



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

BHEL is an integrated power plant equipment manufacturer and one of the largest engineering and manufacturing companies of its kind in India. The company is engaged in 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 with over 180 product offerings to meet the needs of these sectors. Since its inception in 1964, BHEL has been the solid bedrock of evolution of India's Heavy Electrical Equipment industry.

As a responsible organisation, BHEL is well aware of the direct linkage between the 10 principles of UNGC and tenets of Sustainable Development and this linkage is well reflected in GCNI's 13th National Convention having theme of "Sustainable Development Goals – A Blueprint for Action". For BHEL, Sustainability is integral to its working ethos and the organization has always strived for achieving optimal efficiency & efficacy in its pursuit of achieving Sustainable growth. The organization has always tried to work within the carrying capacity of its natural surroundings and contributed to the enrichment of natural environment in its surroundings. The company's mission statement is a strong reflection of its commitment to be a sustainable organisation.

Most of our manufacturing units and divisions are accredited to latest international standards for Environment Management System (EMS) ISO 14001: 2004/2015. Our HSE policy is a guiding force and our HSE management system is an enabling framework embedding precautionary approach for environment in day to day operations within the organization.

BHEL has continued to play a prominent role in the United Nation's Global Compact (UNGC) Programme and enshrined the core values on human rights, labour standards, environment and anti-corruption in its strategies and culture. BHEL stands committed to advance these principles 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 on each principle of Global Compact for the year 2017-18 is hosted on UNGC website and also available on company's website www.bhel.com.

Date: 3rd July, 2018

(D Bandyopadhyay)

BHEL Performance 2017-18 – 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, the various Labour Laws, etc. Special provisions have been made in BHEL to safeguard women employees at the workplace. Internal Complaints Committee (ICC) has also been formed to look into cases of Sexual Harassment at workplace of female employees. The Principles of Natural Justice are scrupulously followed in “The BHEL Conduct, Discipline and Appeal Rules” 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

Two numbers of instances of Human Rights abuse were referred to BHEL by National Human Rights Commission (NHRC) during the 2017-18. Both have been examined and suitably replied to. No further directives on the aforesaid reported cases have been received from NHRC.

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 followed in BHEL. Further, all BHEL units/divisions are required to submit quarterly reports on compliances of different laws to the Board of Directors, so as to ensure that the interests of the workers are protected.

Apart from this, BHEL has various bi-partite fora for workers, in which the issues / problems pertaining to the workers are discussed and settled. Towards this end, BHEL has an apex level bipartite forum namely “The Joint Committee for BHEL” 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.

Continuing its thrust on taking the participative culture to higher echelon, there are Plant Council & Shop Council(s) operating at the unit level, which meet regularly and discuss issues related to Production in Financial and Physical terms, Productivity, Order Book, Cash Collection, Despatch, General Administration and Discipline etc. The Plant Council as well as the Shop Councils have representation from representative unions besides Supervisory & Executive Associations. 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. In addition, at the Unit level, workshops are being organized wherein the themes of the workshop are generally related to the Unit specific issues. Such workshops have not only resulted in better organizational climate but have also brought together the various categories of employees in resolving the various issues.

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. It is not permissible to employ any person below this age in BHEL. As such, child labour is not employed in BHEL and hence the issue of its abolition does not arise.

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, thereby, 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 quite mindful of its responsibility towards reducing the environmental footprint of its products and services. The organization has well established Environmental Management System (EMS) accredited to ISO 14001:2004/2015 in all major manufacturing units and Power Sector (PS) regions. There is a corporate HSE policy in line with the requirement of ISO 14001:2015 Environmental Management System standard. The EMS provides us an excellent framework to proactively identify & manage the risks related to Environment in a systematic manner and thus help in adoption of a precautionary approach to environmental challenges.

As a responsible global citizen, the organization acknowledges the correlation between Green House Gas (GHG) emissions and climate change. To address this global challenge, BHEL has been putting lot of efforts in reducing carbon footprint of its products and services, and thereby enabling the customers to generate power in a sustainable manner with lesser environmental footprints over the

long life cycle of the plant. In its internal operations also, the organization is putting major thrust in energy efficiency and use of renewable energy sources.

