

# **EXPRESSION OF INTEREST BHEL PSSR SCT 1729**

**FOR**

THE WORKS OF DESIGN & CONSTRUCTION OF SEA WATER INTAKE AND  
OUTFALL SYSTEM ON EPC BASIS INCLUDING DESIGN, PREPARATION ALL  
DRAWINGS, SUPPLY, ERECTION OF PIPING, SUPPLY OF ALL LABOUR AND  
MATERIALS, CONSUMABLES, CONSTRUCTION, FABRICATION,  
TRANSPORTATION, ERECTION AND TESTING OF ALL MECHANICAL,  
ELECTRICAL, CIVIL, STRUCTURAL AND ARCHITECTURAL REQUIREMENT

**AT**

**2 X 660 MW, UDANGUDI THERMAL POWER PROJECT,  
KALLAMOLI VILLAGE, THIRUCHENDUR TALUK,  
TUTICORIN DIST, TAMILNADU**

**NOTICE INVITING EXPRESSION OF INTEREST  
AND  
TECHNICAL CONDITIONS**



**BHARAT HEAVY ELECTRICALS LIMITED**

(A Government of India Undertaking)

Power Sector – Southern Region

690, Anna Salai, Nandanam, Chennai – 600 035



# NOTICE INVITING EXPRESSION OF INTEREST

Bharat Heavy Electricals Limited



# NOTICE INVITING EXPRESSION OF INTEREST

Ref: BHEL PSSR SCT 1729

Date: Apr 30, 2018

## **EXPRESSION OF INTEREST (EOI)**

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**Note: Bidder may download the Documents from web sites  
([www.bhel.com](http://www.bhel.com) → Tender Notifications)**

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To

Dear Sir / Madam

Invitation for Expression of Interest for formation of appropriate association to jointly execute sea water intake and out fall works for 2 X 660 MW Udangudi Supercritical Thermal Power Project (Stage I) in Udangudi, Tuticorin District, Tamil Nadu State, India.

This Expression of Interest (Eoi) seeks response from Qualified bidders, who are willing to execute **sea water intake and out fall works** for 2 x 660 MW Udangudi Supercritical Thermal Power Project (Stage I) in Udangudi, Tuticorin District, Tamil Nadu State, India..

Sealed offers are invited from reputed & experienced bidders (meeting [PRE QUALIFICATION CRITERIA](#) as mentioned in Annexure-I) for the subject job by the undersigned on the behalf of BHARAT HEAVY ELECTRICALS LIMITED as per the specification. Following relevant points may please be noted and complied with.

### **Background of EOI**

TANGEDCO (Owner) is involved in setting up a 2 x 660 MW Udangudi Supercritical Thermal Power Project (Stage I) in Udangudi, Tuticorin District, Tamil Nadu State, India. TANGEDCO has also plans to expand the Power Plant to additional 4 x 660 MW during Stage II.

The Stage I of the project shall have a configuration of two (2) Supercritical Units of 660 MW each with a total capacity of 1320 MW. The Project shall consist of two (2) Pulverized coal fired supercritical steam generator each connected to an individual steam turbine generator complete with all the required auxiliaries and the balance of plant. The design power output of each unit shall be 660MW at 100% TMCR condition.

TANGEDCO wishes to construct the plant through the Engineering, Procurement and Construction (EPC) route through a Turnkey Contractor who would be responsible for all major aspects of the installation; from detailed design, project management, procurement, construction, manufacturing, shop testing, packaging & transportation from manufacturers works to site, unloading, storage, erection, pre-commissioning and commissioning, performance testing and handing over. The Turnkey Contractor would control the work of all subcontractors including those providing civil, mechanical, and electrical and Instrumentation & Control services.

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Tender Specification No.: BHEL: PSSR: SCT: 1729

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This technical specification is intended to specify the minimum requirement for the complete plant.

This section explains General scope of supply & services, Limits of supply, Provisions by the owner, General plant design & layout requirements, Quality & testing requirements, Spare parts, Documentation and Environmental requirements.

The scope of this Tender Specification for the 2 x 660 MW coal based supercritical thermal power project including all mechanical, electrical, controls & instrumentation and civil/structural/ architectural works as specified herein covers design, engineering, procurement, manufacture, inspection and testing at manufacturer's works, supply, packing & forwarding, transport and delivery at project site, unloading, storage and in plant transportation at site, erection, painting, supervision, pre-commissioning, testing, successful commissioning, performance testing, Guarantee testing and handing over, of all equipments and facilities, forming a part of the power project, which are deemed to be part of Contractor's scope. Statutory and local approval required for the work to be executed including payment of fees up to the handing over of the plant is in contractor's scope. Transport and erection insurance is also in contractor's scope.

