

BHEL Performance 2021-22 – Global Compact Principles

A. HUMAN RIGHTS

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. Provisions have been made in BHEL for safeguard of women at the workplace. Internal Complaints Committee (ICC) has also been formed to look into cases of Sexual Harassment of Women at workplace. The Principles of Natural Justice are scrupulously followed

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

in “The BHEL Conduct, Discipline and Appeal Rules” applicable to all its employees except workers who are governed by the Standing Orders.

There is no reported instance of Human Rights abuse in the Company. All policies, rules and operational procedures framed in BHEL are in line with applicable laws without any discrimination on caste, creed, religion and gender.

B. 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, where 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 pedestal, 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 received and subsequently evaluated for implementation. Structured and unstructured meetings between the Management and employee representatives as well as cross section of employees are also held from time to time in a congenial atmosphere.

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

The Company neither subscribes to nor indulges in 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 Human Resource Manual" of BHEL, which apply equally to all employees, irrespective of factors such as gender, caste, religion, race etc. BHEL has always been an equal opportunity employer. IN the organization all recruitments are conducted in a transparent and impartial manner, thereby, giving equal opportunity to all eligible candidates, without any discrimination whatsoever.

C. ENVIRONMENT

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

We have established our systems and processes in such a way that any activity which interacts or has a potential to interact with ecosystem in terms of its ecological footprint, its associated environmental aspect and impacts are identified, risk analysed and mitigation measures are put in place. It is being done as a part of our systemic approach towards environment in which the precautionary approach has been imbibed.

We at BHEL tirelessly endeavor to achieve the apex levels of sustainability within our business processes & activities around the globe. Our mission statement – ‘Providing sustainable business solutions in the fields of Energy, Industry & Infrastructure’ evinces the organizational commitment towards sustainability. Sustainable development at BHEL addresses the three pillars of sustainability, namely, Environmental, Economic and Social. With a vision to create a responsible and sustainable organization, BHEL strives towards the integration of environmental, health, social equity and economic vitality within the organization and beyond. Manifestation of this vision is evident in our inventiveness towards greener product development, increased renewable energy generation and usage, efficient water management, enhanced green cover, emission reduction, optimization of natural resource usage and improved energy efficiency and conservation.

We have a mature Environment Management System at our manufacturing units and Power Sector regions which has been certified to ISO 14001: 2015. Our Health Safety & Environment (HSE) policy is reviewed from time to time to address the requirement of different stakeholders. The HSE policy and Management system are the bulwark on which our environmental performance is hinged. Our efforts towards environmental conservation are manifested in our activities such as generation of renewable energy, reduction of resource consumption like water, material & energy, recycling of reusable waste generated inside our premises including treated wastewater and raw material etc.

Augmenting the global efforts towards reduction of GHG emission and mitigate Climate Change, we are not only trying to reduce the carbon footprint of our operations but also conducting our R&D activities and developing products for our industrial customers which are having larger lifespan and lesser ecological footprint through their life cycle.

Principle 8): Undertake initiatives to promote greater environmental responsibilities

The tenets of Sustainability have been incorporated into our management framework and has become a part of our decision-making processes and activities emanating out of those decisions. It is given due consideration in the entire value chain and duly reflected in our Mission Statement “Providing sustainable business solutions in the fields of Energy, Industry & Infrastructure”.

To address the Environmental Aspect of Sustainability, activities which impact the environment are carried out with utmost regard to the environment and it's carrying capacity in terms of - responsible consumption of natural resources for production of goods & services including imbibing the concept of 3-R (Reduce-Recycle-Reuse), moving towards more sustainable energy mix, demand side management through energy efficiency/conservation measures, Water and biodiversity conservation, managing air emission within the limits, managing carbon emission to mitigate climate change within our premises etc. Further within our value chain, using state of the art facilities created over the years, we are providing our customers the products which are greener by virtue of - having long life cycle, using lesser quantum of natural resources during their operation phase, emitting fewer gases in their running, capturing emissions in the existing plants through retrofitting using our systems etc., resulting in better environmental performance and reduction in environmental footprint leading to environmental sustainability.

