

Dated-12.07.2013

## **AMENDMENT No.-5**

Tender No. HSCC/KCGMC/Package-II/2013

Name of project : Construction of Hospital, OPD & other Associates works including dismantling of existing buildings & their foundation for Kalpana Chawla Govt. Medical College (KCGMC), Karnal

<b>As per Amendment No. 2</b>	<b>Now Re-Amended as</b>
<p><b><u>Bill of Quantity for Electrical works.</u></b></p> <p><b>Sub Head 25: Under Light Control System. Vide Amendment No. 2 the following amendment was done :</b></p> <p>Wherever Lutron model is specified in the Bill of Quantity shall be read as <b>Lutron or equivalent as approved by Engineer.</b></p>	<p>This shall be read as under:</p> <p>Wherever Lutron model is specified in the Bill of Quantity shall be read as <b>Lutron.</b></p>

<b><u>Operation Theatre (Major)</u></b>	
<b>As per tender specification</b>	<b>Amended as</b>
<p><b><u>Specification under Sl. No.13.</u></b></p> <p><b>Ceiling OT Light – (LED)-Imported Ceiling OT Light – (LED)-Imported Complete Specification</b></p>	<p><b>Ceiling OT Light – (LED)-Imported</b></p> <p>Dual Dome LED Surgical Lighting System with one dedicated Spring-Arm. Operating Room Surgical Lighting System should provide an ideal combination of brightness, maneuverability, and shadow resolution without sacrificing color accuracy through a consistent LED technology with a unique faceted reflector design technology.</p> <p>Such Lighting System should have the following technical specifications:</p> <p>Number of Light heads : Two per suspension Color Temperature : 4000 - 5000 K; Field Size Diameter Depth : 6 inch – 12 inch; Depth of Field : 30 – 35 inch; Illumination Level : minimum 160,000 Lux each; Controls : Wall Control Touch Panel; Rotation : 360 degrees Vertical Adjustment Range : + 20 inch – 25 inch, Sterilizable Handle to be provided; Light head Diameter : 20 – 30 inch; Mounting Type : Ceiling Supply Voltage : 230 VAC 50 Hz; Bulb Type : LED; Dimming Range : 30% - 100%; Operating/Storage Humidity : 10 – 95%; Life of Light Source : &gt; 30,000 Hrs.</p>

## Modular OT

As per tender specification	Amended as
<p><b><u>Walls and Ceiling Construction under Sl.No.-1</u></b></p> <ul style="list-style-type: none"> <li>- The prefabricated modular construction for walkable Ceiling and Wall Panels should be constructed with 1.60 mm thick AISI-304 Stainless Steel backed by 12mm thick Gypsum board to provide seamless operating room.</li> <li>- Room lighting, air supply inlet, Ceiling Service units, return air outlets etc should be integrated with SS metal ceiling system</li> <li>- The wall panel should be fixed to the brick wall with supports.</li> <li>- All joints should be filled with metallic filler for plastic finish. Wall panel Joints should be invisible after the final wall coating is applied.</li> <li>- All joints and cavities should be filled with Metallic Epoxy sealer and sanded flush to provide <b>seamless finish</b>.</li> <li>- The internal surfaces of the walls and ceiling of Operation theatre should be sprayed with <b>anti-bacterial paint</b> (Factory Internal test report to be submitted) to a minimum dry film thickness of 300 microns with primer. The anti bacterial paint coating should overlap the floor covering, ceiling system and door frames by 25 microns to provide a continuous sealed surface. The anti bacterial paint coating should be non-reflective type, highly resistant to abrasives, water, detergents and weak acids and alkali used in cleaning area. The coatings should have no loss of performance or adhesion to the substrate in the case of regular steam cleaning. Imported Anti bacterial paint applied should not leach out in order to maintain anti-microbial system throughout the life of the product. The coating should have biocide action and prevention property against growth of mould, bacteria and yeasts for at least <b>10 years</b>.</li> </ul>	<ul style="list-style-type: none"> <li>- The prefabricated modular construction for walkable Ceiling and Wall Panels should be constructed with 1.60 mm thick AISI-304 Stainless Steel backed by 12mm thick Gypsum board to provide seamless operating room or High-tech materials like Solid Mineral Composite Sheet(SMCS). GI/EGP material will not be acceptable.</li> <li>- Room lighting, air supply inlet, Ceiling Service units, return air outlets etc should be integrated with SS metal/SMCS ceiling system.</li> <li>- The wall panel should be fixed to the brick wall with supports/sub-frame on which individual wall panels will be mounted.</li> <li>- All joints should be filled with metallic filler for plastic finish / sealing gaskets.Wall panel Joints should be invisible after the final wall coating is applied for SS-304/Silicon gasket joints for SMCS.</li> <li>- All joints and cavities should be filled with Metallic Epoxy sealer and sanded flush to provide seamless finish/sealing Gaskets both vertical and horizontal.</li> <li>- The internal surface of the wall panel should be either solid Mineral Composite Sheet or SS-304 grade material. GI/EGP material will not be acceptable.</li> </ul> <p><b>In the case of SS-304:-</b> The internal surfaces of the walls and ceiling of Operation theatre should be sprayed with <b>anti-bacterial paint</b> (Factory Internal test report to be submitted) to a minimum dry film thickness of 300 microns with primer. The anti bacterial paint coating should overlap the floor covering, ceiling system and door frames by 25 microns to provide a continuous sealed surface. The anti bacterial paint coating should be non-reflective type, highly resistant to abrasives, water, detergents and weak acids and alkali used in cleaning area. The coatings should have no loss of performance or adhesion to the substrate in the case of regular steam cleaning. Imported Anti bacterial paint applied should not leach out in order to maintain anti- microbial system throughout the life of the product. The coating should have biocide action and prevention property against growth of mould, bacteria and yeasts for at least <b>10 years</b>.</p> <p><b>In the case of SMCS :-</b> The surface facing the interior of OT should be bacteriostatic, dense and non-porous. The panels should be made of durable and uniform material that should be easy to clean and extremely hygienic. The total thickness of the panel should be not less than 18 mm. Panel should be resistant to water &amp; detergents normally used in hospitals. The Panel should adhere to fire class-I Norms (Fire resistant norms). To create smooth uninterrupted surface between adjacent panels for presently risked accumulation of dust and bacteria in gaps, the panel should be produced in a single full height floor to ceiling piece.</p>