### 1.0 Salient Features of Notice inviting EOI

Sl. No	ISSUE	DESCRIPTION	
i)	<b>EOI Number</b>	<b>BHEL PSSR SCT 1729</b>	
ii)	<b>Broad Scope of job</b>	Expression of Interest for the works of design & Construction of sea water intake and outfall system on EPC basis including design, preparation all drawings, supply, erection of piping, supply of all labour and materials, consumables, construction, fabrication, transportation, erection and testing of all Mechanical, electrical, civil, structural and architectural requirement for 2 X 660 MW Udangudi TPP- Stage-1, Tamilnadu	
iii)	Issue of Documents	<b>Start date : May 02, 2018</b> <b>Bidder may download the Documents from BHEL website (<a href="http://www.bhel.com">www.bhel.com</a> → Tender Notifications)</b> EOI documents can be downloaded from website till due date of submission	Applicable
iv)	Due Date & Time of Offer Submission	<b>Date : May 15, 2018, Time :15.00 Hrs</b> <b>Place : <u>BHEL PSSR :Chennai</u></b> <b>Offers can be submitted through post / representative / in person at Sub-contracts Dept., 7<sup>th</sup> floor, A-wing, BHEL, PSSR, Chennai-35.</b> <b>Ph: 044 24330209 / 28286764</b> (BHEL will not be responsible for any delay or loss of document sent by post)	Applicable

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v)	Opening of EOI	<b>Date: May 15, 2018, Time :15.30 Hrs</b> Notes: (1) In case the due date of opening of EOI offers becomes a non-working day, the same shall be opened on next working day at the same time. (2) Bidder may depute representative to witness the opening of offers	Applicable
vi)	EOI Document Cost	<b>Rs.2,000/-</b> (Rupees Two Thousand Only)	Applicable
vii)	Last Date For Seeking Clarification	At least 7 days before the due date of offer submission or two days before the scheduled date of pre-bid meeting whichever is earlier, along with soft version also, addressing to undersigned & to others as per contact address given below	Applicable
viii)	Schedule of Pre Bid Discussion (PBD)	Date: <b>May 07, 2018</b> Time: <b>11.30AM</b> at BHEL:PSSR:Chennai-35	Applicable
ix)	Latest updates	Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to EOI Specifications will be hosted in BHEL webpage only ( <a href="http://www.bhel.com">www.bhel.com</a> → Tender Notifications) <b>and not in the newspapers</b> . Bidders to keep themselves updated with all such information. This also form part of EOI hence the same shall be enclosed with their offer.	

2.0 The offer shall be submitted as per the instructions of EOI document and as detailed in this Notice. Bidders to note specifically that all pages of EOI document, including these Notice pages of this particular EOI documents together with subsequent correspondences shall be submitted by them, **duly signed & stamped on each page, as part of offer.**

3.0 Unless specifically stated otherwise, bidder shall remit the document cost inline with mode of payment mentioned in Annexure 4 of this Notice. **The originals of Demand Draft / Proof of remittance for Cost of Document shall be made available at BHEL PSSR Office prior to offer opening or along with offer.**

4.0 **Procedure for Submission of EOI:** Interested parties must submit their offer to the Officer inviting EOI, as detailed below:

- Envelope consisting of 'EOI offer' and 'EMD & document COST' in sealed and superscribed envelopes.

## NOTICE INVITING EXPRESSION OF INTEREST

- One set of each document shall be retained by the bidder for their reference.

**5.0** The contents for ENVELOPES and the superscription for sealed cover / Envelope are as given below. **(All pages to be signed and stamped)**

Sl no	Description
	<b><u>ENVELOPE – superscribed as :</u></b> EOI offer EOI No: NAME OF WORK: PROJECT: DUE DATE OF SUBMISSION:  <b>CONTAINING THE FOLLOWING:-</b>
i.	Covering letter / Offer forwarding letter of the party.
ii.	Duly filled-in 'No Deviation Certificate' as per prescribed format to be placed after document under sl no (i) above. <b><u>Note:</u></b> a. In case of any deviation, the same should be submitted separately for technical & commercial parts, indicating respective clauses of EOI against which deviation is taken by bidder. The list of such deviation shall be placed after document under sl no (i) above. It shall be specifically noted that deviation recorded elsewhere shall not be entertained.  b. BHEL reserves the right to accept / reject the deviations without assigning any reasons, and BHEL decision is final and binding.
iii.	Supporting documents / annexure / schedules / drawing etc as required in line with Pre-Qualification criteria.  It shall be specifically noted that all documents as per above shall be indexed properly and credential certificates issued by clients shall distinctly bear the name of organization, contact phone no, FAX no, etc.
iv.	All Amendments / Correspondences / Corrigenda / Clarifications / Changes / Errata etc pertinent to this NIT.
v.	Duly filled-in annexures, formats etc as required under this EOI Specification / Notice
vi.	Notice inviting EOI
vii.	EOI documents
viii.	Any other details preferred by bidder with proper indexing.

### **SPECIAL NOTE:**

- i. All documents / annexures submitted with the **offer shall be properly attached / entered / uploaded in the respective sections**. BHEL shall not be responsible for any missing documents.

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- ii. **Your offer & documents submitted along with offer shall be signed & stamped in each page by your authorized representative.** No overwriting/ correction in EOI documents by bidders shall be allowed. However, if correction is unavoidable, the same may be signed by authorized signatory.
- 6.0 BHEL reserves the right to accept or reject any or all Offers without assigning any reasons thereof. BHEL also reserves the right to cancel the EOI wholly or partly without assigning any reason thereof. Also BHEL shall not entertain any correspondence from bidders in this matter (except for the refund of EMD).
- 7.0 For any clarification on the EOI document, the bidder may seek the same in writing or through e-mail, as per specified format, within the scheduled date for seeking clarification, from the office of the undersigned. BHEL shall not be responsible for receipt of queries after due date of seeking clarification due to postal delay or any other delays. Any clarification / query received after last date for seeking clarification may not be normally entertained by BHEL and no time extension will be given.
- 8.0 BHEL may decide holding pre-bid discussion (PBD) with all intending bidders as per date indicated in the NIT. The bidder shall ensure participation for the same at the appointed time, date and place as may be decided by BHEL. Bidders shall plan their visit accordingly. The outcome of pre-bid discussion (PBD) shall also form part of EOI.
- 9.0 In the event of any conflict between requirement of any clause of this specification / documents / drawings / data sheets etc or requirements of different codes / standards specified, the same to be brought to the knowledge of BHEL in writing for clarification before due date of seeking clarification (whichever is applicable), otherwise, interpretation by BHEL shall prevail. Any typing error / missing pages / other clerical errors in the EOI documents, noticed must be pointed out before pre-bid meeting / submission of offer, else BHEL's interpretation shall prevail.
- 10.0 The Bidder has to satisfy the Pre-Qualifying Requirements stipulated for this EOI. BHEL reserves the right NOT to consider offers of parties under HOLD.
- 11.0 On submission of offer, further consideration will be subject to compliance to EOI & qualifying requirement and customer's acceptance, as applicable.
- 12.0 In case the bidder is an "Indian Agent of Foreign Principals", 'Agency agreement has to be submitted along with Bid, detailing the role of the agent along with the terms of payment for agency commission in INR, along with supporting documents.
- 13.0 The interested parties shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to the EOI.
- 14.0 The parties shall submit documents in support of possession of 'Qualifying Requirements' duly self-certified and stamped by the authorized signatory,



