TENDER DOCUMENT
FOR

Development and Construction of ABSL-3 lab facilities and associated works in all respects on turnkey basis including comprehensive operation and Maintenance of whole work for a period of 3 years after the validation and handing over of the completed project at CIDR, IISc, Bangalore on Turnkey Basis.

Centre of Infectious Diseases Research
Indian Institute of Science
Bangalore, India

TENDER NOTICE

08.07.2022

Name and Specifications of the Project:

Sealed tenders are invited in Two Parts, (Technical Bid-I and Price Bid-II) on behalf of the Director, IISc, Bangalore for the work **"Development of ABSL-3 laboratory facilities inside the existing Wing-A, B and C at 2nd, floor of CIDR building."**

Approximate available area is 4250 Sq. Ft. The upgraded and modified ABSL 3 labs should be developed after necessary re-modelling and re-construction in compliance to WHO and DBT-RCGM recommendations including Design, Engineering, dismantling, reconstruction of existing Civil, HVAC, Clean room, Electrical and Building management system including Supply, Installation, Commissioning, Testing and external 3rd party Validation with Documentation on TURNKEY basis at Centre for Infectious Disease Research (CIDR), Biological Sciences Division, IISc, Bangalore, Karnataka, from well experienced and specialized companies only, as per the suggested schedule of work and general Terms & Conditions available in the Institute office and on the Institute's website **www.iisc.ac.in.**

Technical Compliance sheet should be enclosed along with Technical Bid, giving design details and, specification offered against that, with remarks (if any). The offer must have all accessories which are required to make the Complete ABSL 3 Facility operational without any failure on regular basis. Schedule of scope along with maintenance sequence according to the requirement should be stated clearly.

The General Terms and Conditions, Warranty Inclusions and Taxation etc. should be clearly mentioned in your quotation.

Please send your best and descriptive technical and financial quotation (in INR) for the up-gradation and development of the new ABSL-3 labs including the suggested basic components with various applicable and relevant accessories on FOR IISc, Bangalore basis to the undersigned.

Your quotations for the setting up New ABSL 3 Laboratory facility and Animal Holding – ABSL-3 area including Dismantling of existing installations as required and reinstallation including Design, Engineering, Supply, Installation, Commissioning, Testing, 3rd Party Validation and Documentation confirming to WHO and DBT-RCGM guideline at IISc- Bangalore, India needs to be distinct and should clearly indicate the proposed up-gradation scheme with proposed remodelling layout drawings and schedule of project progress Bar-Chart indicating details of technical components as proposed along with terms of delivery, delivery schedule, entry tax, payment terms, etc.

The tender should be submitted in two separate sealed envelopes: one containing the Technical bid and the other containing the Commercial & Financial Price bid, both of which should reach the undersigned, duly signed and stamped on or before 1700 hours of 29th July 2022

The technical bid must include details of proposed up-gradation and remodelling layout of the ABSL 3 labs along with Animal Holding facility, technical specifications of the equipment proposed along with commercial terms and conditions; however, **the price components should NOT be shown in the technical bid**.

The commercial & the financial bid must include the price of the item indicating the break-up of the following:

(i) The price of the goods quoted in INR, on FOR, IISc-Bangalore site.

(ii) The charges for insurance and transportation of the goods by Air/Road up to Bangalore.

(iii) The Supply, installation, testing and commissioning and training charges including any and all incidental services, as required for compliance and completion of the new facility.

(iv) Please enclose a compliance certificate along with the technical bid.

(v) Selected company shall require to, present a technical power point presentation (If required by IISc/competent authority) on the proposal, work process and working experience, based on which IISc assess the suitability of the company for the required activity/work.

Project at a glance:

IISc is an educational research & development establishment intended to establish and develop ABSL 3 laboratory facilities, to be developed after necessary dismantling, re-construction of existing Animal Holding rooms at Wing-A, B and C wings at 2nd, floor of the CIDR building inside the institute campus according to the acceptable regulatory recommendations established by WHO and DBT-RCGM related to regular operation of BSL-3 and associated Animal BSL-3 lab. Users will not go for commercial production of any vials/ ampoule in large scale and should be used as an R&D study establishment.

Approximate area of the ABSL-3 lab facilities along with animal holding rooms would be **4250 Sq Ft**. The technical and electrical components, plant room for housing the new HVAC, Mechanical, Cleanroom and the Electrical installations should be proposed within the existing area and according to the actual requirements, purely as per the available site condition. Construction of the ABSL-3 lab facilities shall be established inside the existing specified blocks after necessary dismantling of existing civil, mechanical, clean room and electrical installations that are required to be cleared to facilitate new ABSL-3 lab

establishment in consultation with IISC authorized departments prior to planning and design considered for submitting techno-commercial proposal.

The specific requirement of the Animal holding, BSL3 & ABSL-3 along with stipulated indoor climate as per the approved specifications and guidelines confirming to WHO and DBT-RCGM recommendations as applicable for the ABSL-3 lab facility on design, engineering, procurement, supply, installation, testing, commissioning and validation on turnkey contract basis.

Environment, Safety & Health Protection (EHS) is an integral part of our work culture. We are committed to protect the environment in which we operate and ensure the health of Employees, Visitors, Contractors and Community.

The existing civil & structural setup and other working installation systems to be dismantled and replaced with dedicated new once through HVAC system with arrangement for 100% redundancy stand by, other accessories including DX / CHW air chilling/condensing units with fully auto control system, 3 stage air filtration system to ensure supply of treated and filtered fresh air flow into the specified laboratory area confirming to class-100,000, exhaust air system with necessary air filtration and burning units from the lab area, necessary arrangement should be made for the exhaust of the contaminated air from the IVC ventilators and from the Type-2, B-II once through 100% treated fresh air bio safety cabinets, provision for the IVC systems including the 48 cage mice holding racks and associated ventilators has to be considered in the scope. Suitable system for extraction of discharged air from the Bio Safety cabinets as required as per specification, suitable provisions shall be in place for 1 set of IVC and 2 sets of bio safety cabinets for future installation in each room accordingly. Necessary GI ducting confirming to IS-277 with zinc deposition 120 gms /sqmt) including GI duct supports. Thickness of GI sheet for various sizes shall be as per IS 655. Ducting shall be sealed with silicon sealant at all joints Ducting as per specification complete with supports, nut-bolts, MS angle Flanges, neoprene gaskets duly installed. Leak testing of ducts at site shall be carried out as per ISI/SMACNA standards. with aluminium cladded 19 mm thick thermal insulation, Chiller / Condensing units with multiple compressors operating in tandem to TFA refrigerant piping including manifold and insulation, necessary BMS system automation and control system for maintaining BSL & ABSL-3 lab internal environment,
Electricals & controls, Recommended Fire safety and address system arrangement etc. complete in all respect to maintain the desired Temperature 22±2˚C & RH 60±5% and required **NEGATIVE** pressure cascade. CCTV shall be provided inside the ABSL 3 lab facilities and that shall be interconnected with BMS/automation system monitor to be placed at monitoring and control rooms with visitors meeting area within the existing 2.2 mtr. external corridors. Part of the corridor to be designed and converted in to visitor's area, as well as the BMS/Control room.

Common instrumentation rooms should be designed and proposed enabling the ABSL-2 and ABSL-3 lab users to work in and use the common instruments and equipment. Necessary Man and Material entry and exit protocols should be designed and considered in the proposed new and converted ABSL-3 lab facilities in coordination with the available area and access corridors.

