

**NTPC LIMITED**  
**(A GOVERNMENT OF INDIA ENTERPRISE)**  
**CORPORATE MATERIALS DEPT., EOC**  
**NOIDA**  
**NOTICE INVITING TENDER (NIT)**  
**SECTION-I**  
**(Domestic Competitive Bidding)**

<b>NIT no.</b>	<b>GEM/2024/B/5479227 dated 18.10.2024</b>
<b>Name of work</b>	<b>Procurement of Real Time Predictive, Diagnostic and Analytic Advisory System.</b>

1. NTPC invites on-line bids on Single Stage Two Envelope Bidding basis (Envelope-I: Techno-commercial Bid & Envelope-II: Price Bid) from Eligible Bidders for aforesaid package- as per the scope of work briefly mentioned hereinafter. NTPC intends to finance subject Package through Domestic Commercial Borrowings/Own sources.

2. **Brief Scope of Work:**

The Bidder shall provide a Real Time Predictive Analytic & Diagnostics Advisory System along with complete hardware and software with lifetime licenses for the complete fleet wide monitoring of the Employer's power plants (called SMART SACS software hereafter). The system will be capable for improving asset availability and reducing maintenance costs through automated and accurate early warning of a wide range of plant asset abnormalities prior to degradation.

The system shall employ predictive modeling based on various advanced pattern recognition techniques like neural networks, similarity-based modelling, other statistical techniques, etc. to derive early warning of a broad range of equipment abnormalities/failure modes across a wide range of equipment. The predictive models shall be built using equipment historical data available in the plant PI server. The system should be able to model normal operating modes, startup and shutdown modes. The system shall include a Graphical User Interface (GUI) employing graphics, plots & trends, dashboards and an easy user interface displaying actionable information and validity of data, diagnostics, workflow support, and knowledge capture details of which have been elaborated in the further sections/clauses of the technical specifications.

3. Detailed Specification, Scope of Work and Terms and Conditions are given in the bidding document, which are available for examination at GeM Portal (<https://gem.gov.in>) and as per the following details & schedule:

NIT Date/ Document Download Commencement Date & Time	<b>18.10.2024</b>
Source of IFB/NIT	Corporate Materials, EOC, Noida
Last date for receipt of queries from bidders (if any)	<b>25.10.2024</b>
Last Date & Time for Bid Submission	<b>08.11.2024</b> up to 15:00 HRS (IST)
Technical Bid Opening Date & Time	<b>08.11.2024</b> at 15:30 HRS (IST)
Price Bid Opening Date & Time	Shall be intimated separately.
Bid Security/EMD <b>EMD Exemption shall be applicable as per GeM GTC.</b>	<b>Rs. 1,00,00,000/- (Indian Rupees One Crore only)./-</b>

Benefit to MSE	<p><b>This is a Supply Contract.</b></p> <p>For availing MSE benefits for purchase preference, bidder shall confirm that they are manufacturer of Real Time Predictive Analytic &amp; Diagnostics Advisory System, which is a pre-requisite for extending MSE benefits of purchase preference.</p> <p>The bidders may apprise themselves of the relevant provisions of bidding documents in this regard before submission of their bids.</p>
Contract Period	<p><b>Supply, Installation &amp; configuration of complete solution: 18 Months (+1 Year Warranty)</b></p> <p><b>Service (CMS): 06 Years Comprehensive Maintenance Service</b></p>
Pre-Bid Conference Date & Time (if any)	Not Applicable
Reverse Auction	Not Applicable

**“No Queries from Bidders, whatsoever, shall be entertained by the Employer beyond the last date of receipt of Queries/ Pre-Bid Conference (if applicable) as specified above.”**

As per provisions of Bidding Documents, the Bidders shall submit “Techno-Commercial Proposal” and “Price Proposal” online on GeM portal, within the bid submission date and time as mentioned above. Only Techno-Commercial proposals will be opened on the date and time mentioned above or corrigendum/s (if any) thereof.

**Note:** For any corrigendum and extension of date of bid submission, please visit the website <https://gem.gov.in/>

4. All bids must be accompanied by **Bid Security**. AS PER TENDER PROVISIONS. **Bid Security shall be submitted as per instruction mentioned in ITB / SPC.**
5. **ANY BID NOT ACCOMPANIED BY AN ACCEPTABLE BID SECURITY AS PER TENDER PROVISIONS; SHALL BE REJECTED BY THE EMPLOYER AS BEING NON-RESPONSIVE .**
6. **“CLASS 1 & CLASS 2’ local suppliers are eligible to participate in this tender**, as defined in the bidding documents/ Public Procurement (Preference to Make in India), Order 2017 and its subsequent amendments/ revisions issued by DPIIT. The bidders may apprise themselves of the relevant provisions of bidding documents in this regard before submission of their bids.