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indexed and properly linked in the format for PQR. In case BHEL requires any other documents / proofs, these shall be submitted immediately.

- 15.0 The interested party may have to produce original document for verification if so decided by BHEL.
- 16.0 The offers of the parties who are under suspension as also the offer of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site "<http://www.bhel.com> → tender notification".
- 17.0 It may be noted that guidelines / rules in respect of 'Suspension of Business dealings' available on BHEL web site "<http://www.bhel.com> → Supplier Registration", 'Vendor evaluation format', Quality, Safety & HSE guidelines', etc. may undergo change from time to time and the latest one shall be followed.
- 18.0 The party along with its associate / collaborators / sub-contractors / sub-vendors / consultants / service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.
- 19.0 Integrity commitment, performance of the contract and punitive action thereof:
- 19.1 Commitment by BHEL:  
BHEL commits to take all measures necessary to prevent corruption in connection with the tender process and execution of the contract. BHEL will during the tender process treat all Bidder(s) in a transparent and fair manner, and with equity.
- 19.2 Commitment by Bidder / Supplier / Contractor:
  - 19.2.1 The bidder / supplier / contractor commit to take all measures to prevent corruption and will not directly or indirectly influence any decision or benefit which he is not legally entitled to nor will act or omit in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India.
  - 19.2.2 The bidder / supplier / contractor will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract and shall adhere to relevant guidelines issued from time to time by Govt. of India/ BHEL.
  - 19.2.3 The bidder / supplier / contractor will perform / execute the contract as per the contract terms & conditions and will not default without any reasonable cause, which causes loss of business / money / reputation, to BHEL.



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19.3 If any bidder / supplier / contractor during pre-tendering / tendering / post tendering / award / execution / post-execution stage indulges in mal-practices, cheating, bribery, fraud or and other misconduct or formation of cartel so as to influence the bidding process or influence the price or acts or omits in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India, then, action may be taken against such bidder / supplier / contractor as per extant guidelines of the company available on <http://www.bhel.com> and / or under applicable legal provisions.

20.0 Offer should be free from correction, overwriting, using corrective fluid, etc. Any interlineation, cutting, erasure or overwriting shall be valid only if they are attested under full signature(s) of person(s) signing the bid else bid shall be liable for rejection.

All overwriting / cutting, etc will be numbered by bid opening officials and announced during bid opening.

21.0 **Order of Precedence:**

**In the event of any ambiguity or conflict between the EOI Documents, the order of precedence shall be in the order below:**

- a. Amendments / Clarifications / Corrigenda / Errata etc. issued in respect of the EOI documents by BHEL
- b. Notice Inviting EOI
- c. Technical Conditions

For and on behalf of BHARAT HEAVY ELECTRICALS LTD

Additional General Manager / SCT

### **Enclosure**

1. Annexure-1: Pre Qualifying criteria.
2. Annexure-2: Check List.
3. Annexure-3: Schedule.
4. Annexure-4: Cost of Document
5. Annexure-4: Declaration by authorised signatory of bidder
6. Annexure-4: No deviation certificate
7. Other documents as this notice

# NOTICE INVITING EXPRESSION OF INTEREST

## ANNEXURE - 1

### PRE QUALIFYING CRITERIA (PQR)

<b>JOB</b>	Expression of Interest for the works of design & Construction of sea water intake and outfall system on EPC basis including design, preparation all drawings, supply, erection of piping, supply of all labour and materials, consumables, construction, fabrication, transportation, erection and testing of all Mechanical, electrical, civil, structural and architectural requirement for 2 X 660 MW Udangudi TPP- Stage-1, Tamilnadu
<b>EOI No.</b>	<b>BHEL PSSR SCT 1729</b>

Sl. No	PRE QUALIFICATION CRITERIA	Bidders claim in respect of fulfilling the PQR Criteria	
		Name and Description of qualifying criteria	Page no of supporting document. Bidder must fill up this column as per applicability
A	<b>Submission of Integrity Pact duly signed (if applicable)</b>	Not Applicable	
B	<b><u>Technical</u></b> B.1 Bidder should have executed a minimum of 1 (one) Seawater Intake structure and associated construction & erection works in last 7 years from date of deadline of submission of EOI, involving engineering, manufacturing, supply, erection, testing and commissioning including the following key aspects <ul style="list-style-type: none"> <li>• Installation of intake well &amp; diffuser in open sea conditions</li> <li>• Laying of large diameter HDPE / GRP pipeline by dredging in off-shore and also on shore</li> <li>• Construction of near shore civil structures like desilting basin / pump house etc</li> </ul>	Applicable	

