



MAHARASHTRA STATE POWER GENERATION CO. LTD.

NOTICE INVITING TENDER

LOCAL COMPETITIVE BIDDING FOR CONSULTANCY ENGINEERING SERVICES FOR MAHAGENCO'S 2 X 660 MW KORADI TPS PROJECT.

(TO BE SUBMITTED ONLINE DULY FILLED IN)

The Maharashtra State Power Generation Co. Ltd., Mumbai, India (MAHAGENCO) invites online Bids from eligible bidders for CONSULTANCY ENGINEERING SERVICES FOR MAHAGENCO'S 2 X 660 MW KORADI TPS PROJECT

Bid specification shall be available for download on website <https://eprocurement.mahagenco.in> after acceptance of vendor registration fee (Rs. 5000/-+ GST) and tender fee (Rs. 5,000/-+ GST).

1.	Start date of acceptance of tender fee by Mahagenco and download of tender document.	17.07.2019, 12.00 Hrs. IST
2.	Last date of acceptance of tender fee by Mahagenco and download of tender document	06.08.2019, 12.00 Hrs. IST
3.	Last Date of acceptance of Queries/ comments from bidders	26.07.2019, 15.00 Hrs. IST
4.	Pre bid meeting	29.07.2019, 15.00 Hrs. IST
5.	Last date for Submission of Online Bid along with EMD	07.08.2019, 12.00 Hrs. IST
6.	Date of Opening Techno-commercial Bid (Part-I)	07.08.2019, 15.00 Hrs. IST
7.	Date of Opening Price Bid (Part-II)	Shall be intimated later

MAHAGENCO reserves the right to cancel/withdraw this Invitation for Bids without assigning any reason for such decision.

VENDOR REGISTRATION FEE, TENDER FEE AND CONTENTS OF BIDDING DOCUMENTS:

Each bidder shall register itself at the website address <https://eprocurement.mahagenco.in> on online payment of the vendor registration fees of Rs. 5000/- (Indian Rupees Five thousand only) before the last date for registration mentioned in the notification of invitation of bids ("**NIT**"). Vendor registration fee is non refundable.

Bidder is required to pay online non refundable Tender fee of Rs. 5,000/- (Indian Rs. Five Thousand only) on or before the last date of payment of tender fees.

QUALIFYING REQUIREMENTS OF THE BIDDER

A Bidder can be a Company / Firm / Agency meeting the qualifying requirements as stated below:

- I. The Bidder shall have proven experience of providing consultancy services as stated below :
 - i. The bidder should have worked as Owner's or EPC Contractors' Engineer for Bid evaluation, review; scrutiny & approval of drawings/documents submitted by EPC contractor,
 - ii. Project management and monitoring, supervision of site Erection, testing & commissioning,

of at least one 500MW or above, coal fired super-critical power generating unit, which should have been in successful operation for at least two years as on 15 days prior to the date of Bid submission.
- II. The bidder can have above qualifying Requirements in a single project OR in different projects.
- III. Bidder's average annual turnover for previous three financial years should be at least Rs. 3.50 Crores (Chartered Accountant's certificate shall be enclosed by the bidder)
- IV. The bidder should not be under ban/debarment for dealing with any Govt. Organisation/Govt. Undertaking Company or should not have been blacklisted by any Govt. Organisation/Govt. Undertaking Company.

SCOPE OF WORK :

1.1 GENERAL SCOPE OF WORK :

The scope of consultancy services shall cover Preparation of Technical Bid Specifications separately for BTG package (including FGD, SCR) and BoP package, Review of Plot Plan, Presentation on salient features of the Bid specification, review of commercial bid specifications & modification, if required, considering the industrial practices & Govt Guidelines or as per directives by Mahagenco, Preparation of reply to pre-bid queries, preparation of amendment to technical specifications, if any, Technical Evaluation of the bids submitted by the bidders, to assist the Owner on various activities for the award of contract, review; scrutiny & approval of drawings/documents submitted by EPC contractor in respect of 2x660MW Koradi Units-11&12 Project including FGD, SCR etc., vetting of design calculations, corrective measures based on the tender specifications/national & International standards, Project management and monitoring, daily supervision of site erection activities, preparation and communication of periodical reports on work performed by Contractor/Sub-contractors/Sub-vendors, supervision of acceptance tests and preparation of final report, inspection of indigenous material to be supplied by EPC contractor and its vendors. Further, any other works & services become necessary for the completion of the project but are not covered specifically in the scope are covered in the consultant's scope.

