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Bharat Heavy Electricals Limited



### BHEL's Commitment In Support of U.N.G.C. Programme

Bharat Heavy Electricals Limited (BHEL), a Maharatna company, is India's largest engineering and manufacturing company of its kind engaged in the design, engineering, manufacture, construction, testing, commissioning and servicing of a wide range of products and services for the core sectors of the economy, viz. Power, Transmission, Industry, Transportation, Renewable Energy, Oil & Gas and Defence.

BHEL is committed to be an Environment friendly company in all its areas of activities, products and services. BHEL products & services are fuel efficient, energy efficient, environment friendly and are known for world-class performance. Performance of BHEL supplied power plant equipments is driven by lower auxiliary power consumption, higher plant efficiency, lower design heat rate & better PLF - all resulting in lower environmental impact.

All manufacturing units / divisions of the company are accredited to latest international standards viz. ISO-14001 certification for Environmental Management System (EMS) and OHSAS – 18001 certification for Occupational Health and Safety Management Systems. The organization has also enunciated its policy on Sustainable Development.

BHEL has continued to play a prominent role in the United Nation's Global Compact (UNGC) Programme by promoting the core values on human rights, labor standards, environment and anti-corruption and intends to advance these principles, which are embedded in its strategies & culture, within its sphere of influence. The company publically advocates UNGC principles to its Stakeholders through Annual Report, Press Conferences and other public communiqués.

BHEL's performance (2013-14) on each principle of Global Compact is also available on Company's web site ([www.bhel.com](http://www.bhel.com)) uplinked to UNGC website.

Date: 30<sup>th</sup> June, 2014

  
(R Krishnan)

## **BHEL Performance 2013-14 – Global Compact Principles**

### **Human Rights**

Principle 1): **Business should support and respect the protection of internationally proclaimed human rights**

BHEL policies are in line with the principles of Human Rights, The Constitution of India, various Labour Laws, etc. BHEL has special provisions for ensuring safeguard of women employee at the workplace. Principles of Natural Justice are enshrined in “The BHEL Conduct, Discipline and Appeal Rules” which are applicable to all its employees except workers who are governed by the Standing Orders”.

Principle 2): **Make sure they are not complicit in Human Rights abuse**

No instance of Human Rights abuse has been reported in the Company.

### **Labour Standards**

Principle 3): **Businesses should uphold the freedom of association and the effective recognition of right to collective bargaining**

The Government of India has enacted various labour laws to adequately protect the interests of the working class. These laws are strictly adhered to in BHEL. BHEL units/divisions are required to submit quarterly reports on compliances of different laws to the Board of Directors. This is done to ensure that the interests of the workers are protected.

Apart from this, BHEL has various bi-partite fora for workers, where the issues / problems pertaining to the workers are discussed and settled. BHEL also has an apex level bipartite forum namely “The Joint Committee” wherein the elected representatives of all units of BHEL, along with the Central Trade Union Organizations, to which the Unions are affiliated, are represented from the workers’ side whereas the Management is represented by Chairman & Managing Director and Functional Directors along with the Heads of Units.

As part of our efforts to take the participative culture to a higher pedestal, BHEL has been organizing “Workshops” related to various themes namely Productivity,

Organizational Excellence etc. During these workshops employees are sensitized about the challenges being faced by the Company and on evolving strategies to meet the challenges and customer commitment. BHEL has organized five special sessions of Joint Committee in Workshop format during the years 2004, 2006, 2008, 2011 & 2013. Syndicate Groups were formed on various subject of topical interest both to workers as well as the Company like Strengthening of Participative Fora, percolation of discussions in the Joint Committee to Plant level, Multi-skilling, Redeployment, Effective Utilization of Critical Machines, Enhancing the Productive Time of Man and Machine, Reduction in Rejection and Rework, Maintenance and Upkeep of Machines, Three Shift Working, Enhancing Productivity of Employees, Dissemination of Company Information, Cost Cutting Measures at Workplace and Wastage Control, Improving Quality and bringing Quality Consciousness among employees, Reduction in Cycle Time, Sequential Supplies from the Units, Expectations from the Workers / Unions in the Present Business Scenario, imbibing the Work Culture of BHEL, Improving Employee Engagement, Mentoring and Coaching for Bridging the Skill Gap & Developing New Skills, The Role of Trade Union in motivating Employees at Work Places, Balancing the Manpower Cost vis-à-vis Employee Productivity and Project Implementations issues..

