



Reference : TBEM/EOI/SAS

Date : 24.12.2008

Invitation for Expression Of Interest for business tie up for Substation Automation System for Transmission Projects.

➤ **About Bharat Heavy Electricals Limited (BHEL) :**

BHEL is an ISO-9001:2000 certified premier engineering and manufacturing organization has majority stake owned 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 centers and 15 Regional offices besides host of Project sites spread all over India and Abroad. BHEL supplied equipments account for more than 65% of the total installed Thermal Generating capacity in India and contribute approx. 73% of the Total Power Generation in the country.

The annual turnover of BHEL for the year 2007-08 was US Dollar 5.0 Billion with Profit Before Tax of US Dollar 1030 Million. With the current deliverable Order Book exceeding US Dollar 20.00 Billion and still growing, BHEL is poised for excellent future growth. BHEL's highly skilled and committed manpower asset of 43505 employees, the best of manufacturing facilities and practices together with the state of art technologies, has helped BHEL to deliver a consistent track record of performance.

Over the years, BHEL has entered into technology transfer agreements with leading original equipment manufacturers (OEMs) like GE-USA (for Gas Turbines, AC variable speed drives), Siemens-Germany (for Steam Turbines, Generators and Electrical machines), ABB-Sweden (for HVDC Converter Transformers, Smoothing Reactors and HVDC transmission systems), Combustion Engineering-USA (for Steam Generators) and recently with Alstom-France (for Super critical Boilers) and Mitsubishi Heavy Industries, Japan (for Pumps). Besides such technology transfer agreements, BHEL has also promoted two joint venture companies in India – one with GE-USA and another with Siemens-Germany for addressing the after sales business. More details about the entire range of BHEL's products and operations can be viewed by visiting our web site www.bhel.com.

➤ **About Transmission Business Group :**

BHEL is today a well established player in the field of power transmission with some major products and systems in its range of manufacturing and supply. Transmission Business Group in BHEL undertakes projects on turnkey basis covering the complete engineering, procurement, supply, construction, commissioning and after sales, service for AC switchyards/substations upto 400KV with capability upto 765 kV,



HVDC Converter Stations, Reactive Power Compensation Schemes. The Group has capability to conduct System studies as required for above business.

BHEL today is the market leader in turnkey substation business of 220/400 KV class and is also the largest transformer manufacturer in the country with the distinction of being the only Indian company in the field of HVDC technology.

➤ **Future Power Generation & Transmission requirements in India :**

Government of India has ambitious plans of adding new generation capacities of 77577 MW in the XIth 5-year plan (2007 to 2012) and another 82000MW is projected to be added during the XIIth 5 year plan (ending 2017). The associated transmission system for evacuation of power have been planned and inter-regional transmission capacity has been planned to be enhanced to 37150 MW by end of XIth plan i.e. March 2012.

Major investments are planned for building high capacity transmission highways consisting of 400KV and 765KV transmission lines and HVDC bipoles to evacuate power from North Eastern region and Eastern regions of the country.

POWERGRID, the Central Transmission Utility in the country is also planning to move to next higher voltage for the grid by setting up the first 1200KV transmission line by 2012-13. POWERGRID has projected that by 2025-26 there shall be around 35 nos 1200KV substations having 100,000 MVA transformation capacity.

➤ **Business Focus of the Proposed Tie-up :**

In order to meet such large market requirements, BHEL intends to enter into a tie-up with a leading company having experience of executing integrated protection and substation automation systems (SAS). It is intended to source Intelligent Electronic Devices (IEDs) and other components from one particular party on a long term basis for initial period of five years. The supplies shall cover the scope detailed below.

The manufacturing of panels shall be carried out at BHEL works. The system engineering and commissioning work shall be progressively taken over by BHEL. The single party association is expected to yield standardization of engineering, manufacturing & commissioning activities. BHEL expects to derive benefits on account of such standardization in terms of price as well as delivery.

It is required that the partner will work exclusively with BHEL for projects being quoted by BHEL. The tie up is also intended to make competitive offers against tenders for Greenfield as well as extension projects. The tie-up shall work for domestic as well as overseas markets.



➤ **Qualifying Requirements :**

The prospective partner should be an OEM and have

- experience in executing Substation Automation System projects for 220KV class and above
- IEC61850 compliant Numerical Relays (Distance /Transformer Differential/ Busbar Protection), Bay Control Units , HMI and other components in its manufacturing product range for addressing total solution for Substation Automation System for 220KV and above transmission projects.
- executed SAS projects with multi party IEC 61850 products & systems in India or abroad.
- a proven track record of supply of products and services to customers in India & abroad.
- an establishment in India for marketing , engineering and commissioning supports, after-sales services and stocking of spares.
- Acceptance of major utilities in India like PGCIL or NTPC for their products.
- Willingness to share product design information with BHEL for Substation System engineering, Panel building engineering, Factory & Site acceptance testing & commissioning of the project.
- Willingness to provide the products having latest technology and upgrades.
- Willingness to review the technology upgrades and prices on a half yearly basis based on market trends.

➤ **SCOPE :**

The business tie up shall include the following:

1. Supply of substation automation items/products with IEC 61850 compliant IEDs. This shall include complete work upto system commissioning for a few initial projects.
2. Work association for standardization of Substation System engineering, Panel building engineering, Factory & Site acceptance testing & commissioning of projects.
3. Training of BHEL engineers for scope defined in S.No. 2



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4. Supply of Numerical protection relays with IEC 61850 / legacy protocol for generation and distribution (MV switch gear) projects including commissioning supports.

➤ **The Proposal**

We seek Expression of Interest (EOI) from qualified parties for entering into business tie-up for projects in line with scope defined above. Interested companies who wish to join hands with BHEL may submit their Expression of Interest by 3:PM on 27th January 2009.

Expression of Interest should be accompanied with :

- Point wise compliance to Qualifying requirements
- Detailed proposal for Tie-up with BHEL
- Details of Company Profile
- Product range
- List of Type test reports for complete range of product. KEMA certification shall be included for IEC 61850 products
- Reference list of products and engineered projects

The proposal may be sent at the following address:

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Ph +91 11 41793298 , M +919810859378
Fax : +91 11 24369016
E mail : gautamc@bhelindustry.com

Should you require any further information please feel free to contact at the above address.

With regards,

Yours sincerely

For and on behalf of BHEL

(DILIP DATTA)
General Manager
Transmission Business Group, BHEL
Integrated Office Complex
Lodhi Road, New Delhi -110003