December 16th, 2022

To Whom It May Concern

Domestic Tender for "Supply, Installation, testing and commissioning of batteries For UPS system in NNFC, CeNSE"

This is an RFQ (Request for Quote) for **Supply, Installation of Batteries for UPS system in NNFC, CeNSE",** as part of a limited domestic 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 50 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 to their quotes. Details of existing facilities and INUP program can be gleaned from:
http://nnfc.cense.iisc.ac.in/

Facility/Site

National Nano Fabrication Center is a 14,000 sq. ft. cleanroom with class 100 and class 1000 where semiconductor devices and fabricated. The facility has the following equipment, several of which require ultrapure hydrogen.

- Furnaces
- CVD equipment
- Sputter equipment
- Rf generators
- Electronic circuit boards (PCBs)
- Wet chemical hoods for concentrated acids and bases use and storage
- Solvent hoods for organic solvents use and storage
- Optical and E-beam lithography
- Characterization tools etc.

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 6th January, 2023, 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, Bengaluru 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. (savithap@iisc.ac.in)
4. The decision of purchase committee will be final.
5. The technical proposal should contain a compliance table. The first column must list the technical requirements, in the order that they are given in the technical configuration below. 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**. (Compliance table is mandatory with all supporting document)**
6. Please find the Technical requirements in Annexure-1.

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 battery over comparable battery 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 which 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. In the commercial bid, please provide itemized cost of the system and required accessories.
13. As an option, please provide itemized cost for any *suggested* accessories/add-ons like cables, lugs etc. 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.
14. Authorized dealer of the Numeric UPS to which batteries are used can only participate. Submit the authorization form in technical proposal.
15. Please indicate the warranty provided with the Equipment. Warranty of 3 year or more is required.
16. All the current used batteries should be taken as a "buy back" and mention the same in commercial offer as a buy back price. Battery details are as follows:
    Battery make: Panasonic
    Battery type: FR battery
    Quantity: 12v 120Ah (240 numbers) and 12V 150Ah (126 numbers)
17. Vendor must have authorization for disposal of batteries as per form-10.(Manifest for hazardous and other waste)
18. GST as applicable.
19. The technical proposal must include references of 3 previous installations of same product and scale, preferable in India. Please provide the reference documents, names and contact addresses of the referees, so that the committee can contact them independently.
20. Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor.
21. The quotations should be on FOR-IISc Bangalore basis in INR only.
22. Any questions can be directed to Dr. Savitha P, GF-20, Centre for Nano Science and Engineering, Indian Institute of Science, Bengaluru 560012, India. (savithap@iisc.ac.in)

Annexure- 1

Technical Requirements

Sl. NO	Description	Requirements	
1	Battery rating	12V- 120AH to 1.75 ECV @C20 at 27°C	12V-150AH to 1.75 ECV @ C20 at 27°C
2	Quantities	240 numbers	126 number
3	Battery type	Fire rated battery (FR battery)Maintenance free Valve Regulated Lead Acid (MF-VRLA)	
4	Application	Uninterruptible power supply	
5	Cable	Uninyvin Cable with required termination and size of U1 for battery interconnection for 120AH batteries	
6	Batter rack size LxBXH	400x173x210 ± 20 mm	495x178x210 ± 20 mm
7	Charge Regime	Float charge Voltage: 13.5 volts per module @ 27°C.	
		Boost charging Voltage : 13.8 volts per module @27°C	
		Current limit: 12 Amps Minimum to 30 Amps Maximum.	Current limit: 15 Amps Minimum to 37.5 Amps Maximum.
		Voltage ripple allowable: <2% of the RMS value	
		Recommended voltage compensation: For every 1°C rise in temperature reduce the float voltage by 0.003vpc & Vice versa, ensure the extension of temperature sensor up to battery.	
8	Product Details	AH efficiency: Above 95%.	
		WH efficiency : Above 85%	
		Operating temperature range:-20°C to +60°c.	
		Self -Discharge/ week : <1% of rated capacity	
		Recommended Terminal Torque(for M8 terminal): 13 Nm	
9	Warranty	3 years	
10	Testing	Quarterly battery drain test throughout warranty	
		Quarterly individual battery test throughout warranty	
		Quarterly battery IR temperature test throughout warranty	

Note:-

1. Any Work permit/shutdown required for work must be intimated prior 5-6 days before start of work.

2. Vendor must follow all IISc safety protocols during the execution of project.

Thanking you,
Dr. Savitha P.
Chief Operating Officer.
National Nano Fabrication Center.
Center for Nano Science and Engineering.
Indian Institute of Science. Bengaluru 560012.