Device and European CE Declaration of Conformity to be provided. 3. HD Flat Panel Monitor should be done according to IP 54 regulations. 4. ESG Safety Glass Cover is must to protect the Monitor Screen from breakage and for additional Safety of Patient. 5. For Optimizing the quality of Pictures, kindly add it should have 	<p>-PACS Monitor has to be equipped with integrated Monitor. -It should be Medical Grade Class-1 Device and European CE Declaration of Conformity to be provided. -HD Flat Panel Monitor should be done</p>

	<p>Dicom Preset, BT 709, BT 1886 features.</p> <p>6. Video Connectors on the back side of Monitor is to be hide by Cover of Aluminum from the Back side.</p> <p>7. Monitor should be integrated by Command Bar shown in the front side of Monitor.</p> <p>8. Accessories like keyboard and Mouse is to be provided alongwith PACS Monitor.</p>	<p>according to IP 54 regulations.</p> <p>-ESG Safety Glass Cover is must to protect the Monitor Screen from breakage and for additional Safety of Patient.</p> <p>-For Optimizing the quality of Pictures, kindly add it should have Dicom Preset, BT 709, BT 1886 features.</p> <p>-Video Connectors on the back side of Monitor is to be hide by Cover of Aluminum from the Back side.</p> <p>-Monitor should be integrated by Command Bar shown in the front side of Monitor.</p> <p>-Accessories like keyboard and Mouse is to be provided alongwith PACS Monitor.</p>
58	<p>Item No.20A, DOUBLE ARM MOVEABLE PENDANT FORANESTHETIST Point No.C) – It should have electromagnetic / pneumatic brakes.</p> <p>It is requested to amend the same to Electromagnetic brakes only, since pneumatic brakes are outdated technology and have no comparison with the upgraded technology, i.e. Electromagnetic Brakes. Kindly delete Pneumatic Brakes from tender technical specifications.</p>	<p>Electromagnetic/Pneumatic brakes.</p>
59	<p>Point No. e) – The Pendant service heads should be modular with minimum 800mm head.</p> <p>It is requested to The size of Pendant Service Head mentioned in the tender specification of 800mm head is very less. Kindly amend it to minimum 1200 -1500 mm Service Head with NIST Connection.</p>	<p>Tender terms & conditions prevail.</p>
60	<p>It is requested to Kindly add the following points for pendants:</p> <ul style="list-style-type: none"> • For Safety reasons, Pendant should have NIST Connection for Individual Gases, Manometer for each gas. • Pendant should be supplied with Ceiling Flange Tube, Ceiling Plate from OEM along with shipment. It should not be fabricated in India. • Pendant should have Brake Light. • Pendant should have IV Pole with IV Hooks on both side required for operation. • Shelf of Pendant should be made of High quality Bio-Clean 	<p>Following is added for pendants.</p> <ul style="list-style-type: none"> • For Safety reasons, Pendant should have NIST Connection for Individual Gases, Manometer for each gas. • Pendant should be supplied with

	<p>Material.</p> <ul style="list-style-type: none"> • Pendant should have Anti-microbial Coating. • For Safety reasons, all the Electrical Sockets should have Earthing Points 	<p>Ceiling Flange Tube, Ceiling Plate from OEM along with shipment. It should not be fabricated in India.</p> <ul style="list-style-type: none"> • Pendant should have Brake Light. • Pendant should have IV Pole with IV Hooks on both side required for operation. • Shelf of Pendant should be made of High quality Bio-Clean Material. • Pendant should have Anti-microbial Coating. • For Safety reasons, all the Electrical Sockets should have Earthing Points
61	<p>DOUBLE ARM MOVEABLE PENDANT FOR SURGEON</p> <p>Point No.C) – It should have electromagnetic / pneumatic brakes.</p> <p>It is requested to amend the same to Electromagnetic brakes only, since pneumatic brakes are outdated technology and have no comparison with the upgraded technology, i.e. Electromagnetic Brakes. Kindly delete Pneumatic Brakes from tender technical specifications.</p>	<p>Electromagnetic / pneumatic brakes.</p>
62	<p>Point No. e) – The Pendant service heads should be modular with minimum 800mm head.</p> <p>It is requested to The size of Pendant Service Head mentioned in the tender specification of 800mm head is very less. Kindly amend it to minimum 1200 -1500 mm Service Head with NIST Connection.</p>	<p>Tender terms & conditions prevail.</p>
63	<p>It is requested to Kindly add the following points for pendants:</p> <ul style="list-style-type: none"> • For Safety reasons, Pendant should have NIST Connection for Individual Gases, Manometer for each gas. • Pendant should be supplied with Ceiling Flange Tube, Ceiling Plate from OEM along with shipment. It should not be fabricated in India. • Pendant should have Brake Light. • Pendant should have IV Pole with IV Hooks on both side required for operation. • Shelf of Pendant should be made of High quality Bio-Clean Material. • Pendant should have Anti-microbial Coating. • For Safety reasons, all the Electrical Sockets should have Earthing Points 	<p>Follwing is added for pendants.</p> <ul style="list-style-type: none"> • For Safety reasons, Pendant should have NIST Connection for Individual Gases, Manometer for each gas. • Pendant should be supplied with Ceiling Flange Tube, Ceiling Plate from OEM along with shipment. It should not be

