


OFFICE OF THE DIRECTORATE OF RESEARCH (VETY),
ASSAM AGRICULTURAL UNIVERSITY, KHANAPARA, GUWAHATI-781 022

No AAU/ DRV/ DBT- ADMaC/142/ BSL /2018-19/ ..7627...

Dated 09-02-2019

NOTICE FOR QUOTATION FOR ESTABLISHING BSL 3 / BSL 2 TESTING FACILITY.

Sealed quotations are invited under two bid system (Technical & Financial) from reputed firms / private limited company /authorized agency / manufacturer etc for design, supply, installation, testing, commissioning (SITC) and validation of integrated bio-safety laboratory level-3 and 2 lab **ON TURNKEY BASIS**, in an existing floor space of a building at Faculty of Veterinary Science, Assam Agricultural University, Khanapara, Guwahati, Assam, India. Interested vendors may download specification, terms & condition etc from the website www.vetbifg.ac.in / www.neradslab.res.in or may collect it from the office of the undersigned on payment of DD of Rs 500/ (Rupees five hundred only) drawn in favour of the "Comptroller, AAU , Jorhat". The vendors may also visit the site for onsite inspection and interaction with concerned scientist .The last date for receiving the quotation is 21 days from date of publication of this advertisement.


(Niranjana Kalita)
Director of Research (Vety)
Assam Agricultural University
Khanapara, Guwahati

**OFFICE OF THE DIRECTORATE OF RESEARCH (VETY),
ASSAM AGRICULTURAL UNIVERSITY, KHANAPARA, GUWAHATI-781 022**

CRITERIA OF ELIGIBILITY and GENERAL TERMS & CONDITIONS

1. The firm should have experience in setting up minimum 4 to 5 similar setup of BSL facility on turnkey basis within last five years. Please submit work orders in this context.
2. The firm should have proven track record of after sales service (operation and maintenance).
3. Certification of satisfactory work completion a must, from at least five institutions on letter head of Institute/ Department.
4. Firms to be necessarily ISO 9001:2015 compliant.
5. Relevant document satisfying the above eligibility conditions must be submitted along with the tender document.
6. The firms preferably should have local office for day to day after sales service.
7. The bidders have to submit a layout design along with tender documents.

PRE –BID Visit: The interested bidder may visit the site on **20th February, 2019** from **11am to**

4 pm to know about details and specific requirement .The requirements needs to be incorporated in the quotation. . The interested bidder may contact through mail aadsmckhanapara@gmail.com to confirm the visit. AAU shall bear no expenses for the visit

I. Preparation and Submission of Tender :

1. The tender should be submitted in two parts i.e. Technical Bid and Financial Bid. The Technical Bid and the Financial Bid should be sealed by the bidder in two separate covers “**Technical Bid for SITC of BSL3 and BSL2** and “**Financial Bid for SITC of BSL3 & BSL2**”. Both Sealed Envelopes should be kept in a main/ bigger envelope super-scribed as “**Tender for SITC of BSL3 & BSL2**”. The tender document must be accompanied by copy of PAN, Certificate of Firm Registration/ GST registration & service tax registration as applicable.

2. Any item offered/quoted should conform to the technical specifications desired by the purchaser. Quotations for items beyond the scope of the technical specification asked for shall not be entertained.
3. The compliance statement (technical specification desired and offered) along with separate sheet of Terms & Conditions should invariably accompany the quotation both as **'hard copy' and 'soft copy' in a CD typed in MS word in A4 size paper** in landscape orientation (Font size 12, Times New Roman) in the prescribed format (Annexure-I), without which the quotation shall not be considered.
4. The bidder shall have to deposit Rs. 500.00 in the form of Bank Draft drawn in favour of Comptroller, AAU, Jorhat and payable at Jorhat for the bid documents. This applies for both hard copies collected from the office or downloaded from website.

II. GENERAL TERMS AND CONDITIONS:

INSTRUCTION TO BIDDERS

1. All Quotations should mention in the cover of the Envelope distinctly the Name of the Item, Item No., NIQ Ref. No., Bidder's Name & Address, Contact No. etc. as shown below:-

QUOTATION FOR "ESTABLISHING BSL 3 / BSL 2 TESTING FACILITY

To, DBT ADMaC Project" Technical Offer / Financial Offer

FVSC., AAU, KHANAPARA, GUWAHATI 781 022

NIQ REF NO.....DATED.....,

LAST DATE FOR SUBMISSION.