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	<p>The system should have been in satisfactory operation for a period of not less than one year as on the date of deadline of submission of EOI.</p> <p><b>B.2 Resources</b></p> <p>Bidder should have mobilized following major resources in their seawater intake&amp; out fall or similar works</p> <ul style="list-style-type: none"> <li>• Crane barge</li> <li>• Rock dredger</li> </ul>		
	<p><b><u>Explanatory Notes for the PQR (unless otherwise specified in the PQR):</u></b></p> <ol style="list-style-type: none"> <li>1. Bidder to submit Audited Balance Sheet and Profit and Loss Account for the years 2014-15, 2015-16 and 2016-17 along with all annexures.</li> <li>2. If Financial Statements are not required to be audited statutorily, then instead of audited financial statements, financial statements are required to be certified by Chartered Accountant.</li> <li>3. Time period for achievement of the 'Technical' criteria of PQR (as in 'B' above) will be the last 7 years ending on the 'latest date of Bid submission' of EOI.</li> </ol>		

### **Note to parties submitting offer:**

- a) Authenticity of Credentials submitted by the parties against 'Pre-Qualifying Criteria' shall be verified from the Issuing Authority, by BHEL. In case, any credential(s) is / are found to be unauthentic, offer of the bidder is liable to be rejected. BHEL reserves the Right to Initiate any further action as per the "Guidelines for Suspension of Business Dealings with Suppliers / Contractors" (Published in [http://www.bhel.com/vender\\_registration/vender.php](http://www.bhel.com/vender_registration/vender.php)) and "Fraud Prevention Policy" (Published in <http://www.bhel.com/home.php>) as applicable.



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10	Whether all pages of the EOI documents including annexures, appendices etc., are read understood and signed	Applicable	Yes / No
11	Submission of Declaration by Authorized Signatory	Applicable	Yes / No
12	Submission of No Deviation Certificate	Applicable	Yes / No
13	Submission of Power of Attorney for Submission of offer	Applicable	Yes / No
14	Copy of Organization Chart	Applicable	Yes / No
15	Copy of Registration / Incorporation certificate, Partnership Deed (Certified by Notary Public) as applicable for firm	Applicable	Yes / No

NOTE:

1. STRIKE OFF 'YES' OR 'NO', AS APPLICABLE.
2. OFFERS NOT ACCOMPANIED BY THE ABOVE PRESCRIBED APPLICABLE DOCUMENTS, ARE LIABLE TO BE SUMMARILY REJECTED.
3. For Sl. No.11 and 12 above, the formats are available in "Annexure 5 and Annexure 6 of this Notice.

DATE:

AUTHORISED SIGNATORY  
(With Name, Designation and Company seal)

## Schedule

Description	Schedule	Remarks
Offer Opening	As mentioned in Notice Inviting EOI.	
Communication from BHEL for Clarifications, if any, required by BHEL	On or before fourth day of offer opening	
Last date for Bidders to submit the clarifications / documents required	On or before Seventh day of offer opening	Bidders to note that their competent representative to be readily available in this week for offering clarifications / submitting the further documents, if any, required.

**Note:**

1. Bidders to note that the above schedule should be adhered to and no further extension will be given. To adhere to the schedule indicated below, Bidders should ensure the adequacy of the documents submitted in their offer, with proper validation.

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## ANNEXURE-4

### **Cost of Document**

Every party submitting offer must furnish the prescribed amount of Cost of Document in the manner described herein.

#### **A. Modes of deposit of Cost of Document**

- A.1 Electronic Fund Transfer credited in BHEL account (before opening of EOI offers)
- A.2 Cost of Document shall also be paid directly to BHEL-PSSR through Online EMD payment portal by following these steps **before submission of offer**.
  - (a) Visit [www.onlinesbi.com](http://www.onlinesbi.com) -> Go to State Bank Collect (In the tab section)
  - (b) Click Check box to proceed for payment -> Click on Proceed
  - (c) Under State of Corporate/Institution ->Select Tamilnadu
  - (d) Under Type of Corporate/Institution -> Select PSU – Public Sector Undertaking ->Go
  - (e) Under PSU – Public Sector Undertaking Name -> Select BHEL PSSR CHENNAI and Submit
  - (f) Under Select payment Category ->Choose the contract number [EOI specification no.(SCT 1729) for which document cost to be paid]
- A.3 Banker's cheque or Pay order or Demand Draft in favour of 'Bharat Heavy Electricals Limited' (along with offer) and payable at Chennai.



# NOTICE INVITING EXPRESSION OF INTEREST

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**ANNEXURE-5**

DECLARATION BY AUTHORISED SIGNATORY OF BIDDER  
(To be typed and submitted in the Letter Head of the Company / Firm of Bidder)

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To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Sub : **Declaration by Authorised Signatory**

Ref : 1) EOI Specification No: .....  
2) All other pertinent issues till date

I/We, hereby certify that all the information and data furnished by me with regard to the above EOI Specification are true and complete to the best of my knowledge. I have gone through the specifications, conditions, stipulations and all other pertinent issues till date, and agree to comply with the requirements and Intent of the specification.

I further certify that I am authorised to represent on behalf of my Company/Firm for the above mentioned EOI and a valid Power of Attorney to this effect is also enclosed.

