

DEPARTMENT OF AEROSPACE ENGINEERING,
INDIAN INSTITUTE OF SCIENCE (IISc), BENGALURU, INDIA

Local Tender Notice

Tender Notification Ref No.:

Date: 16.01.2025

The Department of Aerospace Engineering, Indian Institute of Science Bengaluru, invites tenders for supply of “Fuel Cell System for drones & UAVs”. This Invitation for Bids is open to all domestic (India based) manufacturers, Indian OEM or its authorized Indian distributors only.

The scope of the supply includes Installation, Commissioning and Training at site for the “Fuel cell system for drones & UAVs”.

Tender Summary

1	Tender number	
2	Tender Date	16.01.2025
3	Item Description	Fuel cell and hydrogen supply system
4	Tender Type	Two Bid System: (a) Technical Bid (Part A) (b) Commercial Bid (Part B)
5	Place of Tender submission	The Chair Kind attn: Prof.Suresh Sundaram Department of Aerospace Engineering, Indian Institute of Science, Bangalore - 560012
6	Last date & Time for submission oftender	10th Feb 2025 @ 5.00 P.M

To whom it may concern

This is a **Request for quote (RFQ)** from **Indian Agencies** for supply including Installation, Commissioning, training at site for “Fuel cell system for drones & UAVs” at the “**Department of Aerospace Engineering (AE), Indian Institute of Science, Bengaluru.**”

This Invitation for Bids is open to only domestic (India based) manufacturers, Indian OEM or its authorized Indian distributors. All interested vendors shall submit a response demonstrating their capabilities to produce the requested equipment to the primary point of contact listed below. **With respect to this tender, the rules laid out by the Government of India in order No. P45021/2/2017-pp-BE-II issued by the Public Procurement Section, Department or Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, dated 4th June 2020 will be followed.**

The deadline for submission of proposals is **10th Feb 2025 @ 5.00 P.M** Proposals should arrive at the office of

**The Chair,
Department of Aerospace
Engineering,
Kind Attn: Prof Suresh
Sundaram
Indian Institute of Science,
Bengaluru - 560012,
Karnataka, India.**

*Direct all questions concerning the acquisition to addresses to **Prof. Suresh Sundaram** at: vsuresh@iisc.ac.in OR airl.aero@iisc.ac.in*

General Terms and Conditions





1. The bid should be submitted in the two-cover system, i.e., technical bid and commercial bid separately in sealed covers. The technical bid should contain all commercial terms and conditions, except the price.
2. The technical bid must contain a point-by-point technical compliance document. The technical proposal should contain a compliance table that should describe your compliance in a "yes" or "no" response against each of the items in the table listed in this RFQ. If "no" the second column should state, the extent of deviation. The third column should state the reason for the deviation, if any. The fourth column can be used to compare your tool with that of your competitors or provide details as requested in the technical requirement table below.
3. In the commercial bid, the price should be inclusive of all discounts.
4. The quotations should be on FOR-IISc Bangalore basis in INR only.
5. The vendor should have qualified technical service personnel for the equipment based in India (preferably in Bangalore). The Bidder should belong to either Class-1 or Class-2 suppliers distinguished by their "local content" as defined by recent edits to GFR. They should mention clearly which class they belong to in the cover letter. a) Class-1 supplier: Goods and services should have local content of equal to or more than 50%. b) Class-2 supplier: Goods and services should have local content of equal to or more than 20% and less than 50%.
6. The covering letter should clearly state that whether the vendor is a Class-I or Class-II local supplier. Failing this the bid will be automatically rejected.
7. Any "Non-local supplier" i.e. "a supplier or service provider, whose goods, services or works offered for procurement, has local content less than 20%" is ineligible to participate in this tender.
8. Bidders offering imported products will fall under the category of non-local suppliers. They cannot claim themselves as Class-1 local suppliers/Class-2 local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training, and other sales service support like AMC/CMC, etc., as local value addition.
9. Purchase preference as defined by the recent edits to GFR (within the "margin of purchase preference") will be given to the Class-1 supplier.