GUIDELINES TO BIDDERS

S No	SCOPE DEFINITATION	CONTRACTOR	IISc, Bangalore
1	BSL/ABSL-3 Lab General layouts	√	
2	REVIEW & APPROVAL OF THE PROPOSED FACILITY LAYOUT		√
3	DETAIL ENGINEERING & DETAILED LAYOUT DRAWINGS	√	
4	FACILITY LAYOUT & DETAIL ENGINEERING	√	
5	CIVIL AND ARCHITECTURAL LAYOUT DETAILING	√	
6	DISMANTLING AND MODIFICATION - CIVIL & BUILDING WORK PLAN	√	
7	STORAGE SPACE AT SITE		√
8	HVAC, ELECTRICAL & BMS DETAIL DRAWING	√	
9	INTERIORS & CLEAN ROOM	√	
10	HVAC SYSTEM INCLUDING HIGH SIDE & LOW SIDE WITH 100% STANDBY ARRANGEMENT	√	
11	ELECTRICAL POWER DISTRIBUTION SYSTEM WITH LOAD DATA	√	
12	FIRE DETECTION, ALARM & SUPRESSION SYSTEM	√	
13	MAN & MATERIAL ACCESS CONTROL SYSTEM	√	
14	ALL UTILITIES INCLUDING CIVIL, INTERIOR & CLEAN ROOM, HVAC SYSTEM, ELECTRICAL SYSTEM, BMS & AUTOMATION, UPS etc.	√	
15	UTILITY DISTRIBUTION PIPING, HVAC DUCTING, ELECTRICAL CABLING, WASHING, STARILIZATION & DRAIN	√	
16	BSL 3 LAB EQUIPMENTS AND FURNITURES AS SPECIFIED IN TENDER	√	
17	CLEANROOM COMPLIANCE AND PROTOCOL STATEMENT	√	
18	LAB PROCESS EQUIPMENTS LIKE BIO SAFETY CABINET,	√	

	IVC s, PASS BOXES AND AUTOCLAVE AS PER SPECIFICATION		
19	SUPPLY OF 3 PHASE POWER FROM SUB-STATION TO MAIN MCC PANEL AND FACILITY INTERNAL INSTALLATIONS.	√	
20	SITC OF WASTE WATER TREATMENT SYSTEM AT SITE	√	
21	COMMISSIONING & TESTING OF FACILITY	√	
22	VALIDATION & TESTING INCLUDING DOCUMENTATION WITH ISO-17025 CERTIFIED 3RD, PARTY CERTIFICATION	√	√
23	COMPLETE DOCUMENTATION	√	
24	DISMANTLING OF EXISTING CIVIL, INTERIOR, HVAC, ELECTRICAL AND OTHER INSTALLATIONS ACCORDING TO THE APPROVED NEW FACILITY LAYOUT IN CONSULTATION WITH THE RECOMMENDED AUTHORITY OF IISC.	√	
25	DISMANTLING OF THE EXISTING HVAC COMPONENTS, MAINLY EXISTING AHUS AND EXHAUST UNITS AND RE-INSTALLATION OF THE SAME AFTER NECESSARY REPAIRING AND MODIFICATIONS ACCORDING TO THE APPROVED NEW FACILITY LAYOUT IN CONSULTATION WITH THE RECOMMENDED AUTHORITY OF IISC.	√	

The following critical design conditions and instruments are to be supplied and maintained inside the ABSL-3 animal holding rooms.

- 100% fresh air and NO recirculation system
- Internal lab Inside Temperature: 22 +/- 2 C
- RH: 60% +/-5 %
- ACPH: Min. 25 ACPH
- Cleanliness as class 100,000 should be maintained inside the facility.
- Recommended ENTRY and EXIT along with necessary de-contamination wash / autoclave room with 2 sets of 250 ltrs PLC based programmable automatic vertical double door with Bio-seal and in-built steam generator should be considered.
- Double skin PUF in-filled Wall, Ceiling and Wall Cladding panels with factory fabricated cut outs and openings for electrical and HVAC system components.
- All Clean room compatible doors should be of double skin PUF in-filled panels with view panels, heavy duty door closures, SS Kick and Push plates, bottom drop seal and both side SS handle with locking arrangement.
- 2 and 3 door interlocking system should be in place within the new ABSL-3 facility as required for security and safety of the users and environment.

- 1 set of **IVC system** in each ABSL-3 labs, animal holding rooms, comprising of 48 mice cages housing rack with caster wheels in SS construction along with suitable Ventilation units. Exhaust air from the IVC ventilators should be properly ducted, treated and exhausted from the facility ac per recommendations
- 1 set of **Type-2 / B-II (4 feet) bio-safety cabinet**. Complete with dedicated leak proof exhaust air thimble ducting and suitable burning units should be considered for each ABSL-3 labs and animal holding rooms
- **Animal change station** in SS construction and suitable in-built air ventilation and ducted exhaust arrangement should be considered for each ABSL-3 labs, animal holding rooms.
- 1 set of **SS lab working bench/table** with granite top and necessary material storage rack should be considered for each ABSL-3 labs, animal holding rooms for placement of table-top instruments and working of the users as well.
- 2 sets of lab-chair in SS construction should be considered for each ABSL-3 labs, animal holding rooms
- On-line UPS for each wings with suitable capacity applicable for minimum 45 to 60 mins emergency power back up should be considered and installed to maintain critical applications running without interruption during grid or DG power failure in extreme emergency.

General Scope of works:

Designing and re-structuring of existing internal and external wall and peripheral partition walling as required for construction of new ABSL 3 lab. De-activation, dismantling and removal of existing Electrical, HVAC & other system components complete in all respect i.e Electrical terminations, existing AHU, Exhaust units, ducting closing and sealing of non-operational air network in specified ABSL 3 lab space, construction of new ABSL-3 lab internal clean room compatible double skin PUF in-filled modular wall system with necessary factory fabricated cut outs for electrical and HVAC installations, fabrication and installation of double skin walk-able modular ceiling system etc and repairing it as per site requirement including supply/installation of all applicable materials and necessary labours etc related for specified area & route (route for ABSL 3 lab interior installation of system) of the lab.

Designing of the new re-constructed ABSL- 3 lab facility suitable for the specific location and area shall be in the scope of the contract. The designing with necessary man-material flow plan shall be in coordination with users and material movement planning according to the BSL3 lab set up guidelines.

Dedicated autoclave and washing room shall be constructed within the new facility suitable for housing 2 sets of autoclaves and washing area with treated water basin including connected water piping arrangement as per the site space availability. Autoclave and Washing room should be under negative pressure and the same shall be considered while

designing the facility layout. Separate Co2 cylinder storing space barricaded outside the facility along with SS distribution piping & manifold shall be provided for supply gas to Co2 incubator and BSC cabinets.

Any other work related to uninterrupted working of the ABSL 3 lab facility shall be treated as a part of scope of the bidder. The entire lab shall be validated in coordination with authorized members of IISc as per the WHO, DBT-RCGM guidelines and necessary documentation and validation report duly stamped and signed by the external 3rd party validator ISO-17025 certified, authorized member of IISC and contractor as well should be submitted at the time of completion and handing over.

