

**PRE-BID MEETING TENDER FOR SUPPLY, INSTALLATION, COMMISSIONING AND  
 VALIDATION OF FABRICATION EQUIPMENT PACKAGE  
 AT PII, COONOR**

**Document No.:** : NPI/110831/EQP/TD/07

**Venue:** : HLL Biotech Ltd,

**Date:** : 19<sup>th</sup> August 2015

**Project:** : Revival of DPT group of Vaccine Manufacturing Facility PII,  
 Coonoor

**Attendees:** : See attached list of attendees

**Issued By:** : CEO HBL

**Issued On:** : 25<sup>th</sup> August 2015

Agenda	
1.	Pre bid Meeting Tender for Supply, Installation, Commissioning and Validation of Fabrication Equipment at PII, Coonoor

S. No.	Clarifications on queries
	<b>Tender for Supply , Installation, commissioning and Validation of Fabrication Equipments at PII, Coonoor</b> <b>Doc No: NPI-110831-EQP-TD-07</b>
<b>A</b>	<b>Discussion on Tender Enquiry Document: NPI/110831/EQP/TD/07</b>
	<b>General Discussion Points</b>
1.	There are no changes in terms and conditions of Tender Enquiry Document: NPI-110831-EQP-TD-07
2.	<p>Last date for the tender submission is extended up to <b>15th September 2015@15:00hrs and Technical Bid shall be opened on 15th September 2015@15:30hrs</b> as per the vendor request.</p> <p><b>Delivery timelines:</b></p> <p>Schedule-I: 6 months from date of issue of Notification of Award</p> <p>Schedule II: 5 months from date of issue of Notification of Award</p> <p>Schedule III: 4 months from date of issue of Notification of Award</p>
3.	The EMD should be furnished in the name of <b>"HLL Biotech Limited, payable at Chennai"</b> for the amount mentioned in <b>Section-I, NIT</b> . The EMD has to be submitted separately as per schedule wise.
4.	<p><b>Submission of Bid (Clarification on Vendor Queries):</b></p> <ol style="list-style-type: none"> <li>1. The tenderer shall submit the bids in two parts. First part will be known as 'Technical Bid', and the second part as 'Price Bid' as mentioned in NIT.</li> <li>2. Tenderer shall seal 'Technical Bid' and 'Price Bid' separately schedule wise and covers will be suitably superscribed. The tenderer should mark clearly for <b>specific schedule number</b>, the tenderer is participating in the outer envelope.</li> <li>3. Tenders in sealed envelopes superscribing <b>"Tender for Supply, Installation, Commissioning and Validation of Fabrication Equipment Package for Revival of DPT Vaccine Manufacturing Facility at PII, Coonoor"</b> shall be addressed to <b>The CEO, HLL Biotech Limited, Tisel Biopark Campus (Module no. 013-015), CSIR Road, Taramani, Chennai- 600 113</b>. Both these sealed covers shall be put in a bigger cover and sealed and superscribed.</li> </ol>
5.	<p><b>Evaluation of Bids (Clarification of Vendor Queries):</b></p> <p>The bidder has to quote for 1 schedule or all of the schedules. The bidders has to quote for all the items in the schedule for which the bidder is participating. If the bidder does not submit the bid for all items in a schedule the bid is liable for rejection.</p>
6.	Vendor to decide the Geometric Volumes for all vessels by considering H:D ratio also.
7.	<p><b><u>"Installation requirement specification [IRS] document"</u></b> is enclosed as <b>Annexure 1</b>.</p> <p>Vendor must consider the IRS document as a part of tender enquiry document</p>

