June 25th, 2021

Domestic Tender

Supply, Installation, and Testing of General Exhaust in CeNSE Building

This is an RFQ (Request for Quote) for **Supply, Installation, Testing and Commissioning of General Exhaust at North wing CeNSE Building",** as part of a limited tender for the Centre for Nano Science and Engineering (CeNSE) at Indian Institute of science (IISc) Bengaluru.

CeNSE is a multidisciplinary research department at IISc that houses a 14,000 sq. ft. cleanroom and characterization facility used by 200 faculty members from various disciplines at IISc. CeNSE also runs a nationwide program which has allowed 4200 participants from more than 700 universities and institutes all over India to use the facilities at CeNSE. Consequently, any utility/facility at CeNSE receives significant exposure to scientific community at IISc and beyond. The vendors are kindly requested to factor in the value of this exposure in their quotes.

Procedure

1. Vendors will be required to submit their technical proposal and their commercial proposal in **two separate sealed envelopes**. Any violation of this will lead to cancellation of the proposal.
2. **The deadline for submission of proposals is the 16th July, 2021, 5:30 pm Indian Standard Time.** Proposals should arrive at the Main office, GF-20, Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore 560012, India, by the above deadline.
3. Vendors will be required to visit the site for survey. For site visit and verification please contact NNFC office, GF-20, CeNSE, IISc, Benglaruru. Bids without site survey will be considered disqualified.
4. The decision of purchase committee will be final. The purchase committee can rescind, amend, cancel the tender without any explanation.
5. The technical proposal should contain a compliance table. The first column must list the technical requirements and scope of work in the order that they are given in the technical configuration below (Annexure 1, 2 and 3). The second column should describe your compliance in a "Yes" or "No" response. If "yes" the third column should provide the make and type of system. If "No" the fourth column should provide the extent of the deviation (please provide quantitative responses). The fifth column should state the reasons for the deviation. Sixth column can be used for highlighting advantages of the system in third column.
6. Please find the Annexure below.

Annexure 1	Technical specifications
Annexure 2	Bill of material
Annexure 3	Scope of work
Annexure 4	Prospered drawing layout

7. Any additional capabilities or technical details, that you would like to bring to the attention of the purchase committee, can be listed at the end of the technical table.
8. Vendors are encouraged to highlight the advantages of their tools over comparable tools from the competitors.
9. Only vendors who are compliant with the technical requirements will be considered for commercial comparison. The bid is awarded to the lowest cost vendors (referred as L1)
10. The commercial comparison is done as per Government of India rules, specifically GFR 2017. Note that GFR has recently been amended. We shall follow the GFR rules as they stand on the date the tender has been released.

11. As per recent edits to the GFR, there are three classes of vendors distinguished by their "local content". **In the cover letter, vendors must mention the "Class" that applies to them**:
    a. Class 1 supplier: Goods and services have a local content of equal to or more than 50%
    b. Class 2 supplier: Goods and services have a local content more than 20% but less than 50%
    c. Non-local supplier: Goods and services have a local content of equal to or less than 20%
12. **This is domestic tender, in which only Class 1 and Class 2 suppliers (as per amended GFR 2017) can participate.**
    a. Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor.
    b. The quotations should be on FOR-IISc Bangalore basis in INR only.
13. In the commercial bid, please provide itemized cost of the items in the BOM.
14. As an option, please provide itemized cost for any *suggested* accessories/add-ons that may enhance the usability, capability, accuracy or reliability of the system. Vendors are encouraged to quote for as many add-ons as their part/material portfolio permits.
15. Please indicate the warranty provided with the Equipment. Warranty of 3 year is required.
16. Goods and parts should be charged at 5% GST, as per concession available to educational institutions. IISc will provide the required certificates. Services and shipping must be taxed at 18% GST.
17. **The technical proposal must include references of 3 previous installations** (in India) of similar scope and size (measured in CFM) of 3 years or older. The referees must belong to semiconductor or chemical sector. Please provide the names and contact addresses of the referees, so that the committee can contact them independently.
18. The vendor referees must be able to provide the following information:
    a. The capacity of the exhaust system implemented by the vendor.
    b. The application for which their system was designed.
    c. Certify that the vendor has capability to design and implement a general exhaust system.
    d. Certify that the design implemented by the vendor has stood the test of time. The performance matches design specifications. The system is functional.
    e. Certify that the vendor provides high-quality service and support, since installation.
19. As per Govt. rules, domestic tenders cannot be paid in advance. Payment will be within 30 days, against a tax invoice after work is completed.
20. For site visit and any questions please contact Dr. Savitha P, GF-20, Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore 560012, India. (savithap@iisc.ac.in)

Thnaks,
Savitha P,
Chief Operating Officer
NNfC
Centre for Nano Science and Engineering,
Indian Institute of Science, Bangalore 560012, India.