		<p>fabricated in India.</p> <ul style="list-style-type: none"> • Pendant should have Brake Light. • Pendant should have IV Pole with IV Hooks on both side required for operation. • Shelf of Pendant should be made of High quality Bio-Clean Material. • Pendant should have Anti-microbial Coating. • For Safety reasons, all the Electrical Sockets should have Earthing Points
64	<p>Item No.22, ISOLATION TRANSFORMER</p> <p>It is requested to Kindly add the lines stating" Isolation Panel System should have facility to detect fault of leakage current and same should be integrated with touch screen control Panel of MOT and alarm status should be displayed on the touch screen control panel.</p>	<p>Isolation Panel System should have facility to detect fault of leakage current and same should be integrated with touch screen control Panel of MOT and alarm status should be displayed on the touch screen control panel.</p>
65	<p>Item No.23, ONLINE CENTRAL UPS</p> <p>Bidder shall offer UPS from make – APC / TATA Liebert / Delta / Hitachi/ Consul Neowatt</p> <p>It is requested to You missed out to mention two more reputed makes like UNILNE and 3EM in this tender. Kindly add the same.</p>	<p>UPS make – APC / TATA Liebert / Delta / Hitachi/ Consul Neowatt/3EM/Uniline</p>
66	<p>It is mentioned that incase OT's are at different floor, then No. of UPS and standby for each floor or UPS wiring till OT will be in the scope of bidder.</p> <p>It is request you to kindly provide OT Complex Drawing with OT Room and UPS Room marking in the drawings to enable us to quote as per your requirement. Since online UPS is very costly equipment, hence indicative rates can't be quoted in tender based on assumptions.</p>	<p>Tender terms & conditions prevail.</p>
67	<p>Regarding Manufacturer Authorization</p> <p>Manufacturer Authorization for the following items should be submitted</p> <ol style="list-style-type: none"> 1. OT Light 2. Pendants for Anesthetist and Surgeon 3. Recording System 4. Laminar Air Flow System 	<p>Manufacturer Authorization for below items to be submitted:</p> <ol style="list-style-type: none"> 1) OT Light with HD Camera 2) HD Flat panel Monitor 3) Recording

