

HIRANMAYEE ENERGY LTD

Regd. Office: Plot No. X1 - 2 & 3, Block EP
Salt Lake, Sector-V, Kolkata - 700091

Tender Specification no: HMEL/22-23/006

NOTICE INVITIG BID FOR

PERFORMANCE GUARANTEE TEST FOR 2x150 MW TPP, HIRANMAYE ENERGY LIMITED (HMEL)

NOTICE INVITING BID FOR:

PERFORMANCE GUARANTEE TEST FOR 2x150 MW TPP, HIRANMAYE ENERGY LIMITED (HMEL), HALDIA POWER PLANT, WEST BENGAL.

Enquiry Reference No: HMEL/22-23/006

Title of Work:
PERFORMANCE GUARANTEE TEST FOR 2x150 MW TPP: HIRANMAYE ENERGY LIMITED (HMEL)", 2X150 MW COAL BASED THERMAL POWER PLANT, AT VILLAGE: KASHBERIA, SIBRAMNAGAR PO, HALDIA, PURBA MEDINIPUR (WEST BENGAL).

Guidelines for Bid Submission:

The Bid shall be submitted strictly as per instructions given herein by sending email to the Email IDs specified as under:

Bid submission mail must bear proper subject/title mentioning "Bid For PG Test of 2X150 MW TPP, HIRANMAYE ENERGY LIMITED, HALDIA" (Tender ref: HMEL/22-23/006)

All communications regarding this tender shall be addressed to the following officer/s:

1. Mr. Satyajeet Gupta

Email:

procurement@hiranmayeenergy.in

and

2. Mr. Vijaydeep verma

Email: vijay.verma@hiranmayeenergy.in

The Bidder shall indicate authorized person name, contact number and e-mail ID (mandatory) of the person to whom RFQ/Tender and all other communications shall be addressed for this tender.

Tender Timelines:

Bid Due Date: 02.03.2023

SCOPE OF WORK

The test will be carried out as per ASME PTC Code as mentioned below, however, the following activities shall be the part of PG test.

The following services shall be in scope for testing:

- ✓ Boiler Thermal performance test as per PTC – 4.
- ✓ TG performance / Heat Rate test as per PTC-6
- ✓ Condenser performance test as per PTC-12.2
- ✓ HP Heaters' performance test as per PTC-12.1
- ✓ Cooling Tower Performance test PTC 23

a) Boiler

- ✓ Evaluation of boiler efficiency by loss method at 100% & 80 % TMCR load with as fired condition with coal.
- ✓ Performance evaluation and Power consumption of ID fan, FD fan, PA fan, Coal Mills.
- ✓ Boiler feed Pump (power consumption and performance evaluation).

b) Air-pre heater

- ✓ Performance testing to determine gas side efficiency, leakages (%), X-Ratio, flue gas temperature etc.

c) Heat Rate

- ✓ Calculation of Turbine Heat Rate and Heat Rate of the plant at 100% & 80 % TMCR load.
- ✓ Calculation of Turbine cylinder efficiency.
- ✓ Calculation gap between indirect method & loss method

d) HP Heaters

- ✓ HP heaters performance evaluation (including TTD & DCA calculation).
- ✓ Heat duty, Degree of Sub-cooling etc.

e) Condenser

- ✓ Performance and study of deviation of condenser vacuum from the expected
- ✓ Condensate pumps power consumption and performance evaluation.

f) Cooling Tower Performance Test

- ✓ To determine the capability of cooling tower by measurement of CW flow, Range, Approach, Fan power etc.

Methodology

Conducting Turbine Performance Evaluation at 100% & 80 % TMCR and VWO Load of one Unit (Max Load 150 MW).

- ✓ Primary flow as condensate flow to deaerator will be measured using portable flow ultrasonic meter during test.
- ✓ Secondary flow at BFP inlet and out let can be measured if proper straight length will be available.
- ✓ Based on the exiting nozzle design details the flow computation will be assessed.
- ✓ Party will use its temperature and pressure elements on HP side of the turbine and extraction to logged the data in a data logger during test. The off-line measurement using party instruments will be done in those places where PG test pocket is available or else DCS data will be used.
- ✓ Condenser back pressure will be measured using off-line instruments.

