



Global Expression of Interest (EOI)

For

Identifying suppliers for Grate fired Technology Boiler

for Municipal / Industrial Solid Waste Disposal

Issued by:

Bharat Heavy Electricals Limited,
Regd. Office: BHEL House, Siri Fort New Delhi-110049

Also office at

Project Engineering & Systems Division (PE&SD)
BHEL, R.C.Puram, Hyderabad- 502 032
(hereinafter referred to as 'BHEL')
INDIA



DISCLAIMER

All information contained in this EOI provided / clarified are in good interest and faith. The information contained in this Expression of Interest document or subsequently provided to Applicant(s), whether verbally or in documentary or any other form, by or on behalf of BHEL, is provided on the terms and conditions set out in this EOI and such other terms and conditions subject to which such information is provided.

The purpose of this EOI is to provide interested parties with information that may be useful to them in the formulation of their application for qualification and subsequent selection pursuant to this EOI. This EOI is not an offer by BHEL to the prospective Applicant(s) or any other person. This EOI is neither intended nor shall it be construed as creating or requiring any ongoing or continuing relationship or commitment with any party or person. This is not an offer or invitation to enter into an agreement of any kind with any party.

Though adequate care has been taken in the preparation of this EOI document, the interested firms shall satisfy itself that the document is complete in all respects. The information is not intended to be exhaustive. Interested Agencies are required to make their own enquiries and assumptions wherever required. Intimation of discrepancy, if any, should be given to the specified office immediately. If no intimation is received by this office by the date mentioned in the document, it shall be deemed that the EOI document is complete in all respects and firms submitting their interest are satisfied with the EOI Document in all respects.

The issue of this EOI does not imply that BHEL is bound to select and shortlist Applicant(s) for next stage or to enter into any agreement(s) with any Applicant(s). BHEL reserves all right to reject any applications submitted in response to this EOI document at any stage without assigning any reasons thereof. BHEL also reserves the right to withhold or withdraw the process at any stage. Neither BHEL nor its employees and associates will have any liability any loss, expense or damage which may arise from or be incurred or suffered in connection with anything contained in this EOI document or any matter deemed to form part of this EOI document, the information and any other information supplied by or on behalf of BHEL. BHEL accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance/use of any statements/information contained in this EOI by the Applicant. BHEL is not making any representation or warranty, express or implied, as to the accuracy or completeness of any information/statements made in this EOI.

The Applicant shall bear all its costs associated with or relating to the preparation and submission of its Application including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by BHEL or any other costs incurred in connection with or relating to its Application. All such costs and expenses will remain with the Applicant and BHEL shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by an Applicant in preparation or submission of the Application, regardless of the conduct or outcome of the EOI.



1. About Bharat Heavy Electricals Limited

Bharat Heavy Electricals Limited (BHEL) is a Central Public Sector Enterprise, wherein Government of India is holding 63.06% of its equity. It is an integrated power plant equipment manufacturer and one of the largest engineering and manufacturing companies of its kind in India having a turnover of about USD 5 billion. The company is engaged in the design, engineering, manufacture, construction, testing, commissioning and servicing of a wide range of products and services for the core sectors of the economy, viz. Power, Transmission, Industry, Transportation, Renewable Energy, Oil & Gas and Defence with over 180 product offerings to meet the needs of these sectors.

Since its inception in 1964, BHEL has been the solid bedrock of evolution of India's Heavy Electrical Equipment industry. BHEL has a mammoth 20,000 MW per annum capability for manufacturing of power generation equipment. A widespread network of 17 manufacturing units, 2 repair units, 4 regional offices, 8 service centers, 1 subsidiary, 4 overseas offices, 6 joint ventures, 15 regional marketing centers and current project execution at more than 150 project sites across India and abroad corroborates the humongous scale and size of its operations. BHEL has extensive stainless steel and aluminium fabrication facilities.

With key focus on project execution, the worldwide installed base of power generating equipment supplied by BHEL has exceeded 178 GW. BHEL's 54% share in India's total installed capacity and 58% share in the country's total generation from thermal utility sets (coal based) as of March 31, 2017 stand a testimony to its valuable contribution towards nation building. BHEL's global competitiveness has established its footprint in all the inhabited continents with references in 82 countries.

The high level of quality & reliability of BHEL products is a testimony to its adherence to international standards by acquiring and adapting some of the best technologies from leading companies in the world including General Electric, Siemens AG, Mitsubishi Heavy Industries Ltd. etc., together with technologies developed in its own R&D centers. BHEL invests more than 2.5% of turnover on R&D and innovation.

