Specification for Icon Based Simulation Software Tool

1. The software should contain
   - Dynamic simulation of power plant components and systems.
   - A library of pre- engineered mathematical models of nuclear and fossil power plant components.
   - In addition to basic items as pumps, pipes, superheaters, generators, condensers and reactors, the library should contain control modules such as actuators and PI controllers.
   - The software tool should allow the accurate simulation of steady-state and dynamic behaviour with gas and steam/water flow , pressure and temperature profiles calculated to the component level.
   - Plant and component performance evaluation(startup, safety and various operational analyses)

2. ICON based Modelling capability that should contain

   - Graphical selection and placement of module icons
   - Easy connection of modules
   - On-screen input forms (with default values)
   - On-screen help
   - Automatic parameterization of input
   - Choice of US (United States) or SI (Standard International) units
   - Windows 7 or XP professional compatibility and support of all Device drivers like printers, plotters, and video hardware .
   - Interfacing connectivity with BHEL's Instructor station software with VC++ code.

   Note 1:- The software should have the connectivity to integrate the in house developed instructions station software (VC ++ application).
   Necessary codes and procedure shall form part of the Vendor software so as to exchange commands RUN, Freeze etc between instruction station and model and to store/restore Initial conditions, snapshot & Back track files .
   This interface should also exchange data like temperature, pressure, level, flow etc and controllers demands between the simulation software and BHEL's Instructor station software in real time.

   Note 2:- The Vendor shall give software support for a period of at least two years from the date of delivery of S/W, so as to enable BHEL to make full utilization of the S/W capability.

   Note 3:- The Icon Simulation software module should cover all the components of Thermal power plants of sub critical & super critical range. It also should preferably cover Nuclear, Gas and Hydro power plants.

Vendor Criteria

- Annual Turnover of the vendor should be more than Rs 3 crores from s/w development.
- Vendor should have supplied similar software tools at least 5 customers. Provide list of customers with contact telephone numbers.
- Should have a full pledged development team to extend support after supply and installation of software.
- All license users related to any third party tools or software used for the development should be addressed and taken care by vendor in the quote.

For any technical clarifications, please contact :

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