

BHARAT HEAVY ELECTRICALS LIMITED, BHOPAL – INDIA

Ref. AGM (HLE)/NKS/

EXPRESSION OF INTEREST FOR DESIGN VETTING OF HYDRAULIC PROFILE OF FRANCIS TYPE HYDRO TURBINE

Introduction about us:

Bharat Heavy Electricals Limited (BHEL) is an ISO-9001:2000 certified premier Engineering and Manufacturing organization with majority share-holding by Government of India. BHEL is catering to the core infrastructure sectors of Indian economy viz. Power Generation and Transmission, Industry, Transportation and Renewable energy. BHEL has been in this business for almost five decades now. In India BHEL has 14 manufacturing units, 4 Power Sector Regions, 8 Service centres and 15 Regional offices besides host of Project sites spread all over India and abroad. BHEL supplied equipment account for more than 65% of the total installed Generating capacity in India and contribute approx. 73% of the total power generation in the country.

More details about the entire range of BHEL's products and operations can be had by visiting our web site www.bhel.com.

Hydro Turbines are a major product of manufacturing unit located in Bhopal, Madhya Pradesh in Central India. BHEL, Bhopal has a wide and rich experience of supplying various types of hydro turbines and hydro generators for more than 150 projects. In around 50 years of operation BHEL has supplied & commissioned Hydro Turbine sets of around 18000 MW. The annual capacity of manufacturing of Hydro Turbines has recently been augmented from 720 MW to 2500 MW. BHEL also has an in-house NABL-certified model testing laboratory conforming to the relevant International standards.

The Proposal

We are looking for a Consultant who could perform a Hydraulic design-vetting for a pre-supplied Francis Turbine Hydraulic Profile for a given hydraulic condition (Specific speed). This would involve investigation of the hydraulic design of each component of the passage (from spiral casing inlet to Draft tube outlet). We can also present to the Consultant the results of 3D viscous & turbulent CFD analysis. We would also supply information about the experimental model tests performed on a small scale model with above furnished hydraulic profile. We expect a short report from the Consultant commenting on the design of individual components, CFD analysis and experimental model test results. We propose to use your report of design-vetting as an internal validation document for the design or use it for further improvement/optimization purposes. **The detailed terms and conditions for such Consultancy will be specified in the Tender document and will be communicated to the pre-qualified Consultants.**

Pre-Requisite

We expect that the Consultant should have expertise and experience (at least 5 years) in developing hydraulic profiles of Hydro turbines and should have developed hydraulic profile of at least one High Head Francis type Hydro turbine in the head range of 200m and above with specific speed less than 100 m-kw. This hydraulic profile should have been used in a Project running successfully for at least one year. The Consultant should have also performed at least one Consultancy project concerning Hydraulic design of Hydro Turbine.

The Consultant should be presently Independent (not directly associated with any of the major Hydro Turbine manufacturers).

Please furnish following details as given above along with your Expression of Interest:- (Name, Address, Experience, Name of Project (as above), Turbine output, Operating head range, rated speed, specific speed (at rated net head with rated load), year of Commissioning, Details of Consultancy project in Hydraulic designing, Status as Independent Consultant).

We are now seeking your **Expression of Interest (EOI)** for entering into suitable Consultancy with BHEL, Bhopal, for “Design Vetting Of Hydraulic Profile Of Francis Type Hydro Turbine.” We look forward to receive a favourable response from you preferably before **26th August 2008.**

Should you need any further information, please feel free to contact us.

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