##### HLL LIFECARE LIMITED

**AKKULAM FACTORY, SREEKARIAM P.O. THIRUVANANTHAPURAM - 17**

Amendment to TENDER NOTICE

## **Sub: Tender for Supply of HOSPITAL EQUIPMENTS FOR HIMACHAL PRADESH PROJECT- II**

**BID REFERENCE :** IFB NO: HLL/AFT/TDG/HP-II/Equip/2014-15/IV

The amendments particularly are highlighted below. However the SECTION VI –Technical Specification, modified is also given in continuation to this particular amendments.

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| --- | --- | --- |
|  **Sl No** | **Original Tender Details** | **Amended Tender Details** |
| 1. | **SECTION VI****Technical Specification****I. IVF System** | **SECTION VI****Technical Specification**1. **IVF System**

  |
| 1 | **IVF (LAMINORFLOW) WORK STATION WITH INTEGRATED STEREOZOOM MICROSCOPE WITH ACCESSORIES :** 8) SS table should be integrated with two rectangular glass heating stage and should be of minimum size: 230 x 110 mm and should flushed with SS table controlled by electronic temperature controller with digital display20) Two Numbers (2 Nos) Trinocular stereo zoom microscope (Minimum zoom ratio: 6 - 7: 1) # Should be with Transformer ( range 220-240V) | **IVF (LAMINORFLOW) WORK STATION WITH INTEGRATED STEREOZOOM MICROSCOPE WITH ACCESSORIES :** 1. SS table should be integrated with two rectangular glass heating stage and should be of minimum size: 230 x 110 mm and should leveled with SS table controlled by electronic temperature controller with digital display.

20) Two Numbers (2 Nos) Trinocular stereo zoom microscope (Minimum zoom ratio: 7: 1)• Should be with Transformer (input supply range 220-240V) |
| 2. | **AIR PURIFICATION SYSTEM :** * It should High performance 4 stages Filtration to improve air quality in IVF Lab and Operating room to increase overall results.
* Specifications required :

A ) It should clear up to 600 Sq. ft B) Air Exchange / Hr: 5 to 22 Times.C) Voltage: 230 Volts.D) Hepa Filter : 99.97  | **AIR PURIFICATION SYSTEM :** * Should have high performance 4 stages Filtration to improve air quality in IVF Lab and operating room to increase overall results.
* Specifications :

1) It should clear up to 600 Sq. ft 2) Air Exchange / Hr: 5 to 22 Times.3) Voltage: 230 Volts.4) Hepa Filter : 99.97  |
| 3. | **SPERM COUNTING CHAMBER :** * Constructed should be of two pieces.
* For safety there should be metal frame in both pieces.
 | **SPERM COUNTING CHAMBER :** * Should have two pieces construction.
* There should be metal frame in both pieces for safety.
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| 6. | **ANDROLOGY (LAMINARFLOW) WORK STATION WITH ACCESSORIES Size: 3 feet x 2 feet :*** Noise level should be less than 63 db. .
 | **ANDROLOGY (LAMINARFLOW) WORK STATION WITH ACCESSORIES Size: 3 feet x 2 feet :** * Noise level should be less than 65 db. .
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| 9. | **AIR HANDLING UNIT FOR IVF LAB :** * Volume Control Duct Damper (1 Lot)

.* Return Air Grills With Collar dampers (1 Lot)
 | **AIR HANDLING UNIT FOR IVF LAB :** * Volume Control Duct Damper as required
* Return Air Grills With Collar dampers as required

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| 12. | **INVERTED MICROSCOPE WITH MICROMANIPULATOR SYSTEM WITH ACCESSORIES :** **Accessories :-** A ) High Resolution Camera for ICSI :* USB based camera
* 25 Frame per second giving it much more clarity
* Chip size 1/1.8“ or bigger.
* Sensor is CMOS the latest sensor in the market giving good image.
* 1.3 Mega pixel camera
* No external power supply required

