

## **The Norms Set for Discharge of Functions**

**[Section 4(1) (b) (iv)]**

### **Nature of functions/ services offered:**

BHEL is one of the largest engineering & manufacturing companies in India serving core sectors of the economy and providing a wide range of solutions from concept to commissioning to customers in power, transmission, transportation, renewables, water, defence & aerospace, e-mobility & energy storage, oil & gas and industry. BHEL's offerings in power & industry sectors are detailed later in this section.

### **Norms/ standards for functions/ service delivery:**

The Company has defined procedures and guidelines conforming to the directives of Department of Heavy Industries & Public Enterprises, Chief Vigilance Commission, listing Agreement of Stock Exchanges, and rules and regulations of SEBI.

### **Process by which these services can be accessed:**

BHEL manufactures & supplies a wide range of high quality & reliable products adhering to national and international standards for various industries and after sales support through 16 manufacturing plants, 2 repair units, 4 regional offices, 8 service centres, 1 subsidiary and 3 active joint ventures supported by 15 regional marketing centres and 3 overseas offices. BHEL's manufacturing plants/ Units are listed at the end of this section.

## **About BHEL**

Established in 1964, BHEL is one of India's largest engineering and manufacturing enterprises in the energy and infrastructure sectors and a leading power equipment manufacturer globally. Serving the core sectors of the economy, BHEL provides a comprehensive portfolio of products, systems and services to customers in power, transmission, transportation, renewables, water, defence & aerospace, e-mobility & energy storage, oil & gas, and industry. BHEL's greatest asset- its highly skilled and committed workforce of more than 35,000 employees is the cornerstone of its success.

With a widespread network of 16 manufacturing plants, 2 repair units, 4 regional offices, 8 service centres, 1 subsidiary, 3 active joint ventures, 15 regional marketing centres, 3 overseas offices and current project execution at more than 150 project sites across India and abroad, BHEL manufactures a wide range of high quality & reliable products adhering to national and international standards. While all the entities of the company have been accredited to ISO 9001:2015 Quality Management Systems, major manufacturing units have also been accredited to Environmental Management Systems ISO 14001:2015, and Occupational Health & Safety Management Systems OHSAS 18001:2007.

The worldwide installed base of power generating equipment supplied by BHEL exceeds 185 GW, making it the undisputed leader amongst Indian power plant equipment manufacturers. BHEL has installed more than 1000 utility sets in the country including thermal, solar, hydro & gas based power plants. With 53% share in country's installed capacity (coal, gas, CCP, nuclear & hydro) and 60% share in power generation from thermal sets, BHEL is the single largest contributor to power generation in the country.

BHEL is a name to reckon in various sectors of industry. BHEL is a major supplier of locos and traction equipment to the Indian Railways. BHEL has commissioned more than 200 electric substations and 5 major HVDC projects in the country and is also one of the largest manufacturers of electrical AC machines in the country. All Indian satellites launched by ISRO are equipped with BHEL supplied solar panels and batteries. BHEL's solar portfolio spread across the country

includes ground mounted, rooftop, canal top and floating PV plants. BHEL is a trusted supplier of naval guns to the Indian Navy for their warships.

BHEL's commitment to nation building reflects in many ways- in its contribution to the country's installed power generation capacity; highest expenditure on R&D and innovation in the Indian engineering segment- more than 2.5% of its turnover; pan-India presence; establishment of world-class assets, and contribution to the society at large through initiatives in skilling youth, health & hygiene, education, cleanliness, and environment protection, to name a few.

