



MORADABAD SMART CITY LIMITED
CHIEF EXECUTIVE OFFICER,
Moradabad Smart City Limited, Water Works Compound,
Pili Kothi, Civil Lines, Moradabad. – 244002
0591-29710021

No. 210/MSCL/2020/3

Date : 25.02.2020

Inviting Expression of Interest (EoI) for Empaneling agencies as Service provider for Supply, Installation and Operation & Maintenance of 15kg Gas Fired Melting Furnace using PNG/LPG as Fuel

Under the Smart City Mission the Moradabad Smart City Limited proposes to partner with experienced and competent agencies for Supply, Installation and Operation and Maintenance of 15kg Gas Fired Melting Furnace using PNG/LPG as Fuel for the Brass/ Aluminum workers scattered over the city of Moradabad with the view to curb pollution by changing the conventional coal based furnaces with gas based furnaces.

EMPANELMENT OF AGENCIES

Scope of Work

The scope of supply, Installation & commissioning of **3800** numbers of improved furnaces for the subproject of Brass Melting in the Moradabad cottage Industries.

Technical Specifications

Technical Specifications for the **Brass melting furnace** are as follows:

Furnace capacity: Brass Melting capacity of the furnace 15 kg per batch

Furnace Cell	<ul style="list-style-type: none">• Stainless steel-304 fabricated, with appropriate sheet thickness (not less than 3 mm thickness) & M.S angle• Industrial Paint in Furnaces• Provided with appropriate handle system• Top Cover with Castable (Minimum Thickness-25 mm)
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	<ul style="list-style-type: none"> • double walled shell Stainless steel case, fully reinforced with angle iron frame work • Furnace to be designed in such a way that it can work either as pit furnace or as above ground furnace.
Furnace wall Insulation	<ul style="list-style-type: none"> • Brick, Ceramic Blanket 128 density. 70% High Alumina. • Insulation 25 cm :Brick Lining- Bottom 9" (4 ½" Insulation, 4 ½" Fire Brick High alumina 70% - 1300 °C Capacity of Brick) • One layer fiber ceramic insulation • Furnace cell skin temperature not more 27 °C
Burner	<ul style="list-style-type: none"> • Dual stage with flow control device (applicable for aluminum & brass melting at different temperature) • Inlet pressure of fuel (LPG/PNG/CNG) lies between 90 millibar -500 millibar(g). • Burner Integrated with inlet pressure gauge (0 to 900 Milli Bar) & outlet pressure gauge (0 to 160 Millibar) and Digital Temperature Controller System (up to 1800 °C Burner equipped with Self-Ignition system. • Auto- Ignition & Fuel supply cut off facility when temperature reached at maximum prescribed level & start when goes below. • Heating fuel supply – PNG and LPG (Burner must work for LPG as well as PNG fuel) • Burner must have BIS standard • Temperature regulator to be provided with burner (indicating temperature value • Fuel flow control to be provided
Air Blower	<ul style="list-style-type: none"> • Air Blower 1.0 HP, 2880 RPM, single Phases/Design as per requirement • Air blower design to appropriate air -fuel ratio • Air flow control equipped with Mechanical VCD (Volume control damper) • Air flow pipe made up with S.S pipe & Provided with insulation (Outer temperature : 27 °C)

Crucible	<ul style="list-style-type: none"> • Made up with Silicon Carbide • Crucible Volume 2.5 cm³ or Crucible capacity 15 kg brass/ copper melt at a time • Crucible has minimum specifications as BIS standard
General specification	<ul style="list-style-type: none"> • Maximum working temperature 1300 °C • Recuperator/Waste heat recovery system to preheat the air up to 200 °C and pre-charge the material • Product Type to be melt: Copper/ Aluminum/ Zinc/ Brass etc. • Melting Time : 75 -90 Minutes per Charge for Brass
Piped Natural Gas (PNG) Supply Parameters	<ul style="list-style-type: none"> • The Gross Calorific Value of Natural Gas will be in the range of 9,100 to 9,500 Kcal per SCM. • The maximum supply pressure will be 500 Milli Bar (g) while minimum supply pressure will be 90 Milli Bar(g).