	<p>It is requested to Kindly amend the same and mention Manufacturer Authorization for below items to be submitted:</p> <ol style="list-style-type: none"> 1) OT Light with HD Camera 2) HD Flat panel Monitor 3) Recording System 4) Touch Screen Control Panel 5) Monitor – Digital Display (PACS/ HMIS) 6) Pendants for Anesthetist and Surgeon 7) Isolation Transformer 8) Laminar Air Flow System 	<p>System</p> <ol style="list-style-type: none"> 4) Touch Screen Control Panel 5) Monitor – Digital Display (PACS/ HMIS) 6) Pendants for Anesthetist and Surgeon 7) Isolation Transformer 8) Laminar Air Flow System
68	<p>Ref. BOQ Item No.24 – Turnkey works</p> <p>It is requested that this item is given but quantity is not mentioned in the BOQ. It seems you missed out to add the quantities. Kindly add the same.</p>	Tender terms & conditions prevail.
69	<p>Volume-I, Pre-Qualification Criteria; Page no. 5 & 6, Clause no. 2.2 (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 :</p> <p>Three similar* completed works costing not less than the amount equal to 40% of the estimated cost.</p> <p style="text-align: center;">or</p> <p>Two similar* completed works costing not less than the amount equal to 50% of the estimated cost.</p> <p style="text-align: center;">or</p> <p>One similar* completed work costing not less than the amount equal to 80% of the estimated cost.</p> <p>*Similar nature of works means successful completion of supply, Installation, testing and commissioning of Modular Operation Theatre in India.</p> <p>We request the clause of the tender should be further clarified as following :</p> <p>“In case, the qualifying experience certificate is from Private sector/ Charitable Hospital, the vendor should submit the TDS certificate as a proof of having executed the said work.”</p> <p>We are enclosing herewith the snippets for your kind reference & duly marked at Page no. 1 to 5 from Government Agencies NBCC (India) Ltd. and Project Implementation Unit, Gujarat about the TDS Certificate, which is clearly defined.</p> <p>The TDS certificate should be of same value as supporting document which will prove the authenticity of Private work completed. There should not be any room that any bidder plays with the private works, therefore the TDS Certificate should be made mandatory for the justification of the order value against the experience of similar nature of work.</p>	Tender terms & conditions prevail.
70	<p>Volume-3, SCC, Page no. 12, 12.3 Bid Security, Document Fee and EMD are exempted for NSIC registered Firm.</p> <p>As you are aware, to promote Micro Small & Medium Enterprise,</p>	Document Fee and EMD is not exempted for procurement of imported goods.

	<p>Government of India had given the facility of NSIC Certification to the manufacturing firm. This may please be noted that this clause is only applicable for manufacturing of goods in India and not for procurement of Imported goods. If we go through the tender Specifications, there are imported items such OT Light, Pendant etc</p> <p>“In case, the qualifying experience certificate is from Private sector/ Charitable Hospital, the vendor should submit the TDS certificate as a proof of having executed the said work.” We are enclosing herewith the snippets for your kind reference & duly marked at Page no. 1 to 5 from Government Agencies NBCC (India) Ltd. and Project Implementation Unit, Gujarat about the TDS Certificate, which is clearly defined. We are also enclosing herewith M/s HSCC clarification papers taking the cognizence of this and had issued Amendment M/s HSCC MOT Shimla Tender.</p> <p>The TDS certificate should be of same value as supporting document which will prove the authenticity of Private work completed. There should not be any room that any bidder plays with the private works, therefore the TDS Certificate should be made mandatory for the justification of the order value against the experience of similar nature of work.</p> <p>We request this clause should be suitably amended so that NO Bidder could take undue advantage of NSIC Certification and all the bidders should be treated on single platform.</p>	
71	<p>Volume-III, Page no. SCC-38, Clause no. 21.0 Terms of Payment</p> <p>For purposes of estimating the contract value of works executed for certificate of payment, the following norms shall be followed:</p> <ol style="list-style-type: none"> 1) 65% of the BOQ contract rates on delivery of equipments at site after inspection and passing on pro-data basis. 2) 20% of BOQ contract rates on satisfactory take over certificate 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 on pro-data basis. <p>We request, the payment terms should be amended as:</p> <ol style="list-style-type: none"> 1) 75% of the BOQ contract rates on delivery of equipments at site after inspection and passing on pro-data basis. 2) 15% of BOQ contract rates on satisfactory take over certificate by M/s HSCC after Installation. 3) 10 % of BOQ contract rates after successful completion of trial run of 30 days from the date of handover to the client on pro-data basis. <p>Please appreciate, as soon as the work order is received, the contractor has to initiate necessary actions for successful execution of the work order. Among the very important, Contractor need to place order to the respective suppliers, LC opening etc and as soon</p>	<p>Volume-III, Page no. SCC-38, Clause no. 21.0 Terms of Payment</p> <p>For purposes of estimating the contract value of works executed for certificate of payment, the following norms shall be followed:</p> <ol style="list-style-type: none"> 1) 70% of the BOQ contract rates on delivery of equipments at site after inspection and passing on pro-data basis. 2) 20% of BOQ contract rates on satisfactory take over certificate by client after erection and installation, testing and commissioning of equipments on pro-data basis. 3) 10 % of BOQ contract rates after

