

Amendment No. 8

Date: 27/02/2015

Sub: Amendment to Tender Enquiry Document.

Ref: NIT No.: HLL/PCD/GNCTD/18/JSSH/14-15 dated 03/11/2014 read with its amendment No. 1, 2, 3, 4, 5, 6 & 7 dated 11/11/2014, 08/12/2014, 03/01/2015, 21/01/2015, 29/01/2015, 09/02/2015 & 21/02/2015 respectively.

Section – VII Technical Specification

Item No.1 Modular Operation Theatre

Existing Specification:

Para Imported Clean room wall system:

Stainless steel powder coated with silver anti-microbiological coating, Mono block free standing sandwich wall construction, in an axial strip grid design, wall thickness 50-60 mm, Wall height approx. 3,00 m insulation by high density mineral fiber. Outside surface galvanized steel sheet, powder coated, telescopic floor connection made of aluminium system profiles, base flush on both sides, absorbed tolerance 30 mm Ceiling connection: disconnected telescope ceiling connection, overlapping, aluminium system section, absorbed tolerance 30 mm Made up of stainless steel sheet with a thickness of 50-60mm, post-coated with baked epoxy polyester finish with a minimum thickness of the covering film of 0.08 mm(80 microns) +/- 10%, suitably bent. In order to increase both the mechanical strength and the heat insulation and sound proofing, the whole inner surface of the panel is provided with a foam polystyrene slab with high density (polystyrene) with a density of 30kg/mc and thickness of 15 mm, closed on the back by an additional galvanized sheet with thickness 0.7 mm, glued to the slab and secured to the painted panel. All panels are coated with baked antibacterial epoxy polyester finish with non-toxic inert powder, which is polymerized in thermal at 180° with a final surface with excellent mechanical strength and low flame propagation in case of fire. The painted surface is resistant to disinfectants which are used in hospitals and especially in operating room. On the inner sides of the panels there are slotted holes for their anchorage to the support hooks fixed to the structure uprights. This fastening system allows obtaining all the following results: the panel is self-centering with consequent joint alignment between panel and panel, ensuring aesthetic balance; the connection between hook and panel has been designed so that the panel, due to its weight, is compressed against the PVC gaskets coating the entire structure, helping to reduce noise transmission. For safety and stability, the fixing system of the panels to the structure ensures that there is no accidental breakaway of the panel, even if it is subjected to stress.

The wall panels should be CE/UL Listed/EN certified

OR

Para Imported Clean room wall system):

The FRAMEWORK should be made of upright ledgers and profiles entirely made of a galvanized steel sheet with a thickness of 1.5mm. They should be folded structural steels with a suitable section for the loads. The structure components should be joined together by means of coupling systems in order to create a solid reticular frame, able to support different infill panels whose weight is up to 8 Kg/sq. The "Z" upright forms the vertical part of the frame and should be equipped with proper drilling of 32mm (height partial drilling) suitable for the panel coupling without using screws between the uprights and edges of the panel there is a suitable PVC adhesive seal with a thickness of 3mm to ensure air and dust sealing. At the lower end of the upright an adjustment foot should allow the easy leveling of the structure and, the necessary compression of the anchorage between ceiling and floor. The ledgers should be the elements that constitute the basic module of the structure. They should be inserted on the proper hooks by pressure between two uprights, Moreover some "U" profiles, to be placed in horizontal position on the upper and lower part of this structure, constitute its extension with a depth of 64mm together with the metal panels with a thickness of 18mm and the PVC adhesive seal. The structure can be provided with stiffening ledgers or profiles for sliding door fixing and other accessories according to needs. Total thickness of the partition wall: 100mm. Skin PANELS (double wall 1 side-partition wall 2 sides): Module skin panels should have a height exceeding 3 mtrs up to a maximum of 3.5m from the floor and a width that should vary from a minimum of 280mm to a maximum of 1200mm they can be made of different types of finishing; using solid surface material. The panels should be made of solid surface material thick 3mm backed by structural panel thick 15mm consisting of a trapezoidal aluminum corrugated core glued between two flat of aluminum sheet. The Solid Mineral Surface (SMS) material should be dent free antibacterial & fire resistant. The Solid Mineral Surface (SMS) should not require any paint & should have in built antibacterial properties.