Small in Size so occupies less spaceC ) Monitor * Size : 15-17”
* Known brand
* Power supply 220V +/- 1%
 | **INVERTED MICROSCOPE WITH MICROMANIPULATOR SYSTEM WITH ACCESSORIES :** **Accessories :-** A) High Resolution Camera for ICSI :* USB based camera
* 25 Frame per second
* Chip size 1/1.8“ or bigger.
* Sensor should be CMOS
* 1.3 Mega pixel camera
* Small in size

C ) Monitor * Size : 15-17”
* Power supply 220V +/- 1%
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| 13. | **GSM ALARM SYSTEM :****B) Alarm system for Drug Refrigerator*** The unit should temperature
* The alarm unit should temperature with LCD display
 | **GSM ALARM SYSTEM :**1. **Alarm system for Drug Refrigerator**
* The unit should have temperature display
* The alarm unit should have temperature with LCD display
 |
| 14 | **MODULAR CLEAN ROOM FOR ART (ASSISTED REPRODUCTIVE TECHNOLOGY) LAB (AS PER THE SIZE OF SITE) :** **Door Accessories** :-* Door Closer (known make)
 | **MODULAR CLEAN ROOM FOR ART (ASSISTED REPRODUCTIVE TECHNOLOGY) LAB (AS PER THE SIZE OF SITE) :** **Door Accessories** :-* Door Closer (standard make)
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| 17 | **DIGITAL TEMPERATURE THERMOMETER :*** To check surface temperature
* submersible sensor to check temperature of liquids
* flexible sensor for incubators
 | **DIGITAL TEMPERATURE THERMOMETER :**1. To check surface temperature 2. Submersible sensor to check temperature of liquid. 3. Flexible sensor for incubators.  |

All other terms and conditions in the original Tender Notice and tender documents remain same and unchanged.

03.12.2014 Joint General Manager (Materials)

**(After amendment read as below)**

**SECTION VI**

**Technical Specification**

**I. IVF System**

|  |  |  |
| --- | --- | --- |
| **Sl. No.** | **Item Name & Descriptions**  | **Qty** |
|
|  | **IVF (LAMINORFLOW) WORK STATION WITH INTEGRATED STEREOZOOM MICROSCOPE WITH ACCESSORIES :** 1. IVF work station should be fully heated
2. Size 6 feet x 2 feet (1800 mm x 600 mm)
3. Stainless Steel Table with provision for two working Microscope,
4. It should have standby electronic control,
5. It should have built in Two LCD screen
6. It should have with Magnehlic pressure gauge
7. Should have with picture grabbing provision for image saving as well view
8. SS table should be integrated with two rectangular glass heating stage and should be of minimum size: 230 x 110 mm and should leveled with SS table controlled by electronic temperature controller with digital display.
9. Microscope should have Minimum zoom ratio range 7: 1
10. Unit should have Temperature control with dual Sensor
11. Unit should have Digital Microprocessor based Temperature regulator.
12. Unit should also have stand by control system with lock and key with test tube warmer (Achieving 37 ºC)
13. The Workstation should produce class 100 air space (air cleanliness class 5)
14. Work station should have differential pressure indicator.
15. Noise level should not less than 55 db.
16. Workstation should have its own electrical plug.
17. Workstation should have Test Tube heater
18. Test tube heater should have indication of Temp. Status and battery status.
19. Test tube heater should have slot for viewing liquid level.
20. Two Numbers (2 Nos) Trinocular stereo zoom microscope (Minimum zoom ratio: 7: 1)
* Unit should have zooming body with Trinocular head
* Zoom range: should be not less than 0.65X-5x
* Magnification should not be less than 3.00x-300x –
* Unit should have built-in 1 x objective
* Unit should have dust Cover
* Reflecting mirror should supplied with transparent stage glass, armrest
* Unit should have filter holder
* Should be with Transformer (input supply range 220-240V)
* Unit should have Power Cord, halogen lamp

 (not less than 5 volt and 18 watt)1. Work station should have provision of UV Light
2. Work station should have Warming Block for 4 well dish 2 No’s 60 mm culture dish 2 no, Warming Block Test Tube 14 cc, Warming Block Test Tube 6 cc, “C” Mount camera adapter.
3. Work station should have Base station for rechargeable Test Tube heaters with display.
4. Test tube heater should have portable test tubes (14 ml) heaters with rechargeable battery, heater, sensor, and LED indicators for battery and temperature - 4 Nos.