General features:

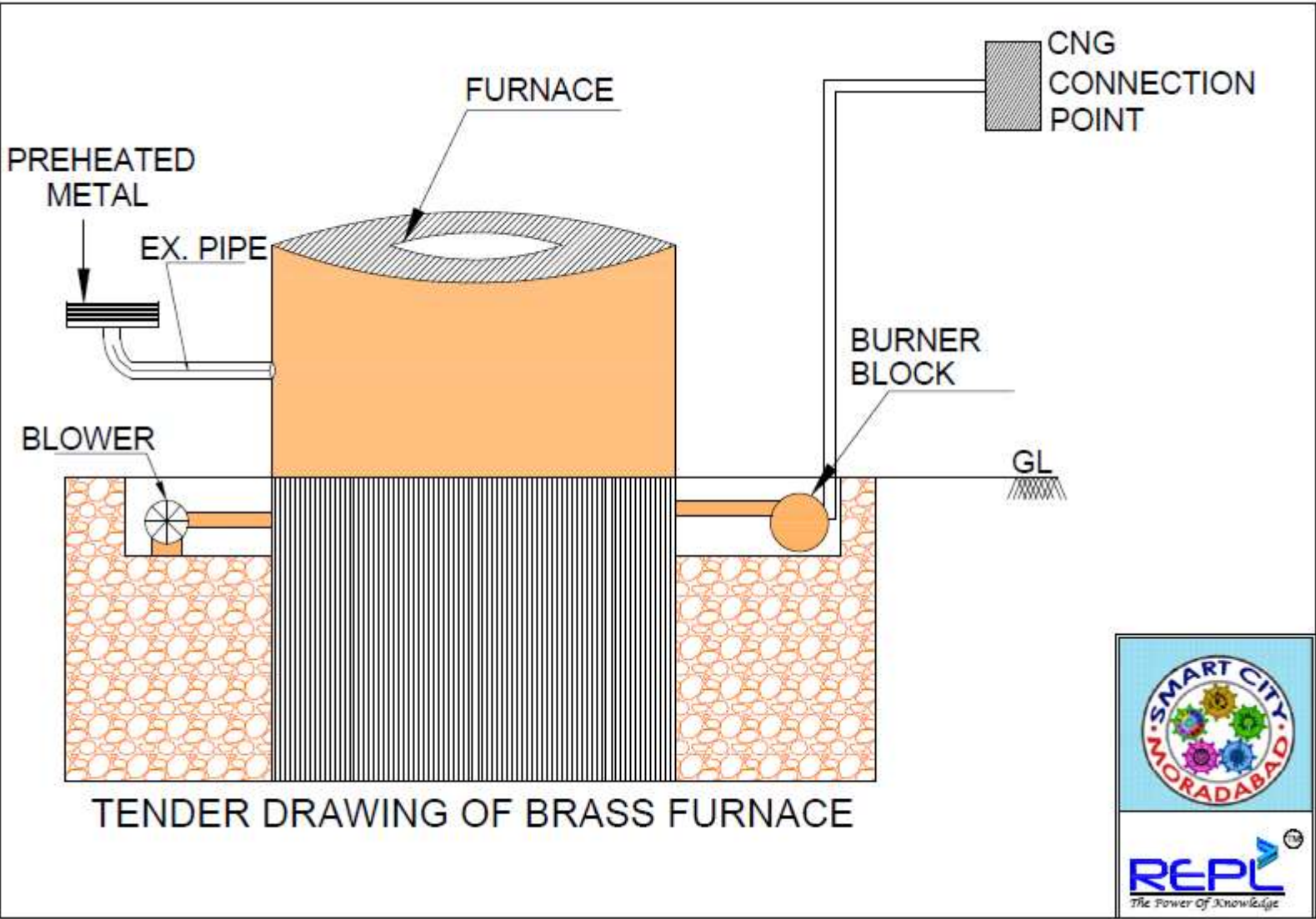
- Air flow Pipe design as per supply air quantity W.r.t Fuel
- Crucible size may have variable as required quantity of material or not more than 15 kg per batch charge.
- Provision for Pre-heat air & material charge.
- Melting Cost of Metal ₹/Kg: ₹ 10.50 per kg of melt (consider PNG supply @ ₹48 Per SCM & Gross Calorific Value of PNG 9500 Kcal/ SCM) or Fuel Consumption for melting per kg material not more 0.225 SCM (in case of PNG) or 0.22 kg(in case of LPG).
- Temperature sensor: K-Type Thermocouple Sensor with Temperature Controller K-Type, integrated with burner block.
- Initial 7 days Performance test & training given by contractor to the beneficiaries, to ensure the proper operation & performance as per specification made.