At the unit level, open forums and meetings of Plant Council & Shop council are held wherein issues related to Production in Financial and Physical terms, Productivity, Order Book, Cash Collection, Despatch, General Administration and Discipline etc. are discussed amongst the participants from all categories of employees. Suggestions on Cost Reduction, Meeting the Production Targets, Sequential Deliveries and Quality of Goods are accepted which are evaluated for implementation. The involvement of all the cadres in the workshop has had a positive impact on the working in the unit.

**Principle 4): The Elimination of all forms of forced and compulsory labour**

The Company neither subscribes to nor indulges in such coercive practices. Towards this, it never asks its employees to deposit their original documents pertaining to their education qualifications or Date of Birth.

**Principle 5): The Effective Abolition of Child Labour**

As per BHEL's Recruitment Policy, the minimum age for employment in the Company is 18 years. No person below this age can be employed in BHEL, thereby ensuring that child labour is not employed in BHEL.

**Principle 6): Eliminate discrimination in respect of employment and occupation**

Uniform set of rules are mentioned in “The Personnel Policy” of BHEL, which apply equally to all employees, irrespective of factors such as sex, caste, religion, race etc. All recruitments are conducted in a transparent and impartial manner, giving equal opportunity to all eligible candidates, without any discrimination whatsoever.

**Environment**

**Principle 7): Businesses should support a precautionary approach to environmental challenges**

BHEL is committed to be an Environment friendly company in all its areas of activities, products and service, providing safe and healthy working environment. In line with the company’s strategy, Environment Improvement Projects (EIP) and Community Development Programmes are given special thrust. Some of the major EIPs executed in the past at BHEL manufacturing plants and townships included tree plantation drives, installation of rain harvesting systems, efficient water and energy management, reduction in noise level, improvement in chemical storage and handling systems etc. These projects helped in enriching the environment, conservation of precious resources like energy, water, fuel, oil, coolant, lubricant, mitigating environmental pollution.

BHEL has acquired certifications to Quality Management Systems (ISO 9001), Environmental Management Systems (ISO 14001) and Occupational Health & Safety Management Systems (OHSAS 18001) and is also well on its journey towards Total Quality Management. The Environment Management System (EMS) provides for an excellent framework to identify / assess potential Environmental risks and address them in structured manner. As per the applicable statutes, the Environmental Statement showing related environmental compliance is submitted to the respective State pollution Control Board by all the manufacturing units by September month every year for the preceding financial year. The Units of BHEL undergo regular internal and external audits by the certifying agency, in line with Corporate HSE policy covering Environmental, Occupational Health and Safety aspects. The Units regularly update their licenses as per statuette.

BHEL has adopted a ‘Health, Safety and Environment (HSE)’ policy. All units of BHEL strictly adhere to this policy. The HSE policy of BHEL is:

## CORPORATE HEALTH, SAFETY & ENVIRONMENT POLICY

BHEL is committed to being an environment friendly company in all its activities, products, and services and to provide safe and healthy working environment to all employees as an integral part of business performance through:

- ❖ Compliance with applicable Legislation and Regulations
- ❖ Continual improvement in the Occupational Health, Safety and Environmental Management
- ❖ Systems Performance
- ❖ Promotion of activities for conservation of resources by Environmental Management
- ❖ Enhancement of Environmental, Safety and Occupational Health awareness amongst employees,
- ❖ customers and suppliers by proactive communication and training
- ❖ Periodical review of Occupational Health, Safety & Environmental Management Systems to
- ❖ ensure its continuing suitability, adequacy and effectiveness
- ❖ Communication of this Policy to all employees and interested parties
- ❖ Coordination with concerned Government agencies/regulatory bodies engaged in Occupational Health, Safety & Environmental activities

This policy shall be made available to all employees and interested parties.

Regular monitoring of the flue gases of the boiler & gas plant furnaces is carried out and pollution levels are maintained below the permissible limits. Ambient air quality at different areas in factory are monitored and measured regularly. Similarly, the discharges from the factory are treated, reused, recycled and only then drained. Company further stresses the conservation of oil, water and energy etc. Waste and hazardous materials are handled and disposed through licensed agencies.

### Principle 8): **Undertake initiatives to promote greater environmental responsibilities**

At BHEL, we believe in doing business in a sustainable manner that extends across the spheres of our Business strategy, environmental action, social support and governance. For almost fifty years of its existence, company has been leveraging technology and innovation for providing products, systems and services to its customers and enable them use resources with better efficiency and productivity which is also evident from its Mission Statement – *“Providing Sustainable Business solutions in the fields of Energy, Industry & Infrastructure”*.