Test for Boiler Performance Assessment

- ✓ Flue gas temperature, O₂, CO₂, CO, SO_x and NO_x will be measured using Testo flue gas analyser at APH inlet and outlet during the test. The readings will be manually noted in every 15minutes for the test duration.
- ✓ Coal and ash sample will be collected during the test. Ash sample analysis report will be done at HMEL lab to estimate unburnt in Fly ash and bottom ash. For Total Moisture (TM) and GCV (AFB) HMEL will provide the results along with Proximate analysis.

Data collection through data loggers/manual reading

- ✓ Providing the data in soft formats.
- ✓ The measuring instruments have valid calibration/ traceability certificate from NABL accredited laboratory before installation of instrument.

Note:-

- ✓ **PG Sampling point/port for Steam Generator/APH (List of measurements Table-1) and for Steam turbine (List of measurements Table-2) needs to be identified by the party before mobilisation. HMEL has to ensure the availability of test pockets.**

Table-1

Measuring Point/ Instrument	Description
Ambient	
Ambient Temperature	Logger
Ambient Relative Humidity	Logger
Ambient Pressure	Logger
Flow	
Feed water DP Transmitter	Logger
SH First Stage Spray Flow	Logger
SH 2nd Stage Spray Flow	Logger
RH Spray Flow	Logger
Pressure	
Feed water Pressure	Logger
SH 1'st Spray Water Press.	Logger
SH 2'nd Spray Water Press.	Logger
Main Steam Pressure	Logger
Reheater Inlet Steam pressure	Logger
Reheater outlet Steam pressure	Logger
Reheater spray water pressure	Logger
Temperature (Steam/Water)	
Feed water Temperature	Logger
Main Steam Temperature	Logger
Reheater Steam Temp before RH DESH	Logger
Reheater Inlet Steam Temperature	Logger
Reheater Outlet Steam Temperature	Logger
RH Spray water temperature	Logger
Temperature (Air and Gas)	
Primary GAH Inlet Air Temperature	Logger
Secondary GAH Inlet Air Temperature	Logger
Primary GAH Outlet Air Temperature	DCS
Secondary GAH Outlet Air Temperature	DCS
Primary GAH Inlet Exhaust Gas Temp	Logger
Secondary GAH Inlet Exhaust Gas Temp	Logger
Primary GAH Outlet Exhaust Gas Temp	Logger
Secondary Outlet Exhaust Gas Temp	Logger
Exhaust Gas Analysis	
Primary GAH Inlet Gas O2/CO/CO2	Gas Analyzer
Secondary GAH Inlet Gas O2/CO/CO2	Gas Analyzer
Primary GAH Outlet Gas O2/CO/CO2/SO2/Nox	Gas Analyzer
Secondary GAH Outlet Gas O2/CO/CO2/SO2/Nox	Gas Analyzer
Coal Flow	DCS
Sample & Analysis	
Fuel Coal Sample	HMEL

Bottom Ash Sample	HMEL
Fly Ash Sample	HMEL

Table-2

S.No.	Pressure Measurements	Temperature Measurements
1	MS Pressure	MS Temperature
2	CRH Pressure	CRH Temperature
3	HRH Pressure	HRH Temperature
4	IPT Exhaust Pressure	IPT Exhaust Temperature
5	LPT I/L Pressure	LPT I/L Temperature
6	LPT Exhaust Pressure	LPT Exhaust Temperature
7	Condenser I/L Pressure-1	Condenser I/L Temperature-1
8	Condenser I/L Pressure-2	Condenser I/L Temperature-2
9	Condenser O/L Pressure	Condenser O/L Temperature
10	CW I/L Pressure-1	CW I/L Temperature-1
11	CW I/L Pressure-2	CW I/L Temperature-2
12	CW O/L Pressure-1	CW O/L Temperature-1
13	CW O/L Pressure-2	CW O/L Temperature-2
14	CEP Exhaust Pressure	CEP Exhaust Temperature
15	Condensate to Deaerator Pressure	Condensate to Deaerator Temperature
16	Extraction to Deaerator Pressure	Extraction to Deaerator Temperature
17	Extraction to HPH-2 Turbine End Pressure	Extraction to HPH-2 Turbine End Temperature
18	Extraction to HPH-2 Heater End Pressure	Extraction to HPH-2 Heater End Temperature
19	HPH-2 Drain to Deaerator Pressure	HPH-2 Drain to Deaerator Temperature
20	Deaerator O/L Pressure	Deaerator O/L Temperature
21	1st Stage Pressure	2nd Stage Temperature
22	Extraction to HPH-1 Turbine End Pressure	Extraction to HPH-1 Turbine End Temperature
23	Extraction to HPH-1 Heater End Pressure	Extraction to HPH-1 Heater End Temperature
24	FW to HPH-2 Pressure	FW to HPH-2 Temperature
25	FW to HPH-1 Pressure	FW to HPH-1 Temperature
26	FFW to Boiler Pressure	FFW to Boiler Temperature
27	FFW Flow DP	Local/ DCS
28	Reheater spray Flow	DCS
29	Superheater Spray Flow	DCS
30	Condensate to Deaerator Flow	Measured
31	Make-up Flow	DCS