10. MSMEs can seek an exemption to some qualification criteria. IISc follows GFR2017 for such details.
11. The vendor to state the percentage of the local content and provide self-certification that the item offered meets the minimum local content requirement. They should also give details of the location(s) at which the local value addition is made.
12. The lead time for the delivery of the equipment should not be more than 3 months from the date of receipt of our purchase order. It should be clearly mentioned in the technical and commercial bids.
13. All the quotations must be valid for at least 90 days at the time of submission.
14. List of customers and references: **The Bidder should have supplied similar equipment in Central Universities, preferably in centrally Funded Technical Institutes (IITs, IISC, IISER, NIT). Please provide the details and contact information.**
15. The Bidder must not be blacklisted/banned/suspended or have a record of any service-related dispute with any organization in India or elsewhere. A declaration to this effect should be provided.
16. Items in addition to that listed in the technical table that you would like to bring to the attention of the committee, such as data sheets, technical plots etc. can be listed at the end of the compliance table.
17. Vendors are encouraged to highlight the advantage of their system over their competitors.
18. If needed, a meeting for any technical clarifications can be scheduled with the undersigned by sending an email.
19. The Institute reserves the right to accept or reject any bid, or to annul the bidding process and reject all bids, at any time prior to the award of contract without thereby incurring any liability of the affected bidder or bidders.
20. Warranty terms and additional warranty options is a must for all the components. Please specify the service plan like whether the local distributor will address the issue or the parent company.
21. Terms and conditions for the annual maintenance contract beyond the warranty period should be mentioned.
22. After the award of purchase order, the vendor must provide an Order Acknowledgement within 30 days from the receipt of the Purchase Order.
23. Please quote the price of each optional line item, separately.

Desired Technical requirements

Please note that the requirements listed below are only guidelines. It does not disbar bids that do not meet the criteria listed. Vendors are requested to quote for equipment that meet the criteria to the best extent possible and list deviations. Deviations are NOT an automatic reason for disqualification. Any deviations will be discussed by the technical committee prior to making an informed decision.

Characteristic	Value
Fuel cell electric power	800W-1000W (1000 W max power at the beginning of Life)
Fuel cell weight	Less than 1.5 Kg
Specific Power	More than 600 W/Kg and at least 625 W/kg
Power Density	More than 200 W/L and at least 225 W/L
Voltage delivered	27 V- 43 V (up to 10s)
Current delivered	0-30 A (max)
Dimensions	Should be within 200(H) X 150(W) X 150(D) mm (+/- 10 mm)
Hydrogen consumption	Less than 6 L/min
Power consumption	5W or lower
Hybridization with battery required	YES
Hybridization battery requirement	8S (high discharge rate; C rating)
Fuel cell	Air Cooled
Operating Temperature for air intake	0°C - 50°C
Voltage - Current curve for the Fuel Cell	To be supplied
Control system for fuel supply	In-built
Weight of Pressure regulator for hydrogen supply	Should be less than 350 gm
Pressure reduction with Pressure regulator	From 300 bar to less than 1 bar
Pressure regulator control	By the in-built control system and transducer to monitor the supply cylinder pressure
Hydrogen supply cylinder	Type 4 (Carbon fiber with thermoplastic liner)
Hydrogen supply cylinder capacity	3 L (water volume)
Hydrogen supply cylinder weight	Less than 2 kg
Remote monitoring of all FC parameters while in operation	Software with all remote monitoring and emergency stop capabilities. Display should show the live operating parameters like voltage current and power as well as flow rate and pressure of hydrogen being delivered.

-  Should have proven record of successful installations within Indian education/research institutes. Proof of such installation must be enclosed.
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 -  The OEM/Supplier should have trained service engineers stationed in India for any on-site service requirement, details to be provided in the offer.
 -  OEM/supplier should have requisite stock of necessary spare parts in India.

TERMS AND CONDITIONS

1. Warranty period: 1 year.
2. Supplier Credibility:
 - a. The Bidder/Vendor Must have supplied minimum 3 similar orders to reputed Government Organizations in INDIA. Copies of Purchase Orders to be enclosed along with the Technical Bid as proof.
 - b. Please enclose User list in INDIA.
3. Institute reserves the right for final selection of items.
4. Vendors may quote for any other items/accessories separately as "Optional Items".

For queries or clarifications, please contact:

Prof. Suresh Sundaram
Department of Aerospace Engineering
Indian Institute of Science,
Bengaluru, Karnataka 560012
vssuresh@iisc.ac.in

OR

airl.aero@iisc.ac.in

Annexure-I

Note: Compliance Certificate must be enclosed with the technical bid. Non submission of Compliance Certificate will lead to disqualification of the bidder.