S. No.	Clarifications on queries		
<b>B. Clarifications on URSS</b>			
<b>Schedule-1 Process Vessels</b> [ Buffer preparation tank, Gel sterilization vessel, Pressure vessel, Meat digestion vessel, Precipitation tank, Media preparation tank, Collection vessel & Mixing Vessel]			
<b>General discussion point for Schedule -1</b>			
	<b>Common points for all the equipment.</b>		
1.	RPM for magnetic mixer has been changed from [40-500] RPM to [40-370] RPM		
2.	In <b>Section I, NIT and Section VI, List of Requirements</b> for Schedule Number 1, <b>Equipment ID: D-PRV-03</b> , shall be read as <b>D-PRV-02</b> . Ref (Page No. 3 of 91 and 48 of 91)		
3.	<p>Food grade SIP-able Silicon breaded flexible hose [Sanitary design] to be provided as follows,</p> <ul style="list-style-type: none"> <li>i. Buffer Preparation Tank – 2mtr x 10 No.s -1"TC end Flexible hose to be provided</li> <li>ii. Media preparation tank – 2mtr x 6 No.s -1"TC end Flexible hose to be provided</li> <li>iii. Pressure Vessel - 2mtr x 10No.s-1" TC end Flexible hose to be provided</li> <li>iv. Meat Digestion vessel - 2mtr x 5No.s - 1" TC end Flexible hose to be provided 2mtr length TC end – 2No.s Flexible hose to be provided for product outlet[Vendor to specify the specification of hose as per requirement]</li> <li>v. Gel sterilization vessel - 2mtr x 5 No.s - 1"TC end Flexible tube to be provided</li> <li>vi. Precipitation Tank - 2mtr x 4No.s – 1"TC end flexible hose to be provided</li> <li>vii. Mixing Vessel - 2mtr x 10No.s - 1"TC end flexible hose to be provided</li> <li>viii. Collection vessel - 2mtr x 4No.s - 1"TC end flexible hose to be provided</li> </ul> <p>Note:- Vendor must include the Flexible hoses costing &amp; quantity in individual equipment cost itself.</p>		
4.	<p>General vessel specification are as under :</p> <p>Surface Finish :</p> <p>Internally Electro polished up to Ra ≤0. 8 μm (mirror finish)</p> <p>(For valves- Electro polished up to Ra ≤0.8 μm)</p>		
5.	<table border="0"> <tr> <td style="vertical-align: top;"> <p><b>List of Preferred Make of components</b></p> <ul style="list-style-type: none"> <li>• Pressure Gauge- WIKA/Denver/Negele</li> <li>• Temperature Transmitter – Radix/Yokogawa/ Emerson</li> <li>• Steam trap – Spirax Marshall</li> <li>• Printer - Canon/Epsilon/HP</li> <li>• Vent filter cartridge – Sartorius/PALL/Millipore</li> <li>• Filter Housing – Sartorius/PALL/Millipore</li> <li>• Air- PRV</li> <li>• Spray Ball –Hike</li> <li>• Flexible Hose - AB Synthetic/ AMI Polymer/Venair</li> <li>• GMP Mixer - Alfa Laval/Novaseptic/ Roplan</li> </ul> </td><td style="vertical-align: top;"> <p><b>Modified as:</b></p> <p><b>List of Preferred Make of components</b></p> <ul style="list-style-type: none"> <li>• Pressure Gauge- WIKA/Denver/Negele/Baumer</li> <li>• Temperature Transmitter – Radix/Yokogawa/ Emerson/Negele</li> <li>• Steam trap – Spirax Marshall/Sterilflow</li> <li>• Printer - Canon/Epson/HP</li> <li>• Vent filter cartridge – Sartorius/PALL/Millipore/GE</li> <li>• Filter Housing – Sartorius/PALL/Millipore/GE</li> <li>• Air-PRV – Festo/Janatics</li> <li>• Spray ball –HIKE/Lechler</li> <li>• Strip Chart Recorder – Yokogawa/Honeywell</li> <li>• Flexible Hose - AB Synthetic/ AMI Polymer/Venair/Saint Gobain/BBS</li> <li>• <b>Magnetic Mixer</b> - Kweng/GMM/Roplan/Kest</li> </ul> </td></tr> </table>	<p><b>List of Preferred Make of components</b></p> <ul style="list-style-type: none"> <li>• Pressure Gauge- WIKA/Denver/Negele</li> <li>• Temperature Transmitter – Radix/Yokogawa/ Emerson</li> <li>• Steam trap – Spirax Marshall</li> <li>• Printer - Canon/Epsilon/HP</li> <li>• Vent filter cartridge – Sartorius/PALL/Millipore</li> <li>• Filter Housing – Sartorius/PALL/Millipore</li> <li>• Air- PRV</li> <li>• Spray Ball –Hike</li> <li>• Flexible Hose - AB Synthetic/ AMI Polymer/Venair</li> <li>• GMP Mixer - Alfa Laval/Novaseptic/ Roplan</li> </ul>	<p><b>Modified as:</b></p> <p><b>List of Preferred Make of components</b></p> <ul style="list-style-type: none"> <li>• Pressure Gauge- WIKA/Denver/Negele/Baumer</li> <li>• Temperature Transmitter – Radix/Yokogawa/ Emerson/Negele</li> <li>• Steam trap – Spirax Marshall/Sterilflow</li> <li>• Printer - Canon/Epson/HP</li> <li>• Vent filter cartridge – Sartorius/PALL/Millipore/GE</li> <li>• Filter Housing – Sartorius/PALL/Millipore/GE</li> <li>• Air-PRV – Festo/Janatics</li> <li>• Spray ball –HIKE/Lechler</li> <li>• Strip Chart Recorder – Yokogawa/Honeywell</li> <li>• Flexible Hose - AB Synthetic/ AMI Polymer/Venair/Saint Gobain/BBS</li> <li>• <b>Magnetic Mixer</b> - Kweng/GMM/Roplan/Kest</li> </ul>
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S. No.	Clarifications on queries	
Gel Sterilization Vessel - NPI_110831_EQP_F1_GSV 01		
	URS Point number and excerpt*/ description of the specification *	Point changed as / Comment
6.	2.0.3 a) Gel Addition: Homogenized gel will be added into the gel sterilization vessel through the port provided.	2.0.3 a) Gel Addition: Homogenized gel will be added into the gel sterilization vessel through the port (diaphragm valve) provided.
7.	2.0.3 d) Temperature: To maintain the temperature during gel sterilization, temperature sensor with transmitter shall be provided.	<b>2.0.3 d) Temperature Control:</b> The temperature during gel sterilization shall be controlled via circulation of utilities (pure steam, cooling water, chilled water, etc) in the jacket. Temperature control during buffer preparation (tolerance limit: $\pm 2.0^{\circ}\text{C}$ ) & during sterilization (SIP)(tolerance limit: $122^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$ ) Safety relief valve for jacket Bourdon type pressure gauge for jacket utility Pneumatically operated valves for steam and cooling water/ chilled water
8.	2.0.3 f) Mixer: The vessel shall be designed with bottom mounted GMP mixer as per process requirement.	2.0.3 f) Mixer: Top mounted agitator, single mechanical seal.
9.	6.5 Batch data display and record printing Batch data printing by using real time printer and for trends strip chart recorder to be provided	6.5 Batch data display and record printing: The equipment should be provided with HMI with PLC. Batch data printing by using real time printer and for trends strip chart recorder to be provided
10.	<b>List of Preferred Make of components</b> <ul style="list-style-type: none"><li>GMP mixer - Alfa Laval/Novaseptic/ Roplan</li></ul>	<b>List of Preferred Make of components</b> <ul style="list-style-type: none"><li>Top driven agitator - GMM/Thermotech/Raunders/Mecon/Steridose</li><li>PLC - Alan Bradley / Seimens</li><li>Flexible hoses - AB Synthetic/ AMI</li><li>Polymer/Venair/Saint Gobain/BBS</li></ul>
Precipitation Tank- NPI_110831_EQP_URS_PPT 01		
11.	2.0.4 a) Port for Toxoid: The toxoid from the Nalgene bottles shall be transferred into the Precipitation tank through the addition port of 1.5 inch with TC end. b) Port for Ammonium Sulphate addition : <ul style="list-style-type: none"><li>For D-PPT 01: The 22% &amp; 36% Ammonium Sulphate shall be added into the precipitation tank</li><li>For T-PPT 01: The 12% &amp; 24% Ammonium Sulphate shall be added into the precipitation tank</li></ul> c) Port for Acid/Alkali Addition: Acid/ Alkali will be added manually to the precipitation tank	2.0.4 a) Port for Toxoid: The toxoid from the Nalgene bottles shall be transferred into the Precipitation tank through the addition port of 1.0 inch with TC end with manual diaphragm valve`. b) Port for Powder addition- 3 inch TC end c) Port for Acid/Alkali Addition: Acid/ Alkali will be added manually to the precipitation tank with 1/2 inch port with diaphragm valve.
12.	3.1.2 Concentrated toxoid shall be transferred into the Precipitation tank from the Nalgene bottles under Mobile LAF using peristaltic pump (Pump - vendor's scope).	3.1.2 Concentrated toxoid shall be transferred into the Precipitation tank from the Nalgene bottles under Mobile LAF using peristaltic pump



