

Notice Inviting Tenders

**Engagement of Agency / Consultancy Organization for the project
“Evaluating Impact of Conversion/Replacement of Coal fired Furnace by Gas
Based Furnace in the Moradabad Brass cluster”**

IMPORTANT DATES

Date of Advertisement	10th August 2023
Last Date of Receipt of Bids in TIFAC	22nd August 2023
Date of Opening of Technical Bids followed by opening of Financial Bids of the eligible bidders	23rd August 2023 11 AM

Note-

- 1. The bidder agency need to sign each and every page of this tender document as an unconditional acceptance of all terms and conditions specified in this document.**
- 2. I case Technical Bid evaluation takes time and Financial Bids are not opened on the same day, the date of opening of Financial Bids would be informed to the eligible bidders by email / phone.**

DETAILED TENDER SUBMISSION NOTICE

Technology Information Forecasting & Assessment Council (TIFAC), An Autonomous Organization under Department of Science & Technology, GOI, invites sealed quotations from eligible agencies / consultancy firms for the project “Evaluating Impact of Conversion/Replacement of Coal fired Furnace by Gas Based Furnace in the Moradabad Brass cluster, Moradabad, UP” on immediate requirement basis.

Interested and experienced Indian Consultancy firms/agencies/organizations etc. may submit their bids in the form of sealed quotation (two bid system – technical bid and financial bid sealed separately) providing complete details of experience, nature of work performed earlier, biodata of their team, registration certificate of firm/agency, GST no. etc. along with the financial details.

The agency/firm/organization shall submit proposal to TIFAC on or before the last date of submission as specified on the first page by submitting the proposal by hand or through post.

TIFAC may also schedule presentation of the technically qualified bidders.

1. Eligibility Criteria

- The firm shall be in business of providing Consultancy Services in similar type of works for the last 5 years before the due date of submission of the tender. The firm shall have experience of carrying out assessment studies, feasibility studies, techno-economic evaluation, environmental impact analysis, study/report preparation, life cycle assessment studies, survey of clusters/units/industries mainly MSMEs, etc. The firm shall have carried out at least one similar kind of work in last 5 financial years.
- The firm shall have experienced technically qualified enrolled staff having experience in impact assessment/technical consultancy projects.
- Joint venture of firms is not allowed for participation.

2. Background

Moradabad is a B-class city of Uttar Pradesh, having an urban population of more than 1.3 million and has experienced rapid industrialization during the last few decades. It is also known as “Peetal Nagri” and is one of the major cities of Uttar Pradesh state in Northern India. The city is full of brass, aluminium, steel and glass cottage industries. It is known that pollutants in the outdoor and indoor environments are associated with acute adverse effects on human health and plants.

The working environment in the Moradabad brassware industry covers worker’s exposure to health hazards, handling procedures and safety measures, in small and micro-enterprises in all segments of the industry including ingot making, melting and casting, scraping, polishing and welding units. It has been found that the working environment in the industry to be abysmally poor. Workers in small household units undertaking production activities within four walls of their living space, surrounded with dust and fumes entail severe health hazards for them and their families.

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Household units normally undertake ingot making. These units melt brass scrap obtained from scraping units (Karkhanas) or melt zinc and copper to make the alloy, brass. Artisans adopt very traditional methods for making brass. Coal fired furnaces which are normally aired by motor-operated fans are used for melting brass to make ingots. Workers inside the unit inhale not only smoke of burning coal but also the fumes of molten brass that start to evaporate beyond a point. The molten raw material is handled without any safety measures and protective covers.

Three designs of gas-based furnaces have been installed in the units for replacing the coal-based furnaces.

A programme to facilitate the adoption of gas-based energy efficient furnace in Moradabad brass cluster looking at broader greening and developmental agenda has been taken up. The programme activities include replacing existing coal fired furnaces with gas-based energy efficient furnaces, to demonstrate their techno-economic feasibility. So far 25 furnaces from 5 kg capacity to 30 kg capacity have been installed.

3. Broad Objective

To establish and validate the energy, environment, economic, social and health benefits of the conversion by conducting an independent assessment / impact evaluation of the gas based furnaces installed in place of coal fired furnaces at Moradabad Brass Cluster.

4. Scope of Work

To assess the impacts of pilot demonstrations wrt replacement of coal-based furnaces with gas-based furnaces in Artisan MSME units located in Moradabad Brass cluster.