Yours faithfully,

(Signature, Date & Seal of Authorized  
Signatory of the Bidder)

Date:

Enclosed : Power of Attorney

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Tender Specification No.: BHEL: PSSR: SCT: 1729

# NOTICE INVITING EXPRESSION OF INTEREST

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**ANNEXURE-6**

## NO DEVIATION CERTIFICATE

(To be typed and submitted in the Letter Head of the Company / Firm of Bidder)

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To,

(Write Name & Address of Officer of BHEL inviting the EOI)

Dear Sir,

Sub : **No Deviation Certificate**

Ref : 1) EOI Specification No: .....  
2) All other pertinent issues till date

We hereby confirm that we have not changed/ modified/ materially altered any of the EOI documents as downloaded from the website/ issued by BHEL and in case of such observance at any stage, it shall be treated as null and void.

We also hereby confirm that we have neither set any Terms and Conditions and nor have we taken any deviation from the EOI conditions together with other references applicable for the above referred EOI Specification.

We further confirm our unqualified acceptance to all Terms and Conditions, unqualified compliance to EOI Conditions, Integrity Pact (if applicable) and acceptance to Reverse Auctioning process.

We confirm to have submitted offer in accordance with EOI instructions and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized representative  
of the bidder)



# TECHNICAL CONDITIONS (TC)

BHARAT HEAVY ELECTRICALS LIMITED



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## CHAPTER – I

### ABOUT BHARAT HEAVY ELECTRICALS LIMITED (BHEL)

#### About Bharat Heavy Electricals Limited (BHEL):

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 around US \$ 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 Defense with over 180 product offerings to meet the needs of these sectors. The energy sector covers generation, transmission and distribution equipment for hydro, thermal, nuclear and solar photo voltaic. BHEL has been in this business for more than 50 years and BHEL supplied equipment account for about 58% of the total thermal generating capacity in India. BHEL is also listed in stock exchanges of India. The company has 17 manufacturing units, 4 power sector regions, 8 service centers and 15 regional offices besides host of project sites spread all over India and abroad. BHEL's has its footprint in all the inhabited continents with references in 82 countries including Malaysia, Oman, Iraq, Syria Sudan, Libya, Cyprus, Malta, Afghanistan, Bangladesh, Bhutan, New Zealand etc. with cumulative overseas installed capacity of BHEL manufactured power plants nearing 10,000 MW. BHEL's highly skilled and committed manpower of approximately 40,000 employees, the state of art manufacturing facilities and latest technologies, has helped BHEL to deliver a consistent track record of performance. With the current order book exceeding US \$ 15 Billion\*, BHEL is poised for excellent future growth. Our ongoing major technology tie-ups include agreements with KHI, Japan for SS Coaches & Bogies; GE, USA (for Super-Critical Boilers & Pulverisers and Gas Turbines); Siemens, Germany (for Steam Turbines, Generators and Condensers); Metso Automation Inc., Finland (for Control & Instrumentation); MHI, Japan (for Pumps); MHPS, Japan (for Flue Gas Desulfurization Systems); Vogt Power International, USA (for HRSG); GENP, Italy (for Compressors); Turbo Lufttechnik, Germany (for Fans) and Sheffield Forge Masters International, UK (for Forgings). More details about the entire range of BHEL's products and operations can be had by visiting our web site [www.bhel.com](http://www.bhel.com).

#### About Power Sector – Southern Region

**Bharat Heavy Electricals Limited  
Power sector – Southern region  
690, Anna salai, Nandanam,  
Chennai-600035**

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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The Power Sector – Southern Region (PSSR) of BHEL is a well-established player in the field of Erection and commissioning of power plants on EPC basis, covering the states of

- ✓ Tamil Nadu
- ✓ Kerala
- ✓ Karnataka
- ✓ Andhra Pradesh
- ✓ Orissa
- ✓ Madhya Pradesh & also in International Operations

Catering to

- ✓ Erection & Commissioning of Power Plants both on BTG and EPC basis
- ✓ Erection & Commissioning of Hydro TG
- ✓ Repairs / Overhauling
- ✓ Renovation and modernization of Thermal and Hydro projects
- ✓ Erection & Commissioning of Turbine Island for Nuclear projects

BHEL/PSSR has already executed many projects in India & abroad on EPC basis. For these projects BHEL has supplied major Components like steam generator, turbo generator, turbine, ESP, Transformers and other accessories required for completion of power plant in all respect including execution complete civil works of Power plant. At presently, PSSR is executing prestigious, major power projects listed below,

- i. 5X800MW- Yadadri Super critical Thermal power project - on EPC basis
- ii. 2x660MW- Ennore SEZ Super critical Thermal power project - on EPC basis
- iii. 1x370MW- Yelahanka CCP Project - On EPC basis
- iv. 1X800MW- Kothagudem Super critical Thermal power project - on EPC basis
- v. 2x500MW- New Neyveli Thermal power project - on EPC basis
- vi. 2x800MW- Uppur Super critical Thermal power project - (BTG+Civil)
- vii. 1x800MW- North Chennai-stage-3 Super critical Thermal power project - (BTG+Civil)
- viii. 2x660MW- Udangudi Super critical Thermal power project - on EPC basis
- ix. 1X800MW- Vijayawada stage-5 Super critical Thermal power project - (BTG)
- x. 1X800MW- Krishnapatinam stage-2 Super critical Thermal power project - (BTG)

## CHAPTER – II

### 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 on-going or continuing relationship or commitment with any party or person.

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.

