

**Expression of Interest for Consultancy Services for development of Resin  
Impregnated Paper (RIP) Condenser bushing (Upto 420KV)**

**Annexure-A**

**Basic Qualification Requirement:**

- Interested party should have worked in the field of successful development, manufacturing and testing of RIP Bushings upto 420 kV rating.
- The party shall submit the relevant documents in support of above.

**Scope of Consultancy:**

- 1) Review of existing facilities and suggest improvement / upgradation if required.
- 2) Providing general specification for RIP main equipments like Winding machine, Vacuum mixing and dosing machine, Autoclave, PU filling machine etc. and support for technical evaluation of the offers against procurement tenders of these items.
- 3) General know how transfer for the calculation, design, manufacturing process of RIP bushing.
- 4) Providing List of materials, its treatment and technical specifications, suppliers essential for developing RIP bushings. The list should essentially include following materials/ procedures:
  - a. Aluminium foils.
  - b. Crepe Paper.
  - c. Epoxy Resin System and formulation.
  - d. Polyurethane system and formulation.
  - e. Leak tightness equipment / adhesive.
  - f. General RIP production relevant materials, systems and formulation.
  - g. RIP bushing design guidelines (Mechanical & Electrical)
  - h. RIP Foil distribution software
  - i. Testing.
- 5) Processing Instructions and manuals regarding,
  - a. Winding.
  - b. Mold Preparation
  - c. Drying / Impregnation / Curing
  - d. De- molding / extracting
  - e. Machining
  - f. Pre-testing
  - g. P.U. preparation and filling system.
  - h. Assembling
- 6) Troubleshooting in case of process deviations and failures.
- 7) Engineering and design support.
- 8) Training and site support at BHEL Bhopal.
- 9) Any other information required for establishing RIP technology In BHEL is deemed included in the scope.

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