The material should be manufactured for about two thirds with aluminum hydroxide and a third with acrylic resin and natural pigments.

The aluminum hydroxide should give the product a particular strength and the quality of the acrylic resin ensure should cleanliness, water resistance and color stability over time. The material should have antibacterial activity (% reduction > 99%). On the inner sides of the panels there should be slotted holes for their anchorage to the support hooks fixed to the structure uprights.

This fastening system should allow obtaining all the following results: The panel should be self centering with consequent joint alignments between panel and panel, ensuring aesthetic balance.

The connection between hook and panel should be designed so that the panel, due to its weight, is compressed against the PVC seals coating the entire structure helping to reduce noise transmission.

The fixing system of the panels should ensure that there is no accidental breakaway of the panel, even if it is subjected to stress for more safety and stability:

The connection system should allow disassembling and assembling each panel without moving the others near it.

Its flexibility the partition wall should satisfy all the inspection and/or the maintenance needs required by modern workplaces (for example electrical installations, hydraulic installations, medical gases etc.) all the panels can be removed over their entire length and on both sides. The lower part of the panel should be equipped with a profile prepared for the laying and the coupling of the horizontal skirting's that need to re-enter with the respect to the panel.

The inner angles (which are at 90°) in operating rooms or in similar environments should be made up of a panel without interruption of continuity that covers the angular area of the wall. The panel should be characterized by a double specular folding at 135° (or variable folding according to the requirements).

All the panels should be drilled according to specific needs (ex ventilation grids of the room) The panels should be perfectly sealed together by means of thermoplastic rubber gaskets inserted by pressure and free of projections. The rate should be quoted on per square meter basis after installation the measurement should be done and payment should be made on actual basis.

Properties & Features of Solid Mineral Surface Material :

Density g/cm³ 1,7
 Hardness (Barcol) 60
 Water Absorption % 0,023
 Heat Expansion (1 x 10⁶in/in³/F)2,1
 Ignition Test 38
 Tensile Strength, psi 6500
 Elongation At Yield % 0,2
 Flexural Strength, 8ft;o,5lb 72D-79000
 Water Resistance, g/1000cycl Unbreakable
 Luster Stable Resistance 0,05
 High Temperature Resistance Uninfluential
 Boiling Water Resistance Uninfluential
 Stain Resistance Uninfluential
 Chemical Resistance Uninfluential
 The wall panels should be CE/UL Listed/EN certified.

Read as:

Para Imported Clean room wall system: Stainless steel powder coated with silveranti-microbiological coating, Monoblock free standing sandwich wall construction, in an axial strip grid design, wall thickness 50-60 mm, Wallheight approx. 3,00 m insulation by high density mineral fiber. Outside surface galvanized steel sheet, powder coated, telescopic floor connection made of aluminum system profiles, base flush on both sides, absorbed tolerance 30 mm Ceiling connection: disconnected telescope ceiling connection, overlapping, aluminum system section, absorbed tolerance 30 mm Made up of stainless steel sheet with a thickness of 50-60mm, post-coated with baked epoxy polyester finish with a minimum thickness of the covering film of 0.08 mm(80 microns) +/- 10%, suitably bent. In order to increase both the mechanical strength and the heat insulation and sound proofing, the whole inner surface of the panel is provided with a foam polystyrene slab with high density (polystyrene) with a density of 30kg/mc and thickness of 15 mm, closed on the back by an additional galvanized sheet with thickness 0.7 mm, glued to the slab and secured to the painted panel. All panels are coated with baked antibacterial epoxy polyester finish with non-toxic inert powder, which is polymerized in thermal at 180° with a final surface with excellent mechanical strength and low flame propagation in case of fire. The painted surface is resistant to disinfectants which are used in hospitals and especially in operating room. On the inner sides of the panels there are slotted holes for their anchorage to the support hooks fixed to the structure uprights. This fastening system allows obtaining all the following results: the panel is self-centering with consequent joint alignment between panel and panel, ensuring aesthetic balance; the connection between hook and panel has been designed so that the panel, due to its weight, is compressed against the PVC gaskets coating the entire structure, helping to reduce noise transmission. For safety and stability, the fixing system of the panels to the structure ensures that there is no accidental breakaway of the panel, even if it is subjected to stress.