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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



## CHAPTER – III

### PROJECT INFORMATION

1	Name of the Project	Udangudi Thermal Power Station
2	Station Capacity	2X660 MW
3	Owner	Tamilnadu Generation and distribution Corporation Limited(TANGEDCO)
4	Site Location	Kallamoli-628203,Thiruchedur Taluk, Tuticorin District, TamilNadu
5	Nearest Village	Udangudi
5	Nearest Town	41 km Tuticorin
8	Nearest Railway Station	Thiruchendur at 8 km
9	Nearest Airport	Tuticorin Domestic AirPort @41km
9	Nearest Seaport	Tuticorin Port @45 km
10	Site Conditions	
A	Annual Min.Mean Temp	22.3°C
B	Annual Max.Mean temp	41°C
C	Dry Bulb(DBT) Temperature for Design Purpose	Max 41°C Min 17°C
D	Relative Humidity for design / efficiency	62-84 %
E	Annual average rainfall, mm	384.4 mm to 718.2 mm
F	Plant Elevation above MSL	+ 2.8 m above MSL
G	Mean Wind Speed	11.8 km/h(ave),50 m/s (max)
H	Wind Pressure	As per the latest revision of IS 875/1987
I	Seismic co-efficient	Zone-II as per IS- 1893-2002 (Part-IV)

## CHAPTER – IV

### SCOPE OF WORKS

The scope of work shall comprise but not limited to the following:

#### 4.1 Brief scope of work:

Brief description about the sea water intake and outfall system for the proposed thermal power plant of 2X660MW TANGEDCO Udangudi STPP Stage I, Chennai is as below,

The total power plant make-up water (viz. water required for the condenser cooling water system make up and the RO plant and electro chlorination plant) is to be drawn from the sea (Bay of Bengal). The intake pumps shall be located in the Sea Water Intake Pump House located approx. 2 km from the Sea Coast inside the Plant Boundary.

The sea water intake will be through two (2) equally sized intake pipes with both pipes sized for a flow of 30000 cum/ hr, i.e. each pipe shall be designed for flow of 30000 cum/hr. Discharge pipeline (outfall) from sea shore to inside sea is to be designed for handling discharge water of approx. 22500 cum/hour.

The work covers design & Construction of sea water intake and outfall system as per specification attached. This includes design, supply, erection of the complete piping, preparation of general arrangement & RC construction drawing as well as fabrication drawings, supply of all labour and materials, consumables, construction, fabrication, transportation, erection and testing where necessary, all incidental items not shown or specified but reasonably implied or necessary for the completion of all Mechanical, electrical ,civil, structural and architectural requirement for sea water intake and outfall system in accordance with the specifications for the proposed thermal power plant of 2x660 MW Udangudi supercritical TPP - stage-1. This also includes collection of all site related data, conducting topographical / bathymetric survey and land / marine geotechnical investigations etc.

The brief scope of works for sea water intake and outfall system shall be including the following but not limiting to the same.

#### 4.1.1 Sea Water Intake System

- 4.1.1.1 Intake Well at Sea with velocity cap, floating fence, marker buoys, air burst system (including piping, valves etc.)
- 4.1.1.2 Sea water Intake system from intake well up to desilting basin inside Plant Boundary.
- 4.1.1.3 Desilting basin including stop log gates, coarse bar screens/trash rack and material handling facility for stop log gates.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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- 4.1.1.4 Complete sand slurry discharge system from desilting basin to sea comprising of sand slurry pump installed in desilting basin, discharge pipe work, valves, associated electrical and control.
- 4.1.1.5 Testing of 1:25 scale model of the intake well in the wave basin of the “Ocean Engineering Centre” of IIT, Chennai to measure the wave forces and moments on the intake well and the variation of water levels inside and outside the well.
- 4.1.1.6 Bathymetry Studies and Geo Technical report for offshore intake and Thermal Dispersion Study at outfall.
- 4.1.1.7 Mathematical Model Study and CFD for desilting basin.
- 4.1.1.8 Cathodic protection for intake system (as applicable).
- 4.1.1.9 Pigging system for maintenance of the intake pipeline.

### **4.1.2 Civil Works :**

- 4.1.2.1 Intake velocity head
- 4.1.2.2 Seawater intake/outfall piping
- 4.1.2.3 De-silting basin
- 4.1.2.4 Forebay and pump house
- 4.1.2.5 Seawater outfall system
- 4.1.2.6 All necessary survey and geo-technical investigation works
- 4.1.2.7 All other necessary investigation/study required
- 4.1.2.8 Site organization works for the entire execution phase including but not limited to:
  - a. Access road and outdoor storage facilities
  - b. Temporary water
  - c. Temporary electricity supply
- 4.1.2.9 Removal of all debris, underground obstacles, if any, and disposal of surplus materials
- 4.1.2.10 All ancillary works and installations necessary for the execution of works
- 4.1.2.11 All other associated works as required for the completeness of works

### **4.1.3 Electro-Mechanical**

- 4.1.3.1 Vertical Turbine Pumps of required capacity (\_\_\_ Working + \_\_\_ Standby)
- 4.1.3.2 Travelling Water Screens (TWS)
- 4.1.3.3 Coarse / Band Screen
- 4.1.3.4 Stop Log Gates
- 4.1.3.5 Sluice Gates

### **4.1.4 Sea Water Electro-Chlorination System :**

Electro chlorination piping from Plant boundary to Velocity Cap inside sea.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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### **4.1.5 Sea Water Outfall System :**

4.1.5.1 Sea water outfall system complete with transition piece with anchor block, piping, diffuser, Marker Bouys etc. for outfall discharge inside sea from plant boundary.

