

Invitation of

**Expression of Interest for**  
**Power Transformer**  
**Design Software**  
**integration**

**Transformer Engineering Department**  
**BHEL Jhansi**

## About Bharat Heavy Electrical Limited

BHEL is a premier engineering and manufacturing organization, majority owned by Government of India, catering to core infrastructure sectors of India economy viz Power Generation and Transmission, Industry, Transportation, and Renewable Energy. The company 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 65% of total thermal generation capacity in India and contribute 73% of the total Power generation in the country.

BHEL Jhansi is one of the manufacturing units of BHEL. BHEL Jhansi is having two Main Products i.e. Transformers and Locomotives. The Transformer division is in the market of all type of Transformers i.e. Power Transformer, Rectifier Transformer Dry type transformer, Instrument Transformer, EMU Transformer, Furnace Transformer, ESP Transformer, Earthing Transformer, and Single phase railway Transformer. BHEL Jhansi manufactures Power Transformer of upto 220kV and 250MVA. The Locomotive division is in manufacturing of Electrical and Diesel Locomotives. BHEL Jhansi is presently developing AC EMU coaches for Indian Railways and has developed WAG7 electric loco, DE Shunters in the range of 350 hp to 1400 hp, various other utility vehicles including Rail cum Road Vehicle, Battery Powered Road Vehicle, dynamic track stabilizer, ballast cleaning machine, Hoist assembly for ship lift system etc. BHEL has also done many enhancements in existing products like eye bolt CT, Aluminum foil cast resin Dry type Transformer, 132 KV Live Tank CT, 400KV CT Design, StepLap Core and many more. BHEL Jhansi is also expanding its manufacturing capacity in Power Transformer and Locomotive, and also entering in 400kV Power Transformer market. Presently BHEL Jhansi is having huge order of Transformers and WAG7 Locos.

## Scope of Work

The turnover of Transformer division for financial year 2010-11 is more than Rs.700crores. Power Transformer is a tailor made product and its engineering totally depends upon customer requirement. For each type of transformer detail design/ engineering is done. For the detail designing of the Power Transformer, BHEL Jhansi is having many different programs for different design calculations. Transformer Engineering Department (TRE) wants to integrate these Power Transformer designs programs.

These different programs are in different software platforms and run in different operating systems. These programs are developed in FORTRAN, C and Excel and runs on Sun Solaris 5.5 O/S, Linux & windows. The source code for some of the programs is not available. The output of one program is used to run another programs. The designer manually enters the output details of one program to feed the input to another program. This involves lot of manual effort and lengthens the total design time. In present system, output of some of the programs is verified by manual calculations and further refinement of parameters is done. After completion of this

design process and based on the results of final design, designer generates Electrical Specification in AutoCAD in form of text and 2D sketch. Electrical Specification is having all technical information that is required to generate manufacturing drawings and it is also have winding specification sheet which is used for manufacturing of winding.

BHEL wants to automate this design process by integrating the existing design software programs and manual calculation. This integration of design programs shall also include the automation of Electrical Specification.

Firm engaged in manufacturing of Power Transformer of 132&220 kV class need not apply.

### **Procedure for Registration**

Details received will be scrutinized by BHEL and bidders found capable of integration of Power Transformer design software programs will be registered for this work. Subsequently tender for finalization of this service contract will be issued to all registered contractor.

## Proposal

Interested party may submit their Expression of Interest by 1:30 PM on 03<sup>rd</sup> August, 2010.

Expression of Interest should be accompanied by:

- Details on company background
- Experience list (with details) of execution of similar type of work (copy of orders to be enclosed)
- List of technical competent person with specialization in related field
- Annual financial report of at least last two years, etc

The proposal incorporating above details may be sent at following address:

**AGM (TRE&FES)**  
**Transformer Engineering Department**  
**Bharat Heavy Electricals Limited**  
**Jhansi (Uttar Pradesh) – 284129**

Phone No: 0510-2412709  
Fax No: 0510-2412118  
e-mail: [arkuls@bheljhs.co.in](mailto:arkuls@bheljhs.co.in)

Any clarification on technical details may please be addressed to following:  
**Amit Khatloiya, Dy Manager (TRE), Phone No: 0510-2412791**  
e-mail: [akhatloiya@bheljhs.co.in](mailto:akhatloiya@bheljhs.co.in)