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## BHEL's Offerings – Power & Industry Sector

### POWER SECTOR

BHEL is one of the few companies in the world having the capability to manufacture the entire range of power plant equipment with proven capabilities for executing thermal, gas, hydro and nuclear power projects. Offerings include:

- Steam turbines, generators, boilers and its auxiliaries for fossil-fuel and combined-cycle applications upto 1000 MW unit size
- Emission control equipment including Flue Gas Desulphurisation systems, high efficiency Electrostatic Precipitators and Selective Catalytic Reduction systems for NOx emission control
- Gas turbines and generators upto 297 MW unit size
- Hydro turbines and generators of up to 400 MW unit size
- 220/235/540/550/ 700MWe nuclear turbine generator sets
- Plant performance improvement through renovation, modernization, uprating, residual life assessment, health diagnostics and life extension of plants

**INDUSTRY  
SECTOR**

BHEL's is a leading manufacturer of a variety of Industrial Systems & Products for the core sectors of economy. Major areas of operation and offerings include:

- **Transportation:** IGBT based propulsion equipment (traction converter/auxiliary converter/Vehicle Control Unit), 25KV AC locos, EMU coaches, electric locomotives upto 6000HP, diesel electric locos upto 3000 HP and EPC solutions for Railway Electrification.
- **Transmission:** EHV & UHV substations ranging from 132 KV to 765 KV & HVDC converter stations up to  $\pm 800$ KV, power transformers, shunt reactors, vacuum & SF6 switchgear, gas insulated switchgear, ceramic insulators, Flexible AC Transmission System devices etc.
- **Renewables:** EPC solutions from concept to commissioning for grid connected and standalone solar PV applications for all sizes of plants, rooftop solar, space grade solar panels and space grade batteries.
- **Water:** Complete water management solutions for power plants, industries and municipal applications including Pre-Treatment plants, Seawater Reverse Osmosis plants, Demineralization plants, Effluent Treatment plants, Sewage Treatment plants, Tertiary Treatment Plants and Zero Liquid Discharge systems.
- **Defence & Aerospace:** Strategic equipment for Indian defence forces including Super Rapid Gun Mount & Integrated Platform Management System for naval ships, heat exchangers for LCA, turret castings for T72 tanks, castings for ships, simulators etc.
- **Captive Power projects:** Steam and Gas Turbine based Captive Power Plants.
- **Industrial products:** Range of industrial products including oil rigs, wellheads & Xmas tree valves, mechanical packages, fabricated equipment, pumps, compressors & AC machines.

## Manufacturing Plants/ Unit Locations

|                     |                 |   |
|---------------------|-----------------|---|
| Manufacturing Units | Bengaluru       | 1. Electronics Division (EDN)<br>2. Electronics Systems Division (ESD)<br>3. Electric & Photovoltaic Division (EPD) |
|                     | Bhopal          | 4. Heavy Electrical Plant (HEP)   |
|                     | Goindwal        | 5. Industrial Valves Plant (IVP)  |
|                     | Haridwar        | 6. Heavy Electrical Equipment Plant (HEEP)  |
|                     |                 | 7. Central Foundry Forge Plant (CFFP)   |
|                     | Hyderabad       | 8. Heavy Power Equipment Plant (HPEP)   |
|                     | Jagdishpur      | 9. Fabrication, Stamping & Insulator Plant (FSIP)   |
|                     | Jhansi          | 10. Transformer Plant (TP)  |
|                     | Rudrapur        | 11. Component Fabrication Plant (CFP)   |
|                     | Ranipet         | 12. Boiler Auxiliaries Plant (BAP)  |
|                     | Tiruchirappalli | 13. High Pressure Boiler Plant (HPBP)   |
|                     |                 | 14. Seamless Steel Tube Plant (SSTP)  |
|                     | Thirumayam      | 15. Power Plant Piping Unit (PPPU)  |
|                     | Visakhapatnam   | 16. Heavy Plates & Vessels Plant (HPVP)   |
| Repair Units        | Mumbai          | 1. Electrical Machine Repair Plant (EMRP)   |
|                     | Varanasi        | 2. Heavy Equipment Repair Plant (HERP)  |
| BHEL Subsidiary     | Kasaragod       | 1. BHEL Electrical Machines Ltd. (BHEL-EML)   |