 25. Unit should have CE Mark. | 1 |
|  |  **AIR PURIFICATION SYSTEM :** * Should have high performance 4 stages Filtration to improve air quality in IVF Lab and operating room to increase overall results.
* Specifications :

1) It should clear up to 600 Sq. ft 2) Air Exchange / Hr: 5 to 22 Times.3) Voltage: 230 Volts.4) Hepa Filter : 99.97  | 2 |
|  | **SPERM COUNTING CHAMBER :** * Should have two pieces construction.
* Upper layer should serves as a cover glass, with a 1 sq mm fine grid in the center subdivided into 100 squares of 0.1 x 0.1 mm each.
* Lower part should be optically flat glass,
* Spacing is firmly secured by four quartz pins.
* There should be metal frame in both pieces for safety.
* Unit should be easily rinsed with water for reuse.
* Unit should have special lenses paper for wipe contact two surfaces after washing.
* One with 10 micron depth & with 20 micron depth.
 | 2 |
|  | **OCYTE SUCTION PUMP :** * The vacuum pump should have a cut off after a set vacuum range is achieved
* The low vacuum should be of minimum range of 300mmHg and high should be of minimum range 500mmHg.
* The vacuum range can be set digitally and the desired vacuum should increase by of 1mmhg.
* The operating switch to create vacuum should be a foot switch
* There should be toggle switch or system to instantly create high vacuum upto 500mmHg.
 | 1 |
|  | **CO2 ANALYSER :*** Unit should have Measurement Range 0 - 60%
* Measurement Accuracy should be at 5% CO2, +/- 0.25%
* Operating Temperature should be in between + 5 °C to 40 ºC
* It should measure Atmospheric Pressure
* It should have Compensation Range 1000 +/- 256 mbar
* Response Time should not be more than 2 minute
* Unit should have dual wavelength infrared CO2, sensing system
* Unit should also capable of measuring O2.
* Atmospheric pressure and temperature compensation
* Unit should have Built-in internal sampling pump
* Battery usage should be visible on display.
* Storage capacity should be more than 500 readings.
* Reading should be downloadable.
 | 1 |
|  | **ANDROLOGY (LAMINARFLOW) WORK STATION WITH ACCESSORIES Size: 3 feet x 2 feet :** * Andrology work station should be fully heated (at 37ºC) stainless steel table.
* Work station should have Temperature dual Sensor controlled Digital Microprocessor based Temperature regulator.
* Unit should also have stand by control system with lock and key.
* Workstation should produce class 100 air space and should have differential pressure indicator.
* Noise level should be less than 65 db. .
* The table width should be minimum 900 mm and Depth should be 600mm
* Unit should have inbuilt TFT Monitor with Image grabbing, copying and storing device.
* Unit should have Differential pressure indicator
* Unit should have UV Light
* Unit should have Warming Block Test Tube 14 cc, Warming Block Test Tube 6 cc
* Unit should have CE Mark.
 | 1 |
|  | **MICROSCOPE FOR SPERM ANALYSIS :** * Main Body  with Quadruple nosepiece (reversed type),
* Mechanical Stage Right handle with Re-focusing stage mechanism with stage and Halogen Illuminator. Base supplied with Field lens unit,
* Halogen Lamp 6V 30W, Vinyl cover.
* Binocular Eyepiece Tube AM, inclined at 30º,360º rotatable, Inter Pupillary distance 47-75mm
* Eyepiece CFI E 10X (F.O.V. 20mm) with diopter adjustment
* Abbe Condenser with objective position guide marking, N.A. 1.25
* Blue filter 33mm
* CFI Plan Achromat 4X, N.A. 0.10, W.D. 30mm
* CFI Plan Achromat 10X, N.A. 0.25, W.D. 7mm
* CFI Plan Achromat 40X, N.A. 0.65, W.D. 0.65mm
* spring-loaded
* CFI Plan Achromat 100X oil, N.A. 1.25,
* W.D. 0.23mm, oil-immersion, spring-loaded with immersion oil.
 | 1 |
|  | **CENTRIFUGE– TEMPERATURE REGULATED CENTRIFUGE :** * The Centrifuge should have with swing out rotor head
* Machine should have 8 tubes of 15 ml tube,
* Should have G Force indication,
* Should have rpm indication,
* Should have timer indication.
* Centrifuge chamber should be having provision of maintaining desired heating (30-40 ºC in controlled ambience)
* Centrifuge should be programmable each program can be independently set for Temperature, Time, G Force and or RPM.
* Centrifuge should have brushless AC Motor for low minimum vibration.
* Centrifuge should have on screen tube selection
* Centrifuge should have programmed acceleration and deceleration,
* Unit should have CE mark.
 | **2** |
|  |  **AIR HANDLING UNIT FOR IVF LAB :** * Factory built package type classified environment system, suitable for ISO 7 class within built arrangement to produce Thermo hygrometric conditions ( Temperature ,Humidity etc), Also it is suitable to control V.O.C, Positive pressure, This system is DX type with 19kw of cooling capacity and free air delivery of 2000 cfm with 125mm of water column air static.