The wall panels should be CE/UL Listed/EN certified.

Existing Specification:

Para Imported Ceiling:

| Imported Ceiling |
|--|
| Clamping cassette ceiling, clamping cassette ceiling, galvanized sheet steel 0.6 mm, non-perforated wet-coated surface, ceiling grid 625 x 625 mm. Including substructure and pendant. |

This system allow to disassemble each panels, to permithe access in each part of the ceiling. On the perimeter, Panels should be cut in site and lay to special shapedprofile sizes made in galvanized steel painted like panels. On this profile should be insert a “Z” profile ingalvanized steel used as spring to press the panels.

The wall panels should be CE/UL Listed//EN certified

OR

Imported Ceiling

The aluminium hydroxide should give the product a particular strength and the quality of the acrylic resin ensure should cleanliness, water resistance and color stability over time

The material should have antibacterial activity (% reduction>99%). On the inner sides of the panels thee should slotted holes for their anchorage to the support hooks fixed to the structure uprights.

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The connection system should allows disassembling and assembling each panel without moving the others near it. Its flexibility the partition wall should satisfy all the inspection and /or the maintenance needs required by modern workplaces (for example electrical installations, hydraulic installations, medical gases etc.)

All the panels can be removed over their entire length and on both sides. The lower part of the panel should be equipped with a profile prepared for the laying and the coupling of the horizontal skirting’s that need to re enter with the respect to the panel.

The inner angles (which are at 900) in operating rooms or in similar environments should made up of a panel without interruption of continuity that covers the angular area of the wall. The panel should characterized by a double specular folding at 135 0 (or variable folding according to the requirements).

All the panels should be drilled according to specific needs (ex ventilation grids of the room) The panels should be perfectly sealed together by means of thermoplastic rubber gaskets inserted by pressure and free of projections. The rate should be quoted on per square meter basis after installation the measurement should be done and payment should made on actual basis.

Properties & Features of Solid Mineral Surface Material :

Density g/cm³ 1,7

Hardness (Barcol) 60

Water Absorption % 0,023

Heat Expansion (1 x 10[”]in/in”/F)2,1

Ignition Test 38

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|--|
| Tensile Strength, psi 6500 |
| Elongation At Yield % 0,2 |
| Flexural Strength, 8ft;o,5lb 72D-79000 |
| Water Resistance, g/1000cycl Unbreakable |
| Luster Stable Resistance 0,05 |
| High Temperature Resistance Uninfluential |
| Boiling Water Resistance Uninfluential |
| Stain Resistance Uninfluential |
| Chemical Resistance Uninfluential |

The wall panels should be CE/UL Listed//EN certified.

Read as:

Para Imported Ceiling:

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|--|
| Imported Ceiling |
| Clamping cassette ceiling, clamping cassette ceiling, galvanized sheet steel 0.6 mm, non-perforated wet-coated surface, ceiling grid 625 x 625 mm. Including substructure and pendant. |
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| The wall panels should be CE/UL Listed//EN certified |

Existing Specification:

Para: Imported Two (2 No in each OT) Pendants are to be supplied. One pendant for Anaesthesia and One pendant for Surgeon side

a) - **Double arm ceiling Surgeon pendant** – Imported CE mark (European CE / US. FDA approved (Certificate should be attached with the bid):

Multi movement Pendent of double arm (900 mm+600 mm) with load carrying capacity of minimum 150 kg.

The arm should be rotatable upto 330°- 340°with adjustable stopper. The pneumatic brake system should be adaptable to various safety requirements and construction facilities.