S. No.	Clarifications on queries	
13.	6.2 Failure mode detection Mixing speed is out of set range	<u>Deleted</u>
<b>Pressure Vessel - NPI_110831_EQP_URS_PRV 01</b>		
14.	2.0.5 g) Tank Bottom Valve: It is also Zero Dead Leg type valve [ 2-WAY], having a PTFE diaphragm	2.0.5 g) Tank Bottom Valve: 2-WAY less than 3D,
<b>Media preparation vessel - NPI_110831_EQP_URS_MPT 01</b>		
15.	2.0.3 General specification <b>l. SIP (Sterilization – In – Place):</b>	2.0.4 General specification <b>l. SIP (Sterilization – In – Place):</b> The media preparation vessel should be designed for inbuilt SIP The following principles will be applied for SIP of the system: The exhaust air filters to be sterilized along with the vessel. The sensors should be reusable and sterilizable type
<b>Meat Media - Pressure Vessel -NPI_110831_EQP_URS_M1_PRV 01</b>		
16.	2.0.3 SIP	2.0.3: SIP - Manual Steam trap with necessary valves to be provided for SIP- <b>[Point included]</b>
<b>Meat Digestion Vessel - NPI_110831_EQP(URS)_M-MDV 01</b>		
17.	2.0.3 e. Agitator: Top mounted agitator with single dry mechanical seal with anchor blade. It will be used for mixing the liquids of high viscosity.	<b>[Point Modified]</b> 2.0.3 e. Agitator: Top mounted agitator with single dry mechanical seal and <b>anchor blade with Propeller Impeller</b> . It will be used for mixing the liquids of high viscosity.
18.	2.0.4.Nozzle schedule: 1.Top dish- The top dish will have Manhole 750mm- 1 no Sight /Light port (preferably metal fused type)- 1 no Port for agitator Spray balls (Removable Type)- 2 nos TC Spare port (1.5inch TC end) - 1 no	2.0.4.Nozzle schedule: 1.Top dish- The Top dish shall be 1/3 <sup>rd</sup> openable with the following: Manhole 750mm- 1 no Sight /Light port (preferably metal fused type)- 1 no Port for agitator Spray balls (Removable Type)- 2 nos TC Spare port (1.5inch TC end) - 1 no
19.	<b>2.0.3 General requirement:</b> <b>j. SS Mesh</b>	<b>2.0.3 General requirement:</b> <b>j. SS Mesh :</b> 2 nos. of SS wired mesh (1 no. full length & 1no. Half length) to be provided along with the vessel for removing the layer- <b>[Point included]</b>
20.	2.0.3 General requirement:	<b>[Point included]</b> 2.0.3 M. :- Vent: SS Filter to be provided for breathing/venting with isolation valve.

