

**NTPC LIMITED
(A GOVERNMENT OF INDIA ENTERPRISE)**

CORPORATE CONTRACTS, NOIDA

**INVITATION FOR BIDS (IFB)
FOR
EPC PACKAGE
FOR
WASTE TO ENERGY PROJECT (2x350 TPD)
AT
KAWAS GAS POWER STATION
LOCATED AT
SURAT, INDIA**

(Domestic Competitive Bidding)

IFB No. : 40088007

Date: 12.07.2019

Bidding Document No.: CS-2600-001-9

1.0 NTPC invites online Bids on '**Two Stage**' bidding basis [Stage-I (Techno-Commercial) Bid & Stage-II (Price) Bid] from eligible Bidders for aforesaid Package, as per the Brief Scope of Work mentioned hereinafter.

2.0 BRIEF SCOPE OF WORK

This is concerned with Refused Derived Fuel (RDF) incineration cum electric power generating unit having a rated RDF disposal capacity of 2x350 TPD.

It shall include but not limited to:

RDF Handling	Refuse receiving, Refuse bunker, Crusher, Refuse handling (cranes, hopper, and chutes), Recycled oil system, Leachate handling and treatment
Combustion System	Incineration units, Refractory, insulation, ports and doors, Hydraulic system, Primary and secondary air, air heater, ducting, Secondary Fuel firing system
Boiler	Boiler, Boiler structure, walkway and access, Soot blowers
Air pollution control	De-NOx system, Lime system, Activated carbon system, Flue gas treatment system (cooling, ducting, etc.), Bag house, ID fan
Ash system	Bottom ash treatment system (extractor, conveying, etc.), Bottom ash crane, Fly ash conveying system, silos, Fly ash treatment system
Water and steam	Make up water system, Chemical dosing and conditioning, Feed water system, Steam distribution and condensate system, Equipment cooling water system, Auxiliary pumps, Piping, valves and associated equipment, Insulation
Power generation	Turbo generator, Condenser
Electrical	High voltage electrical system, transformer, Low voltage electrical distribution system, Emergency power supply
Control and monitoring	Control and monitoring system, Continuous emission monitoring system (CEMS), Closed circuit television (CCTV)
Civil part	Civil and architectural works, Chimney, Lift, Rooms, Air conditioning and ventilation (HVAC), Lighting and electric receptacles, Fire alarm and firefighting system, Telephone and communication equipment, Plant model and visitor facilities, Miscellaneous works at plant area and outbuilding.
Other systems and facilities	Wastewater treatment system, Compressed air system (service and instrument air), Odour prevention, Truck washing facilities, Maintenance hoists and cranes, Spare parts, Documentation, drawings, and manuals, Workshops, Laboratory

The complete scope of the proposal for the Design, Engineering, Manufacture, Supply, Construction, Erection, Testing, Commissioning works including Operation & maintenance of the plant for **an initial period of 2 years for the EPC Package for Waste to Energy Project (2 x 350 TPD)**, shall be on the basis of single point responsibility, completely covering the following activities and services in respect of all the equipment & works specified and covered under the specifications:

- a) Basic Engineering of the plant including preparation of Plant Definition Manuals;
- b) Detailed design of all the equipment and equipment system(s) including civil, structure steel works included in bidder's scope.
- c) Providing engineering drawings, equipment sizing & performance data, instruction manuals, as built drawings and other information;
- d) Compliance with statutory requirements and obtaining clearances from statutory authorities, wherever required;
- e) Complete manufacturing including shop testing/type testing;
- f) Complete Civil, Structural and Architectural works, including survey, providing construction material and equipment, construction water supply, construction / permanent roads, drainage arrangements, fencing / boundary wall around the land boundary.
- g) Packing and transportation from the manufacturer's works to the site.
- h) Receipt, storage, preservation, handling and conservation of equipment at the site;
- i) Fabrication, pre-assembly, if any, erection, testing, commissioning and completion of facilities including putting into satisfactory operation all the equipment including successful completion of initial operation;
- j) Performance and guarantee tests after successful completion of initial operation;
- k) Furnishing of spares on FOR site basis.
- l) Insurance and other requirements for the complete EPC package in accordance with the provisions of general conditions of contract of the bidding document.