Details of some of these initiatives carried out during 2021-22 is given below.

A. Responsible Material & Natural Resource Management

As a responsible corporate citizen, all the natural resources for production and consumption is being used with utmost frugality to minimize the associated environmental impact. The principles of Reduce-recycle-Reuse is being applied diligently towards achievement of this goal. Our nesting plan for cutting the sheets are devised in a way to minimize the wastages. Some of the steps taken in this regard during the year included - use of 275 MT of Mild Steel in 04 Ferrous Foundry shop in manufacturing of various castings at HPEP Hyderabad, establishment of Containerized Bio gas plant of 500kg / day near Canteen at Bhopal to reduce fossil fuel use, installing locally developed Guide Rollers for vertical storage systems at EDN Bengaluru etc.

B. Energy Management

Being a leading organization in the field of Power Generation equipment, we are aware of our responsibility towards managing energy in our premises and providing energy efficiency technologies to our customers. Energy efficiency / conservation efforts are taken in the organization on continual basis. Some of our units are energy intensive and for identification and harnessing of every opportunity to reduce our energy requirement, we have gone for

Energy Management System certification (ISO 5001) through 3rd party Audits as we firmly believe that Energy Saved is Energy Generated. To address the demand side management, we have been replacing our conventional lighting systems and fixtures with energy efficient ones resulting in substantial reduction in our lighting load. Replacement of ACs with more efficient 4/5 star rated systems and installation of Automatic Power Controller System (APFC) are also regular features in BHEL. In particular, during 2021-22, installation of automatic power factor correction panels in select substations and operation of HT capacitor banks to keep the factory power factor close to unity at HPEP Hyderabad, replacement of 35 nos. of split AC with 5-star eco-friendly refrigerant & upgrading East bldg. first floor AC plant with energy efficient and eco-friendly refrigerant air-cooled system at EDN Bengaluru, replacement of 4 nos. of non-rated AC with 5 star inverter split AC at IVP Goindwal, upgradation from conventional to regenerative burners based combustion system of 6m reheating at CFFP Haridwar etc. are some of the steps taken by us to manage our energy sustainably.

Further, a novel initiative of Installation of 1 MW capacity Grid-connected Roof Top Solar PV System under MNRE Scheme for Government Buildings (RESCO Model) in BHEL Hardwar at a fixed tariff per kWh for 25 Years without any capital investment of BHEL has been taken up which is likely to generate approx. 1.2 Million Units/annum meeting 3% of electricity requirement of HEEP plant. Overall across the organization, 27.17 Million units of green energy was generated during 2021-22 taking the overall energy generating by solar systems during last 5 years to more than 130 Million Units.

C. Water & Biodiversity Management

The entire world is facing the water scarcity and bearing this in mind, our processes are always being modified to conserve water and use the industrial water to the extent feasible. We have installed 126 number of Rainwater Harvesting Systems including Rooftop rain water collection pits, groundwater recharging pits/pond/lake/wells which enables us to contribute towards recharging of groundwater. Further we have established 22 Effluent Treatment Plants and 16 Sewage treatment Plants to manage our grey water sustainably. 10 of our units are now Zero Liquid Discharge entities due to prudent use of water through recycling in process, land application to enhance the vegetative cover and reduce the water intake to the extent feasible.

Some of the specific activities carried out during 2021-22 in this area included initiation of Rain water recharging pond of capacity 7000 cubic meter in HEP Bhopal, capturing storm water from catchment area of approx. 17 acres for ground water recharged through percolation pits at EDN Bengaluru, Installation of 7 MLD STP using SBR Technology at Haridwar Unit, Construction of a water recharge structure and use of industrial water - for cleaning of roof top solar panel & in cooling towers/toilets at HEEP Haridwar etc.

To deal with the problem of rising air pollution in urban areas, BHEL has indigenously designed and developed a prototype Air Pollution Control Tower (APCT) and the same has been installed in Noida city on pilot basis.