* Unit made of 43mm thick panels consisting of hot dip G.I casing of thickness of 0.8 mm thick for both outside and inside layers encasing polyurethane foam insulation having a density of 38-40 kg/cum factory injected by using injection molding machine. Unit equipped with EU-4,viscous washable synthetic type, bullet expanded inner grooved coil section with Aluminum finned blower sections with DIDW blower with motor and drive assembly ,Belt driven package (V-Belt) with TEFC motor suitable for operations on 415+10%, 50 Hz, A.C supply with Vibration isolator, Fine filter section with EU-7 Filter with 300 mm thick, Dampers to be of extruded Aluminum low leakage Aero file
* Volume Control Dampers with extended shift suitable for Manual & Motorized operation. Nozzle Provision to Install Magnehelic Gauge.
* Terminal Box with Hepa Filter, S.S perforated sheet and other accessories: Size Aprx:610"x610"x18" (H) (Qty-3 no’s)
* Filter: Separator less H-3 grade imported Miniplete HEPA filter-99%, Efficient Gel seal type.
* DUCTING- ECO PANEL (Qty 1000 sq. ft)
* Scope: Supply of Eco pre-insulated ducts for ducting.
* Supply, Fabrication and installation of eco pre-insulated ducts (Factory Fabricated sheets) in accordance with approved shop drawings with complete with all accessories like flange, suspension, rods, anchor bolts, GI bolts and nut etc.20mm thick ECO panel prefabricated ducting filled with puff with proper profiles, supports, rod etc and fabricated as per ISI standards.
* Volume Control Duct Damper as required
* Scope: Supply of material.
* Aero file extruded aluminum sections with collar dampers / S.S. Perforated sheet with collar dampers.
* Return Air Grills With Collar dampers as required
* Scope: Supply of material.
* Aero file extruded aluminum sections with collar dampers /S.S perforated sheet with collar dampers.
* Differential pressure gauges. (Qty-1 no.)
* Scope: Supply of material.
* Differential pressure gauges. Magnehelic gauges with housing box and mounting accessories.
* Make: Dwyer / Waree / Equivalent.
* Range: 0 to 50 mm H2O.
* Differential pressure gauges.(Qty-1 nos)
* Scope: Supply of Material
* Differential pressure gauges. Magnehelic gauges with housing box and mounting accessories.
* Make: Dwyer / Waree / Equivalent.
* Range: 0 to 30 Pascal.
 | **1**  |
|  | **CO2 INCUBATOR WITH 3 DOORS GAS SCREEN AND USB PORT & MOIST STERILIZATION :** **Capacity : 150 -160 liters :*** CO2 incubators should provide the ideal in vitro environment: clean, reliable and easy to use, protecting valuable samples while optimizing cell growth.
* The unit should have non-corrosive stainless steel or 100% pure antimicrobial copper.
* unit should have screen logs and usage recording Monitor alarm alerts visually on the display
* unit should have Simplified measurement and control navigation the standard thermal conductivity (TC) sensor with accurate gas sensor technology,
* Unit should have Rapid Humidity Recovery Large, directly-heated water reservoir.
* The unit should have water level alarm with audible and visual alerts.
* The Incubator should have touch screen which improves control of important incubator information.
* The incubator should have not less than 90°C moist /dry heat decontamination.
* Unit should have software & USB port.
 | **2** |
|  | **RAPID STERILIZER, BENCH TOP 28 LITERS CAPACITY :** **1. Product Description:*** Flash sterilizer (for dropped instruments & essential) with gravity drying / drying with vacuum pump.
* The vacuum level achievable up to -0.6 bar. Capacity 28 Liters.
* Sterilizer to have built in reservoir for automatic water feed to the chamber. Sterilizer to be provided with electric heater to generate steam internally. Complete cycle operations such as pre-vacuum, heating, sterilization, venting, vacuum drying etc to be controlled by a micro-processor based system.
* Sterilizer should be pre-programme for: Package Instrument Rubber Liquid Fast sterilization cycle at higher pressure.
* Sterilizers should also be programmed for test conditions for validation.
* Sterilizer should also be provided with option of manual mode run apart from preprogrammed cycles. Display of the sterilizer should preferably be on a GRAPHIC LCD MONITOR. It should display various parameters like sterilization temperature, sterilization pressure, sterilization hold time, vacuum dry time, water level condition in the sterilizer reservoir, error messages etc. built-in audio/visual alarms should be present.
* Sterilizer display to indicate temperature as well as pressure.
* The sterilization cycle data such as pressure, sterilization temperature, sterilization time, dry time etc. along with year/month/day/hour/error messages should be documented on a built-in printer provided in the sterilizer.
* Sterilizer door should ideally be provided with reliable one touch easy door lock system. The sterilizer should also be provided with 0.3 micron bacteria filter: for air intake.