#### **7.0 Qualifying Requirements for Bidders:**

The bidder who wishes to participate in the bidding shall meet the Qualifying Requirements stipulated hereunder: -

#### **7.1 Technical Criteria:**

##### **1.1 Route-1 (Bidder bidding on his own credentials):**

**1.1.1)** Bidder should have supplied & installed Software for Predictive modelling module and the same should have been in successful operation for a period of not less than 12 months prior to the date of Techno-Commercial bid opening, in a single installation for any one of the following:

a) For a fleet capacity of minimum 8000 MW of either Fossil fuel or Nuclear or Hydro power generating units or any combination of the three.

OR

b) For minimum 26000 inputs process parameters of industrial assets.

OR

c) For minimum 800 industrial assets.

**AND**

**1.1.2)** Bidder should have successfully developed Advanced Pattern Recognition (APR) models with Software for Predictive modelling module for at least two Fossil fuel or Nuclear or Hydro power generating units in preceding 07 years as on the date of Techno-Commercial bid opening.

**AND**

**1.1.3 (a)** Bidder should have successfully executed/implemented at least one 'Similar Work' for a customer for minimum 100 industrial assets or minimum 3200 input process parameters of industrial assets which should have been in successful operation for a period of not less than 12 months prior to the date of Techno-Commercial bid opening.

**Note:**

(i) Similar work shall mean any work involving implementation services for at least one of the following:

**(a) AI/ML based Predictive Maintenance Solution**

**(b) AI/ML based Predictive or Prescriptive Solution**

**(c) AI/ML for Operation/Maintenance**

OR

**1.1.3 (b)** Bidder should have supplied and installed DDCMIS (Distributed Digital Control Monitoring System)/DCS (Digital Control System) for Main Plant area for at least two thermal power generating units and the same should have been in successful operation for a period of not less than 12 months prior to the date of Techno-Commercial bid opening.

**Note:** Main Plant area shall mean any one or more of the following:

(i) Steam Generator (SG)

(ii) Turbine Generator (TG)

(iii) Auxiliaries of SG/TG

**Notes for Cl. 1.1.1, 1.1.2 & 1.1.3 above:**

Predictive modelling module at Cl. 1.1.1, 1.1.2 & 1.1.3 above should have employed Advanced Pattern Recognition (APR) technique i.e. predictive modelling on process parameters (i.e. pressure, flow, level, temperature, etc.) using a pattern recognition method for estimating expected values for the modelled parameters and generating alerts/ anomalies based on the difference between expected values and the actual values.

Industrial assets shall mean Industrial equipment/system for which APR models have been built in

the referred work.

### **1.2 Route-2 (For Bidder bidding on the credentials and technological support of its subsidiary):**

**1.2.1** Bidder collectively along with its Subsidiary meets the requirement of Cl. 1.1 above. In such case, the bidder shall meet the technical requirement of Cl. 1.1.3 above on its own whereas the Subsidiary Company shall meet the technical requirements of Cl. 1.1.1 & 1.1.2 above.

**1.2.2** In such case the Bidder shall be required to furnish along with its techno-commercial bid a Letter of undertaking (LOU) that the resources/expertise from the Subsidiary company (whose experience is utilized to meet the QR) shall be made available as and when required for the successful performance of the contract.

The letter of Undertaking should be signed by Key Managerial Personnel of the Bidder's Subsidiary Company as per the format enclosed in the bidding documents. Key Managerial Personnel shall have the meaning as ascribed to it in the Companies Act 2013 or equivalent.

In case of award, the Bidder's Subsidiary company will be required to furnish an irrevocable Bank Guarantee for 2.0% of the total contract price in addition to the Contract Performance Security to be furnished by the successful bidder.

### **1.3 Route-3 (For Bidder bidding on the credentials and technological support of its associate):**

**1.3.1** Bidder along with its associate shall collectively meet the qualifying requirement of Cl. 1.1 above. In such case, the bidder shall meet the technical requirement of Cl. 1.1.3 above on its own whereas the associate shall meet the technical requirements of Cl. 1.1.1 & 1.1.2 above.

**1.3.2** In such case, the Bidder shall submit a Deed of Joint Undertaking (DJU) jointly executed between the bidder and its Associate as per the format enclosed in the bidding documents wherein the bidder and its Associate are jointly and severally liable to the Employer for successful performance of the software for Real Time Predictive Analytic & Diagnostics Advisory System.

**This Deed of Joint Undertaking should be submitted along with the techno-commercial bid, failing which the bidder shall be disqualified and its bid shall be rejected.**

In case of award, the Associate will be required to furnish an irrevocable Bank Guarantee for 2.0% of the total contract price in addition to the Contract Performance Security to be furnished by the successful bidder.