- The bidder to supply suitable natural gas regulator for the furnace as per PNG supply parameters
- Performance testing center to be establish at Moradabad City for DLP purpose
- Furnace installation as per schematic drawing given with technical specification.
- The bidder to supply flexible hose of 1" Diameter, 10 Meters in length and having suitable connectors, for connecting furnace with outlet of PNG supply meter. The supplied flexible hose should be designed to take pressure of 1 bar(g). The end connection at PNG meter will be ¾" NPT (f).

DEVELOPING TECHNICAL SPECIFICATIONS:

- Time required for Melting 15 kgs of Brass and Aluminum.
- Quantity of Natural gas required in SCM per Hour for initial melting of 15 kgs of Brass and Aluminum.
- The rate in reduction of temperature once melting temperature is reached and gas supply is cut-off.
- Quantity of Natural gas required in SCM per Hour for maintaining the melting temperature of Brass and Aluminum.
- Production Capacity of the Manufacturing Unit (Number of Gas based Furnace the unit could produce per month)

TENTATIVE DRAWING OF THE GAS FIRED FURNACE



Eligibility Criteria

1. The interested entity should essentially meet the following eligibility criteria:
 - a. The agency must possess minimum 3 years' experience, expertise and manpower in installation and operation & maintenance of Furnaces.
 - b. The proponent should be a registered firm with valid Goods and Service Tax number for the line of business the entity is engaged in.
 - c. Audited balance sheet and annual report for the last three years (2016-19) should be submitted.
2. The required documents such as technical design of the Gas fired Furnace, its performance details along with explicitly supporting the past experience, list of existing and past clients with details of services offered, details of similar projects executed, with copies of agreements/work order completion/ satisfaction certificates, CVs of key personnel and other related details to verify all eligibility criteria must accompany the EoI.
3. The agency must comply with all the guidelines of Central Pollution Control Board.
4. While selecting the agency, weightage shall be fixed for government registrations, technical knowledge, Certifications received for proposed technologies, experienced man power etc.
5. The **detailed proposal (hard copy only) for empanelment in sealed cover** should be submitted within the time period, addressed to the "Chief Executive Officer, Moradabad Smart City Limited, Water Works Compound, Pili Kothi, Civil Lines, Moradabad-244002"

Evaluation Criteria

Sl. No.	Evaluation Criteria	Marks
1.	Understanding / Awareness about activities of Gas Based Furnace and the requirement of the City of Moradabad.	5
2.	General experience of the organization in the field	
	a.) Experience in project implementation in Govt. and non Govt. sector	15
	b.) The agencies should have constructed at least three gas fired Furnaces in the last three years.	10
3.	Domain knowledge on	
	a.) specifications, design and working of Gas Fired Furnaces, Pollution control systems and Safety measures etc.	10

Sl. No.	Evaluation Criteria	Marks
	b.) Acts & Rules related to Gas Fired Furnace	10
	c.) Past performance on contracts with government agencies and private industries in implementation of Furnace based Construction projects.	10
4.	Adequacy of proposed approach & methodology for getting recommendation from known bodies for Gas Fired Furnace.	5
5.	Knowledge about specifications & standards of various equipments / Machinery used for the production of Gas fired Furnace	10
6.	CVs of key functionaries	
	a) Shall have at least one graduate Engineer in the stream of Civil, Mechanical, Electrical as full time staff	10
	b) at least one project engineer, site supervisor, Quantity surveyor as free-lance consultants or in need basis.	10
7.	Quality of overall technical presentation	5
Total		100
The agency who qualifies a minimum marks of 70 and above will only be short listed		

Disclaimer

This is neither an agreement nor an offer or invitation to enter into an agreement of any kind with any agency.

