(GLOBAL INVITATION FOR EXPRESSION OF INTEREST)

NTPC Limited

(A Government of India Enterprise)

Invites

EXPRESSION OF INTEREST (EOI)

For

exploring the vendor base for Air Cooled Condenser (ACC) design software

DOCUMENTS OF EOI

This EOI document comprises the following sections:

(i)	Section I	: EOI Information
(ii)	Section II	: Introduction
(iii)	Section III	: Instructions to the Applicants
(iv)	Section IV	: Consideration of Response
(v)	Section V	: Application Form and Annexures

Section - I

EOI Information

(GLOBAL INVITATION FOR EXPRESSION OF INTEREST)

DETAILED NOTICE INVITING EXPRESSION OF INTEREST (EOI)

EOI No.: NTPC/PEM/EOI/ACCSW/2024-25 **Date: 09.01.2025**

NTPC is Inviting an Expression of INTEREST (EOI) for exploring the vendor base for Air Cooled Condenser (ACC) design software.

1. NTPC Limited (A Government of India Enterprise) intends to **exploring the vendor base for Air Cooled Condenser (ACC) design software** at NTPC power plant in India. In this regard, NTPC Limited invites Expression of Interest (EOI) from any Indian/Global Company. (**Hereinafter called APPLICANT**).

   Note: This EOI is to assess prospective* vendors who are interestedin supplying Air Cooled Condenser (ACC) design software*. After identifying the APPLICANTs through EOI who are interested in supplying* Air Cooled Condenser (ACC) design software fulfilling all technical requirements*, vendor base shall be prepared for future use/reference by NTPC.

2. **DOWNLOAD AND TIMELINES FOR SUBMISSION OF EOI**

   a. Interested APPLICANTs may download the documents of EOI free of cost from www.ntpctender.com & https://eprocurentpc.nic.in

   b. Last date for submission of EOI :30 days from the date of publication of EOI

3. NTPC encourages submission of EOI in soft copy. For consideration of EOI, APPLICANTs are required to e-mail softcopy of EOI, completed in all respect, through e- mail mentioned hereunder. If APPLICANTS also wish to submit hard copy of the EOI, the same can be submitted either in person or by registered/ speed post till the last date of submission of EOI to the following address: -

   To: Apurva Srivastava, Sr. Manager (PE-TG & System)
   Email: apurva@ntpc.co.in
   Project Engineering (Mechanical),
   NTPC Limited, SRHQ, NTPC Bhavan, Kavadiguda, Secunderabad-500080

4. NTPC reserves the right to reject or accept any or all applications, cancel/withdraw the EOI process without assigning any reason whatsoever and in such case, APPLICANT shall not have any claim arising out of such action. NTPC bears no responsibility or liability of any kind in reference to the EOI.

Section - II

Introduction

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1. INTRODUCTION

i. NTPC Limited (www.ntpc.co.in) is a leading power generation company of India. NTPC Limited produces around 400 billion units of electricity annually through its cluster of gas, coal, hydro and RE based power stations of around 76.5 GW capacity spanning across the country.

ii. NTPC Limited, in keeping focus on evolving power market, intends to explore the vendor base for Air Cooled Condenser (ACC) design software, who are interested in supplying ACC design software meeting the specified technical requirements.

iii. In Air cooled condensers, ambient air is used as cooling medium, thereby reducing the consumptive use of water in thermal generating power plant by about 60%. Such an alternative is particularly suited for setting a power plant at locations where land and coal are available in abundance, but water is scarce.

ACC is mainly suitable for colder regions, however considering the need of hour, ACC have been the subject of discussion in the recent times in Indian power sector owing primarily to the emerging challenge due to the scarcity of the water.

iv. Based on response in EOI, NTPC intents to know the vendor base for Air Cooled Condenser(ACC) design software for future use/reference.