To,

DIRECTOR OF RESEARCH (VETY.)

Assam Agricultural University

Khanapara, Guwahati- 781022

Assam, India

Telefax: +91-361-2364941

From: M/s _____

Contact No.: _____

Email ID: _____

2. Standard Technical literature preferably printed & supplied by manufacturer concern on each of the items offered.
3. Dealership certificate on the offered products in case of dealer/s.
4. In case the offered price is inclusive of all taxes, the tax components in details should be shown separately.
5. The quotation should clearly indicate the total period required for establishment of BSL3/BSL2 lab with other facilities, details of nature and maximum period of **warranty** offered by the Bidder/Vendor.

III. TERMS & CONDITIONS:

(Please note the term '**both foreign & indigenous**' wherever mentioned, means the term is applicable to both foreign & indigenous purchase)

1. **Rates:** Rates for the desired items must be on FOR DBT ADMaC Project, Faculty of Veterinary Science, Assam Agricultural University, Khanapara, Guwahati-781022, on DOOR DELIVERY Basis, with break-ups as per details below (For import items please refer 'Additional Terms for imported goods' below).

Break-ups of cost:

- (a) Basic Price
- (b) (+) GST
- (d) (+) Freight & Insurance Charge, if any
- (e) (+) Installation & Commissioning Charge, if any
- (f) Grand Total F.O.R. FVSc., AAU, Guwahati, Price

Note: Vague terms like “packing, forwarding, transportation etc. extra” without mentioning the specific amount will not be accepted. Such offers shall be treated as incomplete and rejected. Bidders shall indicate their rates in clear/visible figures as well as in words and shall not alter/overwrite/make cutting in the quotation. In case of a mismatch, the rates written in words will prevail.

2. The suppliers or their authorized representative may also be present during the opening of the Technical offer, if they desire so, at their own expenses. The required technical specifications of the item/equipment(s) are mentioned in Annexure-I. Only those financial offers will be opened whose technical offers are found suitable by the expert panel/committee.
3. **Validity** (Both foreign & indigenous): Quoted rates must be valid for minimum 180 days.
4. **Earnest Money** (Both foreign & indigenous):
Refundable earnest money deposit, amounting to minimum 2.5% of the total quoted value (rounded off to the nearest thousand rupees) through Demand Draft or Fixed Deposit, drawn in favour of Comptroller, Assam Agricultural University, Jorhat- 785 013, Assam, India payable at Jorhat will have to accompany all quotations to be submitted. Quotations submitted without appropriate amount of earnest money will be rejected. The EMD of unsuccessful bidders shall be returned after award of contract without any interest. All tenders received without EMD shall be summarily rejected. The EMD of the successful bidder will be adjusted with performance security till the warranty period is over.

Earnest money deposit will not bear any interest, and have to be in the form of demand draft or Fixed Deposit only.

5. **PRE-INSTALLATION REQUISITES** (Both foreign & indigenous):
Pre-installation requisites (electrical/floor/space/air-conditioning etc.), if any should invariably be mentioned clearly. **Installation/ Training will be the full responsibility of the bidder.**
6. **GENUINE PRICING** (Both foreign & indigenous):
Vendor is to ensure that quoted price is not more than the price offered to any other customer in India to whom this particular item has been sold, particularly to other SAU/ IIT/ICAR Institutes and other Government Organization.

IV. Payment Terms

1. 100% payment of the total order value shall be released after the successful installation/ commissioning of the BSL Labs against the submission of the inspection report.
2. Taxes as applicable will be deducted at source as per rules.
3. All remittance charges will be borne for the selected bidder.
4. **Advance payment is not allowed in any case.**
5. **Performance Security:** The supplier shall require to submit the performance security after receipt of supply order in the form of irrevocable Bank Guarantee (BG) / or Fixed Deposit Receipt (FDR) issued by any Scheduled Bank for an amount of which is equal to the 10% of the order value and should be kept valid for a period of 60 day beyond completion of all the contractual obligation, including CMC period. The EMD of successful bidder will be adjusted with the performance security amount.