Principle 8): Undertake initiatives to promote greater environmental responsibilities

The idea of Sustainability has been ingrained in our organization and is an essential element of our management processes. The triple bottom line approach guides us to ensure that any decision we take related to our business transactions leads to furtherance of our business in an ethical manner, with minimal environmental footprint and help in spreading the fruits of development to larger populace through our CSR activities.

Our concern for environment is reflected in our concerted efforts towards development of products having lesser environmental footprint, enhanced use of renewable energy inside our premises for captive use, use of cleaner fuels, encouraging usages of energy efficient lighting fixtures and equipment, tree plantation, responsible management of natural resources and sound waste management practices. These are the major thrust areas for achieving sustainability in our business.

As a responsible corporate citizen, the organization endeavours to create awareness amongst the families of our employees, students, people residing in the vicinity and other stakeholders as to how they can contribute towards protection of environment as an individual, by celebrating World Environment Day with wider participation. Various competitions organised during World Environment Day – 2017 (WED) included mass tree plantation, competitions for students such as - poster making, quiz, slogan writing, elocution, environmental march for creating awareness about environment etc.

The highlights of some of the Sustainability related activities carried out across BHEL during 2017-18 are as follows:

➤ **Material & Natural Resource Management**

Responsible use of material and natural resources is a thrust area in our organization. During 2017-18, specific activities undertaken in this area included recycling of ferrous and non-ferrous scrap generated at units locally, as well as sending it to CFFP Haridwar for recycling, recycling of packing wood, recovery and reuse of waste oil, installation of Electrostatic Oil Filtration Machine for Hydraulic Power Packs to save Hydraulic Oil at IP Jagdishpur, Recovery of steam return condensate and optimization of use of steam by reducing the fuel consumption for steam generation (TRM) at HEP Bhopal unit with an estimated annual saving of 520 MT of furnace oil etc.

➤ **Energy Management**

Our thrust on energy conservation and efficient utilisation of energy in our manufacturing units and project sites continued during the reporting period through specific activities such as installation of

energy efficient lighting fixtures, installation of transparent sheet of rooftop of manufacturing blocks for day light requirement, Installation of Heat recovery system in Boiler, improvement in energy performance of various furnaces/ ovens/ burners, replacement of old equipment with more energy efficient equipment etc. Existing inventory of Mega Watt scale solar power plant of 11.5 MW_P got a booster dose during this reporting period as an additional 15 MW_P capacity addition is in advance stage of completion by the end of the financial year 2017-18. In addition to this, we have various land based sub-megawatt solar plants as well as rooftop based solar plants. A unique initiative was taken by one of our units EDN Bengaluru by commissioning a 24 kW_P Floating Solar Photovoltaic Power System at Halasuru Lake, Bengaluru as a pilot project.

Total electricity generated through various renewable energy systems stood at 15.61 Million Units during 2017-18 as compared to 14.82 Million units during 2016-17.

➤ **Water and Biodiversity Management**

Sustainable management of water and wastewater is a key area of strength for our organization. Many of our plants like HPEP Hyderabad, EPD Bengaluru, HPBP Trichy use treated wastewater for horticulture process and hence save on water consumption. During 2017-18, a 4.5 Million Litre Per Day (MLD) capacity of Sewage Treatment Plant (STP) based on Sequential Batch Reactor (SBR) technology and a 2 MLD STP base on Membrane Bioreactor (MBR) technology have been commissioned at HEP Bhopal and HPBP Trichy unit respectively. Further 16 Kilo Litre Per Day (KLD) capacity STP and 5 KLD capacity ETP installed at CFP Rudrapur taking the unit closer to becoming zero discharge unit.

At most of our units, mass tree plantation has been carried out on the occasion of World Environment Day 2017. Further it has become a ritual to plant a sapling by the employees on the day of their superannuation to commemorate the contribution made by them in shaping up the organization.

➤ **Carbon Management**

Our efforts put in the activities related to energy conservation/efficiency measures and installation of renewable energy based systems helped us in avoidance of significant carbon footprint in our operations. Due to Solar Power Plants and various other solar-related initiatives alone, BHEL achieved Carbon footprint avoidance to the extent of 15454 MT CO₂-e during 2017-18 which is approx. 7.48% more as compared to 2016-17 (14378 MT). Additionally, a large carbon footprint was avoided due to energy efficiency and conservation measures across BHEL during the reporting period.