Annexure-1

Technical Specification

1	Application	General exhaust for R&D equipment, such as chemical wet benches, fume hoods, storage cabinets, deposition equipment, etc. The exhaust system must be resistant to general solvents like acetone, methanol, ethers, etc.
2	Industry type	Semiconductors and chemical
3	Type of blower	1. Centrifugal 2. Direct driven 3. MS FRP coated impeller
4	Blower capacity	1. 10500 ± 5% CFM 2. 200 ± 5% mmAq static pressure.
5	Motor type	1. 30 kW 2. 4-pole 3. 3 phase 4. 415 volts 5. 1400 ±5% RPM
6	Ducting	PP+FRP ducting (3 mm PP + 3 mm FRP)
7	Electrical Panel	1. Floor mounted 2. Powder coated sheet Steel enclosure 3. 150 A MCCB Incomer 4. Two outgoing feeders for 30kW blowers 5. Two VFDs with Auto manual option 6. Two Potentiometer control for speed variation in manual mode 7. Option for BMS connections 8. Suitable ventilation fans 9. Suitable wiring and indicators for run, trip and off status.
8	Electrical Cabling	All cabling from electrical room to the panel must be taken in a metal trucking with suitable supporting system.
9	Vibration Isolation	Proper vibration isolators should be given based on weight of the machine.
10	Noise level	Should be <85 dB when operational
11	Basement for blowers	Rigid concrete basement with necessary slots
12	Warranty	3 years. Any exclusions or consumables must be specified in annexure.
13	Recommenders	1. References of 3 previous installations (in India) of similar scope and size (measured in CFM) of 3 years or older. 2. The referees must belong to semiconductor or chemical sector. 3. Please provide the names and contact addresses of the referees, so that the committee can contact them independently.
14	Local Content	Class of vendor as per GFR 2017
15	Documentation	1. Must submit a basic design (based on site visit) as part of the technical bid. The design must include a P&ID diagram. Committee may ask for more details to evaluate suitability. 2. The winning bid must submit a detailed design document of the “as-implemented” system with engineering drawings, P&ID diagrams, electrical diagrams, BoM, servicing and maintenance information. The detailed designs must be submitted both in hard and soft-copy.

Annexure-2

Bill of material.

	Description	Quantity	Units
1	**Blower with motor:** 10,500 ± 5% CFM/, 200 ± 5% mm total static, 4 – Pole / 3- Phase 1450 RPM / 415V, MOC: Fan casing: 5 mm thk M.S. IS-2062 Fan Scroll: 5 mm thk M.S. IS-2062 Impeller: M.S. IS-2062 a) Back plate: 6 mm thk. b) Blade: 5 mm thk. c) Shroud: 5 mm thk. d) Structure: M.S. IS-2062 with FRP coated	2	Numbers
2	700 mm dia duct PP FRP	50	Meters
3	700 mm dia Elbow PP FRP	6	Numbers
4	300 mm dia duct PP FRP	180	Meters
5	300 mm dia elbow PP FRP	15	Numbers
6	300 mm dia Branch off pieces PP FRP	12	Numbers
7	700 mm dia Dampers PP	2	Numbers
8	150 mm dia Dampers PP	36	Numbers
9	Blower outlets	2	Numbers
10	Electrical panel: Supply of Floor mounted, powder coated sheet steel enclosure with incomer of 150A MCCB, two outgoing feeders each having a MCCB for 30kW exhaust blowers with 2 VFD with Auto/Manual option. 2 potentiometer control for speed variation and with suitable wiring as per standard electrical practices. **Approved VFD makes Danfoss and ABB.**	1	Number
11	Electrical wiring and cable trucking	As per the site survey	meters
12	Electrical supports and cable accessories.	1	lot
13	Vibration isolators	16	Numbers
14	Concrete plinth 5mx2mx0.3m	1	Numbers
15	Civil works (wall openings and finishing) for 12 labs	1	lot
16	Scaffolding charges	1	lot
17	Installation & commissioning	1	lot

The proposed design is provided in Annexure 4 below.

Annexure- 3

Vendor Responsibility

1.	Removal of false ceiling and reinstalling during duct laying other than specified in BOQ
2.	Any type of Civil / Structural works such has foundation for equipment and making of openings for the passage of ducts, pipes, cables, framework for grills/diffusers etc.
3.	Any deviation in quantities will be provided by Vendor. IISc will pay separately any extra items against actuals. Any leftover item that was part of the original BOQ will be retained by CeNSE, IISc.