### **1.4 Route-4 Joint Venture (un-incorporated) Route:**

**1.4.1** Bidder may be a Joint Venture (Unincorporated JV), comprising of maximum of two partners and shall collectively meet the qualifying requirement of Cl. 1.1 above. The partner with higher share in JV (minimum 51%) shall be designated as Lead Partner.

The JV partners will be required to furnish a legally enforceable Joint Venture Agreement (JVA) along with Techno commercial Bid, as per the format enclosed in the bidding documents, wherein the Lead Partner shall be responsible and liable to Employer to perform all the contractual obligations whereas both Joint Venture Partners shall be jointly and severally liable to the Employer for successful performance of the software for Real Time Predictive Analytic & Diagnostics Advisory System.

**1.4.2** Both JV Partners shall collectively meet the qualifying requirement of Cl. 1.1 above. In such case, the Lead JV Partner shall meet at least the technical requirement of Cl. 1.1.3 above on its own whereas the other JV partner shall meet at least one of the technical requirements of Cl. 1.1.1 & 1.1.2 above.

**1.4.3** In case of award, the lead partner, on behalf of JV shall furnish an irrevocable Bank Guarantee for 2.0% of the total contract price in addition to the Contract Performance Security to be furnished by the successful bidder i.e. JV.

**Notes to Cl. 1.0 of QR:**

1. The phrase “Software for Predictive modelling module” shall mean the “Software for Predictive modelling module of the Real Time Predictive Analytic & Diagnostics Advisory System”.
2. (i) Bidder should submit Manufacturer’s Authorization Format (MAF) for this tender duly signed & stamped by the Principal OEM of the offered Predictive modelling Software module or from the Principal OEM’s Subsidiary or Holding or Subsidiary of Holding or Group Company representing the Principal OEM in India, for the offered Predictive modelling Software module.  
  
(ii) Bidder should also submit a self-declaration undertaking from the Principal OEM that it is the OEM of the offered Software for Predictive Modelling Module.  
  
(iii) In case MAF is being issued by the company representing the Principal OEM in India as per above, declaration for authorization from the Principal OEM is to be also submitted along with the bid.
3. Single installation means
  - a. An On-Premise system where components like servers, workstations are networked together verified by network topology diagram. The fleet being catered by the installation can be from multiple organizations.
  - b. Infrastructure for the installation can also be partly or fully on cloud as IAAS model.
4. The Offered software can be newer versions of the same product or upgrades or a product whose name has been changed after version/  
product upgrade of software meeting the requirement of clause 1.0 above.
5. Software supplied shall also mean software supplied as service.
6. Word "executed" mentioned in the document means:
  - a. The bidder should have achieved the criteria specified even if the total contract is started earlier and/or is not completed/closed.
  - b. Work executed against extensions of Purchase Order / Work Orders / Agreements shall be considered as one work along with the original Purchase Order/Work Order/ Agreements.

**7.2 Financial Criteria of Bidder:**

**2.1** 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 2802.5 Lakh (Indian Rupees Two Thousand Eight Hundred Two Lakhs and Fifty Thousand Only).

In case the 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.

**2.2** Bidder should have Positive Net Worth as on the last day of the preceding financial year (reckoned on the date of Techno-Commercial Bid opening).

**2.3** 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 in the bidding documents, stating that the unaudited unconsolidated financial statements form part of the consolidated annual financial statements of the Holding Company.

**2.4** In case where audited results for the last financial year as on the date of 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 for the 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 bid 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.

### **7.3 Financial Criteria of Associate of the Bidder (for route 3):**

**3.1** The average annual turnover of the Associate, in the preceding three (3) financial years as on the date of Techno-Commercial bid opening, should not be less INR 1121.00 Lakh (Indian Rupees One Thousand One Hundred Twenty-One Lakhs Only).

In case the 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 ASSOCIATE would be required to furnish along with bidders 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 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 ASSOCIATE is associated.

**3.2** The Associate should have Positive Net Worth as on the last day of the preceding financial year (reckoned on the date of Techno-Commercial Bid opening).

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

(i) Copies of the unaudited unconsolidated financial statements of the ASSOCIATE along with copies of the audited consolidated financial statements of its Holding Company of collaborator/ ASSOCIATE.

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

In case 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, ASSOCIATE is not able to submit the certificate from a practicing Chartered Accountant certifying its financial parameters, the audited results for the 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 of the Collaborator/ ASSOCIATE as per the format enclosed in the bid 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.

#### **7.4 Financial Criteria for JV Route (Route 4):**

**4.1** All the partners of Joint Venture shall be collectively required to meet the Financial Criteria for turnover specified at Sl. No. 2.1 of QR.