**2. Material of construction*** Inner chamber : SS 304
* Door : Aluminium / SS 304
* Outer body: MS powder coated.
* Water Reservoir: SS 304.
* Door Gasket: Silicone, non-degradable.
* Nuts & bolts and other fitting accessories: MS plated / SS.

**3. Operating Parameters*** Working procedure maximum – 1.1-2.2 Kg/Sq. cm
* Working temperature up to 121-134º C.
* Vacuum generated up to 0.6 Bar of Hg.
* Hydraulic test pressure – upto 6 Kg/cm2
* Rapid sterilization cycle of 3-5 minutes for dropped instruments
* Electrical load – to be specified.

**4. Safety features*** Water reservoir to be provided with electrical low level water safety cut off and high level cut off.
* Automatic release of steam from the chamber on event of power failure/fault condition ensuring safety to material and user.
* To be provided with safety valve to release steam in unhealthy condition.
* The additional heater safety feature independent of microprocessor system which cuts off electric supply to heater in the event of abnormal temperature rise.
 | **1** |
|  | **INVERTED MICROSCOPE WITH MICROMANIPULATOR SYSTEM WITH ACCESSORIES :** * Inverted microscope with constanting long working plan (CLWP)
* Apochromatic objectives with optical contrast system with manual XY stage and photo micrographic adaptor.
* With inbuilt intermittent 1.6 x min. image intensifier
* Objectives should be 4x 10x 20x
* Eye piece 10x / 15x wide angle.
* Micromanipulator with homing device.
* Coarse XYZ micromanipulator with min 20 mm traverse in each direction.
* XYZ fine micromanipulator with min 10mm of traverse in each direction.
* Option to have secondary pipette setup automatic for comfortable working.
* Micro tool holder with 2 axis movement for quick setup of micro tools.
* Pitch/Yaw/Tilt correction from micro tools holder point
* For pitch/angle/Tilt correction from micro tools holder point
* Micrometer screw actuated syringes for injections/holdings.
* Homing device

**Accessories :-** A) High Resolution Camera for ICSI :* USB based camera
* 25 Frame per second
* Chip size 1/1.8“ or bigger.
* Sensor should be CMOS
* 1.3 Mega pixel camera
* Small in size