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2. INTENT OF THE EXPRESSION OF INTEREST (EOI)

i. Thermal power plants require large quantities of water. As the availability of water is becoming scarcer day by day, it is becoming essential that power plants utilize water judiciously.

ii. Huge quantity of water needs to be circulated for taking away the heat of the steam in the condenser and make up water is added to compensate for evaporation, drift and to some extent blow-down. In order to minimize this water requirement, dry cooling technologies such as Air-Cooled Condenser is being used in many plants across the world.

iii. In view of projected thermal capacity addition program having provision of dry cooling technologies such as , NTPC Limited may intend to purchase ACC design Software and in view of this NTPC is exploring the vendor base for supplying Air Cooled Condenser (ACC) design software.

iv. The response(s) received in the EOI will be utilized by NTPC for preparation of Vendor base for future use/reference.

v. The Applicants may express their interest in respect of their offerings along with other inputs as indicated in relevant Annexures/formats.

Section - III

Instructions to the Applicants

(GLOBAL INVITATION FOR EXPRESSION OF INTEREST)

1. The Applicants should note that:

a. Make in India guidelines issued by Government of India shall be applicable for Applicants including those who are from countries sharing land border with India.

b. Language of the responses to EOI or any query/clarifications/correspondences shall be in English only.

c. For expression of interest, Application Form and Annexures given in Section-V shall be duly filled and sent to NTPC by the APPLICANT in soft copy.

d. Applicants should go through Section-I and Section-II thoroughly before filling and submitting the application form and annexures in Section-V.

e. Applicants shall mention the name and contact details of two persons, with complete address, phone number and email id.

f. NTPC Ltd. may, at its sole discretion, ask for additional information/ documents and/ or seek clarifications from the Applicant(s) after the Deadline for submission of response, inter alia, for the purpose of removal of inconsistencies or infirmities in their responses.

2. Qualifying requirements for Applicant

The Applicant should have previously designed a software by itself or under collaboration with an ACC designer/manufacturer meeting specified minimum technical requirements in Annexure-3.

3. Enquiries and clarifications

Any clarifications on the EOI may be sought to the following via email:

To: Apurva Srivastava, Sr. Manager (PE-TG & System)
Email: apurva@ntpc.co.in
Project Engineering (Mechanical),
NTPC Limited, SRHQ, NTPC Bhavan, Kavadiguda, Secunderabad-500080

4. Corrigendum

At any time before the last date of submission of EOIs, NTPC may, for any reason, whether at its own initiative or in response to a clarification requested by an Applicant, modify the EOI document. The amendment will be posted on the website and will be binding on the Applicants and the Applicant will give due consideration to the same, while they submit their EOIs, and would invariably enclose documents/ information, as required, on account of the amendment, as a part of the EOI. NTPC may, at its discretion, extend the deadline for the submission of EOIs.

5. Preparation of the response to EOI

The application of EOI consists of Annexure 1,2, & 3 of Section-V.

6. Submission of the response to EOI

The responses to the EOI are to be submitted in soft copy via below e-mail format

To: apurva@ntpc.co.in

Ref. EoI No. **Dated**

Submitted to:
To: Apurva Srivastava, Sr. Manager (PE-TG & System)
Email: apurva@ntpc.co.in
Project Engineering (Mechanical),
NTPC Limited, SRHQ, NTPC Bhavan, Kavadiguda, Secunderabad-500080

Submitted by:
Name, address & contact no. of the Applicant

All the pages of the response should be duly stamped and signed by the authorized signatory.

The responses to the EOI should be submitted within the Deadline as mentioned in this document.

7. Opening of responses to the EOI

The responses to the EOI shall be opened as per the time schedule 15:00 HRS at date as mentioned in this document. In the event of any of above dates falling on a day which is not a working day or which is a public holiday, the responses shall be opened on the next working day at the same venue and time.

8. Costs and expenses towards response to EOI

The Applicants shall be responsible for all the costs associated with the preparation of the response and participation in discussions and finalization & execution of the documents related with this EOI, NTPC shall not be responsible in any way for such costs, regardless of the conduct or outcome of this short-listing/ selection process.

9. Confidentiality

The Applicants undertake to hold in confidence this EOI and any document related or pursuant to this EOI and not to disclose the terms and conditions of the

transaction contemplated hereby to third parties, except:

(a) To their professional advisors;

(b) To their officers, contractors, employees, agents or representatives, financiers, who need to have access to such information for the proper performance of their activities;

(c) Disclosures required under applicable Law, without the prior written consent of the other parties of the concerned agreements.