V. Termination for default (Both foreign & indigenous): Default is said to have occurred:-

1. If the supplier fails to deliver any or all of the services within the time period(s) specified in the purchase order or any extension thereof granted by FVSc., AAU, Khanapara, Guwahati.
2. If the supplier fails to perform any other obligation(s) under the contract. If the vendor, in either of the above circumstances, does not take remedial steps within a period of 30 days after receipt of the default notice from FVSc., AAU, Khanapara, Guwahati (or takes longer period in spite of what FVSc., AAU, Khanapara, Guwahati may authorize in writing), FVSc., AAU, Khanapara, Guwahati, may terminate the contract/ purchase order in whole or in part and forfeit the EMD as applicable. In addition to above, FVSc., AAU, Khanapara, Guwahati, may at its discretion also take the following actions:
FVSc., AAU, Khanapara, Guwahati, may procure, upon such terms and in such manner, as it deems appropriate, goods similar to the undelivered items/products and the defaulting supplier shall be liable to compensate FVSc., AAU, Khanapara, Guwahati, for any extra expenditure involved towards goods and services obtained.

VI. SSS Selection: The single source in case of SSS selection shall be called for further negotiation, if need be, after opening and evaluation of its financial proposals.

VII. Applicable Law (Both foreign & indigenous):

1. The contract shall be governed by the laws and procedures established by Govt. of India and ***subject to exclusive jurisdiction of Competent Court and Forum in Guwahati, India only.***
2. Any dispute arising out of this purchase shall be referred to the DR (Vety), AAU, Khanapara, Guwahati, and if either of the parties hereto is dissatisfied with the decision, the dispute shall be referred to the decision of an Arbitrator, who should be acceptable to both the parties, to be appointed by the DR(Vety), AAU, Khanapara, Guwahati. The decision of such Arbitrator shall be final and binding on both the parties.
3. **Force Majeure** (Both foreign & indigenous): If the performance of the obligation of either party is rendered commercially impossible by any of the events hereafter mentioned that party shall be under no obligation to perform the agreement under order after giving notice of 15 days from the date of such an event in writing to the other party, and the events referred to are as follows: (I) any law, statute or ordinance, order action or regulations of the Government of India. (II) Any kind of natural disaster and (III) Strikes, acts of the Public enemy, war, insurrections, riots, lockouts, sabotage

VIII. ADDITIONAL TERMS FOR IMPORTED GOODS

1. Following terms besides the fore mentioned terms will be applicable in case of foreign purchases:
2. All Items including for imported items, the code should be strictly F.O.R., Khanapara, Guwahati Campus of the University. Logistic expenditures towards Customs Duty, Clearing Charges, Transportation cost etc. should be included in the rate and shown separately.

► **In case of Irrevocable Letter of Credit the following points should be maintained strictly:-**

- i) MAWB No. & HAWB No. & Forwarder's Name (To Whom Release order should be issued by the negotiating bank) should immediately be informed by the Principal through Fax to the Buyer 10 (ten) days before dispatch of the equipment.
- ii) Bank Charges outside India, if required, will have to be borne by the Manufacturer/ Principal.

IX. Customs Duty: The Institute is generally exempted from payment of Customs Duty vide GOI Notification No.51/96-Customs, dated 23.07.96, with Regn. No. TU/V/RG-CDE (500)/2017, dated 07.12.2017. [CUSTOMS DUTY EXEMPTION CERTIFICATE WILL BE MADE AVAILABLE BY THE INSTITUTE IN REGARD TO QUOTES IN

FOREIGN CURRENCY ONLY [NOT AGAINST QUOTES MADE BY A FIRM IN INDIAN CURRENCY, UNLESS THE CONCERNED FIRM IS A FOREIGN HOLDING COMPANY WITH 'FDI' CERTIFICATE ISSUED BY THE MINISTRY OF FINANCE, GOVT. OF INDIA].