The interior cross section for supply lines should be of minimum 120 mm diameter. The stoppers should be infinitely variable from 0-330°-340°

Service head should be of modular design, octagonal/ square /rectangular/ circle etc. in shape to achieve maximum supply with minimum required space. Service head should designed to host, Base, Gas Module, Electric Module and shelves. Should have upto 8 Gas outlets & 10 Electrical switches. Racks & shelves are provided to mount the surgical equipments & monitor.

The total length of the manager is approx 1500mm.

Surgeon pendent should have 2 arms with shelves and should include following:

Horizontal arms

Weight carrying capacity – approx 150kg

5/15 Amp. electrical sockets without switches 8-10 Nos.

Shelves with side rails -4 Nos. with 1 drawer

Provision to fix Gas outlets (i.e.) Oxygen- 2, Vaccum- 2, Air 4 bar-1, Air 7 bar-1 , N2O-1

Gas interface set for interface plate - 1 No
 Interface plate with electrical fittings - 1 No
 Ceiling cover for interim ceiling - 1 No

b) Single Arm ceiling Anaesthesia Pendant- Imported CE marked (European CE / US. FDA approved (Certificate should be attached with the bid):

Multi movement Pendent of single arm (900 mm-10000 mm) with load carrying capacity of minimum 100 kg. The arm should be rotatable upto 330°- 340°with adjustable stopper.

The pneumatic brake system should be adaptable to various safety requirements and construction facilities.

The interior cross section for supply lines should be of minimum 120 mm diameter. The stoppers should be infinitely variable from 0-330°-340°

Service head should be of modular design, octagonal/ square /rectangular/ circle etc. in shape to achieve maximum supply with minimum required space.

Service head should designed to host, Base, Gas Module, Electric Module and shelves. should have upto 8 Gas outlets & 10 Electrical switches.

Racks & shelves are provided to mount the surgical equipments & monitor. The total length of the manager is approx 800-1000mm.

Anesthesia pendent should have 2 arms with shelves and should include following:

Horizontal arms-1 No.

Weight carrying capacity – approx 80kg

5/15 Amp. electrical sockets without switches 8-10 Nos.

Shelves with side rails -2 Nos.

Provision to fix Gas outlets (i.e.) Oxygen- 2, Vaccum- 2, Air 4 bar-1, Air 7 bar-1 , N2O-1

Gas interface set for AGSS interface plate - 1 No

Ceiling mounting system for interface ceiling - 1 No

Interface plate with electrical fittings - 1 No

Ceiling cover for interim ceiling - 1 No.

Read as:

Para: Imported Two (2 No in each OT) Pendants are to be supplied. One pendant for Anaesthesia and One pendant for Surgeon side

a) - **Double arm ceiling Surgeon pendant** – It shall be duly CE marked and comply with 93/42IEEC Medical Devices: General / USFDA. Country of Origin must be mentioned. The pendant should be double arm motorized high degree of flexibility due to expandability in terms of equipment options. The **Electric / pneumatic brake** should be used to secure system and prevent any accidental movement of the ceiling pendant. Variable placement of shelves to ensure adaptability of various requirements in OT. Double arm motorized pendant should be installed depending on the given conditions and the individual requirements in the operating theatre. A ceiling supply system with one part arm can not only move along a circular curve and rotate on its own axis, but may also be flexibly positioned at any point of a circular area.:

Multi movement Pendent of double arm (900 mm+600 mm) with load carrying capacity of minimum 150 kg.

The arm should be rotatable upto 330°- 340°with adjustable stopper. The **Electric / pneumatic brake system** should be adaptable to various safety requirements and construction facilities.

The interior cross section for supply lines should be of minimum 120 mm diameter. The stoppers should be infinitely variable from 0-330°-340°

Service head should be of modular design, octagonal/ square /rectangular/ circle etc. in shape to achieve maximum supply with minimum required space. Service head should designed to host, Base, Gas Module, Electric Module and shelves. should have upto 8 Gas outlets & 10 Electrical switches.

Racks & shelves are provided to mount the surgical equipments & monitor.

The total length of the manager is approx 1500mm.

Surgeon pendent should have 2 arms with shelves and should include following:

Horizontal arms

Weight carrying capacity – approx 150kg

5/15 Amp. electrical sockets without switches 8-10 Nos.