Structured approach towards sustainability helps us in reducing - material, water & energy consumption, emission and waste generation; providing more acceptability for our operations in the society; and making our products & services more sustainable and profitable.

There is a three-tier committee structure in the Company consisting of a Sub-Committee, Level-1 Committee and a Board Level Committee (BLC) for Corporate Social Responsibility & Sustainable Development. The above three Committees are involved in the process of undertaking, screening, review, recommendation and approval of CSR & SD projects undertaken by BHEL. The annual budget for CSR & SD is approved by Board of Directors of BHEL. Based on the budgetary outlay, the annual plan for SD is approved by the BLC for CSR & SD. BHEL has defined its SD policy keeping in view the scale & nature of organization's activities, products & services and the same is produced below:



**Sustainable Development Policy for BHEL**

- *We at BHEL offer products, Systems and services designed to benefit the sociey.*
- *We are committed to undertaking practices that meet the economic, ecological and social responsibility tenets of Sustainable Development.*
- *We will work with all our shareholders to ensure contineous improvement in the sustainable Development of our operations within the ambit of the guideline issued by Government of India.*

The projects related to environment in the following areas were executed under Sustainable Development initiatives in 2013-14:

- Installation of Grid Interactive Solar Power Plant of 5 MW<sub>p</sub> capacity at BAP Ranipet which is expected to generate around 74 Lakh units of electricity per annum, thereby mitigating the Carbon footprint of the organization by 6660 MT CO<sub>2</sub>-e per annum.
- Rain Water Harvesting systems;
- Tree Plantations;
- Installation of more than 1400 turbo-ventilators as a part of energy conservation

Other key Sustainable Development projects & initiatives undertaken were in the areas of Water Conservation, Energy efficiency, workplace environment improvement by installing fumes extraction systems, Noise Level Reduction Systems, Resource Conservation (Lubricant / metal / Coolant) systems, and Utilization of Non-Conventional Energy Sources.

The company spent ₹ 4393.63 Lakh towards various projects related to environment sustainability during 2013-14.

**Principle 9): Encourage the development and diffusion of environment friendly technologies**

BHEL which ranks among the highest R&D spenders in the country in the engineering and manufacturing segment spent 2.78% of turnover on R&D in 2013-14 compared to 2.49% in 2012-13. Increased R&D efforts have led to filing of nearly two patents/ copyrights every working day. 434 patents / copyrights filed during 2013-14 were an increase of 13% over 2012-13. The company's R&D efforts are being directed towards developing new products using state-of-the-art technologies and processes, relevant to the needs of the country to remain current both in terms of technology and features vis-à-vis global benchmarks. Some significant developments related to R&D efforts in development & diffusion of environment friendly technologies during 2013-14 are:

- In the area of renewable energy, a cost effective 250 kW<sub>p</sub> grid-connected Power Conditioning Unit (PCU) has been developed, commissioned and synchronized with the grid.
- To enhance overall solar energy absorption during the day by Photo Voltaic (PV) arrays, BHEL has developed a modular solar thermal sun tracker which operates on a novel liquid balancing system,. It enables generation of 25% additional energy during the day.
- BHEL has developed a new variant '300 MW Steam Turbine' with 3.9% improved heat rate by optimizing the flow paths of HP, IP and LP turbines, while keeping the existing turbine module combination of 270 MW.
- In its endeavor to develop environment friendly technologies, BHEL has developed Copper Indium Gallium di-Selenide (CISG) nano-material for the absorber layer of thin film solar cells. CISG has better performance under diffused light. 16-20% efficiency has been achieved at lab level.
- As a reliable partner in ISRO's space programme, BHEL achieved a landmark with the successful deployment of its Space Grade Solar Panels and Satellite Batteries on the GSAT-10 and RIST satellites. BHEL has supplied 278 M<sup>2</sup>. Of Space Grade Solar Panels and 42 Satellite Batteries, which are deployed on various satellites, now in orbit.

BHEL has been contributing to the national effort for developing and promoting eco-friendly renewable energy based products on a sustainable basis. During the year, significant renewable energy projects commissioned were:

- 5 MW<sub>p</sub> grid-connected Solar photo Voltaic (SPV) plant for KPCL at Mandaya, Karnataka
- SPV Plants at various islands of Lakshadweep: Andrott (320 kW<sub>p</sub>), Kavaratti (720 kW<sub>p</sub>), and Kadmat (270 kW<sub>p</sub>). With this, BHEL has commissioned a total of 1900 kW<sub>p</sub> SPV Plants at various Islands of Lakshadweep. This is the largest Island electrification programme using SPV modules.
- Towards preserving environment and to reduce emissions of greenhouse gases, BHEL has initiated conversion of Diesel oil operated furnaces to Natural Gas at its Central Foundry Forge Plant (CFFP) at Haridwar.