The work under the project is expected to involve extensive travel to Moradabad Brass Cluster, local travel to units / field visits of units, in depth and extensive survey of brass melting units on various parameters, collection of feedback / responses, collection of data, comparison between coal fired furnaces and gas fired furnaces, interpretation and analysis of data, use of computational tools, air quality monitoring and its analysis, report preparation and presentation etc.

The work would also include (but not limited to) the following:

A. Impact on Energy Efficiency and Conservation:

- To conduct field visits in MSME Artisan units and collect information about energy consumption, coal consumption prior to conversion, and gas consumption on implemented furnace and prepare a comparative report.
 - To estimate the cost benefit analysis of gas-based furnace as compared with existing fuel.
 - To estimate all benefits incurred in Gas based furnaces like productivity enhancement, batch time reduction.

B. Impact on Environmental and Social issues:

- To assess the impact on environmental issues such as pollution reduction in terms of CO₂, CO, particulate matter etc .

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- To assess the impact on general Health & Safety improvements in working areas.

C. Impact on Market development and way forward: Document the feedback covering the followings:

- Approach followed for the transition from coal-based furnaces to gas-based furnaces.
- Actual and perceived benefits from this transition.
- Receptivity, challenges / issues in conversion of coal-based furnaces to gas-based furnaces.
- Scaling up probabilities and further requirements
- The information captured through various discussions at different levels should cover all aspects of the objective mentioned above.

D. Feedback from various stakeholders including MSME Artisans / Industry Associations / Govt. (DIC) / Pvt. departments / ESCOs etc. through one-on-one discussions

- To conduct interaction with the targeted groups, e.g. MSME Artisans and workers, Industry Associations, DIC, Torrent Gas, ESCOs, etc.

Brief summary of indicative activities involved:

- The agency/firm is required to perform a comprehensive and detailed study by surveying the units to assess the impact of furnace replacement.
- Besides, the agency would also closely monitor and perform sampling of requisite air quality (indoor) parameters in the units (at least 7-8 units) including units where gas-based furnaces have been installed vis a vis the conventional coal-based ones. This is required to compare the air quality around coal-based furnaces and gas-based furnaces and their respective impacts.
- The agency is also required to cover those units where different designs of gas furnaces have been installed to ascertain the best amongst them.
- The agency would also critically examine the nature and quality of raw material being used in the units and their effects.
- Field survey of industries/units for physically verifying the status of units in operation
- Conducting on site interviews/interactions with the unit's owners, workers, families with an objective to estimate/predict the impacts (+ve and -ve) of conventional coal fired furnaces
- Preparation of comprehensive questionnaire and recording responses
- Preparing detailed comparison of conventional coal-based furnaces with gas-based furnaces on parameters relating to raw material usage, environmental impact, efficiency, productivity, health, hygiene, market, ease of operation, cost, scaling up, receptivity, challenges and issues etc
- Data collection /collation compilation
- Data analysis and Conversion of data into meaningful form
- Report preparation: Firming up recommendations and conclusion
- Final Report validation and incorporation of inputs
- Other activities as required to prepare a detailed report in line with the objectives and scope of the assignment/work.

Outcome: Impact Assessment Report including above A, B, C, & D sections and covering the above activities

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5. Duration of the Work: 6 Weeks

The agency/firm have to complete all aspects of the work and submit the final report to TIFAC within 6 Weeks. The draft report shall be submitted within 4 weeks from the start of work or letter of acceptance by the agency/firm whichever is earlier.

6. Payment Terms

No advance payment would be made. However, intermediate payments would be made on the basis of milestones achieved as given below:

1	On preparation of questionnaire and first field visit	35%
2	On submission of Draft Report & its acceptance by TIFAC	35%
3	On submission of Final Report & its acceptance by TIFAC	30%
	Total	100%

TIFAC will monitor and review the work performed by the agency/firm periodically.

7. Submission of Report

The agency/firm is required to submit the draft and final reports on time. Any extension of the project duration is not permitted in normal course. However, in exceptional circumstances, it can only be allowed with prior approval of TIFAC without any cost escalation. The agency shall have to prepare presentation in the format as desired by TIFAC and shall have to make presentation of the work undertaken during the project period and within three months after completion of the project.