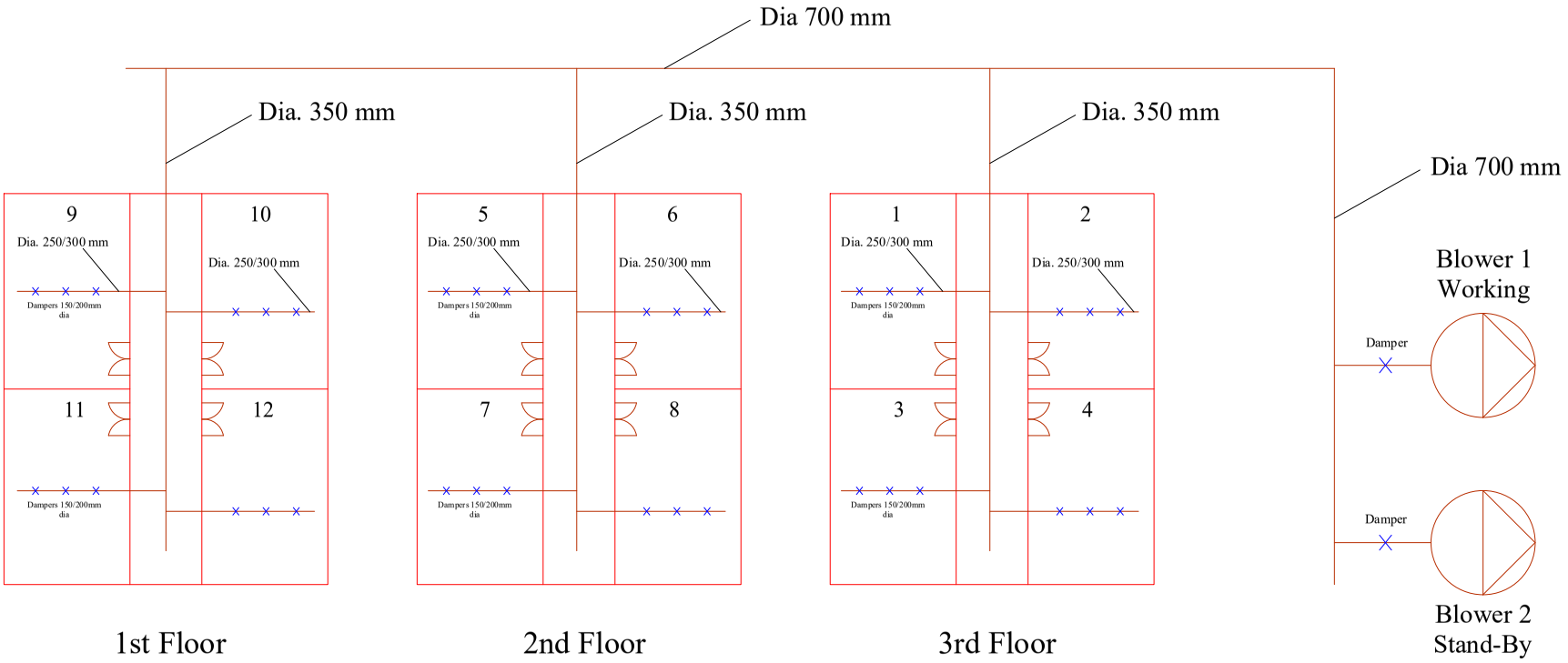
4.	**Safety:** a) The installation technician should follow all site safety terms. b) Mandatary PPE: Safety helmet with face shield, electrical insulated gloves, electrical insulated safety shoes. c) The Installation should be carried out by trained technicians.
5.	The NNfC Office, GF-20, CeNSE, IISc must be intimated prior 5 weekdays before start of work. The vendor must obtain explicit permission for any shutdown needed to implement the project. The request for shutdown must be escalated at least 10 weekdays prior.
6.	Following series of tests will be done on the exhaust system after installation: 1. Flow of air at each port with a rotary vane meter 2. Pressure at each port

IISc Responsibility

1.	Free power supply / water for erection, testing and commissioning of the system will be provided.
2.	Free storage space at site will be provided.
3.	IISc will provide technical help in connecting the exhaust system to the electricity.
4.	Payment will be within 30 days against a tax invoice, after satisfactory implementation of the project.

Annexure- 4

Diagram of the exhaust system



Annexure- 4

MOC:Blower MS EPOXY coated
Duct: PP+FRP Coated 3+3mm thick

PROJECT:–	Exhaust for CeNSE North wing
TITLE:–	Reference drawings for exhaust
Reference line drawing for Exhaust duct and blower placement. Dimensions in the drawing are not actual. Drawing is only for understanding the requirement.	