Today, BHEL's equipment boast of world-class performance attributes like, lower auxiliary power consumption, superior boiler efficiency, better plant heat rate & plant load factor (PLF) and finally lower life-cycle cost. Customers of BHEL, while remaining profitable, are able to serve the nation in accordance with prevalent and acceptable social and ecological standards. Various performance reports from Central Electricity Authority, India and North American Electric Reliability Corporation (NERC), USA explicitly indicate superior performance of BHEL thermal sets, which ultimately leads to most optimal utilization of fossil fuel coal in such power plants.

BHEL's commissioning / synchronization of 13,452 MW included 11,266 MW in the utility segment; 1,698 MW Captive / Industrial sets in the country and 488 MW in overseas market. The significant among them was the commissioning of first BHEL manufactured 660 MW Super-critical unit for NTPC at Barh and the first 800 MW Boiler for APPDCL at Krishnapatnam. A Supercritical thermal power plant has higher efficiency compared to the conventional sub-critical cycle, thus offering the advantage of burning lesser fuel for the same output and with low emissions. BHEL has developed designs for Boilers, turbines and other steam-wetted power plant equipment that operate under Super Critical steam parameters. Compared to conventional subcritical power plant equipment, supercritical plant equipment need to handle and endure steam at a much severe pressure and temperature conditions. This in turn results in more efficient power generation leading to 2.5% to 3% increase in overall plant energy conversion efficiency levels. Supercritical plants also consume less make up water, use lesser steel, are more compact and hence are more environment friendly.



## **ANTI-CORRUPTION**

**Principle 10): Businesses should work against all forms of corruption, including extortion and bribery**

BHEL believes in the highest levels of personal and institutional integrity. The Value Statement of the Company calls for the highest ethical standards to be observed in decision making and demonstration of the same in a honest, decent and fair manner. The Company has zero tolerance approach towards all forms of corruption. BHEL is committed to enhancing transparency in all its business dealings for which it has a Vigilance set-up in place to prevent irregularities.

Main objective of the Company is to curb corruption by focusing more on the preventive and educative aspects, rather than investigative / punitive. Training programmes, seminars/conferences and interaction of Chief Vigilance Officer with the employees is a regular feature in the Company.

With a view to bring in transparency, Government of India has enacted "Right to Information Act" giving right to all citizens of India to seek information besides other rights. BHEL has taken a lead role in implementing all provisions of the act in letter and spirit.

The Company is committed to developing a culture where it is safe for the whistle blowers to raise concerns about any poor or unacceptable practice and any event of misconduct happening in the Company. BHEL is following Public Interest Disclosure & Protection of Informer (PIDPI) Resolution of Govt. of India under which the identity of the complainant is not revealed.

The organization has signed 'Integrity Pact' with Transparency International. The intention is to make public procurement and contracting more transparent by binding both the parties to ethical conduct. This would enable a monitoring role for civil society - the ultimate beneficiary. For high valued tenders, Independent External Monitors (IEMs) are nominated for examining the complaints received against a tender and give their recommendation to the Management.

In order to prevent corruption, a host of 'transparency measures' have been initiated Company wide, by leveraging technology. Some of them are:

- Status of Purchase Orders, Works Contracts concluded every month, as per CVC format, is being uploaded by all Units.

- BHEL is promoting finalization of tenders through e-tendering for better transparency and to reduce tender processing time.
- Procedure and forms related to Vendor registration are hosted on the Company web site.
- Status of vendor registration applications is hosted on the web and can be viewed by vendors.
- E-payment of vendor bills is being implemented throughout the organization and principle of first in first out is being followed as a rule in payment of vendor bills.
- Status of bill payment can be viewed by the vendors on-line.
- Indents are being raised on-line in most of the Units.
- The confidential reports of all executives are handled on-line through 'MAP' (Moving Ahead through Performance).
- Information relating to Rules/Procedures governing the issue of license, permissions, clearances etc., is available on the BHEL/Units websites.

As part of Company's endeavor to set high standards of integrity, the Company has enforced its Conduct, Discipline & Appeal Rules.