The Contractor shall be responsible for providing all material, equipment and service, which are required to fulfill the intent of ensuring operability, maintainability, reliability and complete safety of the complete work covered under this specification, irrespective of whether it has been specifically listed herein or not.

- 3.0 NTPC intends to finance subject Package through Domestic Commercial Borrowings / Own sources.
- 4.0 Detailed Specification, Scope of Work and Terms & Conditions are given in the Bidding Documents, which are available for examination and Sale at the address given below at 11.0 and as per the following schedule:

Issuance of IFB	12.07.2019
Document Sale Dates	From 18.07.2019 to 26.07.2019 upto 1730 Hrs. (IST)
Last Date for receipt of queries for clarification from prospective Bidders	02.08.2019
Date, Time and venue for Pre-Bid conference*	02.08.2019, 1030 Hrs (IST) at NTPC-EOC, Noida

Bid Receipt Date & Time for Stage-I (Techno-commercial) Bid	Upto 16.08.2019 by 1445 Hrs. (IST)
Bid Opening Date & Time for Stage-I (Techno-commercial) Bid	16.08.2019 at 1500 Hrs. (IST)
Bid Submission & Opening Date & Time for Stage-II (Price) bid	Shall be intimated separately by NTPC
Cost of Bidding Document in INR	INR 22,500/- (Rupees Twenty Two Thousand Five Hundred only)

** No Queries from Bidders, whatsoever, shall be entertained by the Employer beyond the date of Pre-Bid Conference as specified above.*

- 5.0 All bids must be accompanied by Bid Security for an amount of **INR 2,00,00,000/- (Indian Rupees Two Crore only)** in the form as stipulated in the Bidding documents.

ANY BID NOT ACCOMPANIED BY AN ACCEPTABLE BID SECURITY IN SEPARATE SEALED ENVELOPE SHALL BE REJECTED BY THE EMPLOYER AS NON-RESPONSIVE AND SHALL NOT BE OPENED.

6.0 QUALIFYING REQUIREMENTS FOR BIDDERS.

1.0.0 Technical Criteria

The Bidder should meet the qualifying requirements stipulated in any one of the qualifying routes i.e. Route-1 (clause 1.1.0) or Route-2 (clause 1.2.0) or Route-3 (clause 1.3.0) including requirements stipulated in sub clauses of respective routes. In addition, the Bidder should also meet the requirements stipulated under clause 2.0.0 together with the requirements stipulated under section ITB.

1.1.0 Route1: Qualified Waste to Energy Plant Equipment Manufacturer (QWEPM)

- 1.1.1. The Bidder should have designed, engineered, supplied, erected / supervised erection, commissioned / supervised commissioning of at least two (02) numbers of waste to energy plants employing Grate Combustion System and **Flue Gas Treatment System**, having rated **waste** incineration capacity of at least 300 metric tonnes per day **per stream** or higher, at different locations anywhere in the world. All two (2) reference waste to energy plants should have been in successful operation for a period of not less than two (2) years prior to the date of techno commercial bid opening.

AND

- 1.1.2. The Bidder should have designed, engineered, manufactured/ got manufactured atleast Grate Combustion System or **Waste Heat Recovery Steam Generator (WHRSG)** or both in all two (2) reference waste to energy plants stipulated in clause 1.1.1 above. The bidder shall offer only the type of Grate Combustion System or Waste Heat Recovery Steam Generator (WHRSG) or both for which it is qualified.

1.2.0 Route 2: Indian EPC/R&M Company

- 1.2.1. Bidder should be an Indian Company registered in India as per Companies Act of India and should have executed at least one Engineering, Procurement, Construction (EPC) Contract OR Renovation & Modernisation (R&M) Contract of value not less than ₹ 100 Crores consisting of at least Steam Generator and Steam Turbine Generator Set in a thermal power plant which is in successful operation for a period of not less than one (1) year prior to the date of techno-commercial bid opening.
- 1.2.2. Such bidder should associate/ collaborate with a Qualified Waste to Energy Plant Equipment Manufacturer (QWEPM) meeting the requirements as specified in clause 1.1.0 above at least for

design, engineering, erection / erection supervision and commissioning / commissioning supervision of complete waste to energy plant being offered to NTPC by bidder.