- X. LC Amendment:** LC/FDD amendment charges due to mistake on the part of the supplier, if any, will have to be borne by the supplier.
- XI.** The tender committee reserves the right to accept/reject any offer in full or in part or accept any offer than the lowest offer without assigning any reason thereof. Any offer containing incorrect and incomplete information shall be liable for rejection.
- XII. Guarantee/Warranty Period:** The tenders must quote for 5 years comprehensive warranty (including all Spares, Accessories and Labours) from the date of completion of the satisfactory installation. The Warranty charges shall not be quoted separately; otherwise the offer shall be summarily rejected. Also the bidders are requested to submit their quote (rates) for subsequent 5 years comprehensive maintenance contract including all spares, accessories and labour)

Sd/-

Director of Research (Vety)

AAU, Khanapara, Guwahati-22.

PARTICULARS TO BE FILLED BY THE BIDDER

1. Name of the Supplier:

2. Complete Address of the Supplier:

3. Availability for demonstration of instruments at FVSc., AAU, Khanapara: Yes / No
[Please √]

4. Cost of the Tender Fee enclosed: Yes/No [Please √] If yes,

a.) Name of the Bank _____

b.) Amount in (₹) _____

c.) Demand Draft No. _____

5. Earnest Money Deposit enclosed: Yes / No [Please ✓] if Yes,

a.) Name of the Bank _____

b.) Amount in (₹) _____

c.) Demand Draft No. _____

d.) Last Validity date of the enclosed DD _____

6. Communication details of the concerned contact person to whom all references shall be made regarding this tender enquiry. [NOTE: Any changes after submission of Tender documents kindly update FVSc., AAU, Khanapara]

a.) Full Name :

b.) Complete Postal Address:

c.) Telephone No.:

d.) Fax No.:

e.) Mobile No.:

f.) E-mail:

g.) Website Address:

Annexure I

Format for Quotation

Sl. No.	Sl. No. in NIT	Name of the Item	Desired Specifications of NIT	Offered Specifications	Quoted Unit Price*	AGST/CST Assam Entry Tax etc.	Extra charges, if any, for delivery at destination	Custom duty, if applicable	Total amount*	Other terms and conditions

*In case of foreign currency, value in Indian Rupee at the current rate must be mentioned.

TECHNICAL SPECIFICATION

DESIGN, SUPPLY, INSTALLATION, TESTING, COMMISSIONING (SITC) AND VALIDATION OF INTEGRATED BIO-SAFETY LABORATORY LEVEL-2 AND 3 LAB AT KHANAPARA, GUWAHATI ON TURNKEY BASIS.

CRITERIA FOR EVALUATION OF THE TECHNICAL BID

The technical bid marked as **Envelop 1** will be opened first and will be evaluated by following criteria:

SI No	Attributes	Evaluation
1.	Experience of principal designer in designing BSL2 & BSL 3 facility for Govt of India, State Government or any reputed Institute / Organization.	20 marks
2.	Experience of team involved in similar projects for Govt of India, State Government or any reputed Institute / Organization. Work orders have to be attached.	20 marks
3.	Experience of Principal consultant over last 10 years in establishment of similar projects. (CV to be attached with all detail)	20 marks
4.	Financial Capability. Average turnover 100 lacs / year.	20 marks
5.	Technical presentation	20 marks

The Institute, however, reserves the right to restrict the list of such qualified contractors to any number deemed suitable by it. Even though any bidder may satisfy the above requirements, he/she would be liable for disqualification if he/she has:

- a) Made misleading or false representation or deliberately withheld information in the forms, statements and enclosures required in the eligibility criteria document.
- b) Record of poor performance such as i) abandoning work. ii) Not properly completing the contract or iii) financial failures/ weaknesses etc.

DESIGN CRITERIA

Principal standards:

- Biosafety in Microbiological and Biomedical Laboratories WHO- BMB:
- WHO, GENEVA: Laboratory Biosafety Manual.
- CDC-NIH, Canadian Guideline

Reference Standards:

- EN12128-1998, Biotechnology- Laboratories for research development and analysis.
- En12738-1999, Biotechnology Laboratories for research, development and analysis.
- NIH Guidelines for research involving recombinant DNA molecules (Jan 2001).
- Regarding Civil, Electrical and Mechanical latest relevant Standards shall be applicable.

