

REQUEST FOR INTEREST (RFI) for Technology Collaboration Agreement (TCA)

Expression of Interest (EoI) seeking Technology
Partnership for MW rated WEG

BHARAT HEAVY ELECTRICALS LIMITED

PLANNING & DEVELOPMENT DEPARTMENT

BOILER AUXILIARIES PLANT, RANIPET

TAMILNADU-632 406

Ref: BAP: P&D: 129

Dated: 23rd Nov'09

Sub: Seeking Expression of Interest (Eoi) for Transfer of Technology for Higher Rated (1000 Kw or above) Wind Electric Generators (WEG) under a paid-up license.

About Bharat Heavy Electricals Limited

BHEL is a premier Government of India owned engineering and manufacturing company catering to the requirements of the core infra-structure sectors of the Indian economy viz. energy (generation of fossil, gas and hydro, transmission and distribution), transportation and industry. BHEL supplied equipments account for nearly 64% of the total thermal generating capacity installed in the country. Although, 68% of the equity capital of the company is owned by the Government of India, BHEL is a public limited company listed on the stock exchanges at Mumbai and Delhi whose shares are traded actively. With a turnover of around US\$ 5 billion and a workforce of nearly 45,000, BHEL has 15 manufacturing facilities spread all over the country. To provide its customers with the state-of-the-art products, BHEL has over the years entered into several Technical Collaboration Agreements with leading Original Equipment Manufacturers like General Electric, U.S.A. (for Gas Turbines), Siemens AG, Germany (for a number of products such as steam turbines, generators, electrical machines, semi conductor devices etc.), ABB, Sweden (for HVDC), Alstom S.A., USA (for steam generators), Hitachi Limited, Japan (for Reversible Turbines), Mitsubishi Heavy Industries, Japan (pumps) etc. More details about the entire range of BHEL's products and operations can be had by visiting the web site www.bhel.com.

About Boiler Auxiliaries Plant, Ranipet

One of the major manufacturing plants of BHEL is located at Ranipet which is 120 km south, south-west of Chennai on the Chennai-Bangalore trunk road and is known as the Boiler Auxiliaries Plant (BAP). This unit was started in 1981 for exclusive manufacture of boiler auxiliaries (electrostatic precipitators, fans and air pre-heaters, guillotine-gates and flap-dampers) and has over the years consolidated its products in Indian market cornering the major share of ESP, fans and APH business. BAP is also diversified into other fields like manufacture of fabric filters, steel chimneys and ducts. BAP has designed and supplied RO based Desalination systems. The WEG is proposed to be manufactured at this plant.

WEG Business

As you may be aware, wind power potential in India is estimated to be 48.5GW. India is today the fifth largest in terms of wind power capacity and power generation from wind is expected to be 40,665 Gwh (around 3% of the total energy demand) by 2020. By 2012 the country plans to add another 7,380MW of wind power. To meet this requirement, BHEL intends to enter into a technology transfer arrangement with a leading internationally reputed Original Equipment Manufacturer (OEM) for WEG of rating 1MW or higher.

Scope of Co-operation

The scope of technology transfer should be sufficient to enable BHEL to design, manufacture, assemble, test, erect, commission, repair, service and retrofit the wind electric generators. While the detailed terms and conditions for such a paid-up license agreement can be mutually agreed upon within the Guidelines of the Government of India, the scope of co-operation would include control panels, reactive power compensating systems, central monitoring and control systems, associated electrical / evacuation systems, protection systems, and grid interfacing systems in

addition to micro-siting. The WEG(s) proposed to be covered under the license should be upwind, three blade type, with horizontal axis with active yawing, and pitch / stall power regulation, grid compatible type – dual / variable speed to be able to meet the different customer requirements besides having valid type certification and certified power curves from Centre for Wind Energy Technology, India C-WET (Centre for Wind Energy Technology, India)/ RISO- Denmark/ DEVI-Germany/ Germanischer Lloyd- Germany.

To meet the Indian climatic condition, WEGs should be of class III classification (of the IEC Standards)

We invite interested OEMs meeting the aforementioned requirements to submit by 15th December 2009 their proposal along with complete details of their company - background, technical features, catalogues, reference lists (list of projects executed) and financial statements for last three years. While the EoI may be sent by e-mail, with requisite attachments, it is requested that the mail may please be followed up with signed hard-copies sent to the following address.

The Additional General Manager / Planning and Development,
Boiler Auxiliaries Plant
Bharat Heavy Electricals Limited.
Ranipet
Tamilnadu
India
PIN: 632 406

Phone: ++ 91 (0) 4172 254607 / 241190
Fax: ++ 91 (0) 4172 241107
e-mail: cyril@bhelrpt.co.in
Working Hours: IST: 08:00 to 16:30 Hrs.

Please do not hesitate to call us/contact us in case you need any further information.

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