BHEL has been designing and manufacturing rolling stock for rail and urban transportation. BHEL has also been manufacturing Motors, Power electronics and Controllers for various transportation applications at its various factories. BHEL also has a Battery Packaging facility for space applications.



More details about the entire range of BHEL's products and operations can be obtained by visiting our web site www.bhel.com.

2. Introduction:

Enormous quantities of municipal solid waste is being generated every day, especially from urban areas. The management of solid waste is continued to be a severe problem for world community impacting the environment & space.

In India, "Swachh Bharat Mission" an initiative by Government of India, aims to implement and monitor solid waste management systems, as a measure of protecting the environment.

M/s Bharat Heavy Electricals Limited [BHEL] is diversifying its footprint into Municipal Solid Waste Management segment and support "Swachh Bharat mission" of Government of India.

BHEL would be the lead Turnkey contractor for Municipal & Industrial Solid Waste management projects and shall supply plant equipment (other than boiler), along with complete civil design, execution of civil works, Erection & Commissioning (E&C) and Operation & Maintenance (O&M).

In view of the above, BHEL invites Global Expression of Interest (Eoi) for identifying "**Grate Fired Technology Boiler Original Equipment Manufacturer [OEM] for firing Municipal and Industrial Solid Waste**" (hereinafter referred as 'Boiler OEM') with broad scope of work indicated in this document.

3. Scope of supply and services by Boiler OEM :

Brief scope of Boiler OEM is as under. However, the job specific scope shall be issued on project-to-project basis separately.

- a) Design, Engineering, Manufacturing, Supply, Testing, Packing and Forwarding, Transportation of Grate fired boiler covering major equipment such as,
 - o Complete grate fired boiler with combustion control and monitoring system
 - o All boiler auxiliaries including FD Fans, ID Fans, Air preheater, air & flue gas duct upto inlet of stack, soot blowers, etc. (Supply of Stack is in BHEL's scope)

- All systems / equipment required for flue gas treatment with fabric filter / ESP for meeting the emission norms as per MSW-2016 rules of India.
 - Complete bottom and fly ash handling system
 - Boiler blow down system
 - HP Chemical dosing system for boiler drum
 - Dedicated control system for boiler along with necessary field instrumentation, cables upto & including Junction Box (JB)
- b) Engineering support for procurement of the following equipment / systems by BHEL :
- Municipal / Industrial solid waste handling / maintenance facility in the waste pit
 - Grab Crane
 - Odour control system
 - Leachate collection and disposal system
 - Steam & Water Analyzers System (SWAS)
 - Feed control station for boiler
- c) Providing Engineering inputs for sizing and supply of the systems / equipment under the scope of BHEL, as listed in Sl.No.4.0 of this document.
- d) Site Supervision of Civil works of Boiler & Auxiliaries
(Civil Engineering & Civil execution is in the scope of BHEL. Necessary civil inputs and loading data to be provided by the boiler OEM)
- e) Site Supervision of Erection & Commissioning [E&C] of Boiler & Auxiliaries
(E&C is in the scope of BHEL. Necessary erection inputs to be provided by the boiler OEM)
- f) Trial run, site performance guarantee test of boiler & auxiliaries supplied by boiler OEM
- g) Training on boiler operation to BHEL staff & end user



- h) O&M support for boiler & auxiliaries (typically for a period of 3-5 years from the date of successful completion)
- i) Supply of commissioning spares, O&M spares for boiler & its auxiliaries
- j) Providing documentation for obtaining necessary statutory approvals by BHEL, such as Indian Boiler Regulations (IBR)
- k) Resolving punch list /contract closing issues pertaining to systems / equipment supplied by boiler OEM

4. Scope of supply and services by BHEL to Boiler OEM:

BHEL will provide the following data, systems / equipment / facilities,

- a) Project information
- b) Boiler specification (scope of supply, guarantee parameters, plant layout etc. required for boiler design)
- c) BHEL will provide following services / utilities **at one point near Boiler** (further distribution within boiler area shall be by boiler OEM):
 - i. Untreated & Unsegregated Municipal / Industrial Solid Waste
 - ii. Start-up fuel (LDO)
 - iii. DM water
 - iv. Feed water
 - v. Cooling water [supply & return]
 - vi. Instrument Air
 - vii. Service Air
 - viii. Nitrogen
 - ix. Service Water
 - x. Potable water
 - xi. Chemicals required for flue gas treatment, such as lime, activated carbon and ammonia.
- d) Fire Protection system for boiler area
- e) Ventilation & Air-conditioning system for boiler area, as necessary
- f) Complete electrical systems for boiler, such as MCC, DC power, cables, cable trays, earthing, illumination, PA & Telephone system etc.