Round the clock On-site Operation and Comprehensive Maintenance for 36 months after successful validation and handing over the new ABSL-3 lab facility to IISc authority:

Operation and Comprehensive Maintenance of the ABSL 3 lab facility including providing of skilled operator cum technicians in each shift (round the clock) with one supervisor and one operator in general shift including reliever, for operation and maintenance of the facility round the clock (7 days x 24hrs, 365 days/year) to operate, maintain and run the facility without any break down. Periodical Operation and Maintenance test report duly signed by authorized user scientist of IISc should be submitted in the pre-approved format at the end of every third month. Yearly facility validation should be conducted by the contractor in coordination with user scientists.

Operation and CMC activities include:

- High Side comprising of Chiller, Compressors, with all accessories
- Low Side comprising of AHUs, EXUs, Air distribution system (ducting with insulation), Air control devices like VCD, Registers, Grilles, Louvers, Terminals with filters, coils, heaters etc.
- Refrigerant piping system including control devices, flow balancing and Insulation
- Total Electrical System comprising of MCC and connected components, Cabling with all associates and Protection devices
- Static Pass Box in complete SS construction size: 600x600 complete with double door interlocking, UV light with hour meter, both side view glass and emergency egress button.
- Building management system including DDC Panel, controllers, field devices and sensors for checking and monitoring including calibration, replacement if needed
- Emergency doors and evacuation system as per the recommendations should be in place
- 3 sets of dedicated on-line 3 phases IN and 3 phases OUT, UPS system including battery bank and rack etc suitable for minimum 45 to 60 mins.
- Observations & readings to be recorded – Reporting arrangement in place
- CCTV footages for each 2-3 weeks should be kept in additional hard disk drive and should be submitted to the IISc recommended authority along with the quarterly testing, documentation.

- Periodic Lab Fumigation & Performance qualification/validation in coordination with USERS
- Operation & comprehensive maintenance of complete security and surveillance system including access control and door interlock arrangement, Fire and CCTV.

ABSL-3 Laboratory Controlled Area:

The proposed ABSL3 lab shall consist of the necessary Buffer/Airlock, Media room, Change room-1, Change Room-2, ABSL-3 lab and Animal Holding room area, Entry/exit airlock, wash /sterilization room, integrated Building Management System (IBMS) room for controlling-monitoring and preparation area, procedure area. The proposal for any amendment to layout for better utilization of the available space to increase the laboratory functioning should be discussed during technical presentation.

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

1) Main Entry from the corridor**: +05 Pa**.
2) Main Entry to Change Rooms: **Operating pressure: -15 Pa**.
3) Change Room to Corridor: **Operating pressure: -30 Pa.**
4) Corridor to BSL & ABSL-3 lab: **Operating pressure : -45 / -50 Pa.**
5) Autoclave and Washroom: **Operating pressure: Negative from the adjacent area.**
6) Visitor's and Control Lobby **: Operating pressure : NC**
7) Utility system including piping manifold: Co2 Cylinder banks housing outside the new facility
8) Necessary Utility connections including, SS piping and manifold for CO2 incubator Bio-safety Cabinets etc. should be in the scope of the turnkey contractor.

Project Components for consideration while designing the facility:

- Supply, installation, testing and commissioning of once through Once-through TFA units with 3-stage Pre, Micro and HEPA filtration system, tubular electrical heaters, motor blower with vibration isolators, limit switches, electrical and control wiring etc complete in all respect. DX / CHW type cooling coil system, Dedicated and suitable Exhaust Air System installed and connected air distribution system through GI outside/inside ducting up-to the lab area complete in all respect with all materials and labours etc including dismantling and construction / repairing of civil and structural.
- Supply, Installation, Testing and commissioning of new set of suitable air-cooled condensing units / Chiller required for interconnection with new TFA system complete with all necessary valves and auto controls as required.
- SA Duct Mounted electrical heater section fitted with Tubular Air Heating Elements filled with best quality MGO Powder, Stainless Steel - 304. Sheathed with G.I. Finns.

Terminal Box in G.I dust-proof construction, 14 SWG GI enclosure complete with Primary and Secondary step control system in 4 sequences to be configured according to 4 sensors to be installed in LAB-I in different locations, corresponding mapping to be arranged for sequential ON/OFF command to trigger the respective heating element for effective control of RH as per stated parameter.

- Main Electrical & Process MCC with UPS LT Panel with bus bar and sub MODULES for HVAC control system, Electrical, Mechanical and process utility supply. Panels shall have aluminium bus bar and required and necessary tripping arrangement. Free floor/wall mounted, indoor type, front operated, Top/Bottom cable entry. Panels made out of powder coated 2 mm sheet steel, PVC colour coded with humidity control system.
- Necessary Incoming power cabling with support cable tray to be installed considering the available best possible cable routing from substation power source area up to main and process MCC panels, distribution boards that to be housed in the electro-mechanical plant room deigned near the proposed ABSL 3 lab.
- Dedicated MCC panel according to the electrical load calculation sheet (to be submitted by the contractor along with the technical bid) should be designed for RAW, UPS & Process power supply with necessary protection for supporting entire ABSL 3 lab utilization.
- Field communication control cabling network to be done between Pressure / TEMP / RH field sensors, controllers and finally with power distribution boards / MCC. All field devices/instruments shall be located in close vicinity of the working staff enabling them to check and operate accordingly. Necessary modifications to be done in existing structural units in coordination with re-modelling scope.
- Field mounted sensors shall be installed and mapped for working in sequence with operating parameters of the ABSL 3 labs. Building management systems with control panel box with step operation module to be considered in suitable locked room only.
- All power / control socket pores installed inside ABSL 3 LAB shall be blocked at FC level for arresting un-controlled air infiltration / ex-filtration event.
- The Tubular heating modules to be installed at the SA AHU/Duct in specific location inside technical plant room space only for maintaining the designed parameters and easy check and operation-maintenance.
- Temp / RH sensors to be installed which shall be guided by BMS control system to be installed in coordination with the DDC-PLC panel of the Chiller / condensing units to work in sequence to the command received from input status of lab climatic parameters.
- New HVAC ducting systems to be installed with all air flow control devices mainly VCDs and air flow guide vanes that should be throttled in different stages according to flow balancing as required with reference to required negative air flow pattern in main BSL / ABSL 3 labs area.
- Magnehelic gauges should be installed at entry door top of the critical BSL 3 labs to check status of air flow and negative pressure cascades before entering the lab space.

- Provision kept for 100% stand by drive arrangement designed inside the TFA/EAU itself.
- SITC of Automation and BMS system and integrated Operator Terminal to view the DATA (Negative Pressure, Temp & RH) through device, complete with administrator locking parameter. Automatic Temperature and Humidity control arrangement.
- Addressable Fire detection system with CCTV surveillance network should be considered for setting up the BSL 3 lab facility.
- VFD arrangement to ensure desired constant air flow supply/ACPH to lab area.
- Visual check device near TFA itself for maintaining healthy condition of filters.
- Testing and commissioning of system in co-ordination with IISC team.
- ISO-17025 Certified 3rd, Party Validation of specified laboratory rooms ambiance with documentation.

ABSL 3 LAB INTERIOR WALL & CEILING PANELS:

Wall Panel System should be self-supported; double skin sand-witch type GSS/CRCA powder coated metallic Wall panels of 0.6 mm thickness on both sides with 80/100 mm min. thickness PUF in-filled with min.40+/-2 Kg/m3 density insulation. Complete with in-built (25mm / 32mm dia) conduit including service panel, Aluminium / GI floor track system, factory fitted cut-outs for necessary Doors, Windows, hatch openings for lab or process equipment, power/communication sockets etc. Ceiling System- Walkable double skin sandwich type GSS/CRCA Powder coated Metallic ceiling panels of 0.6 mm thickness on both sides, 80/100 mm thick PUF in-filled with 40+/-2 Kg/m3 density insulation. Complete with extruded aluminium powder coated supports and hanging arrangement, with aluminium profiles that create uniform seams. The Partition seams must be sealed by RTV silicone with a perfectly flush finishing. PUF insulation material is sandwiched between the two skin layers and sealed from the exterior by the GI frame work including all cut-outs factory fitted, for Air terminals/Diffusers and lighting, Pass Box etc.