Characteristic	Value
Fuel cell electric power	800W-1000W (1000 W max power at the beginning of Life)
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Specific Power	More than 600 W/Kg and at least 625 W/kg
Power Density	More than 200 W/L and at least 225 W/L
Voltage delivered	27 V- 43 V (up to 10s)
Current delivered	0-30 A (max)
Dimensions	Should be within 200(H) X 150(W) X 150(D) mm (+/- 10 mm)
Hydrogen consumption	Less than 6 L/min
Power consumption	5W or lower
Hybridization with battery required	YES
Hybridization battery requirement	8S (high discharge rate; C rating)
Fuel cell	Air Cooled
Operating Temperature for air intake	0°C - 50°C
Voltage - Current curve for the Fuel Cell	To be supplied
Control system for fuel supply	In-built
Weight of Pressure regulator for hydrogen supply	Should be less than 350 gm
Pressure reduction with Pressure regulator	From 300 bar to less than 1 bar
Pressure regulator control	By the in-built control system and transducer to monitor the supply cylinder pressure
Hydrogen supply cylinder	Type 4 (Carbon fiber with thermoplastic liner)
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Remote monitoring of all FC parameters while in operation	Software with all remote monitoring and emergency stop capabilities. Display should show the live operating parameters like voltage current and power as well as flow rate and pressure of hydrogen being delivered.

C-Comply, NC- Non Comply, D- Deviation

Annexure-II

MANUFACTURER'S AUTHORISATION FORM

[The bidder shall require the manufacturer to fill in this form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by the person with the proper authority to sign documents that are binding on the Manufacturer.]

Date: [insert date (as day, month and year) of Bid Submission]

Tender No.: [insert number from Invitation for Bids]

To: The Chair, Kind Attn: Prof Suresh Sundaram, Department of Aerospace Engineering, IISc, Bengaluru 560012

We [*insert complete name of Manufacturer*], who are official manufacturers of [*insert full address of Manufacturer's factories*], do hereby authorize [*insert complete name of Bidder*] to submit a bid the purpose of which is to provide the following Goods, manufactured by us [*insert name and or brief description of the Goods*], and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty with respect to the Goods offered by the above firm.

Signed: [insert signature(s) of authorized representative(s) of the Manufacturer]

Name: [insert complete name(s) of authorized representative(s) of the Manufacturer]

Title: [insert title]

Duly authorized to sign this authorization on behalf of: [insert complete name of Bidder]

*(To be submitted In the company letter head by supplier)

Declaration of Local Content by Local supplier

Subject: Public Procurement (Preference to Make In India)

References:

Preference to Make in India including counter offering will be as per the Public Procurement (Preference to Make in India), Order 2017 available in the following links <https://dipp.gov.in/public-procurements>

http://dipp.nic.in/sites/default/files/publicProcurement_MakeinIndia_15June2017.pdf

http://dipp.nic.in/sites/default/files/Revised-PPP-MII-Order-2017_28052018.pdf

https://dipp.gov.in/sites/default/files/PPP-MII%20Order%20dt%2029th%20May%2019_0.pdf

<https://dipp.gov.in/sites/default/files/PPP%20MII%20Order%20dated%204th%20June%202020.pdf>

We hereby declare with reference to above subject and references that

M/s -----(Tick whichever is applicable as below)

"Class-I local supplier" meeting the requirement of minimum local content equal to 50% (fifty percent) or more defined in the above government notification for the goods and services

(or)

"Class-II local Supplier" meeting the requirement of local content 20% to less than 50% (fifty percent) defined in the above government notification for the goods and services

(or)

Non Local supplier (If not belonging to Class-I & Class-II)

Please mention the details against the following:

Enquiry no:----- dated. -----

Type of Supplier (Class-I/Class-II)

Product:-----

Project:.....

Details of location at which local value addition will be made is as follows: _____

We also understand that the false declarations will be in breach of the code of Integrity under rule 175(1)(i)(h) of the General financial rules for which a bidder or its successors can be debarred for up to two years as per Rule 151(iii) of the General Financial Rules along with such other actions as may be permissible under law.

Authorized Signature M/s-----

(Signature and seal)

Place:.....

Date:.....