	<p>as the material arrives, necessary payment has to paid to the supplier because supplier will not wait till the completion of the project. After delivering the finished goods to the site, by our experience, most of the sites are not ready for installation, such as civil work is not complete, hospital staff is not available etc etc. Without any fault of contractor, he need to wait for the payment till the supply, installation and commissioning work [as mentioned in tender]. Initial payment is the lifeline to the contractors, which gives relief up to some extent. You will appreciate GST tax regime has been implemented since 1st July 2017 by Govt. of India. With the implementation of this system vis-a-vis in current payment structure, most of the projects gets delayed or handing over not taken by the Hospital/Institute/Department; because of this the balance payment gets stuck for longer duration. This way the liquidity get blocked and input credit is lost.</p>	<p>successful completion of trial run of 30 days from the date of handover to the client on pro-data basis.</p>
72	<p>European CE/UL Listed</p> <p>We understand, European CE/UL Listed means Imported i.e. place from where the goods are mined, cultivated, grown, manufactured, produced or processed and Outside India.</p> <p>Accordingly the certification of the product applies i.e. if it is UL Listed certification same shall be applicable to American Manufacturer only and European CE Certification same shall be applicable to European Manufacturer only. We request this criteria should be strictly applied and maintained.</p>	<p>Tender terms & conditions prevail.</p>
73	<p>Page 1 & 2 Wall & Ceiling System</p> <p>We are astonished to note that in such a prestigious institute of India like AIIMS, Wall and Ceiling System are Stainless Steel and not Solid Mineral Surface (SMS) Technology.</p> <p>Please recall, Tender no. HSCC/SES/MOT/SSB/Shimla/2019 dated 31.01.2019; Tender for Hospital Getting Upgraded to Super Speciality Tender no. HITES/PCD/PMSSY-III/01/MOT/16-17 Dated 25.03.2017 and NIB Ref.: HITES/PCD/NCI-AIIMS/01/17-18 Dated: 11.09.2017 AIIMS NCI Jhajjar; wherein the Wall & Ceiling System with SMS Technology was European CE Certified/UL Listed/BIS. The Specifications was comprised of i. Sub frame/Structure ii. Wall Panels , iii. Angular Air Extraction module, iv. Sealing gaskets, v. Ceiling Panels to be sourced from same source, which is one of the latest & Best technology in Modular Operation Theatre to offer for India's superspeciality Hospitals. Within the similar budget SMS technology can be installed then why Stainless Steel Wall & Ceiling obsolete technology is adopted for 5 destinations.</p> <p>We are listing below few of the characterstics/comparison for your ready reference.</p> <p>1- SMS comes with inbuilt qualitties of anti-bacterial facility with layer thickness property of 3 mm whereas in SS anti-bacterial paint is required on the sheets and the layer thickness remains 200 microns only.</p> <p>2- In SMS, since the paint is not required hence no chances of paint peel-off whereas in SS, Over a period of time the paint peels-off & repainting is done which creates the problem of OT, shut down, matching of paint & matching of surface.</p> <p>3- In SMS, material is scratch Dent free, hence no chances of bacterias to rest upon whereas in SS, the dents & scratches are</p>	<p>Revised Technical specification for SMS Wall & Ceiling System is enclosed as Annexure -I</p>