**4.2** All the Joint Venture partners should have Positive Net Worth as on the last day of the preceding financial year (reckoned on the date of Techno-Commercial Bid opening).

#### **Notes for clause 7.2, 7.3 & 7.4 (Financial Criteria):**

(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 or 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 to the date of bid opening shall be used.

(v) "Group Company" means two or more enterprises which, directly or indirectly, are in a position to:

- (a) exercise twenty-six percent or more of voting rights in other enterprise; or
- (b) appoint more than fifty percent of members of Board of Directors in the other enterprise

8. Notwithstanding anything stated above, the Employer reserves the right to assess the capabilities and capacity of the Bidder/ his collaborators /associates/ subsidiaries / group companies to perform the contract, should the circumstances warrant such assessment in the overall interest of the Employer. The physical assessment shall include but not be limited to the assessment of office/facilities/banker's/reference workers by Employer. A negative determination of such assessment of capacity and capabilities may result in rejection of the bid.

9. Any 'Bidder from a country which shares a land border with India', as specified in the Bidding Documents, will be eligible to bid in this tender only if bidder is registered with the Competent Authority as mentioned in the Bidding Documents.

Further, any bidder (including bidder from India) having specified Transfer of Technology (ToT) arrangement with an entity from a country which shares a land border with India, will be eligible to bid only if the bidder is registered with the same competent authority. However, the said requirement of registration will not apply to bidders from those countries (even if sharing a land border with India) to which the Government of India has extended lines of credit or in which the Government of India is engaged in development projects.

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

11. NTPC reserves the right to amend any bid/tender conditions through appropriate CORRIGENDUMS published in the portal AT ANY TIME. NTPC also reserves the right to extend/change the bidding schedule through publishing necessary CORRIGENDUMS in the portal if the situation demands so AT ANY TIME. The corrigendum as decided by NTPC and deemed fit would be published in the portal as per provisions therein. This prevails over the relevant provisions elsewhere in the bid document. The corrigendum/amendment as published/posted in the portal will be binding on Bidders and it will be assumed that the information contained therein will have been taken into account by the Bidder in its bid. Bidders are advised to regularly check the tender regarding posting of Amendments/Corrigendum, if any.

12. 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.

13. The bid document consists of the followings Section:

**I Invitation for Bids (IFB)/ Notice Inviting Tender (NIT)**

**II Instructions to Bidders (ITB)**

**III General Purchase Conditions (GPC)**

**V Special Purchase Conditions (SPC)**

**VI Technical Specifications/Scope of Work, Drawings and Quality Plans**

**VII Schedule of Quantities (SOQ)/Bill of Quantities (BoQ)**

**VIII Forms and Procedures**

14. **IMPORTANT NOTES:**

**a) Annexure-12 - QR DATA SHEET** (ATTACHED separately for the package as bid document) is to be filled up properly for the stipulated QR parameters and to be submitted in the bid at appropriate file/folder provided for the purpose.

**b) LATEST PROVISIONS FOR "AUTHENTICATION OF VERACITY OF DOCUMENTS SUBMITTED BY THE BIDDER IN SUPPORT OF QUALIFYING REQUIREMENT" HAS BEEN**



INCORPORATED IN CLAUSE NO 26 OF ITB. AUTHENTICATED DOCUMENTS (AS APPLICABLE- FROM INDEPENDENT STATUTORY AUDITOR OF BIDDER/ OR SPECIFIED THIRD-PARTY INSPECTION AGENCY (TPIA)) IN LINE WITH THE SAID PROVISIONS TO BE COMPLIED.

**c) UDIN:** Any Certificate(s) / Financial Statement(s) / Audited Balance Sheet and P&L Account (wherever applicable) undertaken/ signed by a Member of Institute of Chartered Accountant of India (ICAI), which Bidders submit in support of compliance to Qualifying Requirements (QR), will carry Unique Document Identification Number (UDIN) generated in line with the Gazette Notification of Council of Institute of Chartered Accountant of India (ICAI). It is mandatory to mention UDIN (Unique Document Identification Number) by the bidders while submitting audited financial statements, other CA certificates etc. w.e.f. date as mentioned in ICAI gazette notification dt. 02.08.2019.

c) The bid specific data for the package AS MENTIONED IN SPC shall amend and/or supplement the provisions in the Instructions to Bidders (Section II- ITB)/ GPC. Wherever there is a conflict, the provisions of SPC shall prevail over those in the ITB/GPC.

15. The bidding document is available online. A complete set of Bidding Documents may be downloaded by any interested Bidder from the GeM portal. The Bidder would be required to register on the website.

Note: No Hard Copy of bidding documents shall be issued.

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

17. Address for Communication

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