- 1.2.3. Additionally, supplied Grate Combustion System or Waste Heat Recovery Steam Generator (WHRSG) or both (as applicable) shall be designed, engineered and manufactured/ got manufactured by its associate/ collaborator and that shall be of the type for which its associate/collaborator is qualified. In case, associate/ collaborator has designed, engineered, manufactured/ got manufactured both Grate Combustion System and Waste Heat Recovery Steam Generator (WHRSG) in reference waste to energy plants, both shall necessarily be designed, engineered, manufactured/ got manufactured for waste to energy plant being offered to NTPC by bidder.
- 1.2.4. In such case, the Bidder shall furnish Deed of Joint Undertaking (DJU) executed by it and its associate/ collaborator in which the executants of DJU shall be jointly and severally liable to the Employer for successful performance of contract as per format enclosed in the bidding documents. The DJU shall be submitted along with techno-commercial bid, failing which the Bidder shall be disqualified and its bids shall be rejected. In case of award, associate/ collaborator of Bidder will be required to furnish an on demand bank guarantee for an amount of 5% of the total contract price of this Package in addition to the contract performance security to be furnished by the Bidder.

1.3.0 Route 3: Indian Subsidiary Company/JV Company of a Qualified Waste to Energy Plant Equipment Manufacturer (QWEPM)

- 1.3.1. The Bidder shall be an Indian Subsidiary Company/JV Company of a Qualified Waste to Energy Plant Equipment Manufacturer (QWEPM) meeting the requirements as specified in clause 1.1.0 above, registered in India under the Companies act of India for purpose of design, engineering and manufacturing/get manufacturing of at least Grate System or Waste Heat Recovery Steam Generator (WHRSG) or both for waste to energy plants as well as design, engineering, supply, erection/ erection supervision, commissioning/ commissioning supervision of waste to energy plants as on the date of techno-commercial bid opening. If the Subsidiary Company/JV Company is incorporated as a public limited company then it should have obtained certificate for commencement of Business in India as on the date of techno-commercial bid opening.
- 1.3.2. The Qualified Waste to Energy Plant Equipment Manufacturer (QWEPM) shall maintain a minimum equity participation of 51% in the Subsidiary Company / 26% in JV Company for a lock-in period of 5 years from the date of incorporation of Subsidiary Company/JV Company or up to the end of the defect liability period of the contract whichever is later.
- 1.3.3. In case of JV Company, one of the promotor should be an Indian Company meeting the requirement as specified in clause 1.2.1 above who shall maintain the minimum equity participation of 51% in the JV Company for a lock in period of 5 years from the date of incorporation of JV Company or up to the end of defect liability period of the contract whichever is later.
- 1.3.4. Such Subsidiary Company/JV Company shall associate/ collaborate with its Qualified Waste to Energy Plant Equipment Manufacturer (QWEPM) promotor for design, engineering, erection/erection supervision, and commissioning /commissioning supervision of complete waste to energy plant being offered to NTPC by bidder.
- 1.3.5. Additionally, bidder shall have collaboration or valid licensing agreement for design, engineering, manufacturing of Grate System or Waste Heat Recovery Steam Generator (WHRSG) or both, being offered to NTPC by the bidder, of type for which its associate/collaborator is qualified.
- 1.3.6. The Bidder shall furnish a Deed of Joint Undertaking (DJU) executed by it and its Qualified Waste to Energy Plant Equipment Manufacturer (QWEPM) and other promotor having 25% or higher equity participation, in which all the executants of DJU shall be jointly and severally liable to the Employer for successful performance of contract as per the format enclosed in the bidding documents. The DJU shall be submitted along with techno-commercial bid, failing which the bidder shall be disqualified and his bid shall be rejected. In case of award, each promoter having 25 % or higher equity participation in the Subsidiary Company /JV Company will be required to furnish an on demand bank guarantee for an amount of 5 % of the total contract price of the EPC package in addition to the contract performance security to be furnished by the Bidder.