THE RADIUS COVING (wall-to-wall, and wall-to-ceiling, from inside to outside corner):
Smooth radius Powder Coated / PVC coving should be installed at all wall-to-wall and wall-to-ceiling joints. All seams should be carefully sealed with RTV sealant. Corners at floor - coved from PVC floor sheet to the wall.

THE DOORS:
Door System: Double skin PUF insulated Clean Room compatible Doors should be designed to fit flush into the 100 mm thick wall panel system on both sides and are supplied in different dimensions as per drawing. Doors are to be fabricated from CRCA duly powder coated sheet. Shutter has sheet thickness of 0.8mm and the frame of 1.2mm. Standard 50 mm panel has frame width of 50 mm and shutter width of 46mm. Sizes as per the requirement stated here. The following accessories are a part of the door: SS ironmongery,

DORMA make Model TS 68 door closers, SS 304 D type handles of 300 mm size on one side and Push plate fixed with D/A tape on other side, SS 304 butt hinges, side seal & Automatic drop seal and other accessories. Sizes mentioned herein are total sizes including the door frame. Emergency exit and the main door shall have bottom sill as well (all doors directly opening to atmosphere should be air leak proof type with cam arrangement and to be tested with soap- solution during validation and testing).
All windows should be double glass (toughened type) min. 6 mm thick. Should be flush with wall panel. All doors opening to outside area should be 100% leak-proof type with factory fitted powder coated metallic wall frame.

THE FLOORING:
The floor should be made of 3 mm thick EPOXY material after application of existing surface treatment, application of self-levelling compound, screed to achieve smooth and even floor surface, non-skidding, abrasion resistant and chemical resistant with 40mm wall to floor sand-cement fabricated coving.
Floor to Wall coving with silica-sand compound, to be provided for easy cleaning. Flooring material should be installed after making floor surface clean and dirt free and NO un-even surface should be allowed during and after installation.

AIR COOLED CONDENSING UNITS:
Supply, installation, testing and commissioning of Air cooled condensing unit of nominal capacity as per design consideration comprising of multiple scroll compressors with air cooled condenser unit, inbuilt/fitted control panel with all other accessories as per original manufacturer. These compressors shall be operating with green and approved refrigerant. Complete with necessary copper piping and insulation with fittings. The Refrigeration piping with insulation from Air cooled condensing unit to Air Handling Unit with all accessories, supports, Expansion Valve, Solenoid valve, pressure/leak testing and refrigerant gas top-up or charging complete in all respect.

AIR HANDLING SYSTEM:
TFA UNIT ONCE THRU TYPE - Modular double skin Treated Fresh air handling unit fabricated from aluminium extruded section from structure. The panel shall be 43±2mm thick having PUF in-fill in between two skins, inner skin in 24G GI plain and outer skin in 24G GI pre-coated construction. The twin blower and motor assembly shall be on a common base frame and shall be mounted on vibration isolators within the blower section. Fan discharge ducting shall be isolated from TFA casing by a fire retardant type flexible connection. Inspection doors shall be provided in blower section (as per site requirement). All section shall be mounted on a common skid. TFA shall be complete with:

- Air Handling Units shall be Modular Double skin of 43±2mm thick PUF injected panels with 24 gauge GI inner skin and pre-coated GI as outer skin. Complete in all respect.
- The centrifugal DIDW fan with twin TEFC motor.

- TFA shall have Supply air/Return air aluminium VCD.
- The Pre filter section with EU-3 filters (50mm deep), Fine Filter section (EU-9) and (EU-13) HEPA filters mounted on common frame.
- The DX type cooling Coil section with distributors and 8 Row deep DX coil (cooper tubing with aluminium fins) with SS drain tray duly insulated.
- Baffle section with suitable drainage (closed circuit) arrangement
- The blower fan section with twin DIDW centrifugal fan having static pressure of 140 mm/Wg, Cap. As per approved design and dynamically balanced, drive package with belts & pulleys, twin TEFC motor to drive the fan, Fan out let shall be provided with fire retardant canvas connection and aluminium volume control damper, all internal wiring and supports, connector, switch etc as per requirement.

EXHAUST SYSTEM:

EXHAUST AIR UNIT - Modular Double skin Exhaust Air Handling Units of 25+/-2 mm thick PUF injected panels with 24 gauge GI inner skin and pre-coated GI outer skin all as per specification including centrifugal DIDW fan with TEFC motor. TFA shall have aluminium Exhaust air VCD, Micro Filter section (EU-9), HEPA filter section (EU-13), static pressure of 110 mm/Wg - With TWIN MOTOR ARRGT. Capacity: as required. Fan section shall be after HEPA & Micro filter banks. Ducted suitable Burning Units shall be designed at the outlet of the exhaust air before discharging to environment.

AIR CIRCULATION AND FILTRATION SYSTEM:

- The supply air is transported to the biological laboratory area (PVC - ducted) through the SA/RA Plenum mounted Register with VCD into the biological laboratory. Return air from biological laboratory areas are taken back through Return air registers with suitable VCD and control devices. This supply and return air ducting shall be routed through outer space of the building and above false ceiling, the ducting should be duly insulated with Aluminium foil faced insulation – Grade 'O' bio protect (19 mm insulation).
- Supply and Exhaust air ducting shall be constructed from GI sheet as per IS 277 and PVC/FRP Circular sections and shall be constructed as per IS 655. All duct supports shall be of GI construction duly painted with primer.
- All supply/return air ducting shall be sealed with RTV silicon sealant
- All supply and return air ducting shall be insulated with Armaflex duly factory fitted aluminium foil faced of Armaflex – Class 'O' bio protect (19 mm insulation)19 thick.

ELECTRICAL PANEL: Power Distribution Panel (MCC) Stand-alone type. CPRI Approved 200x3=600 Amp & IP-55. As per approved specification and drawings. With Special protection arrangement for Rain water leakage. The Main Electrical LT Panel shall have bus bar for HVAC, Power System and laboratory Equipment. Panels shall have suitable aluminium bus bar, Incomer MCCB and required outgoing MCB breakers, starters,

connector, contactors, meter, selector switch, CT & PT etc and necessary tripping arrangement etc. (Free floor mounted, outdoor type, front operated, Top/Bottom cable entry. Panels shall be made out of powder coated 2 mm sheet steel, PVC colour coded bus bar. With VFD enclosure along with ventilation fan. Suitable for TFAs, EXUs, Condensing unit, PDB / LDB, & IBMS control system.

POWER AND CONTROL CABLING:

Total power and control including the Main incoming power arrangement shall be designed and load calculated as per the requirement for complete and independent working of the newly developed ABSL-3 lab facility. Power cable shall be 1.1 KV grade PVC/ XLPE insulated aluminium/ copper conductor armoured/ Unarmoured cables on cable tray (as given in schedule of work) and flexible cable through MS conduit on cable tray. Main Electrical control panel MCC shall be provided for TFAs, EXUs, Chiller, Condensing units, heaters, internal power and control sockets (UPS & Non-UPS), control system and all equipment supplied under this scope of work. The electrical panels are to be placed at Technical area near installation site of TFA. Necessary multiple nos of independent Earthing shall be installed for the new electrical system including the Earthing plates (copper plates 3 mm thick) and GI-Copper strip / wire shall be provided as per the statutory recommendations and approved by IISc authority.