➤ **Waste Management**

Responsible waste management practices are manifested in BHEL through the efforts made by the organization in reduction of waste generation at our locations, recycling and reuse of waste

generated to the extent feasible and disposal of waste generated following procedure/methodology prescribed in the relevant statutes.

Some of the examples of specific activities carried out at our units, related to waste management, during the reporting period included composting of organic waste at - HEEP Haridwar, IP Jagdishpur, HERP Varanasi, HPBP Trichy, providing different types of bins for storage of different types of scraps like iron, plastic, used oil, chemicals etc. at IP Jagdishpur, reused 1296 M³ of wood for manufacturing wooden boxes used for packaging at HEP Bhopal, segregation of waste for storage and disposal, use of 14377 MT of ferrous scrap for making casting and forgings at CFFP Haridwar etc. Across BHEL, solid wastes/scrap having resale value were collected, segregated, stored and sold to authorised recyclers. Hazardous wastes / E-waste were disposed off as per the stipulations in the relevant statutes.

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

BHEL is contributing to a greener environment through development of environment friendly technologies, reduced emissions and improvement in efficiency of its equipment. Some of the steps taken in this direction are detailed below:

- In parallel to the improvements made in carbon footprint of BHEL's operation, company is also working towards reducing the carbon footprint of BHEL made products during its running lifecycle. BHEL in association with IGCAR, NTPC, is developing Advanced Ultra Supercritical Technology under the aegis of the National Mission on Clean Coal Technology. The technology will yield targeted efficiency of 45-46% against efficiency of ~38% of subcritical and ~41-42% of supercritical sets. In result, this will further reduce coal consumption and CO₂ emission by about 11% as compared to Super Critical plants and by about 20% as compared to Subcritical power plants for single unit of power generation. Company has already introduced Super Critical Technology in India which has lower carbon footprint in comparison to previous generation of subcritical technology.
- Further, new emission norms which have come into force for generation utilities, BHEL is ready with the solutions required to meet the stipulated norms. The company has initiated several measures such as modification in boiler design, modifications in the wind box firing system of Boilers and development of SCR catalyst for NO_x reduction, installation of Flue Gas Desulfurization (FGD) systems for SO_x capture and improvement in particulate collection efficiency of Electro Static Precipitators (ESPs). BHEL has developed SCR technology exclusively for high ash coal fired Indian thermal power plants through its dedicated R&D efforts and the same is under demonstration at NTPC Simhadri Super Thermal Power Station. The pilot plant at NTPC Simhadri is operating with average De-NO_x efficiency 84-85% and less than 2 ppm ammonia slip.
- BHEL is working indigenously on development of technology for the conversion of high Ash Indian coal to methanol. The technology will be demonstrated initially at pilot scale with the production of 5 kg/hr of methanol. The development work will involve modelling, simulation, optimization of process

scheme and prototype manufacture to convert coal to Methanol. Successful implementation of this technology will help in utilizing the vast coal reserve available and significantly curb the rising imports bill of the country due to crude oil and improve upon the energy security of India.

- BHEL has also undertaken development of high efficiency solar cells using Passivated Emitter Rear Contact (PERC) technology at pilot scale. The project includes development of mono and multi-Si Solar cells with efficiencies of 21% and 19 % respectively and shall be commercially deployed for production of higher efficiency Solar cells/ modules.
- As a part of reducing emissions in transportation sector, there is favorable movement towards Electric Vehicle mobility as the future mode of transportation. BHEL is already developing Motors/ Alternators, IGBT controllers and VCU (Vehicle Control Unit) hardware for e-vehicles.
- BHEL has developed 2.5 kW Proton Exchange Membrane (PEM) fuel cell stack for strategic applications.

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 demonstrating the highest ethical standards in all its decision making in a fair and just manner. The Company follows zero tolerance approach towards all forms of corruption and is committed to enhancing transparency in all its business dealings.