Provided that the Applicant(s) agrees and acknowledges that NTPC may at any time, disclose the terms and conditions of this EOI and any document related or pursuant to this EOI to any person, to the extent stipulated under the applicable Law.

10. Disclaimer

(a) This Expression of Interest (EOI) has been prepared by NTPC Ltd. for response from Indian/Global Company for exploring the vendor base for Air Cooled Condenser (ACC) design software.

(b) In submitting an expressed EOI in response to the EOI, the Applicants certify that it understands, accepts and agrees to the disclaimers on this page. Nothing contained in any other provision of the EOI nor any statements made orally or in writing by any person or party shall have the effect of negating or superseding any of the disclaimers set forth herewith.

(c) The purpose of this EOI is to compile a database of vendors to provide ACC design software that meets the specified technical requirements. Submitting EOI documents does not guarantee enlistment or the placement of any orders with the applicant.

Section-IV

Consideration of Response

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RESPONSIVENESS/EVALUATION METHODOLOGY

1. Responsiveness check

The responses submitted by Applicants shall be scrutinized to establish the technical requirement for Air Cooled Condenser (ACC) design software. Responses shall be deemed non-responsive for following reasons:

a. Responses that are incomplete, i.e. not accompanied by any of the applicable formats inter alia covering letter, applicable undertakings, provided in more details at annexure in Section-V.

b. Responses not accompanied by Essential Information as prescribed in Annexure 3 in Section-V.

c. Responses not signed by authorized signatory and / or stamped in the manner indicated in this EOI;

d. Material inconsistencies in the information/ documents submitted by the Applicant

e. An Applicant submitting more than one response to this EOI either itself or through an affiliate or subsidiary company;

f. Response being conditional in nature;

g. Response not received by the response Deadline;

h. Response having Conflict of Interest;

i. Applicant delaying in submission of additional information or clarifications sought by NTPC, as applicable;

All response to the EOI that shall meet the responsive check requirements set out above in this section of the EOI document shall be considered as responsive. In case of non- submission of relevant details as above, the responses may be considered as "**non-responsive**", at the sole discretion of NTPC and will not be considered further.

Section-V

Application Form & Annexures

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Annexure-1

FORMAT FOR COVERING LETTER CUM UNDERTAKING

(The covering letter should be on the Letter Head of the Applicant)

Date : _____
Place : _____

To,
…….

Sub.: (INVITATION FOR EXPRESSION OF INTEREST)

Ref.: EoI No._____, dated_____(the "EOI")

Dear Sir,

We, the undersigned ……. [insert name of the "Applicant"] having read, examined and understood in detail the **(INVITATION FOR EXPRESSION OF INTEREST).** We confirm that neither we nor any of our Parent Company/ Affiliate/ Ultimate Parent Company has submitted response other than this response directly or indirectly in response to the aforesaid EOI.

1. We give our unconditional acceptance to the EOI, issued by NTPC, as amended. In token of our acceptance to the EOI, the same have been signed & stamped by us and enclosed to the response. We hereby confirm that the provisions of the EOI shall be binding on us.

2. We shall follow Make in India guidelines issued by Government of India including all its amendments/erratas.

3. We have submitted our response strictly as per provisions and formats of the EOI, without any deviations, conditions and without mentioning any assumptions or notes.

4. We hereby unconditionally and irrevocably agree and accept that the decision made by NTPC in respect of any matter regarding or arising out of the EOI shall be binding on us. We hereby expressly waive any and all claims in respect of EOI process. We confirm that there are no litigations or disputes against us, which materially affect our ability to participate or function under the obligations with regard to EOI.

5. Details of the contact person are furnished as below:
   Name:
   Designation:
   Address:
   Contact numbers:
   email id:

6. We are enclosing herewith the entire response containing duly signed formats in electronic format sent via email to: ---------- as per the EOI for consideration.

7. It is confirmed that our response is consistent with all the requirements of submission as stated in the EOI and subsequent communications from NTPC, if any.

8. The information submitted in our response is complete, strictly as per the requirements stipulated in the EOI and is correct to the best of our knowledge and understanding. We would be solely responsible for any errors or omissions in our response.