Shelves with side rails -4 Nos. with 1 drawer

Provision to fix Gas outlets (i.e.) Oxygen- 2, Vaccum- 2, Air 4 bar-1, Air 7 bar-1 , N2O-1

Gas interface set for interface plate - 1 No

Interface plate with electrical fittings - 1 No

Ceiling cover for interim ceiling - 1 No

b) Single Arm ceiling Anaesthesia Pendant- It shall be duly CE marked and comply with 93/42IEEC Medical Devices: General / USFDA. Country of Origin must be mentioned. The pendant should be double arm motorized high degree of flexibility due to expandability in terms of equipment options. The **Electric / pneumatic brake** should be used to secure system and prevent any accidental movement of the ceiling pendant. Variable placement of shelves to ensure adaptability of various requirements in OT. Double arm motorized pendant should be installed depending on the given conditions and the individual requirements in the operating theatre. A ceiling supply system with one part arm can not only move along a circular curve and rotate on its own axis, but may also be flexibly positioned at any point of a circular area.:

Multi movement Pendent of single arm (900 mm-10000 mm) with load carrying capacity of minimum 100 kg. The arm should be rotatable upto 330°- 340°with adjustable stopper.

The **Electric / pneumatic brake system** should be adaptable to various safety requirements and construction facilities.

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Racks & shelves are provided to mount the surgical equipments & monitor. The total length of the manager is approx 800-1000mm.

Anesthesia pendent should have 2 arms with shelves and should include following:

Horizontal arms-1 No.

Weight carrying capacity – approx 80kg

5/15 Amp. electrical sockets without switches 8-10 Nos.

Shelves with side rails -2 Nos.

Provision to fix Gas outlets (i.e.) Oxygen- 2, Vacuum- 2, Air 4 bar-1, Air 7 bar-1, N2O-1

Gas interface set for AGSS interface plate - 1 No

Ceiling mounting system for interface ceiling - 1 No

Interface plate with electrical fittings - 1 No

Ceiling cover for interim ceiling - 1 No.

Added para under Bill of Quantity (Page 53 of tender document):

8. Imported Ceiling Double Arm Anaesthesia Pendants - Qty =2nos.

9. Imported Ceiling Double Arm Surgeon Pendants - Qty =2nos.

Item No. 2
Integration and Data Management System for Modular OT

Existing as:

Para 1.3: One monitor should be mounted on surgical pendant and one on the Anaesthesia pendant.

Read as:

Para 1.3: Separate ceiling suspended monitor arm for each monitor has to be supplied.

Existing as:

Para 2.2 : Audio- Video router should be IP based on fiberoptic backbone hence fully digital, flexibility of integrating multiple inputs, able to route 2D as well as 3D signals, The system should be able to integrate all required signals available inside OT.

Read as:

Para 2.2 : The Audio/Video Router system should be minimum following outputs. The router should be having 12x12 Digital and upgradable to 18x18 (DVI-I/DCI-D) with open architecture and upgradable to future input/output requirements. The routing system should be able to integrate HD signal (e.g. Room Camera) if available inside OT.

Existing as:

Para 2.3: Audio-Visual system should receive the signal from different sources like room camera, Endoscopy camera, Overhead camera, Archiving System from Auxiliary devices like C-Arm, Video Microscope, Mobile Ultrasound and flat panel video connections. **Should to able to integrate IP based SIP phone for Audio communication within the Hospital.**

Read as:

Para 2.3 : Audio-Visual system should receive the signal from different sources like room camera, Endoscopy camera, Overhead camera, Archiving System from Auxiliary devices like C-Arm, Video Microscope, Mobile Ultrasound and flat panel video connections.

Added para:

1. The Supplier of the Surgical and Anesthesia Pendant must co-operate with the Integration vendor for the cutouts for Inputs and patch panels.

All other contents of the tender enquiry including terms & conditions remain unaltered.

Note:

1. **Prospective Bidders are also advised to check the website regularly prior to the closing date and time of online submission of tenders.**