NOTE: The electrical system design and detailing shall be approved by the central building department of IISc, Bangalore prior to procurement and installation.

AUTOMATION AND SECURITY SYSTEM:

Building Management System should be envisaged to configure, monitor and control the HVAC System, Life Safety System (LSS) which consists of Surveillance System (CCTV), Fire Address System for BSL 3 lab area and Access Control System. Modification and up-gradation of Building Management System envisaged to monitor and control of HVAC System. Room temperature shall be controlled through BACK Talk Programmable Logic Controller - VLC supported by BACK Talk View port operator Terminal. DDC panel Enclosure for automatic control arrangement. RH shall be controlled by tubular type electrical heater mounted inside TFA/SA duct. The same heater shall be used for winter heating. Room differential pressure shall be maintained by VFD, supported by Air-Velocity sensors installed inside SA and EA main duct, this will ensure constant calculated air flow inside the ABSL 3 lab facility.

CCTV – 3 sets surveillance system complete with; 8 CH, 2.4 Megapixel Dome Cameras with night vision, 1 TB HDD, BNC and DC Connector.

Fire address and audio/visual alarm system with suitable sets of FIRE & SMOKE sensors in ABSL 3 lab facility comprising of standalone 8 Zone CPRI approved Fire Panel and Sound & Light Bazaar.

WATER SUPPLY AND DRAINAGE

Treated soft water (to be provided by IISc) connection from the available resources should be connected to Wash/Autoclave room as per the site condition, for use of water inside critical lab area only portable water arrangement will be provided. Insect resistant SS drain trap should be installed in washing area and should be connected to dedicated decontamination kill tank connected to drainage pipeline network. All floor drain shall have adequate protection to prevent unwanted intrusion of insect / rodent.

COMMUNICATION SYSTEM

Telephone and internet receptacles should be installed in Control station, ABSL 3 labs, Instrument room and Animal handling room.

UTILITY PIPING

Separate provision should be made for CO2 gas for Incubators. All utility piping shall be fitted with backflow prevention device/non-return valve.

LABORATORY TESTING SCHEDULES

ABSL 3 laboratory rooms shall be tested in "AS BUILT" condition for the following parameters. All tests shall be carried out in coordination and presence of nominated IISc, executive and 3rd, party invigilator.

a. Particle count for Biological laboratory cleanliness (class-100,000)
b. HEPA filter installation integrity leak DOP test
c. Differential Pressure check in coordination with air flow direction
d. Room Temperature 22±1˚C
e. Room Humidity 60±5%
f. ACPH as per actual flow rate
g. Room Illumination test
h. Lab Room differential pressure cascade check
i. Door interlock system check
j. BMS Interlocks / Alarm

Technical Specifications of Laboratory Instruments

1. Bio Safety Cabinet, Type-II, B2, 4 feet/1.2 m with stand and all other accessories. Microprocessor controlled Airstream, Class II Type-B2 Biological safety cabinet EN 12469 certified with single piece SS interior finish.

2. IVC set for housing 48 no Mice cages in SS construction and suitable Ventilator arrangement with exhaust flexible pipe and clamping system. Suitable in-line booster fans should be installed at the IVC exhaust pipe connections for assuring designed negative pressure flow in to the bio safety cabinet from the users side whenever in use and the negative pressure should be minimum 10 Pa negative than the ABSL 3 room.
3. Semi-automatic wall mounted rectangular steam jacket type vertical double door Autoclave of capacity 250 litres. Made of SS with double door radial locking system. Along with bio-seal arrangement and in-built steam generator.

4. Animal Change station SS complete with; Animal Change station consists of following main components. The functioning of each component is described in following paragraph. Supply air unit with laminar HEPA filtered air
- Work surface
- Exhaust air unit
- Electrical panel
- Foldable Work desk
- Mano meter
5. Lab work bench in SS construction with Granite top and utility rack arrangement

Special Condition of the Contract

Dismantling of the Existing Air handling units and the Return air units connected to the existing HVAC system for the specified wings – A, B and C at 2nd floor of the CIDR building. Re-installation of the dismantled AHU and EAU units, along with the connected 9 sets of DX condensing units with the existing GLP area, air distribution systems of the Central Animal Facility building. Re-installation of the old condensing units and the AHU / EAU units should be completed in all respect including air balancing to make the GLP facility indoor climate suitable for holding the animals as per the requirements of the CAF users.

Dismantling and re-installation of existing Ceiling and Wall panels for fabrication and installation of NEW HVAC system ducting, Piping and other utility arrangements along with Cable Tray and Utility piping.

Dismantling of existing non-air-tight light fixtures and installation of the new sets of airtight lighting fixtures as per design and requirement.

Suitable provision of the Emergency Exit doors should be considered for immediate evacuation from the core ABSL-3 lab facilities and the Animal Holding rooms of the new facility set up.

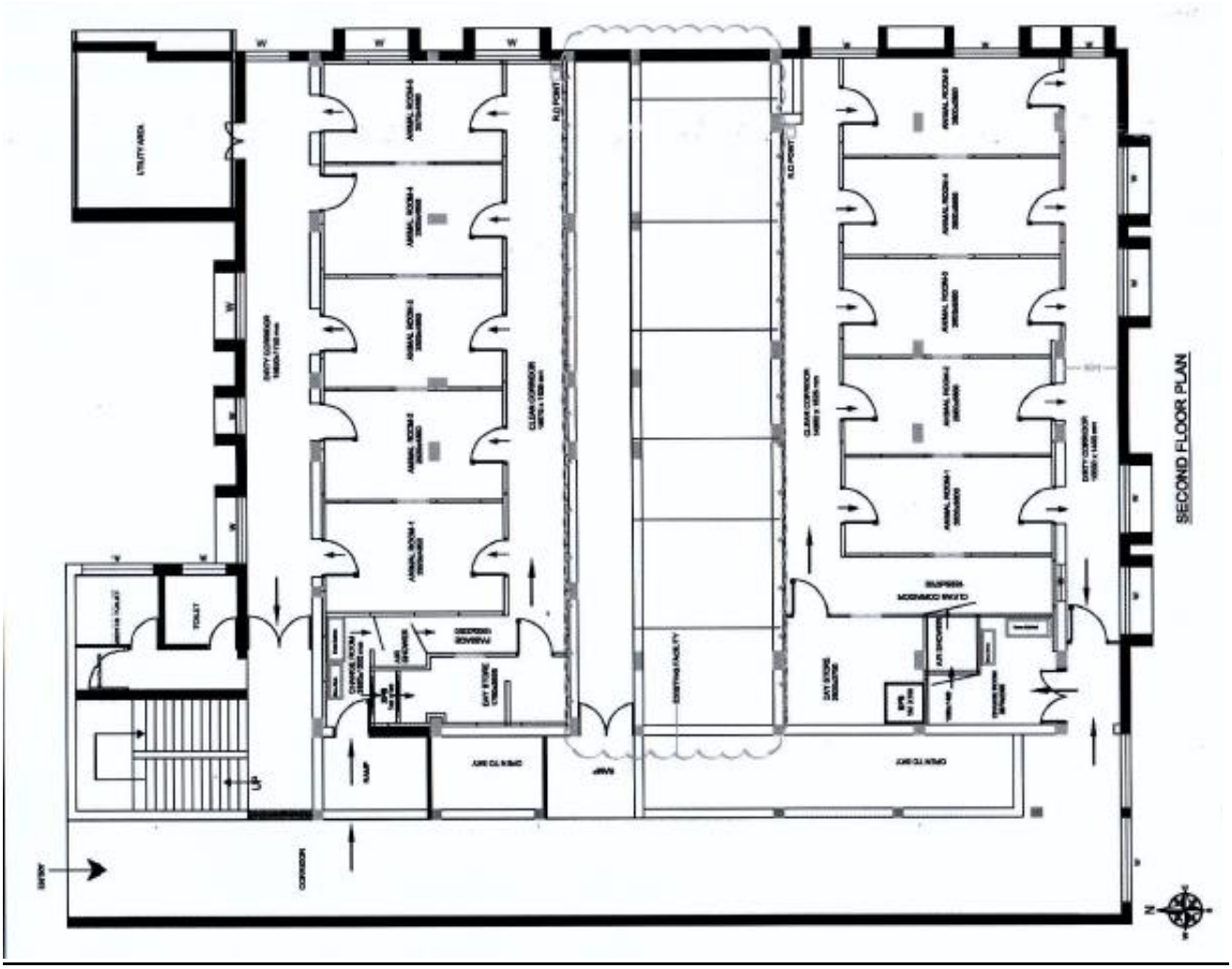
Access should be proposed from both the zones of CIDR and CAF facility with necessary buffer and air lock rooms.