	Vertical and horizontal gaskets in 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 be being a fundamental prerequisite for guaranteed sterility.
<p><b><u>Doors And Frames (Automatic Hermetically Sealed Doors) under Sl. No.-4</u></b></p> <ul style="list-style-type: none"> <li>- The top layer on both sides is high Pressure laminate of size 6mm. The overall thickness of the door shutter is 60 mm. The inner part of the door should be filled with CFC free polyurethane foam (PUF). Sealed airtight to prevent further ingress of any microbial organism. The door material should be fixed to powder coated AISI-304 Stainless Steel fixed to SS frame(Same as Wall Panel in case of SS).</li> </ul>	<p><b>In the case of SS-304</b></p> <ul style="list-style-type: none"> <li>- The top layer on both sides is high Pressure laminate of size 6mm. The overall thickness of the door shutter is 60 mm. The inner part of the door should be filled with CFC free polyurethane foam (PUF). Sealed airtight to prevent further ingress of any microbial organism. The door material should be fixed to SS frame(Same as Wall Panel in case of SS-304).</li> </ul> <p><b>In the case of SMCS</b></p> <ul style="list-style-type: none"> <li>- The doorframe should be made of high quality material and <b>the door panel</b> should be made of the same prefabricated material as used for wall panels and should be able to withstand high abrasion.</li> </ul>
<p><b><u>Adjustable Moveable Boom Arm System under Sl. No.-10</u></b></p> <ul style="list-style-type: none"> <li>- 1000 mm moveable arms each with 340 deg. Horizontal movement.</li> <li>- Each arm should be capable of 340 degrees of rotation.</li> </ul>	<ul style="list-style-type: none"> <li>- 1000 mm moveable arms each with 330° - 340° Horizontal movement.</li> <li>- Each arm should be capable of 330° - 340° rotation.</li> </ul>
<p><b><u>OT light with Camera and Monitor under Sl. No.-20</u></b></p> <p>Number of LED : Minimum 90 LEDs</p>	<p>Number of LEDs should be adequate enough to provide minimum Illumination level 160000 Lux each.</p>

<b><u>Medical Gas Manifold System</u></b>	
<b>As per tender specification</b>	<b>Amended as</b>
<p><b><u>Standards under Scope of Work</u></b></p> <ul style="list-style-type: none"> <li>- The design &amp; selection of all imported items should be of international standard like NFPA 99(latest version) standard and UL listed or EN737(latest version) standard and CE marked or HTM 02 01 (latest version) standard and CE marked. The entire system should be of any one standard only</li> </ul>	<ul style="list-style-type: none"> <li>- The design &amp; selection of all imported items should be of international standard like NFPA 99(latest version) standard and UL listed or EN737(latest version) standard and CE marked or HTM 02 01 (latest version) standard and CE marked. The entire system should be of any one standard only This supersedes single/multiple standards mentioned at any other places in the tender specification involving item/system/capacity etc.</li> </ul>

<p><b><u>Distribution Piping under Sl. No.-5.0</u></b></p> <p>- Fittings used for connecting copper tubing shall be made of Copper and brazed type connection as per BS :864 :Part 2 :1983</p>	<p>- Copper to Copper joints shall be made on site using silver-copper-phosphorous brazing alloy to BS-1845. Copper to brass or gunmetal joints shall not be made on site. Except for mechanical joints used for components, all metallic pipeline joints shall be brazed or welded. All pipelines shall be routed in such a way that their not exposed to a temperature less than 5 deg Celsius above the dew point of the gas distribution pressure. Pipeline shall be supported at interval to prevent sagging.</p>
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All other terms and conditions of the tender shall remain unchanged.

General Manager (Projects)  
HSCC(India) Ltd.  
For and on behalf of Director, KCGMC, Karnal (Haryana)