SCOPE OF WORK:

Includes Design, Supply, Installation, Testing, Commissioning (SITC) and Validation of the BSL-2 and 3 Laboratory and its Operation and Maintenance.

Scope will include design engineering and installation of BSL-2,3 Laboratory with fabricated double skin PUF sandwiched panels, HVAC system-including complete air management system for maintaining the lab environment as per the bio-safety guidelines, including all internal lighting and wiring related work. Design should comply with latest International norms NBC, GLP, biosafety and bio security norms.

For safe operations as per the guidelines and monitoring of the facility, the system must have necessary operations & controls (BMS) for controlling indoor conditions/environment including pressure gradient, temperature, humidity, regulated exhaust air flow etc.

The entire lab shall be validated as per the available Guidelines and the necessary documentation and validation report will be submitted at the time of handing over.

During the 1st year of Warranty period, fully comprehensive operation and maintenance service should be provided and followed by CMC/AMC contract on subsequent year, to be called upon by the institution.

Laboratory Area:

The proposed Laboratory Layout design needed to be developed on following criterion. The Laboratory space shall consist of one Negative Pressure main lab BSL-3 area, BSL-2 Area, one set change room, ante room, Shower in/out Exit , Autoclave Room, Outer Gallery and a Plant Room.

The layout may be amended (only with prior approval) for better utilization of the available space to increase the laboratory area.

- Overall Lab Area (Sq. Ft.) -700 Sq. feet approx.
- Outer Gallery Area (Sq. Ft.)- 64 Sq. Feet approx.
- Plant Area to be developed – 140 Sq. feet approx.

Controlled Area –

- 1) BSL-3 Main Laboratory with fittings, instruments and furnishing:
 - ***The bidders must mention specification, brand and model of the instruments. In BSL -3 main labs, imported instruments of standard make and model will be given preference.***
- 2) BSL-2 Laboratory with fittings, instruments and furnishing.

- ***Details specification brands, model of instruments & list of instruments should be mentioned, imported instruments of standard make and model will be given preference.***

- 3) Change Room: with fittings, instruments and furnishing.
- 4) Ante Room: with fittings, instruments and furnishing.
- 5) Air shower in the entry points of the lab.

Uncontrolled Area-

- 1) Outer Gallery
- 2) Plant Room
- 3) There should be facilities for CC camera, access control, LAN, PA system.

Pressure Gradient-

The following pressure gradient condition shall be maintained in controlled areas of the laboratory.

- 1) BSL-3 Laboratory: Operating pressure: -25 to -35 Pa.
- 2) BSL-2 Laboratory: Operating pressure: -15 to -25 Pa.
- 3) Ante Room: Operating pressure: -10 to -15 Pa.
- 4) Change Room: Operating pressure: -8 to -10 Pa.

Temperature and Humidity-

The following temperature and humidity conditions shall be maintained.

- Inside Temperature : 24.0±2°C
- RH: 55+/-5%
- ACPH: More than 12 ACPH (Air Changes Per Hour)

Cleanliness:

- Controlled Area: Class 100,000.
- Uncontrolled Area: Nil.

Laboratory Area:

1) THE WALLS:

A specialized sandwiched wall panel system shall form the inner perimeter of laboratory clean room. The entire internal wall panels should be pre-fabricated with Galvanized Steel Frame and welded to form C-channel structural frame. The wall skin thickness should be of 0.5mm, sandwich with PUF material, 50-60mm thickness with 36kg/m³ density. The aluminum panel edges are sealed with Room Temperature Vulcanizing (RTV) Silicone to the structural frame with tongue groove arrangement to form an airtight sealed panel. Wall panel should be sealed airtight, that ensures no air leakage. Cut-outs on the walls to accommodate electrical outlets, telephone & intercom pipelines, control panels, monitoring devices, emergency warning systems, pass-through cabinets and piping where applicable.