- g) Instrumentation cables from boiler field JB's to boiler control system in control room
- h) Interfacing of boiler control system with plant control system
- i) Civil Engineering & execution of civil works for the boiler and flue gas treatment system
- j) E&C of the boiler and flue gas treatment system

All the necessary engineering inputs to be furnished by Boiler OEM to enable BHEL to provide the above.

5. Selection Process for Boiler OEM:

- a) Through this EOI, BHEL intends to identify prospective boiler OEM in India and abroad.
- b) The process involves seeking willingness of boiler OEMs who make an application in response to this EOI. At the end of this process BHEL intends to invite applicant(s) for further deliberations, as deemed necessary.
- c) Responses to EOI are to be submitted in English language only.
- d) Notwithstanding anything contained in this EOI, BHEL reserves the right to accept or reject any Application and to annul the EOI Process in whole or part, at any time without any liability or any obligation for such acceptance, rejection or annulment, and without assigning any reasons thereof.
- e) BHEL reserves the right to verify all statements, information and documents submitted by the Applicant in response to the EOI. Any such verification or lack of such verification by BHEL shall not relieve the Applicant of his obligations or liabilities hereunder nor will it affect any rights of BHEL.
- f) The EOI process shall be governed by and construed in accordance with, the laws of India and the Courts at New Delhi shall have exclusive jurisdiction over all disputes arising under, pursuant to and/ or in connection with the EOI process.
- g) All costs incurred for participation in the EOI shall be borne by the Applicant (s).



- h) Further information can be obtained at the address below during 9.00 to 16.00 hrs. local time. Bidders can also raise queries through email.

Mr. S. Badari Narayana

Deputy Manager – Mechanical / Proposals Engineering
PE&SD Building, 2nd floor Eastern Wing,
BHEL, Ramachandrapuram,
Hyderabad
PIN : 502032
Telangana, India.
Tel: +91-40-2318 4684
Mobile : 9705149298
Email : sunkubadari@bhel.in

Mr. Prakash Khadilkar,

Senior Deputy General Manager (SDGM) –Proposals & C&I Engineering
PE&SD Building, 2nd floor Eastern Wing,
BHEL, Ramachandrapuram,
Hyderabad
PIN : 502032
Telangana, India.
Tel: +91-40-2318 5025
Mobile : 9441231725
Email : prkhadilkar@bhel.in

6. Information to be submitted by Boiler OEM along with EOI:

Interested parties are requested to submit their technical and financial credentials along with other relevant information in the form of documents listed below :

- a) Company Brochures
- b) Profile of company indicating type of business and experience in Grate fired Boilers.
- c) Annual turnover of company for Grate Fired Boilers business for the last 5 years.
- d) Duly filled in EOI form (Annexure-A). Organizations / companies to indicate the nature of jobs of grate fired boilers, with supporting documents like work order, work completion certificate, performance certificate etc.



The details submitted by the Applicant(s) shall be complete in all respects and BHEL may seek clarifications / additional information as considered necessary. Such clarifications/ additional information must be provided within 7 days of BHEL request.

- 7. EOI information as called for in SI. No 6 shall reach BHEL to the address as indicated in SI. No 5 on or before 20th Dec 2017., 2.00 PM local time by email / post.**



**EOI Form
[Annexure-A]**

Supplier's ref. No:

Date :

Subject: Response to EOI for Grate Fired Boilers for Municipal / Industrial Solid waste

In response to your EOI, we are pleased to submit the details of our company as below:

1.	Name of the Company :			
2.	Registered address of the Company :			
3.	Name of the Proprietor/ MD/ CEO :			
4.	Address of manufacturing works of MSW boiler :			
5.	Contact Details:		Name & Designation	
			Mobile / Phone No.	
			Email id	
			Fax No.	
6.	Turnover and net worth in last 5 years:			
	Financial year	Turnover (in INR) for Corporate	Turnover (in INR) for Grate fired boilers business	Net worth



7. Relevant experience in Waste to Energy Grate Fired Boiler supply										
Sl. No	Name of Project	Capacity (TPD)	Location	Date of award	Date of Completion	Client Certificate	Boiler Steam Parameters			Foot print required (mtr x mtr)
							Flow (TPH)	Pressure (kg/sq.cm (g))	Temp. (degC)	

8 Budgetary offer for Boiler as per this EOI [400 TPD]										
			In INR							
Supply										
Supervision of Civil works , E&C										
O&M for 5 years										
O&M Spares for 5 Year										
Delivery period in months										

Any Other information:

(Sign & Company Seal)
Authorized Signature