4.1.5.2 Cathodic protection for outfall system (as applicable)

### **4.1.6 Electrical System:**

Cable, cable trays, cable trays support, earthing, Illumination & trestles / pedestals for lighting of sea water intake & outfall system.

### **4.1.7 Controls and Instrumentation:**

Controls for air burst system.

## CHAPTER – V

### SCOPE OF EOI

#### 5.1 SCOPE OF EOI

BHEL seeks Expressions of Interest from bidders who, prima facie, qualify for this assignment against Pre Qualification Requirements (PQR) as mentioned in Annexure-1 to Notice Inviting EOI.

The purpose of the EOI is to:

- Arrive at uniform specification parameters meeting technical requirements, including terms of payment, and
- Shortlist interested parties for further processing through open or limited tenders

However, it may be noted that BHEL is under no obligation to go ahead with the proposed assignment and may terminate this exercise at any time, without assigning any reasons. Bidders are also hereby informed that they participate in this EOI at their own risk and cost and no compensation, whatsoever, shall be admissible by BHEL.

As part of their EOI, bidders are required to:

- a) Critically examine the technical feasibility of the proposed assignment and comment on the same with detailed reasoning, based on their experience.
- b) Provide feedback on the Pre-qualification criteria, technical specification, completion schedule, resource mobilization, payment terms and other terms and conditions so as to ensure that the best practices of the industry are well incorporated into the same to enable BHEL provide to its customer the best solution.
- c) Make an assessment of the risks to a project of this nature, as perceived by them, and advise on strategies for mitigation of the risks.

BHEL reserves the right to accept or reject (partially or in full) the suggestions given by the bidder, without assigning any reasons. By participating in this EOI, the bidder gives BHEL the right to use the information provided by the bidder to finalize the specification for this package.

Depending on need, post submission of the EOI by the bidder, further engagement with the bidder may include providing clarifications to BHEL by mail or phone, presentations and across the table discussions at BHEL's office in Chennai, facilitating visits of BHEL personnel to project sites where bidder has commissioned similar projects.

## CHAPTER – VI

### EOI PROPOSAL

#### 6.1 The EOI Proposal

Interested companies who wish to execute the forthcoming sea water intake and out fall works for 2 x 660 MW Udangudi Supercritical Thermal Power Project (Stage I) in Udangudi, Tuticorin District, Tamil Nadu State, India, may submit their Expression of Interest accompanied by:

- 6.1.1 The proposal for association.
- 6.1.2 Details / documents on company profile, Certificate of Registration or Incorporation as requested in Annexure –EOI 1 (please fill the annexure-EOI 1 with relevant supporting documents)
- 6.1.3 List of relevant project experience in various projects with brief description of scope of work and qualification criteria set by the end user and other details requested in the annexure EOI 2. (please fill the Annexure EOI 2 with relevant supporting documents)
- 6.1.4 Feedback on the Pre-qualification criteria, technical specification, completion schedule, resource mobilization, payment terms and other terms and conditions so as to ensure that the best practices of the industry. (Write up shall be submitted)
- 6.1.5 Make an assessment of the risks to a project of this nature, as perceived by them, and advise on strategies for mitigation of the risks. (Write up shall be submitted)
- 6.1.6 Guarantee & Warranty conditions of the contract set by the end user, preferably in the Power Sector.
- 6.1.7 Performance certificates on sea water intake and out fall works issued by end user matching requirements as specified under "Pre Qualification Criteria-Technical " of in Annexure 1 of this EOI Notice
- 6.1.8 Audited annual financial reports for at least last three years along with their authenticated translations in English including proof as requested in the annexure EOI 3. (please fill the Annexure EOI 3 with relevant supporting documents)

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Annexure – EOI 1

<b>GENERAL INFORMATION ABOUT THE ORGANISATION FOR EXPRESSION OF INTEREST TO CARRY OUT THE WORK OF SEA WATER INTAKE SYSTEM COMPLETED / UNDER EXECUTION - IN THE LAST SEVEN YEARS.</b> <b>(works started before seven years and ended in seven years shall also be mentioned)</b>					
<b>( Supporting documents of below details shall be enclosed for verification)</b>					
1	Year of establishment:				
2	Name and Address for communication:		Telephone No: Fax No: Email ID		
3	Address of registered Office:		Telephone No: Fax No: Email ID		
4	Mailing Address		Telephone No: Fax No: Email ID		
5	<b>Type of Organisation (Different areas of specialisation shall be mentioned):</b>				
a					
b					
c					
d					
e					
f					
g					
h					
6	Capacity of the organisation for carrying out the work mentioned for EOI	a) EPC	b) Engineering only	c) Execution only	d) Consultancy only
		e) Anything apart from the above			
7	Whether small scale industry of NOT?		If yes, provide attested copy of Registration Certificate		



## TECHNICAL CONDITIONS OF CONTRACT (TCC)

8	Details of Partners / Owners / Proprietors in the following format				
	Name	Position held in organisation	Qualification	Experience	Address with Phone numbers and E-mail id
a					
b					
c					
9	Organisational Strength (Administration )				
	Area	Skilled Manpower	Unskilled Manpower	Graduates	Diploma Holders
a					
b					
c					
10	Please specify whether any relative is presently employed in BHEL? If so, his relation to your firm				
11	Please specify whether any ex-employee of BHEL is presently employed/ associated with your firm?				
12	Please specify whether any employee of BHEL is holding any share in your firm?				
13	Please specify the number of jobs scope wise that you can handle at a time				
14	Please specify the states in which you can execute jobs				