2) THE SOLID CEILING PANELS:

The solid ceiling panels should be pre-fabricated Puf sandwiched panels 60mm thick with 36kg/m³ density required spanning the Laboratory Clean Room. Panels should have sealed openings for the HEPA filters and lightings. The solid ceiling panels should be placed side by

side and fastened together. The HEPA filters and light housings should be arranged and sitting on the Metal frames as well as sealed in place with RTV SEALANT. The wall and ceiling system should be impervious, non- corrosive, antibacterial and antifungal surface finish suitable for use of wide range of chemicals like hydrogen peroxide formalin etc. for laboratory decontamination. The solid ceiling panels shall be capable to withstand the high negative operating pressure of BSL-3 Lab and shall be suitable for normal walking pressure and strong enough to allow personnel to climb above for installation and servicing via the service access on the side of the laboratory.

3) THE RADIUS COVING (wall-to wall, and wall-to -ceiling, from inside to outside corner):

Smooth radius coving should be installed at all walls-to wall and wall-to-ceiling and ceiling-to-ceiling joints. All seams should be carefully sealed with RTV sealant.

4) THE DOORS:

All Air-Tight Single Doors (air-lock to the outside of the BSL-3 Laboratory) should be constructed with steel and powder-coated (for easy cleaning). The single doors should be installed completely with pull-door-handle, door closer, Airlock Doors and emergency Exit door shall be Air-Tight doors. These air tight doors should have drop seal arrangement to provide air tight seal. The change room-I door and change room –II doors shall be interlocked. The interlock logic shall be such that while entering or exiting the facility in one room, traffic from the other side should not get access, to ensure safety & privacy.

5) THE FLOORING:

The floor should be made of 2-2.5 mm PVC, non-skidding, anti-static, abrasion resistant with Joints thermally welded. For BSL2 and 3 Area with air locks to be done with self leveled epoxy 3 mm thickness.

6) THE PASS-THROUGH CABINET:

The pass-through cabinet shall be made in stainless steel (SS 304)) with interlocked doors and provision of UV Lights.

7) HVAC SYSTEM:

Condensing unit Dx type shall consist of hermetic scroll air-conditioning compressor assembly, air-cooled coil, copper piping, refrigerate gas (Non-HCFC and non-CFC), automatic low pressure and high pressure cutouts with microprocessor controlled system. The Dx Unit should be either from reputed makes like blue Star/Voltas/Carrier.

Air Handling Unit (AHU)

The AHU constructed over aa Base structure aluminum profiles, covered with sandwich type panel. The panel frames is to be made with aluminum profiles only. The gaps between panel and structure will be sealed with neoprene joints in order to guarantee the air tightness of the AHU. Several maintenance doors are built in the AHU, the one for fan maintenance. AHU includes the following sections: Mixing sections, with regulation dampers for fresh intake air and return air, Pre-filtration section with G-4 and F-9 pre filters, coil Section, fan section

including high pressure fan, absolute filtration section H-14, AHU must be installed over and anti-vibration platform.

The Supply and Exhaust Duct:

- All the supply air ducts should be of 24 gauge for supply and 22 gauge for exhaust complete with VCD Dampers, fire Dampers at strategic locations.
- The supply air shall be connected to a HEPA filter module located at AHU end for filtered air supply to BSL-2 and 3 room, ante room and change room. HEPA filter, the lay-in type, should be at 99.99% efficient to @ 0.3 micron particle size, hermetically sealed units.
- Separate supply air Handling Units will be connected to DX type Outdoor refrigeration units of suitable capacity for temp and RH control for DSL3 and BSL2 Labs. The HEPA filter should be capable to withstand corrosive agents and gases used for lab fumigation.
- The Exhaust/Blower fan FIDX Backward Curved type designed at 125 Static Pressure shall be turned on at once to achieve the set value of negative pressure. Exhaust HEPA filter shall be in BIBO configuration. That means the exhausted air must be passed through HEPA filter before being released to atmosphere.
- Separate operating systems for BSL3 and BSL2 Labs for independent operation of the two areas for energy conservation.
- BSL rooms are cascading “negative Air Pressure” from BSL-3 laboratory to the air-lock. All exhaust air ducts should be made of GI, ending terminally to the room with aluminum powder Coated Grilles.
- Pre-filters should be of 3 stages with 5-8% efficiency: ASHRAE 1st stage, 30% efficient ASHRAE 2nd stage and 90% ASHRAE 3rd stage. The 3-stage pre-filtration system should be specifically and effectively protecting the BSL-3 containment rooms.
- Split Ac’s to be provided in the BSL-2 and 3 lab of appropriate ratings as back up systems.