NOTES FOR CLAUSE 1.0.0:-

(1) Definitions

- (i) Wherever the term '**Waste**' is appearing above, "**Waste**" shall be deemed to include Municipal Solid Waste (MSW)/ **Refused Derived Fuel (RDF)**.
- (ii) **Refused Derived Fuel** shall mean fuel derived from combustible waste fraction of solid waste like plastic, wood, pulp or organic waste in the form of fluff
- (iii) Wherever the term "**Flue Gas Treatment System**", is appearing above, the same shall be deemed to include complete flue gas treatment system with De-NOx system, Lime system, activated carbon system, bag house, flue gas cooling, ducting etc.
- (iv) Wherever the term "**per stream**", is appearing above, the same shall mean a single block of **Waste Heat Recovery Steam Generator**.
- (v) Wherever the term "**Waste Heat Recovery Steam Generator**" is appearing above, the same shall be deemed to include furnace and pressure parts as minimum.

(2) Equity Lock in period

Wherever equity lock in period requirement or subsidiary status requirement is indicated, the Bidder would be required to furnish along with his bid, a Letter of Undertaking from the promoter(s), supported by Board Resolution as per the format enclosed in the bid documents, for maintaining the required minimum equity for the specified lock in period.

2.0.0 Financial Criteria

2.1.0 Financial Criteria of Bidder

- 2.1.1 The average annual turnover of the Bidder, in the preceding three (3) financial years as on the date of Techno-Commercial bid opening, should not be less than **INR 910 Million (Indian Rupees Nine hundred Ten Million only)** or in equivalent foreign currency.

In case a Bidder does not satisfy the average annual turnover criteria, stipulated above on its own, its Holding Company would be required to meet the stipulated turnover requirements as above, provided that the Net Worth of such Holding Company as on the last day of the preceding financial year is at least equal to or more than the paid-up share capital of the Holding Company. In such an event, the Bidder would be required to furnish along with its Techno-Commercial bid, a Letter of Undertaking from the Holding Company, supported by the Holding Company's Board Resolution, as per the format enclosed in the bid documents, pledging unconditional and irrevocable financial support for the execution of the Contract by the Bidder in case of award.

- 2.1.2 Net worth of the bidder should not be less than 100 % (one hundred percent) of its paid up share capital as on the last day of the preceding financial year on the date of Techno-commercial bid opening. In case the Bidder does not meet the Net worth criteria on its own, it can meet the requirement of Net worth based on the strength of its Subsidiary (ies) and/or Holding Company and/or Subsidiaries of its Holding company wherever applicable. In such a case, however the Net worth of the Bidder and its Subsidiary(ies) and/or Holding Company and/or Subsidiary(ies) of the Holding Company, in combined manner should not be less than 100% (hundred percent) of their total paid up share capital. However individually, their Net worth should not be less than 75% (seventy five percent) of their respective paid up share capitals.

Net worth in combined manner shall be calculated as follows:

$$\text{Net worth (combined)} = (X1+X2+X3) / (Y1+Y2+Y3) \times 100$$

Where X1, X2, X3 are individual Net worth which should not be less than 75% of the respective paid up share capitals and Y1,Y2,Y3 are individual paid up share capitals.

- 2.1.3 In case the Bidder is not able to furnish its audited financial statements on standalone entity basis, the unaudited unconsolidated financial statements of the Bidder can be considered acceptable provided the Bidder further furnishes the following documents for substantiation of its qualification:
 - (i) Copies of the unaudited unconsolidated financial statements of the Bidder along with copies of the audited consolidated financial statements of its Holding Company.

- (ii) A Certificate from the CEO/CFO of the Holding Company, as per the format enclosed with the bidding documents, stating that the unaudited unconsolidated financial statements form part of the consolidated financial statements of the Holding Company.