8. General Terms and Conditions

- i. This tender shall be processed in two bids system – namely (i) Technical/Prequalification bid and (ii) Commercial/Financial bid. The interested tenderers shall submit both the bids simultaneously in a single envelop by the due date as notified on the first page addressed to **the In-charge (Admin. & Estb.), TIFAC, 5th Floor, AI Block, Technology Bhawan, New Mehrauli Road, New Delhi-110016**. The technical bid will be opened first. The commercial/financial bid of the technically qualified bidders will be opened as given on the first page of the tender document. Those firms that does not meet the requisite criterion/ non-fulfilling the preconditions and prescribed requirements, their financial bid shall not be opened. Bids received after the prescribed submission date will not be considered.
- ii. Both bids should be submitted in separate envelopes duly sealed. Envelope No.1 (Superscribed as “Technical bid for Study on Moradabad Brass Cluster”) shall contain only Technical Bid (**Annexure-I**) of Tender Document, i.e. dully filled along with supporting documents of Terms & Conditions of the tender.

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The envelope no 2 should contain the format of providing total cost of the assignment to be filled by the tenderer /bidder as per enclosed **Annexure-II** i.e. commercial/financial bid. This envelope shall be Superscribed as “Commercial/financial bid for Study on Moradabad Brass Cluster”.

- iii. Tender must be submitted in original and without making any additions, alternations, and as per details given in other clauses given hereunder. The requisite details shall be filled in by the bidder in the tender document wherever required.
- iv. **Rates and Prices-** Bidders should quote the rates in the format given at **Annexure-II**. Incomplete bids will summarily be rejected. All corrections and alterations in the entries of tender papers will be signed in full by the Bidder with date. No erasing or over-writings are permissible. All statutory duties and taxes etc. may be clearly specified. Price quoted shall be firm and inclusive of all taxes whatsoever.
- v. No additional amount on any ground except the amount quoted in the financial bid would be payable.
- vi. **Performance Assurance** - If the performance of the work by the agency is not found satisfactory during any stage of the project or if the work is not completed to the satisfaction of TIFAC, TIFAC would not be liable to make any further payment to the agency.
- vii. **Cancellation of bidding process** - TIFAC reserves the right to annul the bidding process at any time prior to award of contract including rejection of any or all bids after the same have been received, without thereby incurring any liability to the affected bidder or any obligation to inform the affected bidder(s) on the ground of TIFAC's action.
- viii. No alternative / conditional offer shall be considered.
- ix. **Misconduct/Sexual Harassment:** TIFAC has strong stance against any form of Sexual Harassment/misconduct to any of its employees at Workplace in accordance with Prevention, Prohibition and Redressal Act, 2013 (SHW Act). The cleaning personnel should be aware of the Act and comply with its provisions. Sexual harassment/ misconduct will attract appropriate disciplinary action on the concerned person/cleaning staff to the extent of cancellation of contract & forfeiture of earnest money.
- x. This tender is non-transferable.
- xi. **Validity:** This tender shall be kept valid for acceptance by TIFAC for a period of 90 days after opening of the bids.
- xii. TIFAC shall not be responsible for any injuries or loss of life of any employee of the agency that may take place while on duty or otherwise. Any expenditure towards treatment for such injuries shall be sole responsibility of agency. TIFAC shall not have any liability whatsoever in this aspect.

The bidders are requested to read and understand fully the guidelines for working before submitting the bids.

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Annexure-I

**Technology Information, Forecasting & Assessment Council (TIFAC)
New Delhi-110016**

TECHNICAL BID/PRE-QUALIFICATION BID for Moradabad Brass Cluster Study

Sl. No.	Parameters	Details
1.	Name of the firm / Company / Agency	
2.	Complete Address & Telephone Number (Landline and mobile)	
3.	GST No. (document to be enclosed)	
4.	Registration No. / License No. of the firm (document to be enclosed)	
5.	Relevant Experience (Copy of documents to be enclosed)	
6.	Qualification / bio data of key persons to be involved in the project (document to be enclosed)	

****Bidder is required to furnish supporting documents for each of the above parameters***

This is to certify that I / We before signing this tender have read and fully understood all the terms and conditions, contained herein, and undertake myself/ ourselves to abide by these.

(Signature with Name, Date , Address & Seal)

Signed with seal

Annexure-II

**Technology Information, Forecasting & Assessment Council (TIFAC)
New Delhi-110016**

Commercial/Financial Bid for Moradabad Brass Cluster Study

Name of Agency :
Office Address :

Tel. No.

Mobile No.

Sl. No.	Description	Rate (INR) - Exclusive of GST	GST Amount in INR	Total Amount
1.	Moradabad Brass Cluster Study Work as defined in the tender document			

This is to certify that I / We before signing this tender have read and fully understood all the terms and conditions contained herein and undertake myself / ourselves to agree & abide by them unconditionally.

(Signature with Name, Date, Address & Seal)

Signed with seal