8) CONTROL PANEL

At the Room Side

- a) Pressure gauge manual and electronic in main lab.
- b) Pressure display
- c) Temperature display
- d) Emergency panic button (break glass type) – audio
- e) Emergency door-open button (for interlock door)

At the control Side

PLC Controlled Panel with series of VCD adjust system airflow and maintain system as the designated negative pressure. The panel to have interlocked Exhaust and supply provisions with separate controller switches for condensing unit operations. Other essential items like emergency stop operation button, MCCB, Bus bars, Multifunction meter to make the controller complete.

9) SHOWER IN/OUT WASH STATION

Wet shower in/ out facility to be provided with adjustable flow control system. The shower system shall have provision to selectively activate or de-active, depending upon the procedural requirement of the BSL-2/3 Laboratory.

10) THE AIRFLOW

1. No recirculation, one pass design for BSL3 Lab & recirculation (70:30) for BSL-2 Lab.
2. Unidirectional air flow
3. Air control by a series of dampers and actuator
4. Pressure should be measured by pressure differential gauge.
5. Air-tight damper should be specially designed for the BSL-3 application. sealed to stand at least 2 inches water gauge and should be decontaminate.

11) ELECTRICAL SYSTEM POWER

The entire Lab, shall be fully wired and complete with required switchgears, wires, cables, switches, sockets and light fittings and fixtures complete in all respect. The electrical light switches, sockets and lights fixtures shall be chemical resistant finish suitable to withstand laboratory fumigation. The power cable of appropriate rating to be provided from Main LT panel till location of control panel in the scope of the vendor.

12) WATER SUPPLY AND DRAINAGE

The unit should be able to connect to normal city water and drainage after proper decontamination : following standard biosafety & bio-containment protocol. All the hand wash sinks should be made up of stainless steel and fitted with foot operated / elbow operated water faucet. The supply water system shall be fitted with non-return valve/ backflow prevention device. The water supply shall be at source located at the site vicinity by the institute.

13) FIRE SAFETY

System shall be provided for surveillance and to monitor the BSL3 lab activities. The entire BSL-2 and 3 Lab with ancillary areas should be fitted with smoke detectors. Fire Dampers shall be provided in supply air ducts. Fire extinguishers shall be provided in the main laboratory at strategic areas.

14) RESTRICTED ACCESS

For restricted and controlled entry into the BSL Lab. Access Control system shall be provided at the entrance door of gallery which shall be with Proxy Card reader. The Access to the BSL Laboratory shall be through Card/Numerical Keypad control. Intercom facility should be there.

15) PRODUCT WARRANTY

Minimum One- Year warranty on equipments.

16) PERFORMANCE TESTS FOR THE ROOM / 3RD PARTY VALIDATION TESTS

- 1. Containment Barrier integrity check
- 2. HEPA filter leak test – according to the US Federal Standard 209E
- 3. Ducting pre-welding leak test – (light leak test)
- 4. Ducting post welding leak test – pressure test to 2 inches water gauge
- 5. Room differential pressure test verification
- 6. Particle test for cleanliness; according to US Federation 209E
- 7. Light intensity test
- 8. Noise level test
- 9. Air velocity test
- 10. test of air Change rate

17) DECONTAMINATION AND STERLIZATION

A horizontal autoclave with 60 liters capacity SS 304 grade body. Double Jacketed with safety valve and pressure gauge display. Entire BSL facility should have decontamination and fumigation system.

18) OTHER ASSOCIATE WORK

Civil work: Breaking and sealing of walls for ducting, site preparation Foundation of AHU and Exhaust Units.

19) Specification by extracting various questions to users.

Pre Bid visit the interested bidder may visit the site drawing office hours within seven days after publication of the advertisement to know about specific requirement. The bidder may interact with users to know about specific requirement(s) which needs to be incorporated as per specific need.

20) Extra bio safety and bio security should be available which is not covered by above points.