 B ) Should have a glass stage heater with microprocessor controlled C ) Monitor * Size : 15-17”
* Power supply 220V +/- 1%
 | **1** |
|  | **GSM ALARM SYSTEM :**1. **Alarm system for Cryocans**
* It should Monitor Liquid Nitrogen Level
* The alarm unit should have liquid nitrogen level with LCD display.
* The unit should be equipped to enter any message and max 5 mobile nos. to send text message in case of an alarm event.
* The unit should be able to accept any GSM SIM card and should be 230 Volt ac operated.
* The unit should have capability of setting upper and lower temp limits.
* The unit should have LN2 Level indicator.
1. **Alarm system for Drug Refrigerator**
* The unit should have temperature display
* The alarm unit should have temperature with LCD display
* The unit should be equipped to enter any message and max 5 mobile nos. to send text message in case of an alarm event.
* The unit should be able to accept any GSM SIM card and should be 230 Volt ac operated.
* The unit should have capability of setting upper and lower temp limits.
* Temperature range - 42ºC to 50 ºC.
 | **1** |
|  | **MODULAR CLEAN ROOM FOR ART (ASSISTED REPRODUCTIVE TECHNOLOGY) LAB (AS PER THE SIZE OF SITE) :** * Paneling should have Aluminum modular double skin partition
* 83 mm minimum thick with minimum 20 gauge sheet finished with powder coat
* Puff insulation
* Partition should have view panel with min. 4 mm plain clear glass
* glass should be flush on both sides fixed with adhesive tape (not less than 3 mm)
* Ceiling should have aluminum modular walk able minimum 60 mm thick
* Ceiling should be powder coated and puff insulated.
* Door should be of aluminum flush 45-80 mm thick with minimum 20mm
* Gauge sheet finished with powder coating with puff insulation with door fittings.

 **Door Accessories** :-* B or D’ type S.S. handle not less than 200mm
* Door Lock (Cylindrical door set) ,
* Door Closer (standard make)
* lights should have Recess mounted IP 54 protocol,
* Non hygroscopic protocol lights should have compact florescent lamp
* All corners should cover in coving manner. (Rounded for ease of cleaning)
* IVF Lab and OT should have Homogeneous Vinyl Flooring.
 | **1 Lot** |
| 1.

   | **TRANSPORT CRYOCANS :** * It should be reliable, long life and effectively in diverse tropical conditions. To be made up to high vacuum cryogenic container of Aluminum and with canister to be supplied with pouring spout & trolley.

**Capacity : 26 Liters** * Capacity LN2 : 25.5 liters
* Static evaporation gross rate : 0.25 liter/day
* Static holding time: 102 days.
 | **2** |
|  | **STORAGE CRYOCANS :** * It should be reliable, long life and effectively in diverse tropical conditions. To be made up to high vacuum cryogenic container of Aluminum and with canister to be supplied with pouring spouts & trolley.

**Capacity : 42 Litres** * Capacity LN2 : 47.3 liters
* Static evaporation gross rate : 0.38 liter/day
* Static holding time : 124days
* Canister height : 280 mm
* No. of canister : 11
 | **2** |
|  | **DIGITAL TEMPERATURE THERMOMETER :*** Unit should be Easy to use hand held unit.
* It should have three types of temperature probes

1. To check surface temperature 2. Submersible sensor to check temperature of liquid. 3. Flexible sensor for incubators.  | **1** |
|  **18.** | **TEST TUBE WARMER :*** Unit should have seamless stainless steel construction
* Unit should have minimum capacity of 18 tubes (6/14/15 ml)
* Unit should have flexible sensor for self calibration as well as checking
* Unit should have microprocessor based digital controller.
 | **3** |
|  **19.** | **VIDEO DISTRIBUTION SYSTEM :*** Should have USB camera with minimum 3megapixcel to obtain good image
* Should accompany with a good image database software
* Can view images at a multiple locations independently
* Should have the options to comment and tag the images
* Should create reports for patients in regard to the development of the ocytes
* Images can be stored patient wise
* Should have the option for database to be viewed remotely.
 | **1** |
| **20.**  | **INCUBATOR FILTRATION UNIT :** * Unique device inside the incubator to remove contaminator like VOC and CAC’s such as Styrene, acetone, octane etc.,
 | **1** |

Joint General Manager (Mtls)