All necessary modifications including dismantling and re-construction of the specific civil and structural installations shall be approved by the authorized department of IISc, Bangalore. The same shall be completed in all respect after the required water proofing treatments to avoid water seepage in future.

Reconstructed civil walling / ceiling area should be painted with waterproof compound and base painting.

All necessary electrical load data calculations and the cable scheduling should be designed and presented during the technical presentation for clarity and acceptability from the relevant department of IISc.

Proposed ABSL 3 laboratory area at 2nd, floor A,B & C wing of IISC-CIDR building



Suggested Schedule of Material

Name of Work:

Construction of ABSL 3 laboratory facility, inside the existing specified area at 2nd floor, Wing A, B and C of CIDR building. The newly constructed ABSL lab should be compatible to WHO and DBT-RCGM recommendation including Design, Engineering, Necessary Dismantling, Reconstruction, Supply, Installation, Commissioning, Testing and ISO 17025 certified 3rd, party Validation with Documentation:

S.No	Description	Unit	Qty
1	**Dismantling and Re construction of Civil & Structural construction** work as required for dismantling of existing installations and establishing the NEW ABSL- 3 lab facility as per approved drawing. Comprising of dismantling of existing internal walling, ceiling, glass partitions, re-structuring of civil structure, repairing and re construction of existing floor finish level and necessary brick-plaster walling including HVAC and Electrical installations foundation at Roof top. Including re-construction of extended wash room outer wall up to existing shed. Suitable strengthening of existing MS roof truss and associated purlins for adjusting additional load of HVAC & Electrical installations above false ceiling	Lot	1
2	Air cooled Condensing Unit / Chilling Unit complete with multiple compressors and accessories and FDN	Lot	1
2A	Refrigerant Copper Piping / CHW MS Piping system including necessary control devices, modulating valves & fittings including thermal Insulation	Lot	1
2B	**Air Handling Units**		
	Modular Outdoor type Double skin Air Handling Units of 43+/-2 mm thick PUF injected panels with 24 gauge GI inner skin and pre-coated GI outer skin all as per specification including fan with TEFC motor. AHU shall have Air intake louver combined with pre filter (EU-3), Fine Filter section (EU-9), coil section with DX/CHW 6-8 Row coil, blower section with DIDW centrifugal fan having static pressure of 140 mm/Wg - **With TWIN MOTOR ARRGT.**		
2B.1	**AHU - 1,2 and 3** : **Once Thru** – TFA AHU with supply air quantity as required at 140 mm WG Static pressure (**TWIN MOTOR**)	Lot	3
3	**Exhaust Air Filtration System**		
3.1	**Modular Double skin Exhaust air EAU , with 25+/-2 mm thick PUF** injected panels with 24 gauge GI inner skin and pre-coated GI outer skin all as per specification including fan with TEFC motor. EXU shall have extruded aluminium construction, gear operated volume control damper at Air Inlet and outlet, with Micro Vee filter (EU-9), HEPA (EU-13) filter section flange type with HEPA filters, Cap as required**, With TWIN MOTOR ARRGT**	Lot	3

4.0	**Air Distribution System**		
4.1	GI Ducting complete with MS painted flanges, all joints sealed with RTD silicon sealant with MS painted supports as per IS-266 with Zinc deposition 120gms/sqm.		
4.2	GSS-24 Swg ducting including accessories and Support arrangement	Lot.	
4.3	GSS-22 Swg ducting including accessories and Support arrangement	Lot	
4.4	Aluminium Gear Operated volume control dampers for AHU, ducting and exhaust fans	Lot	
4.5	Duct Insulation with 19 mm thick aluminium foil faced cross linked and all joints shall be provided with 2" aluminium tape.	Lot	
4.6	Fusible link type UL 99 rated Fire dampers at AHUs & EAUs (Supply air and Exhaust air unit)	Lot	
4.8	Extruded aluminium powder coated Supply/ Exhaust Air Diffusers with Black Matt Finish VCD	Lot	
5.0	**Electricals**		
5.1	1. M C C Panel – Main-600 Amps. Electrical Panel, IP-55, comprising of - MCCB, DOL Starter, Digital Volt meters, indication lamps and VFD enclosure with ventilation fan and protection MCCB etc. 2. M C C Panel - Process Electrical Panel, IP-55, comprising of - MCCB, DOL Starter, Digital Volt meters, indication lamps and required MCCB etc. **3.** M C C Panel - UPS Panel, IP-55, comprising of - MCCB, DOL Starter, Digital Volt meters, indication lamps Change over arrangement etc.	Set	3
5.2	**Electrical Power and Control Cabling** 1.1 KV grade PVC/ XLPE insulated aluminium/ copper conductor armoured/ Unarmoured cables on cable tray.(Copper / Aluminium armoured / Flexible cables), control cables (copper), (for plug points and Power Sockets) - Power cabling from Main MCC to BSL 3 lab distribution system and HVAC equipment termination considered. Including dedicated Earthing arrangement for power and BMS system. Cable tray and necessary dressing included.	Lot	1
5.3	Variable Frequency Drive **(VFD)** with IP 55 protection and enclosure with Exhaust air ventilation fan	Set	12
5.4	Dismantling, removal of existing electrical installations as required and Supplying all the fitting materials, cutting, peeling, terminating and connecting cable with cable gland and crimped aluminium lugs in respective Feeders, Equipment's. Any accessories necessary for turnkey completion of the project.	Job	1
5.5	Dismantling, and installation of suitable Power main and distribution cabling from Auto/Manual Change over switch to the dedicated MCC panels located suitably as per the available space in CIDR building. Existing DG to be considered for use during electrical load and detail designing	Job	1