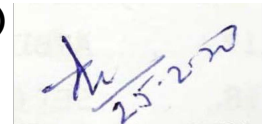
Preparation for submission of EOI

1. The entity/bidder shall ensure that it fulfills the eligibility criteria and other essential conditions.
2. The EoI complete in all respects must be submitted together with technical proposal and other requisite information and annexure(s). The EoI should be free from ambiguity, change or interlineations. Incomplete EoI will not be considered and is liable to be rejected without making any further reference to the entity.

3. The EoI shall be duly signed on each page by a person authorized by the entity. Documents of the entity authorizing such person must accompany the EoI. Suchitwa Mission reserves the right to reject outright any EoI unsupported by proof of the signatory's authority.
4. The included Annexures I, II, III & IV shall also be attached along with technical proposal for furnishing details to evaluate the agency's competency in the field.
5. Audited Balance sheets for the last 3 consecutive years to be furnished along with the application.

Date of Submission

The last date for the submission of the willingness with credentials and other details on 17.03.2020 before 13:00 hrs (Hard copy only)



Sd/-
Chief Executive Officer

LETTER OF SUBMISSION

(On the Letter head of the agency including full Postal Address, and telephone, facsimile and e-mail address.)

Reference No. _____

Date: ____/____/2020

To

The Chief Executive Officer,
Moradabad Smart City Limited,
Moradabad, Uttar Pradesh.

Sir,

SUBJECT: Inviting Expression of Interest (EoI) for empanelling agencies as service providers for Installation and Operation & Maintenance of 15 kg Gas Fired Furnace using PNG/LPG as fuel.

Having examined and understood the details given in EoI document for the above project, we

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hereby submit the relevant information for considering the EOI for getting empanelled as service providers in the field of Installation and Operation & Maintenance of 15 kg Gas Fired Furnace using PNG/LPG as fuel.

- a) We hereby certify that all the statements made and information supplied in the enclosed forms and accompanying statement is true and correct.
- b) We have furnished all information and details necessary for the EoI and have no further pertinent information to provide.
- c) We confirm that we have no objection in Moradabad Smart City Limited or their authorized representative approaching individuals, employers and entities to verify our competency and general reputation.
- d) We declare that all the provisions of this EoI Documents are acceptable to us. We also declare that we have not been debarred/ blacklisted by any Government/Semi Govt. organization in any state/country.

Date of Submission: Place:	Name &Signature of the Authorized Signatory. Company Seal
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GENERAL INFORMATION OF THE APPLICANT

Note: Separate sheets may be used wherever necessary

1. Name & Address :
2. Name & Designation of the concerned officer to whom all reference shall be made :
3. Phone no.s / Mobile no.s/ Fax no.s :
4. E-Mail ID :
5. Chief of the Organization :
E-mail ID :
Telephone :
6. Total No. of Employees/Manpower Strength :
7. No.of offices / Centre (enclose the list) :
8. Type of the Organization: (Public Sector/Limited/Private limited/Partnership/Proprietary/Society/Any other)
9. Any other information that may like to give in order to highlight:

10. Name & Address of local representative, if any:

Date of Submission: Place:	Name &Signature of the Authorized Signatory. Company Seal
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DETAILS OF WORKS AND SERVICES DONE IN THE PREVIOUS THREE YEARS:

No.	Description of work	Name & Details of Client	Value of work	Period		Work done directly or through sub-contractor	Remarks
				From	To		
1.							
2.							
3.							
4.							
5.							

Note: Separate sheets may be used wherever necessary.

Note: Photocopy of Performance Certificate/ Completion Certificate of Owner in support of the work mentioned above may be enclosed.

SIGNATURE OF THE APPLICANT

SEAL OF THE FIRM

CONCURRENT COMMITMENTS

No.	Description of work	Customer details	Value of work	Period / Status of work (Date of commencement of work)	Work done directly or through sub-contractor	Remarks
1.						
2.						
3.						
4.						
5.						

Note: Photocopy of Performance Certificate/ Completion Certificate of Owner in support of the work mentioned above may be enclosed.

Note: Separate sheets may be used wherever necessary.

SIGNATURE OF THE APPLICANT

SEAL OF THE FIRM