Vigilance Department of BHEL is headed by the government appointed Chief Vigilance Officer (CVO). Major manufacturing Units / Power Sector Regions of BHEL has a vigilance set up headed by a senior vigilance executive reporting to the CVO.

Preventive Vigilance has always remained the focus area of BHEL Vigilance. The approach to preventive vigilance includes a combination of review of rules and policies particularly concerning procurement and recruitment, awareness raising measures, targeting specific functional areas/ issues by engaging stakeholders, in order to progressively eliminate scope for corruption.

Review of Policies/ guidelines: Action was initiated to review and update the Policies / guidelines / Manual covering all critical and important activities viz. Purchase, Material, Stores, Works, Finance, and Personnel, etc. in order to align them with the Govt. Policies / guidelines, to minimize discretionary powers and bring clarity in provisions where there is scope for different interpretations. The policies regarding procurement, reverse auction, vendor registration procedure, Guidelines for suspension of business dealings with suppliers/ vendors etc. had already been reviewed and revised versions were

issued. Further, the Works account Manual and Capital Budget Manual have been reviewed and the revised versions have been issued during the year.

Inclusion of Training Programmes on Preventive Vigilance: Training programmes/ Workshops on Preventive Vigilance were conducted across the Units/ Regions. In all the General Management Programme/Strategic Management Programmes organized by Corporate Learning & Development (CLD) department, a session on preventive vigilance is being included on regular basis. During the period, 102 training programmes/ workshops were conducted for about 2800 non-vigilance employees.

Capacity Building of Vigilance Officers: As a part of Capacity Building, a workshop for BHEL Vigilance Officers was organized at BHEL, Bhopal from 20th July to 21st July, 2017. The programme was aimed at equipping Vigilance Officers with the skills required to discharge their function more efficiently and effectively. Forty Vigilance Executives from different Units/ Regions of BHEL attended the workshop.

Vigilance Awareness Week 2017: The Vigilance Awareness Week (VAW) was observed from 30th October, 2017 to 4th November 2017 with the theme “**My Vision- Corruption Free India**” The link of “**Integrity Pledge**” (<https://pledge.cvc.nic.in>) was provided on BHEL internet and all the intranet sites of the units. Further, employees & their families, vendors etc. were encouraged to take the pledge. The observance of VAW commenced with the taking of Integrity Pledge. During the VAW, Vigilance Department organized various activities i.e. debate, elocution, panel discussions, essay writing, quiz, slogan/ cartoon/ poster competition etc. for employees, their wards and students of schools and colleges in Units/ Regions on the topics like Public participation in spreading awareness of corruption, importance of morals and values, honesty and integrity, ethics, transparency in governance etc. This time, apart from the routine programmes, Seminar/ workshop for engaging people in townships of BHEL in discussion about corruption, walkathon/ marathon/ cyclathon were also conducted across the various units/ regions of BHEL.

‘Integrity Pact’- BHEL signed the Integrity Pact with Transparency International on 16.12.2008 and the same was adopted in Feb. 2009. Structured meetings are held with the Independent External Monitors (IEMs) every quarter wherein the procurement related issues and complaints thereupon are discussed. The threshold value for tenders has been further brought down from Rs.10 crores to Rs.5 crores to increase the coverage of Integrity Pact.

Knowledge Sharing: With a view to create awareness about procurement policy, rules and procedures etc., to disseminate the instructions/ guidelines issued by CVC and Government of India from time to time, to share best practices and case studies, Vigilance Department publishes Quarterly e-Newsletter ‘**DISHA**’. Twenty issues have already been published. Case studies of select vigilance cases that bring out significant loopholes in the system and lapses in various areas of work are published in this e-newsletter ‘Disha’.

Emphasis on Open Tendering: Due to regular interaction, the focus of company has slowly started shifting from Limited Tendering to Open Tendering to bring transparency in procurement system and ensure competitive buying. In 2017-18, 47% of the total tenders were finalized through Open tendering.

E-procurement: The Company has started making more use of e-tendering / e-procurement to expedite tender finalisation and reduce human interface. **The percentage of e-procurement (tenders with value greater than Rs.2 lakh) has increased from 66% (in 2016-17) to 70% (in 2017-18).**

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