1.2 PREPARATION OF BID SPECIFICATIONS, REVIEW AND APPROVAL OF DOCUMENTS/DRAWINGS : (Covered under Sr. No. 1 of Price Schedule)

1.2.1 Preparation of master/lead specification. Preparation of Technical Bid Specifications for following packages :

- i. Boiler Turbine Generator & integrated auxiliaries (including FGD, SCR)
- ii. Balance of Plant Package & integrated auxiliaries

1.2.2 Review of commercial bid specifications, modification, if required, considering the industrial practices & Govt Guidelines & as per directives of Mahagenco

1.2.3 Review of Plot Plan, modification, if required, considering the site conditions & best industrial practices and CEA guidelines etc.

- 1.2.4** Preparation of reply to pre-bid queries of the bidders and attending Pre-bid meetings. preparation of amendment to technical specifications.
- 1.2.5** Technical Evaluation of the bids submitted by the bidders and submission of evaluation report Mahagenco. To assist Mahagenco on various activities for the award of contract
- 1.2.6** Presentation on salient features of the Bid specifications
- 1.2.7** Review and approval of drawings/documents related to Civil, Architectural, Mechanical, Electrical, Control and Instrumentation, layout etc. are in the scope of work for scrutiny, review, corrections and approval.

- a) Drawing schedule/Master Drawing List (MDL)
- b) Plot plan
- c) Project Activity Schedules
- d) Design Basis reports
- e) General Arrangement drawing
- f) Schematic drawings
- g) Layout drawings
- h) Control philosophy write-ups
- i) Data sheets
- j) Equipment design calculations / Selection Criterion/System write-up approval
- k) Field Quality Plans and Quality Assurance Plan.
- l) Flow diagrams, Process and Instrumentation Diagrams
- m) Billing Breakups
- n) All types of Schedules such as cable schedule, Instrument Schedule, valve schedule, bar bending schedules etc.
- o) Process calculations for various subsystems
- p) P G Test procedures approval and review of submission of reports
- q) Follow-up with EPC Contractor for a built drawing and review & finalisation

All other documents/drawings submitted by EPC contractor for the project but are not covered above shall be in the scope of the consultant.

- 1.2.8** Review of Performance Guarantee Test Procedure document, witnessing the P.G Tests, Evaluation of P.G. tests results and advising Owner for its

Acceptance, penalty imposition etc. In addition to the above, whenever required, the consultant shall observe requirements as above for satisfactory completion and integrated operation of the project as a whole as well as independent system, if any.

- 1.2.9 Review of operation and maintenance manual submitted by EPC vendor & sub vendors.
- 1.2.10 Consultant will be responsible for the designs approved by the consultant of EPC vendor & sub vendors.
- 1.2.11 In engineering and design work, required modifications due to fault of consultant and noticed within one year after successful commissioning of the unit, will be redesigned /reengineered by consultant without any additional compensation.
- 1.2.12 For the purpose of carrying out scope of consultant's work the staff as follows shall be deployed by consultant.
 - Adequate technical personnel (comprising Civil, Mechanical, C&I, Electrical, layout, chemists) expert in different packages pertaining to Thermal Power Plants at consultant's Head Office to carry out review, scrutiny & approval of documents submitted by EPC contractor,
- 1.2.13 Some of the drawings are prepared by Mahagenco, which shall be provided to the consultant.
- 1.2.14 Attending meetings either at Company's Corporate Office or at site office or at Vendor's office. Consultant may be required to visit site office and Head office of Mahagenco/Contractors office/Sub-vendors office to resolve any issues in respect of any technical document pertaining to project. 60 Man-visits to site/HO Mumbai/EPC Contractor/Sub-contractor of EPC contractor are included in the scope to resolve any engineering issue only.
- 1.2.15 Apart from above, detailed Engineering/ Consultancy for any work not included in the turnkey scope but are required to be carried out by Mahagenco, shall be in the scope of consultant.