	<p>generated on the walls due to continuous hitting of trolleys & equipments. Hence allowing the bacterias to rest upon.</p> <p>4- In SMS, Panels are removable & can be fitted in any other location of the hospital whereas in SS, since the panels are permanently fitted hence once fitted can not be removed.</p> <p>5- In SMS, Panels are easily washable hence takes lesser time for next surgery whereas in SS, the preparation for next surgery takes more time as compared to OT's manufactured with SS material.</p> <p>6-In SMS, for maintenancace of HVAC/Electricity/to remove bacteria, one can remove panels and clean it whereas in SS this facility is not available because it is fixed.</p> <p>We would also like to apprise you that Delhi AIIMS tender for its Surgical Block and Vertical Expansion Trauma Centre, New Delhi had Wall & Ceiling of SMS/SS Technology. By way of Amendment they removed SS Technology. AIIMS Bilaspur is the latest example of it. Once every where new technology is adopted then why old and obsolete Technology.</p> <p>The SMS Wall & Ceiling are installed in Safdurjung Hospital Superciality& Emergency Ward, Ram ManoharLohia Hospital, Delhi; Guwahati Medical College & Hospital, Guwahati; ManayavarKanshi Ram Hospital, Noida, U.P.; Dr. S.N. Medical College, Jodhpur, Rajasthan etc. We want best equipment/ technology should be installed in upcoming hospitals.</p> <p>It should be European CE with 4 digit notified no./USFDA.</p> <p>Secondly, Wall & Ceiling System as per Para 24, Turnkey job, it is mentioned SMS. We believe Wall & Ceiling System is SMS.</p> <p>We therefore request M/s HSCC to Amend and implement Wall & Ceiling System to SMS for Prestigious New AIIMS of National Importance.</p>	
74	<p>Page 4 Tender Specification 5. Internal HVAC Ducting & Exhaust System Please refer para h, where it is written that Exhaust Air Cabinet System should be from the same manufactuer of wall & ceiling system supplier. It seem this is misprint. We request to please clarify.</p>	<p>Exhaust Air Cabinet System should be from the same manufactuer of wall & ceiling system supplier – Deleted.</p>
75	<p>Page no. 11 20A, Double Arm Moveable Pendant for Anesthetist</p> <p>b) Double moveable arms (any combination) with total coverage of 1800mm +/- 10% and 330 deg. Horizontal movements for each arm. Vertical movement should be motorized and the arm height should remain to a height greater than 6.5 feet above floor level</p> <p>C) The Pendant Service Heads should be modular with minimum 800mm head. The heads should be capable of accepting a range of shelves, and infusion poles or other accessories. The Pendant Heads should support the range of Physiological Monitor Mounting Solutions.</p> <p>Shelf with two rails one on each side – 3 no. With the present arm height of 6.5 feet above floor level and Pendant Service head of minimum 800 mm head; the 3 nos. shelf as desired will be too small i.e. the space between 1 tray to 2 tray will be approx. 175 mm. This space will be difficult to accommodate</p>	<p>No. of shelves required 2 or more. Rail is to be provided for hanging arrangement.</p>

	<p>even a monitor or other equipments.</p> <p>We request there should be 2 nos. of shelves instead of 3 nos. for reasonable size, space and height of shelf. Please clarify, do we have to provide rail for hanging arrangement.</p>	
76	<p>Page no. 11&12 20B. Double Arm Moveable Pendant for Surgeon</p> <p>b. Double moveable arms (any combination) with total coverage of 1800mm and 330 deg. Horizontal movements for each arm. Vertical movement should be motorized and the arm height should remain to a height greater than 6.5 feet above floor level</p> <p>d. The Pendant Service Heads should be modular with minimum 800mm head. The heads should be capable of accepting a range of shelves, and infusion poles or other accessories.</p> <p>The Pendant Heads should support the range of Physiological Monitor Mounting Solutions.</p> <p>Expandable shelf (minimum width: 70cm & Depth min. 45cm) with two rails one on each side – 5 nos.</p> <p>Please appreciate, one do not require more space, shelves to keep equipments of Pendant for surgeon. Facility of 3 shelves is sufficient of reasonable size and height.</p> <p>We therefore request there should be 3 nos. of shelves instead of 5 nos. shelf.</p> <p>Please clarify, do we have to provide rail for hanging arrangement.</p>	<p>No. of shelves required 3 or more. Rail is to be provided for hanging arrangement.</p>
77	<p>Page no. 13 18. Online Central UPS</p> <p>The Online Central UPS warranty in the tender is 5 years. Whereas the battery life of UPS is 2-3 years. Please appreciate the same has price implication. Kindly clarify. We request this item should be deleted and should be included in Civil Tender.</p>	<p>Tender terms & conditions prevail.</p>
78	<p>Page no. 13 Specification 23. Online Central UPS</p> <p>Bidder shall offer UPS from make – APC/TATA Liebert/Delta/Hitachi/Consul Neowatt</p> <p>We request makes such as 3EM Power/Uniline should be added for more options to have competitive price.</p> <p>Kindly refer tender no. HITES/PCD/PMSSY-III/19/MOT/17-18 Dated 06/10/2017 for Hospitals getting Upgraded Phase-III, Amendment No. 5 dated 13.12.2017, with Addition of Makes.</p> <p>We request you to kindly Add these makes also.</p>	<p>UPS make – APC/TATA Liebert/Delta/Hitachi/Consul Neowatt/3EM Power/Uniline</p>

Estimated Cost is revised as Rs. 13.91 Cr. and EMD/Bid security as Rs. 27.82 Lakhs.