GENERAL TERMS AND CONDITIONS

1. The Bid Document has been prepared for inviting bids for PG Test of 2x150 MW TPP, HMEL. The purpose of this document is to provide potential Bidders with the information to assist in the formulation of their Bid. For the avoidance of any doubt, prospective Bidders shall not be permitted to Bid through a Consortium of any form.
2. Whilst this Bid Document has been prepared in good faith, all information contained in this Bid Document, including financial, geographical, commercial, legal and technical information has been included for illustrative purposes only to assist Bidders in making their own evaluation of the Bid. Each Bidder shall be solely responsible for satisfying itself as to the information required to submit a Bid for the Scope of Work. The Bidder shall conduct appropriate due diligence, investigations, projections, conclusions and consult their own advisors to independently verify the information and facts in this Bid Document and to obtain any additional information they might require prior to submitting their Bid.
3. Neither HMEL, nor its employees, partners, directors, other staff or the consultants / advisors of any such person:
 - a. accepts any responsibility or liability to any Bidder or any other person arising out of or in relation to this Bid Document (including in relation to omissions of information) and/or in respect of the use of, reliance on, such information by Bidders and/or incurred or suffered any costs, losses, damages & other consequences in connection with anything contained in this Bid Document including any matter deemed to form part of this Bid Document, the award of the Contract, or otherwise arising in any way from the qualification process for the said Contract; and
 - b. makes any representations or warranty (express or implied) as to the adequacy, accuracy, reasonableness or completeness of any information in this Bid Document.
4. Each Bidder shall be solely responsible for satisfying itself as to the information required to submit a Bid. Bidders are advised to make their own assessments prior to submitting their Bids.
5. By participating in the Bid process, each Bidder acknowledges and accepts that it has not been induced to enter into such agreement by any representation or warranty, express or implied, or relied upon any such representation or warranty by or on behalf of HMEL or any person working in the Bid process. Such participation shall be considered as deemed acceptance of the terms and conditions of this Bid Document.
6. HEL may, at its own discretion, but without being under any obligation to do so, update, amend or supplement this Bid Document as may be deemed necessary at any time, including to:
 - a. amend the Scope of Work and/or terms of the business opportunity described in this Bid Document.

- b. amend, terminate or suspend any element of the procurement process, including by extending any date, time period or deadline provided for in this Bid Document.

- c. reject or disqualify any or all Bid(s) with or without assigning any reason.
- d. waive any defect or irregularity in any Bid or any non-conformity in the form or content of any Bid and accept that Bid.
- e. re-advertise for new Bids or enter into negotiations for this Bid Document with other qualified third parties; and/or
- f. proceed with the Scope of Work and/or work of a similar nature in some other manner or not at all.

Notice of such change shall be uploaded on Website: http://www.hiranmayeenergy.com/publish_tender.html The Bidders are required to visit the website and keep abreast of any such changes.

7. Though adequate care has been taken while preparing the Bid Document, the Bidder shall satisfy itself that the documents are complete in all respects. Intimation of any discrepancy shall be given to HMEL immediately in writing. If no intimation is received from any of the Bidders within the timelines of clarifications/ suggestions, it shall be considered that the Bid Documents are complete in all respects and have been received by the Bidder. HMEL also reserves the right as to whether to implement or not the clarification/ suggestions received within the timelines and is in no way bound to implement any/all suggestions.