In cases where audited results for the last financial year as on the date of Techno Commercial bid opening are not available, the financial results certified by a practicing Chartered Accountant shall be considered acceptable. In case, Bidder is not able to submit the Certificate from a practicing Chartered Accountant certifying its financial parameters, the audited results of three consecutive financial years preceding the last financial year shall be considered for evaluating the financial parameters. Further, a Certificate would be required from the CEO/CFO as per the format enclosed in the bidding documents stating that the financial results of the Company are under audit as on the date of Techno-commercial bid opening and the Certificate from the practicing Chartered Accountant certifying the financial parameters is not available.

2.2.0 Financial Criteria of Collaborator/Associate (Applicable for clause 1.2.0 and 1.3.0)

- 2.2.1 The average annual turnover of the Collaborator/Associate, in the preceding three (3) financial years as on the date of Techno-Commercial bid opening, should not be less than **INR 910 Million (Indian Rupees Nine hundred Ten Million only)** or in equivalent foreign currency.

In case a Collaborator/Associate does not satisfy the average annual turnover criteria, stipulated above on its own, its Holding Company would be required to meet the stipulated turnover requirements as above, provided that the Net Worth of such Holding Company as on the last day of the preceding financial year is at least equal to or more than the paid-up share capital of the Holding Company. In such an event, the Collaborator/Associate would be required to furnish along with bidder's Techno-Commercial bid, a Letter of Undertaking from the Holding Company, supported by the Holding Company's Board Resolution, as per the format enclosed in the bid documents, pledging unconditional and irrevocable financial support to the Collaborator/Associate to honour the terms and conditions of the Deed of Joint Undertaking in case of award of the Contract to the Bidder with whom Collaborator/Associate is associated.

- 2.2.2 Net worth of the Collaborator/Associate should not be less than 100% (hundred percent) of its paid up share capital as on the last day of the preceding financial year on the date of Techno-commercial bid opening. In case the Collaborator/Associate does not meet the Net worth criteria on its own, it can meet the requirement of Net worth based on the strength of its Subsidiary (ies) and/or Holding Company and/or Subsidiaries of its Holding company wherever applicable. In such a case, however the Net worth of the Collaborator/Associate and its Subsidiary(ies) and/or Holding Company and/or Subsidiary(ies) of the Holding Company, in combined manner should not be less than 100% (hundred percent) of their total paid up share capital. However individually, their Net worth should not be less than 75% (seventy five percent) of their respective paid up share capitals.

Net worth in combined manner shall be calculated as follows:

Net worth (combined) = $(X1+X2+X3) / (Y1+Y2+Y3) \times 100$

Where X1, X2, X3 are individual Net worth which should not be less than 75% of the respective paid up share capitals and Y1,Y2,Y3 are individual paid up share capitals.

- 2.2.3 In case the Collaborator/Associate is not able to furnish its audited financial statements on standalone entity basis, the unaudited unconsolidated financial statements of the Collaborator/Associate can be considered acceptable provided the Collaborator/Associate further furnishes the following documents for substantiation of its qualification:

- (i) Copies of the unaudited unconsolidated financial statements of the Collaborator/Associate along with copies of the audited consolidated financial statements of its Holding Company.
- (ii) A Certificate from the CEO/CFO of the Holding Company, as per the format enclosed with the bidding documents, stating that the unaudited unconsolidated financial statements form part of the consolidated financial statements of the Holding Company.

In cases where audited results for the last financial year as on the date of Techno Commercial bid opening are not available, the financial results certified by a practicing Chartered Accountant shall be considered acceptable. In case, Collaborator/Associate is not able to submit the Certificate from a practicing Chartered Accountant certifying its financial parameters, the audited results of three consecutive financial years preceding the last financial year shall be considered for evaluating the financial parameters. Further, a Certificate would be required from the CEO/CFO as per the format

enclosed in the bidding documents stating that the financial results of the Company are under audit as on the date of Techno-commercial bid opening and the Certificate from the practicing Chartered Accountant certifying the financial parameters is not available.