6	**Power sockets & Lighting arrangement**		
6.1	Cleanroom Light fixtures : BSL lab compatible, 'O' leak, fitted with 5 mm Thk Toughened Glass, 2 x 36 watts CFL top opening type with electronic ballast with; Housing : CRCA powder coated frame-less. Lens: To provide Toughened glass with 3 M adhesive tape (to be fixed inside the opening provided in 60 mm ceiling) Reflector : Preanodized imported aluminium Ballast : Philips electronic with pf>0.98 & THD < 10 %	Lot	
6.2	4 Module Box with inner plate and SS outer plate, suitable for 1 no 5/15 amp. Socket + 2 Nos. 15 amp. Switch (for power socket and light)	Nos	
6.2	8 Module Box with inner plate and SS outer plate, suitable for 2 no 5/15 amp. Socket + 4 Nos. 15 amp. Switch (for power socket and light)	Nos	
6.3	Lighting DB/ Power DB with MCBs / MCCBs	Set	
7	**ABSL 3 lab interior & clean room**		
7.1	Double skin Clean room **Wall Cladding, Wall Partition Panel system 100/80 mm thick** , PUF in filled powder coated GI sheet, as per specification complete with concealed conduits for power socket, data, telephone points and necessary cut-outs for double gazed view panels and doors	m2	
7.2	**Double skin powder coated GI sheet, PUF in-filled, Walkable Clean room Ceiling system 50 mm thick** , including necessary utility cut-outs duly concealed, as per specification , including necessary utility cut-outs duly concealed, as per specification	m2	
7.3	**3 mm sheet of EPOXY Flooring** with application of self-levelling compound to achieve smooth and even floor surface, non-skidding, abrasion resistant and chemical resistant with Flooring surface should be clean and dirt free and NO un-even surface should be allowed during and after installation.	m2	
7.4	R-45mm wall to floor sand-cement fabricated coving.	RMT	
7.5	Wall to ceiling and Wall to wall coving with Extruded aluminium powder coated (R= 42) clutch-coving with silicon finish	RMT	
8	Clean room compatible Double Leaf Doors 1500 (W) x 2100mm (H) as per specification with door closure, SS-'D' handle, Push plate and kick plate along with 480x750 double glazing view pane & Drop-seal	Nos	
9	Clean room compatible Single Leaf Doors 1200 (W) x 2100mm (H) as per specification with door closure, SS-'D' handle, Push plate and kick plate along with 480x750 double glazing view pane & Drop-seal	Nos	
10	Clean room compatible Single Leaf Doors 1000 (W) x 2100mm (H) as per specification with door closure, SS-'D' handle, Push plate and kick plate along with 480x750 double glazing view pane & Drop-seal	Nos	
10	Zero Leak-EMERGENCY Door 800 (W) x 2100mm (H) as per specification with SS-'D' handle, PANIC-BAR along with 480x750 double glazing view pane & Drop-seal	Nos	

11	Double glazing windows with 6 mm thk toughened glass fitted, as per approved drawings.	Nos	
12	S S Static Pass Box of size 600 x 600 opening space 450 x 450 complete with PLC, UV Lamp with hour meter and double door interlocking arrangement with specified time delay mechanism	Nos	3
13	**BMS Automation & Access Control system**	Set	3
13.1	Programmable Logic Controller , View port operator Terminal		
13.2	DDC panel Enclosure Powder coated wall type with Transformer, MCB & terminal block		
13.3	Duct mounted Air velocity sensor		
13.4	Exhaust duct Temperature sensors		
14	Access control & 2/3 - Door Interlock system with Electromagnetic Strike lock unit + Egress Button and 15 nos Access Proximity cards	Set	3
15	FIRE Control Address System & Communication cabling with termination.	Set	3
16	CCTV surveillance system with night vision movement detection auto-start IP based Cameras. DVR with 15 days back-up arrangement	Set	12
17	SITC of suitable 3 Phase IN and 3 Phase OUT online UPS with 45 to 60 mins power back-up	Set	3
18	SITC of ABC type Fire suppression devices of 3 & 6 Kgs capacity	Set	12
19	Room communication port/socket with RJ 11 & RJ 45 and 2 core CAT 5 cabling for communication from ABSL 3 lab	Set	
20	NSF Approved Bio-safety cabinet (BSC-4 Ft.) of Type-II, B-2, 100% Exhaust including necessary Exhaust system	No	10
21	Wall mounted double door sliding type Autoclave cap. 250 ltrs with inbuilt steam steriliser and PLC controlled operation	Set	2
22	**36 / 48 Cage IVC system for MICE – preferred manufacturer**	Set	12
23	**Animal Change Station - preferred manufacturer**	Set	10
24	**Work Bench Table with Granite top – 750 x 1450**	Set	12
25	**Validation, Testing and Documentation of ABSL-3 lab facility**	Lot	
26	Operation Manual (SOP)	Set	
27	**On-Site Comprehensive operation and maintenance of the duly validated ABSL-**3 lab facility for next **36 months**. After successful completion and handing over of the facility. Operation & maintenance of the newly validated ABSL-3 facility including providing skilled operator cum technicians in each shift (round the clock) including reliever and one helper & a supervisor in general shift, for operation and maintenance of ABSL-3 facilities 2 technicians in each shift round the clock (7 days x 24hrs, 365 days/year) etc as per the site requirement to run the facility without any breakdown.	**Lot**	

List of approved/preferred Makes

S NO.	ITEM DESCRIPTIOPN	MANUFACTURER / SUPPLIER
1	Motor	ABB/Siemens/Crompton/GEC/Equv.
2	Double skin Air handling units	ZECO/Carrier/Edgetech
3	Condensing Unit	Voltas/Blue Star/Hitachi
4	Centrifugal Fan	Kruger/Nicotra/Comefri/Flaktwood
5	Air filters (Pre, Micro & HEPA)	Thermadyne/AAF/Dyna/Trijama
6	VFD	ABB/Dahfoss
7	Fire Damper (Fusible-link type)	Caryaire/system air/Continental/Ajanta
8	GI ducting sheet-Lock forming	SAIL/TATA/Bhusan
9	Closed Cell Nitrile Rubber Insulation Aluminium faced – Class “O”	Armacell / Armaflex / Paramount
10	Extruded aluminium Grill/Diffuser/ Damper	Caryaire/system air/Continental/Ajanta
11	MCCB	Siemens/Schneider/L&T/GE/ABB
12	High pressure In-line Exhaust air Fan	GEC/Alstom/CGL/Humidine
13	BMS & Automation	Honeywell/Alarton/Delta
14	Field Sensors	Honeywell/Alarton/Delta
15	MCC Panel	Tricolite/Khokar/Trident/PTC
16	Power Cable	Polycab/CCE/Finolex/Skytone/KEI
17	Control Cable	Polycab/Finolex/Kalinga/KEI
18	PUSH BUTTON STN	Siemens/Schneider/ABB
19	Electric Tubular Heater	DASS-PASS/TMH/Rapid cool
20	Supply Air Terminal Perforated baffle	Fabtech / GMP/CRT/Ajanta
21	Interior clean room component	Fabtech / CRT / Clean Tech/Iclean
22	Antistatic PVC flooring	Wonderfloor/ DECO/ Turkit
23	Clean room “0”leak CFL light fixture	Wipro/PTC/Havells
24	Air filters	Thermadyne, Dyna, AAF, Spectrum
25	Bio Safety Cabinet-Type 2/B-II	ESCO / Labconco / Thermo
26	SS Sterilizer (Autoclave)-250 Ltr.	Natsteel / PSM
27	Static Pass Box – SS (600x600)	Fabtech/CRT/Iclean
28	IVC – 36/48 cages - MICE	Citizen / Techniplast/Orchid Tech
29	Animal Change Station	Citizen/ESCO/Orchid
30	SS lab work bench-750x1250	Citizen/ISI
31	Lab Work Bench 750x1450	

32	CCTV Surveillance system with DVR	CP PLUS / Hikvision / Sony
33	Fire address system & Extinguisher	Agni / Fire Pro / Eq.