8. HEL reserves the right at its sole discretion to cancel or amend the bidding process or to reject any or all of the Bids received without assigning any reasons. HEL shall not be liable for any claim whatsoever and/or any expenses or losses that might be incurred by the Bidder in preparation and submission of the Bid as well as for post bid discussions/interactions. For the avoidance of doubt, each Bidder shall be solely responsible for all costs incurred in evaluating whether or not to submit a Bid, in the preparation of any such Bid and in participation of the bidding process, including, without limitation, all costs of providing information requested by, or on behalf of, HMEL, attending meetings, conducting due diligence and engaging in negotiations.

9. It shall not be binding on HMEL to accept the lowest or any other Bid. It shall not be obligatory on the part of HMEL to furnish any information or explanation for the cause of rejection of the whole or any part of the Bid.

10. The Bidder shall not assign or transfer the Contract or any part thereof, without prior written consent of HMEL.

11. The Bidder shall comply with Applicable Laws and requirements/policies of State Govts. and any other statutory authority (s) related to Scope of Work during the tenure of the Contract.

12. This Bid Document and the Contract shall be governed by the laws of India and all legal proceedings in connection with the Bid Document and Contract shall be subject to the exclusive jurisdiction of the courts at Kolkata.

13. Canvassing in any manner (either directly or indirectly) may, in HEL's sole discretion, lead to disqualification and blacklisting of the Bidder from further

involvement in the bidding process and from participating in the future tenders issued by HEL.

14. Safety and Insurance of workers/Employees of the Bidder is in the scope of the Bidder.

15. HEL is concerned to avoid any conflicts of interest and may, at its own discretion, disqualify any Bidder from further involvement in the bidding process, should an actual or potential conflict of interest arise.

16. Bidders shall not issue or release any publicity in relation to, nor comment on, the Contract/PO, the bidding process without HEL's prior written consent to the relevant communication. In particular, Bidders shall not make any statement to the media, press or any other similar organizations regarding the nature of any Bid, its content or any information relating thereto without the prior written consent of HEL.

17. All Bidders shall regard and treat the terms of the Bid Document and all information as being strictly private and confidential and shall ensure that the same is not disclosed, copied, reproduced, distributed or passed to any other person at any time, except for:

- a) the purpose of enabling a Bid to be prepared and submitted.
- b) as may be required to be disclosed by judicial or administrative process, and
- c) disclosed in an action or proceeding brought by a Bidder in pursuit of its rights or the exercise of its remedies in connection with the scope of work.

18. Copyright in the information in relation to the Bid Document and bidding process rests exclusively with HEL or its advisers (as applicable) and such documentation may not be copied, reproduced, distributed or otherwise made available to any other third party (either in whole or in part) without the prior written consent of HEL, except in connection with the preparation and submission of a Bid.

19. Bidder shall submit only one Bid and any of the parent company/ Associate/ affiliate/ Related Parties/ ultimate parent company of the Bidder shall not separately participate (directly or indirectly) in the same bidding process.

19. A Bidder shall not have conflict of interest that affects the bidding process. Further, if any Bidder is found to have a common interest with other Bidders participating in the same bidding process, the Bids of all such Bidders shall be rejected in HEL's sole discretion.

20. HEL reserves its right to make changes/amendments to this Bid Document and any Purchase Order.

COMMERCIAL TERMS AND CONDITIONS:

1 PRICE:

Price to be quoted in the below prescribed Format:

Service Description	Charges per Unit in INR
Lump sum charges for carrying out PG Test for 1 Unit at Hiranmaye Energy Limited for 1x 150 MW unit as per the scope defined.	
Lump sum charges for carrying out PG Test at Hiranmaye Energy Limited for 2 x 150 MW unit as per the scope defined.	

2. Terms of Payment: Payment Term should be mentioned properly.
3. Taxes & Duties: All taxes and Duties to be mentioned properly.
4. Special Terms: All fooding, lodging, tour and travels should be in vendor's scope.
5. Price Basis:
 - a. Price shall be firm till completion of job.
 - b. Price to be inclusive of all charges including statutory compliance excluding GST
7. Safety: All Safety PPE shall be in vendor's scope.
8. Any deviation from the scope should be mentioned separately.
9. Credential to be submitted for similar type of job carried out within last 3 years.