NOTES FOR CLAUSE 2.0.0

- (i) Net worth means the sum total of the paid up share capital and free reserves. Free reserve means all reserves credited out of the profits and share premium account but does not include reserves credited out of the revaluation of the assets, write back of depreciation provision and amalgamation. Further any debit balance of Profit and Loss account and miscellaneous expenses to the extent not adjusted or written off, if any, shall be reduced from reserves and surplus.
- (ii) Other income shall not be considered for arriving at annual turnover.
- (iii) "Holding Company" and "Subsidiary Company" shall have the meaning ascribed to them as per Companies Act of India.
- (iv) For annual Turnover indicated in foreign currency, the exchange rate as on seven (7) days prior to the date of Techno-Commercial bid opening shall be used.
- (v) In case the bidder participating under Clause 1.2.0 or 1.3.0, do not meet the turnover requirement, then, the Turnover of any of the Promoters individually or all the promoters (in a combined manner) (each having Equity Stake more than 25%) of the Subsidiary Company / JV Company would be considered. Each such promoter of the Subsidiary Company / JV Company shall have to meet the Net Worth criteria individually as per clause 2.1.2 and/or 2.2.2. In such an event the Bidder would be required to furnish along with its techno-commercial bid, a Letter of Undertaking from such promoter(s), supported by Board Resolution as per the format enclosed in the bidding documents, pledging unconditional and irrevocable financial support for execution of the Contract by the Bidder in case of award.

7.0 NTPC reserves the right to reject any or all bids or cancel / withdraw the Invitation for Bids without assigning any reason whatsoever and in such case no bidder / intending bidder shall have any claim arising out of such action.

8.0 A complete set of Bidding Documents may be downloaded by any interested Bidder on payment (non-refundable) of the cost of the documents as mentioned above in the form of a crossed account Payee demand draft in favour of NTPC Ltd., Payable at New Delhi or directly through the payment gateway at our SRM Site (<https://etender.ntpclakshya.co.in>). For logging on to the SRM Site, the bidder would require vendor code and SRM user id and password which can be obtained by submitting a questionnaire available at our SRM site as well as at NTPC tender site (www.ntpctender.com). First time users not allotted any vendor code are required to approach NTPC at least three working days prior to Document Sale Close date along with duly filled in questionnaire for issue of vendor code and SRM user id/password.

Note: No hard copy of Bidding Documents shall be issued.

9.0 Issuance of bid documents to any Bidder shall not construe that such bidder is considered to be qualified. Bids shall be submitted online and opened at the address given below in the presence of Bidder's representatives who choose to attend the bid opening. Bidder shall furnish Bid Security, Deed of Joint Undertaking / Joint Venture / Consortium Agreement / Integrity Pact (if applicable) and Power of Attorney separately offline as detailed in Bidding Documents by the stipulated bid submission closing date and time at the address given below.

10.0 Transfer of Bidding Documents purchased by one intending Bidder to another is not permissible.

EPC package for Waste to Energy Project (2x350 TPD) at Kawas GPS	BIDDING DOCUMENT NO. CS-2600-001-9 SECTION - I (IFB)	Page 7 of 8
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11.0 Address for communication:

Manager (C&M) / AGM (C&M)
NTPC Limited,
Sixth Floor, Engineering Office Complex,
Plot A-8A, Sector-24, NOIDA,
Distt.-Gautam Budh Nagar, Uttar Pradesh,
PIN-201301, India
Fax No: +91-120-2410284/ 2410011
Tele. No. +91-120-4948669/ 4946671
e-mail: vibhavrastogi@ntpc.co.in / ashokkumar06@ntpc.co.in

Websites: <https://etender.ntpclakshya.co.in> OR www.ntpctender.com OR www.ntpc.co.in

12.0 Registered Office

NTPC Limited
NTPC Bhawan, SCOPE Complex,
7, Institutional Area, Lodhi Road,
New Delhi – 110003

Corporate Identification Number: L40101DL1975GOI007966.
Website: www.ntpc.co.in