The bid submission date is extended from 13.05.2019 to 15.05.2019 and bid security should be valid for 180 days from the date of original bid submission ie. from 29.04.2019.

All other terms & conditions remain unchanged.

Sr. Chief General Manager -I, HSCC (I) Ltd.
For and behalf of Director, AIIMS, Raebareli

Annexure- I

1. WALL& CEILING SYSTEM (SMS)

The wall system should be based on a technological modular unit designed to clad and to divide interior space in controlled bacteria environments in a flexible and functional manner. The design ensures that the unique self-loading and free standing substructure can be clad with all types of engineered finishing panels without use of screws and any other fixed mechanical joints(Screwless Technology)The outer surface of a wall surface should be created with high –tech materials such as Solid Mineral Composite Sheet (SMS) with

backing of Aluminum frame. System should offer total ease of cleaning and sanitization of the partitions. It should have no corners and adjacent surfaces should be molded flush by means of connecting elements. System should afford the maximum versatility at the planning stage and flexibility during erection, ensuring openness to future alternations and trouble-free maintenance. During the installation, first the structural parts and subsequently the finishing elements to be installed. The system should ensure perfect integration of technical networks and allow ample operational flexibility on the construction site. The clean, dry installation method should enable optimum programming of the various work phases, allowing optimization of the installation of technical systems and any necessary alterations to be made-right up to checking and final testing of the installed systems – before the modules are sealed.

System should comprise of:

- i. Sub frame/Structure
- ii. Wall Panels
- iii. Angular Air Extraction module
- iv. Sealing gaskets
- v. Ceiling Panels

i) Sub Frame/Structure:

Sub Structure frame made of galvanized steel pillars with broad cross section and dual cavity, with geometry designed to achieve exceptional rigidity. The substructure, with its FREE-STANDING technology, minimize the interference with all electro mechanical systems to be installed. Possible to adjust and secure the profiles, ensuring the maximum rigidity and self-loading capacity of the subframe system.

ii) Wall panels: (Imported)

Cladding shall be with composite panels the finishing of which should be Solid Mineral Composite Sheet (SMS) thickness of 03mm backed by structural panel thick 15 mm consisting of a trapezoidal aluminium corrugated core glued between two flat aluminium sheets.

- a. External facing should be bacteriostatic, dense and non-porous material
- b. The panel should be made of a durable and uniform material that should be easy to clean and extremely hygienic.
- c. Internal balancing core with suitable geometry to ensure the maximum rigidity
- d. The total thickness of panel including Aluminum backing should not be less than 18mm.
- e. Panels should be resistant to water and detergents normally used in hospital.
- f. Reaction to fire class 1 norm

In order to create a smooth uninterrupted surface between adjacent panels, thereby preventing the risk of the accumulation of dust and bacteria in gaps, the panel should be produced in a single full height floor-to ceiling piece. The wall modules should be individually dismountable independently from ceiling and floor system to allow inspectability, maintenance of technical systems, and any variations that may become necessary for future alteration, modification and repair.

iii) Sealing gaskets: (Imported)

Should be non-toxic silicone rubber around all the contact perimeters between the various materials, and the hermetically sealed gaps between modules, should ensure optimum space segregation and ensure that sterile air pressure values are maintained in the protected environment, this being a fundamental prerequisite for guaranteed sterility. Should be seamlessly connected surface.

Or

Panel shall be joined with Monolithic welding

iv) Ceiling Panels (Imported)

The hermetic suspended ceiling should be a loading structure in heavy gauge material forming the grid on which the ceiling panels made of Solid Mineral Composite Sheet (SMS) thickness of 03mm. The total thickness of panel including Aluminum backing should not be less than 18mm. The integration of sealed lighting fixtures, air anemostats and /or various service units. The variable module grid should make it possible to adapt the size of the ceiling module to match the equipment to be mounted. It should also allow the use of different module sizes within the same room. The grid should be formed of loading profiles, suspended from the ceiling slab, to which the crossbar profiles are secured by means of rigid mechanical couplings. The thus formed grid should be rigid and remains perfectly stable during all the subsequent site operations. The suspended ceiling should be hermetically sealed by means of nontoxic silicon gasket application and it should be durable and non-degradable & resistant to microorganism attack. Color of inner surface wall & Ceiling of MOT shall be finalized after approval of consignee.