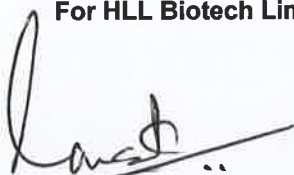
S. No. Clarifications on queries		
21.	<b>6.5 Batch data display and record printing</b> Batch data to be printed by using real time printer and trends to be printed in strip chart recorder.	<b>6.5 Batch data display and record printing</b> Batch data to be printed by using real time printer and trends to be printed in two point strip chart recorder.
22.	6.7.5 Design Parameters: 6.7.5.4 Shell design Pressure- Vendor to specify 6.7.5.5 Shell design Temperature- Vendor to specify	NA- Non pressure Vessel.
<b>Mixing Vessel - NPI_110831_EQP(URS)_M-MDV 01</b>		
23.	2.0.3	2.0.3 <i>All ports must have Manual diaphragm valve</i>
24.	2.0.4 e)Mixer: The vessel shall be designed with bottom mounted magnetic mixer (For F-MIV 04 and F-MIV 05) and only impeller (For F-MIV 01, F-MIV 02, F-MIV 05 and F-MIV 06) shall be provided and two number separate trolleys with VFD controlled motor shall be provided as per process requirement. Variable speed 40-500 rpm motor with magnetic drive and VFD. Open end of the motor shaft have a flange fitted with a circular magnet. Bottom mounted, magnetically coupled. Magnetic mixer, suitable for liquids up to Temp 134°C It shall be fixed type (For F-MIV 04 and F-MIV 05) On/ off switch shall be provided	2.0.4 e)Mixer: The vessel shall be designed with bottom mounted magnetic mixer (For F-MIV 03 and F-MIV 04) and only impeller (For F-MIV 01, F-MIV 02, F-MIV 05 and F-MIV 06) shall be provided and two number separate trolleys with VFD controlled motor shall be provided as per process requirement. Variable speed 40-370 rpm motor with magnetic drive and VFD. Open end of the motor shaft have a flange fitted with a circular magnet. Bottom mounted, magnetically coupled. Magnetic mixer, suitable for liquids up to Temp 134°C It shall be fixed type (For F-MIV 03 and F-MIV 04) On/ off switch shall be provided
25.	2.0.4 g)Sampling valve: Zero dead lag type with no provision for steam sterilization. Sampling port shall be placed at one third of volume of vessel (For F-MIV 04 and F-MIV 05) Placed at normal position (For F-MIV 01, F-MIV 02, F-MIV 05 and F-MIV 06)	2.0.4 g)Sampling valve: Zero dead lag type with no provision for steam sterilization. Sampling port shall be placed at one third of volume of vessel (For F-MIV 03 and F-MIV 04) Placed at normal position (For F-MIV 01, F-MIV 02, F-MIV 05 and F-MIV 06)
26.	2.0.4 j) Dip tube: Adjustable/Removable type Dip tube shall be provided (For F-MIV 03, F-MIV 04, F-MIV 05 and F-MIV 06)	2.0.4 j) Dip tube: Sanitary design- height adjustable Dip tube shall be provided (For F-MIV 03, F-MIV 04, F-MIV 05 and F-MIV 06)
27.	2.0.4 i)Tank bottom valve: Zero dead lag type.- 2 way diaphragm valve.	2.0.4 i)Tank bottom valve: 2 way diaphragm valve.
28.	<b>List of preferred make of component</b> 12. GMP mixer - AlfaLaval/Novaseptic/Roplan	<b>List of preferred make of component</b> 12. GMP mixer - Kweng/GMM/Roplan/Kest
<b>Schedule-II CIP/SIP systems</b>		
1. CIP Recirculation Trolley 2. CIP SIP mobile station 3. CIP station Mobile		
<b>CIP Recirculation Trolley- NPI_110831_EQP_URS_CIT 00</b>		