9. We confirm that all the terms and conditions of our response are valid for acceptance for a period of six (6) months from the response Deadline.

10. We confirm that we have not taken any deviation so as to be deemed "**Non-Responsive**" as stipulated in Section-IV of this EOI.

11. We understand that you are not bound to accept any response you receive.

We remain,

Yours sincerely

(Name, Designation and Signature of Authorized Person)

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Annexure-2

INFORMATION TO BE SUBMITTED BY APPLICANT

(**Note: Documents in support of meeting the respective requirement shall be submitted by the Applicant.)**

1. Name of the Company:
2. Legal status of the Company:
3. Brief description of the Company including details of its business groups/subsidiaries/ affiliates:
4. Existing facilities – Locations (Country name)
5. Date of Incorporation:
6. Date of Commencement of Business:
7. Full address including Telephone nos. / Fax nos.:
   a. Registered Office:
   b. Head Office:
   c. Address for communication:
   d. Contact Details:
   e. Office Address in India, if any:

8. ACC design Software supplied for any thermal power Yes/No
   Plant including combined cycle gas power plant with ACC
   Capacity of Such Plant MW

   Provide below details also for above plant:

   i. Heat Load of ACC
   ii. Type of ACC (A Frame/W Frame)
   iii. Type of Tube Bundles in ACC (Flat tube etc.)
   iv. Number of Modules/Fans in ACC

9. (i) Whether ACC software meeting the specified technical requirements has been designed by applicant Yes/No

   (ii) Whether ACC software meeting the specified technical requirements has been designed by applicant with an ACC designer Yes/No
   (If Yes, Details of ACC designer to also be provided)

   (iii) Whether ACC software meeting the specified technical requirements has been designed by applicant with an ACC manufacturer Yes/No

(If Yes, Details of ACC manufacturer to also be provided)

10. Any existing customer in India or Abroad

11. Documents to be enclosed:

    Technical Credentials – Relevant Product/System catalogues, Experience /Reference List where such ACC design softwares have been previously supplied or are being supplied, Copies of Customer Certificates, Engineering strengths, collaborations/tie-ups with manufacturer/suppliers of ACC (as applicable), Supporting document for technology ownership (as applicable), quality accreditations, Approximate cost of the software, etc.

12. Any other documents considered relevant.

(Sign & Company Seal)
Authorized signatory

Annexure-3

Applicant should confirm that the reference software has following minimum technical features:

1.1 Software system should have all the flexibility to accommodate various types of inputs/features required to optimize ACC design and to simulate various condition to predict the performance of the ACC.

1.2 Software shall have features for thermo-hydraulic design/calculation of ACC for direct air-cooled forced cooling, Single Row Tube / Tube Bundle.

1.3 Software shall be suitable and compatible for design of A frame single row condenser (SRC) tubes.

1.4 Software shall be suitable for thermal design calculation for ACC based on design heat load/steam flow having features to select, margin for heat load as per HEI for ACC latest edition, design ambient temperature, ITD (Initial temperature difference) & TTD (Terminal temperature difference), design condenser pressure, Turbine exhaust steam dryness fraction, Exhaust steam enthalpy, subcooling for dephlegmator/reflux bundles, design cross wind velocity at ACC top as per HEI, wind velocity at fan inlet, Fans elevations from mean sea level (MSL).

1.5 Software shall be suitable for ACC steam duct sizing calculation with pressure drop in each duct sections, pressure drop based on actual location of ACC from Turbine centerline. ACC steam duct size selection and optimization for pressure drop based on volumetric steam flow to ACC corresponding to design ACC pressure.

1.6 ACC software results/output shall indicate required total Heat exchange surface area, required heat transfer coefficient based on fin tube material and face air velocity to tube bundles, fan volumetric flow as per air density.

1.7 In off design conditions i.e., conditions other than design like part load, overload etc., the software should be capable of predicting the performance of the ACC based on the design value.

1.8 Air flow modelling for recirculation/ wind wall design for ACC.

1.9 Steam flow modelling for assessing the pressure drop. The software shall have standard thermodynamic tables for various process fluids.