1.3 CONSULTANCY FOR SITE SUPERVISION OF ERECTION, TESTING & COMMISSIONING (Covered under Sr. No.3 of Price Schedule)

- 1.3.1 Providing supervision at site with the help of experienced engineers during construction, fabrication, erection, testing, commissioning and

performance guarantee tests to the satisfaction of Owner. Mahagenco shall intimate the requirement of various experienced engineers as and when required.

- 1.3.2** The Consultant shall provide services of experienced engineers for construction/ fabrication/ erection and start-up / commissioning of the Plant and assist the Company in coordinating various start-up, initial operation and commissioning activities and in conducting performance and acceptance tests of the units / equipment / system, as per site requirement in consultation with Mahagenco.
- 1.3.3** Certification of completion of site work in accordance with approved drawings/specifications.
- 1.3.4** The Consultant/experienced engineer shall be joint signatory to all protocols.

1.4 PROJECT MONITORING/MANAGEMENT :
(Covered under Sr. No. 2 of Price Schedule)

All Project management related activities including following, but not limited to:

- i. In order to monitor the project at Mahagenco's Corporate Office, Consultant shall prepare & forward Progress Report covering design, engineering, procurement and site construction activities on every 1st week of the month. Whenever necessary, representative of Consultant shall visit Mahagenco's Corporate Office to attend Project Review Meeting.
- ii. Consultant should lead the technical review meetings with respect to finalised agenda points, preparation of Minutes of Meeting, circulating above to all concern officers and tracking the implementations of finalised points, periodically.
- iii. Preparation and periodic updating of project network schedule on the basis of committed and revised delivery schedule, by various suppliers and erectors, keeping in view of time schedule.
- iv. Review and approval of the detailed project activity schedule and project movement procedure prepared by the EPC contractor.
- v. Preparing progress report, PERT Chart, project scheduling and updating the report chart fortnightly to achieve the target of commissioning on

scheduled date. Preparation and submission of any other report as desired by Mahagenco.

- vi. Carry out site management activities and highlight the various critical areas and reporting to MSPGCL to take necessary remedial actions.
- vii. Sufficient Staff should be posted at site to expedite progress on day-to-day basis as per Quality management plan, Project Documentation Procedure & Project Reporting & communications.
- viii. Providing coordination amongst MSPGCL, the EPC contractor and the sub vendors for successful & timely execution of complete unit & PG tests. Leading the coordination among all concerned for better arrangements, as required time to time.
- ix. Review of erection procedure, work plan and construction schedule of EPC contractor. It shall also include resolution of site surprises, bottlenecks, execution level disputes, Suit-at site supports (situation based best alternative).
- x. Course correction & peer review: In order to complete the project in contracted period the regular review and course correction shall be entrusted upon. The course correction shall include revision of resource estimate, advising improvement in methodology & technology deployed. The peer review must also be presented / furnished for expediting activities & imparting learning to the management in monthly progress review meeting.
- xi. Review & approval of EPC Contractor's, commissioning procedure and checklist and ensuring that these are followed.
- xii. To assist in preparation of documents to approach statutory/non-statutory bodies for clearances in relation to the project and project activities and attend the meetings including liaison wherever required
- xiii. The consulting shall provide various reports required by associated financial institution (like fund flow projection, *work-cost* progress), Owner / Management appraisal, feedback report to agency (non conformance, concession report etc), Close out report (Erection & commissioning log), Public relation reporting (web update, press release). The report must build-up audit trails required for commercial, contractual and regulatory aspects.
- xiv. The variance flagging: consulting engineer shall provide flagging /Confidential reporting in (a) schedule variances (b) Cost variances (c) quality variances (d) Threshold variances.

- xv. Review of plant completion report prepared by EPC contractor.
- xvi. All the reports shall be submitted to Chief Engineer (PMG) with copies to Chief Engineer (P&P), Mumbai and Chief Engineer (Project), Koradi.
- xvii. Co-ordination between BTG contractor and BoP Contractor.

1.5 SERVICES OF EXPERT ENGINEERS FOR VARIOUS PACKAGES

(Covered under Sr. No. 4 of Price Schedule)

- 1.5.1** The Consultant shall also provide expert engineers for various packages in thermal power plant like Boiler, Turbine, Generator, AHP, CHP, WTP, FGD, SCR etc. and Condition Monitoring, Water Chemistry and Metallurgy etc. as and when required. The consultant shall immediately after intimation from Mahagenco shall provide the services of such experts.

s/d
Chief Engineer (P&P)