S. No.	Clarifications on queries	
29.	6.7.4 Solvent may be used for cleaning hence all electrical connection /accessories should be flame proof.	<b><u>Deleted</u></b>
30.	6.7.3	<b><u>Deleted</u></b>
31.	6.7.8 Pump Specification MOC:SS304	<b>Point Modified as</b> 6.7.8 Pump Specification MOC:SS316L
<b>Mobile CIP_SIP system- NPI_110831_EQP_URS_CIP/SIP</b>		
32.	Conductivity sensor (0.04to 500 mS/cm) should be provided on the recirculation line and drain line for the measurement and control during CIP solution preparation & CIP cycle.	Conductivity sensor (0.04to 500 mS/cm) should be provided on the recirculation line and drain line (0.04 to 20 $\mu$ S/cm) for the measurement and control during CIP solution preparation & CIP cycle.
33.	<b>6.4 Level of instrumentation</b>	<b>6.4 Level of instrumentation</b> <b><u>Level indicator - Deleted</u></b>
34.	<b>6.7.3</b>	<b>Point modified as</b> <b>6.7.3</b> 2mtr x 8 No.s –1 inch TC end Flexible hose to be provided[SIP-able silicon braided type]
<b>Mobile CIP_SIP system- NPI_110831_EQP_URS_CIP 01</b>		
35.	Conductivity sensor (0.04to 500 mS/cm) should be provided on the recirculation line and drain line for the measurement and control during CIP solution preparation & CIP cycle.	Conductivity sensor (0.04to 500 mS/cm) should be provided on the recirculation line and drain line (0.04 to 20 $\mu$ S/cm) for the measurement and control during CIP solution preparation & CIP cycle.
36.	<b>6.4 Level of instrumentation</b>	<b>6.4 Level of instrumentation</b> <b><u>Level indicator - Deleted</u></b>
37.	<b>6.7.3</b>	<b>Point modified as</b> <b>6.7.3</b> 2mtr x 8 No.s –1 inch TC end Flexible hose to be provided[SIP-able silicon braided type]
<b>Schedule III- Biowaste Inactivation system-[Collection Tank – 2nos. ,Kill tank – 2 nos.]</b>		
38.	2.0 a) COLLECTION TANK: 2 nos. Horizontal Collection tank 6.5 KL Cylindrical Collection tank – Diphtheria and Pertussis •2.0 KL Cylindrical Collection tank - Tetanus	2.0 a) COLLECTION TANK: 2 nos. Vertical Collection tank 6.5 KL Cylindrical Collection tank – Diphtheria and Pertussis •2.0 KL Cylindrical Collection tank - Tetanus
39.	2.0 b) 2 no. Vertical Cylindrical Kill Tank - one for Diphtheria & Pertussis – 1.5KL (W.V.) and another for Tetanus – 1KL (W.V.) - with jacket and other utilities.	2.0 b) 2 no. Vertical Cylindrical Kill Tank - one for Diphtheria & Pertussis block – 1.5KL (W.V.) and for Tetanus Block – 1KL (W.V.) - with jacket and other utilities.
40.	6.5 Batch data display and record printing	6.5 Real time recorder with four point <b>strip chart recorder</b> to be provided.
41.	6.7 Specific requirements 6.7.23 <b><u>Point Included</u></b>	The maximum allowable height for the entire system shall not exceed 4 m.
42.	6.7.13	6.7.13 <b>Pump specification: Common pump of 2 no.s discharge</b>