Terms and conditions:

1. **<u>Prequalification criteria</u>**:

- The company should have successfully completed independently at least Three similar work costing not less than Rs.45,00,000.00/- The similar works mean set-up/up-gradation/conversion/revamping of uncontaminated BSL 3 laboratory in any Central Govt./State Govt./PSU/Autonomous Bodies/Reputed laboratory institutes and other Govt. Department etc during last Four financial years. This may be inspected (at the risk and cost of participating company) by the competent authority of IISc, if required. Tenders shall be submitted with all supporting documents i.e satisfactory Completion certificate with schedule of work/Bill of Quantity etc.
- The rates mentioned in the financial bid shall be inclusive of all labour charges, Packing, Forwarding, Cartage, Insurance, Loading-unloading, road permit/state entry permit and Delivery, Installation, Testing , Commissioning, etc at site including temporary constructional Storage, Risks, Overhead Charges, General Liabilities/ Obligations etc. Any variation in the above said components till the completion of the work will also be in the bidder's account. The GST shall be extra as applicable.
- However, bidder should mention rate of applicable GST. In case applicable GST rate is not mentioned by the bidder in price bid; then it will be assumed that their quoted rates are INCLUSICE of all GST.
- **The company shall provide local content declaration in terms of % of materials locally procured and imported. As per the OM No P-45021/2/2017-PP(BE-II) dated 16 sep 2020.**
- The firm should have in-house personnel with experience in setting up and maintaining experiences of minimum **Three** BSL-3 &/or ABSL-3 facilities in **INDIA** on turnkey basis in the last 4 years. The firm should have proven track record of successful operation and maintenance services of minimum **Three** BSL-3/ or ABSL-3 lab facilities in **last three years**. Certificate of satisfaction a must from at least three institutions on original letter head. (Please DO NOT submit any information pertaining to either clean room or BSL 3 facility)
- The firm should be engaged with maintaining comprehensive operation and maintenance contractual activities in 4 locations of BSL-3 /or ABSL-3 lab facilities in Indian government institutes in last 3 years. A proof to the effect must be furnished.
- The company shall attach copy of ITCC of last 3 years or ITR of last 3 years.
- The company has to give an undertaking on their 'Letter Pad' that they have not been blacklisted during last three years by any of the Govt. Depts./Govt. Institutions etc.

and not engaged in any form of legal litigations related to any institutional obligations.

- An affidavit in a e-stamp paper of Rs. 50/- (duly notarized) to the effect that the company undertakes that :
- The documents submitted by the company are genuine and undisputable and in the event of it coming to notice at a later date that the documents are not genuine, company shall be liable for criminal action.
- The company will not withdraw his/their Tender after opening of Technical Bid and if done so; the company will be blacklisted.
- The company will not sublet or subcontract the work (if awarded to them) and if done so; then penalty shall be payable by him to IISc as may be decided by the Institute.
- List of experiences of Construction of similar facilities, minimum 3 BSL 3 labs indicating respective users in India must be submitted along with main technical offer. Experience details of the proposed offer for construction and successful handing over of similar facilities with respective team member's bio-data and capability of handling the situation as per global guidelines (WHO & DBT-RCGM) for setting up of the BSL-3 laboratory facility.
- **The company should provide feedback from the facilities constructed in the past with respect to performance, time taken to complete the project, and quality of work. The feedback should be duly signed by the relevant authorities on the official letter head.**
- IISc, Bangalore (Dept. of CIDR) reserves the right to reject any or all the tenders in full or in part without assigning any reasons whatsoever, and the decision of the IISc, Bangalore in this regard will be binding on all the bidders. Bidders not complying with any of the provisions stated in this tender document are liable to be rejected. IISc – Dept. of CIDR reserves the right to accept or reject any tender without assigning any reason and does not bind itself to accept the lowest tender.
- Copy of all documents of pre-qualification criteria and as asked for in the tender may please be attached with the Technical Bid ONLY. In case of short fall of any documents, tender will summarily be rejected, and no queries will be entertained in this regard. Decision of the IISC, Bangalore authority shall be final in this regard. The offer shall remain open for at least 60 days from the date of opening of Price Bids.

2. **Criteria for evaluation of the technical BID**:

All offers should be in Two parts viz., Technical and Price Bids separately. The proposal should include details of the technical design and bill of quantities (BOQ) with detailed technical specifications to be addressed as per the actual requirement to complete operational ABSL-3 lab facility as and whatever items are required considering this as a **TURNKEY** contract. IISc shall be held responsible for rejecting any request after the award of

the contract for any additional fund allocation that may be required for making the lab fully operational as per the users suitability.

Interested contractors may visit site for physical check and status of the site condition. Please contact Ms. Bharathi (contact no. 08022933063 or email: office.cidr@iisc.ac.in) for obtaining prior appointment for physical check.

All the participating vendors will be called for a short up to ten-minute presentation. The presentation should include a brief introduction, proposed facility layout, plan for project execution, timeline and new suggestions that might include a better alternate layout plan for a better utilization of the limited space considering limited time frame.

The details submitted by the bidders will be evaluated in the following manner:

a. Experience in similar nature of work during the last 03 YEARS (40 marks)
b. Performance on works completed on time and quality (30 marks)
c. Personnel Experience, potential understanding, and establishment (20 marks)
d. Presentation (10 marks)

To become eligible for short listing for opening of the price bid the bidder must secure at least **fifty percent** marks in each and **sixty percent** marks in aggregate. 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 to disqualification if he/she has made misleading or false representation or deliberately withheld information in the forms, statements and enclosures required in the eligibility criteria document

The bidding Capacity of the company shall be calculated, and company multiple bids will not be considered. In case company is unable to provide satisfactory competency proof of understanding and knowledge of criticality of such facilities during technical presentation, the decision of competent authority of IISc, for opening of price bids will be final and binding without any prejudice.

Other conditions

The validity period of the quotation should be 90 days.

The lead time for the delivery of the equipment should not be more than 5 months from the date of receipt of our purchase order.

If the goods are found to be defective, they must be replaced or rectified at the cost of the supplier within 15 days from the date of receipt of written communication from us. If there is

any delay in replacement or rectification, the warranty period should be correspondingly extended.

Timeline/milestone would be as follows:
Submission of design and approval: 3 weeks
Supply of materials: 3 months
Completion of work: 5 months from the date of approval of drawing
Testing, Validation, Commissioning and Handover of the facility: 1 month

The payment terms would be tied with the successful completion of work as per timeline and a penalty of 5% on defaulting on each timeline would be levied.

The payment terms would be as follows:
Submission of design and approval and supply of materials: 50%
Completion of work: 30%
Testing, Validation, Commissioning: 10%
Handover of the facility:10%

A performance Bank Guarantee of 3% of value of the order for the period of shall be submitted at the time of on the issue of the work order.

EMD of Rs.5,00,000/- in the form of Bank guarantee or Demand Draft must be submitted. MSME's are exempted from submission of EMD

The purchaser reserves the right to accept or reject any bid and to annual the bidding process and reject all bids at any time to award of construct without thereby incurring any liability of the affected bidder or bidders.