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

15	<b>Details of registration with Statutory authorities</b>				
a	Central sales tax				
b	State sales tax (VAT)				
c	Works contract tax				
d	EPF for contract labour				
e	Labour licence				
f	Electrical licence				
g	IBR empanelment				
h	Any other				
16	<b>Whether registered with any BHEL unit and if so give details</b>				
a	Name of the BHEL unit				
b	Year of registration				
c	Registration number				
d	Registration valid upto				
e	Items / works for which registration done				

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Annexure – EOI 2

<b>TECHNICAL INFORMATION ABOUT PROJECTS EXECUTED FOR EXPRESSION OF INTEREST TO CARRY OUT THE WORK OF SEA WATER INTAKE SYSTEM COMPLETED / UNDER EXECUTION - IN THE LAST SEVEN YEARS.</b> <b>(works started before seven years and ended in seven years shall also be mentioned)</b>						
(Supporting documents of below details requested shall be enclosed from the pages of Work order / LOI for verification)						
<b>Name of Work No. 1</b>						
	<b>Detailed technical Description of Work completed including location of the project</b>					
1	Name of the firm from whom Work Order received / Customer					
2	Work Order No & Date					
3	Work Order value in Rs.Lakhs					
4	Consortium details if any (Tick a or b or both)	<b>Consortium made for :</b>	a) Financial	b) Execution		
	Please mention the detail / work of Consortium partner in this Work order					
5	Duration of the work in months as per W.O.					
6	Project schedule as per Work order with mile stones		<b>Mile stone activities</b>	<b>Start</b>	<b>End</b>	<b>Duration (Months)</b>
			<b>Civil</b>			
		a				
		b				
		c				
			<b>Mechanical &amp; Electrical</b>			
		a				
		b				
		c				
			<b>Commissioning</b>			
		a				
		b				
		c				

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

7	Pre Qualification Criteria as per customer tender		<b>Financial</b>			
		a				
			<b>Technical</b>			
		a				
8	SCOPE OF WORK Executed {Tick on a, b & c}		a) EPC	b) Engineering only	c) Execution only	d) Consultancy only
			e) Please mention any thing apart from the above			
9	Space of office & Labour colony {Tick on a or b }	a) Provided by Customer			a) Arranged by Own	
10	Scope of Supply of Electricity {Tick on a or b}	a) free by customer			b) Arranged by Own	
11	Scope of Supply of construction water {Tick on a or b}	a) free by customer			b) Arranged by Own	
12	Details of Own T&Ps mobilised for Civil & Numbers mobilised by own		Description of the T&P	Capacity	Nos	
		a				
		b				
		c				
		d				
		e				
		f				
		g				
13	Details of Own T&Ps mobilised for Mechanical & electrical works etc & Numbers mobilised		Description of the T&P	Capacity	Nos	
		a				
		b				
		c				
		d				
		e				
		f				
		g				
14	Details of T&P provided by customer if any & Numbers mobilized especially cranes.		Description of the T&P	Capacity	Nos	
		a				
		b				
		c				

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

		d				
		e				
		f				
		g				
15	Scope Details of Materials & Total quantity consumed in the project		Cement (MT)	Structural	Reinforcement Steel	
a	Supply scope (Customer / Own)					
b	Final Supplied Quantity (MT)					
16	In house Quality Lab facilities provided for Civil works		Description of the Equipment	Capacity	Nos	
		a				
		b				
		c				
		d				
17	In house Quality Lab facilities provided for Mechanical & Electrical works		Description of the Equipment	Capacity	Nos	
		a				
		b				
		c				
		d				
18	Total Manpower Deployed in the project for Civil works (Nos)		Office staffs (Nos)	Skilled workers (Nos)	Semi skilled workers (Nos)	Unskilled workers (Nos)
19	Total Manpower Deployed in the project for Mechanical & electrical works (Nos)		Office staffs (Nos)	Skilled workers (Nos)	Semi skilled workers (Nos)	Unskilled workers (Nos)
20	Quantities of work executed		(Rate schedule / Payment schedule of customer along with final executed measurements of customer shall be submitted )			

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Annexure – EOI 3

<b>CRITICAL FINANCIAL INFORMATION ABOUT PROJECTS EXECUTED FOR EXPRESSION OF INTEREST TO CARRY OUT THE WORK OF SEA WATER INTAKE SYSTEM COMPLETED / UNDER EXECUTION</b>				
(Supporting documents from the pages of Work order / LOI for details requested below shall be enclosed for verification)				
Sl. No.	Item Description	Value in Rs.	Supporting Document Reference	Remarks
<b>1</b>	<b>Networth in the last three years as per details below</b>			
1.1	Year 2016-17			
1.2	Year 2015-16			
1.3	Year 2014-15			
<b>2</b>	<b>Turnover in the last three years as per details below</b>			
2.1	Year 2016-17			
2.2	Year 2015-16			
2.3	Year 2014-15			
<b>3</b>	<b>Guarantee Limits</b>			
3.1	Limit sanctioned by Banks / financial Institutions			Details Bank / Institution wise to be attached.
3.2	Limits availed as on date			
3.3	Balance Limit available for further jobs			
3.4	Any steps to enhance the BG limits - Please specify value and details of steps taken			
<b>4</b>	<b>Profit before tax (Balance sheets and Profit and Loss accounts)</b>			
4.1	Year 2016-17			
4.2	Year 2015-16			
4.3	Year 2014-15			