S. No.	Clarifications on queries	
	<b>Pump specification:</b> 4 no. discharge pump/ recirculation pump (during rinsing/ cleaning), (2W+2S)for Diphtheria & Pertussis <ul style="list-style-type: none"> <li>Flow rate required: Vendor to specify m3/ hr</li> <li><input type="checkbox"/> MOC: SS 304</li> <li><input type="checkbox"/> Operating temperature range: 50-60°C</li> </ul>	pump/ recirculation pump (during rinsing/ cleaning), (1W+1S)for both kill tank. <ul style="list-style-type: none"> <li>Flow rate required: Vendor to specify m3/ hr</li> <li>MOC: SS 304</li> <li>Operating temperature range: 50-60°C</li> </ul> <b><u>Note:- Vendor to provide common pump for post kill tank of D&amp;P and T blockKill tank</u></b>
43.	<b>6.7.14</b> <b>Pump specification:</b> 4 no. discharge pump/ recirculation pump (during rinsing/ cleaning), (1W+1S)for tetanus <ul style="list-style-type: none"> <li>Flow rate required: Vendor to specify m3/ hr</li> <li><input type="checkbox"/> MOC: SS 304</li> <li><input type="checkbox"/> Operating temperature range: 50-60°C</li> </ul>	Point deleted
44.	6.7 Specific requirements 6.7.23 <b><u>Point Included</u></b>	Counter flanges for all utility points to be provided (common for all equipments)
45.	<b>List of Preferred Make of components</b> <ul style="list-style-type: none"> <li>Pressure Gauge- WIKA/Denver/Negele</li> <li>Temperature Transmitter – Radix/Yokogawa/ Emerson</li> <li>Steam trap – Spirax Marshall</li> <li>Printer - Canon/Epsilon/HP</li> <li>Vent filter cartridge – Sartorius/PALL/Millipore</li> <li>Filter Housing – Sartorius/PALL/Millipore</li> <li>Flush Bottom valve – Novaseptic/GEMU</li> <li>Top driven Agitator - Inoxpa/IKA/PRG</li> </ul>	<b>List of Preferred Make of components</b> <ul style="list-style-type: none"> <li>Pressure Gauge- WIKA/Denver/Negele/Baumer</li> <li>Temperature Transmitter – Radix/Yokogawa/ Emerson/Negele</li> <li>Steam trap – Spirax Marshall/Sterilflow</li> <li>Printer - Canon/Epson/HP</li> <li>Vent filter cartridge – Sartorius/PALL/Millipore/GE</li> <li>Filter Housing – Sartorius/PALL/Millipore/GE</li> <li>Flush Bottom valve – <b>deleted</b></li> <li>Top driven Agitator- GMM/Thermotech/Raunders/Mecon/Steridose</li> </ul>

For HLL Biotech Limited

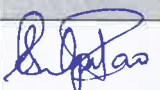
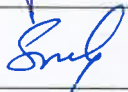

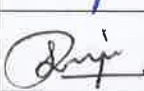

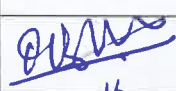

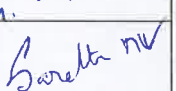

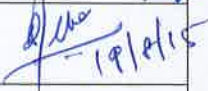



CEO



List of Attendees

Date: 19-August-2015  
Venue: HBL, TICEL Biopark, Chennai  
Project: Pasteur Institute Of India ,Coonoor  
Subject: Pre-Bid Meeting of Fabrication equipment package

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