During the financial year 2021-22, our efforts towards increasing our verdant cover continued and in our Bhopal Unit, more than 30,000 saplings were planted. Overall across the organization & it's vicinity more than 68,000 saplings were planted during the last year and during the last **five years**, the number of saplings planted stood at more than 2,12,000.

D. Carbon Management

In our processes we are striving for making our energy mix more sustainable and cleaner thereby cutting our carbon footprint. Across our value chain the greener products supplied to our customer is enabling them to reduce their carbon footprint as well.

We have installed Solar Systems having capacity more than 29 MW_p comprising of rooftop as well as ground mounted solar plants in our premises. Some of them are of Mega Watt scale and biggest solar plant in our premise is situated at Trichy Unit having capacity of 12.5 MW_p. This large-scale solarization has helped us in carbon footprint avoidance to the tune of 25540 MTCO₂-equivalent during 2021-22. Further our well maintained and ever-increasing verdant cover is also contributing towards carbon sequestration in a considerable manner. More uptake of energy efficiency/conservation in our processes has helped us significantly reduce our Scope-2 emissions and converting our furnaces to RLNG from LPG at Haridwar unit has helped us cut our scope-3 emissions associated with carriage of the fuel through roadways.

These are examples of activities carried out to reduce our overall carbon footprint associated with our operations and provide sustainability impetus to our carbon management.

E. Waste Management

BHEL is a manufacturing organization using large quantum of material and we understand the fact that waste is a resource at wrong place and this challenges us to minimize generation of waste and in case its inevitable generation recycle and reuse it to the extent feasible. Almost all our non-hazardous waste generated is either used inhouse through recycling/reuse or sent to authorized recyclers for its suitable use. Food waste generated at units like HERP Varanasi is used for making wormi-compost and use it for horticulture. During 2021-22, almost 583 Metric Tons of scrap generated at EDN Bengaluru and 6650 MT at HPEP Hyderabad was recycled through authorized recyclers, MS scrap of 275 MT was used in 04 Ferrous Foundry shop in manufacturing of various castings at HPEP Hyderabad unit, Waste Sand reclamation by 20% (approx.) for reuse at CFFP Haridwar etc., were some of activities related to waste management

All the waste management rules are scrupulously followed in the organization and returns for the same as per the formats is filed as per stipulations. Further, to fight the menace of plastic pollution, 14 of our townships have been audited by 3rd party and certified as “Single Use Plastic Free” (SUPF) entities.

These activities cited in the above sections illustrate the ways in which sustainability has been ingrained in our management processes.

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

BHEL believes in creating 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 during the recent times including 2021-22 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 phase of 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 46% against efficiency of ~38% of subcritical and ~41-42% of supercritical sets. Consequently, 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.
- ❖ BHEL along with its consortium partners (NTPC and IGCAR) have successfully completed technical aspects of R&D phase in Dec 2020. All the milestones stated as regards to design, material testing and evaluation, manufacturing technology and establishing of two experimental facilities had been completed. BHEL is committed to setting up the AUSC Technology Demonstration Plant based on experience gained in the R&D Phase of the AUSC project subject to concurrence of Govt. of India.
- ❖ BHEL has indigenously designed, installed and demonstrated a 0.25 TPD methanol generation technology demonstration plant using high ash Indian Coal at Hyderabad. The plant has produced Methanol with purity of more than 99%. Conversion of high ash Indian coal to methanol through gasification route is the first of its kind technology demonstration in India. BHEL is working to scale up of Coal to Methanol Technology with Indian stakeholders. This technology will help to utilize high ash Indian coal reserves to convert into methanol.
- ❖ BHEL is contributing significantly to the nation’s green initiatives of promoting renewable energy by manufacturing state-of-the-art solar cells and solar modules. In addition, space-grade solar panels using high efficiency cells and space-grade battery are also being

manufactured. BHEL has also in-house developed PV products ranging from Solar Inverters, Solar Passive Trackers, Solar PV cells and PV modules. R&D project on development of Passivated Silicon Heterojunction (PIHJ) Solar Cells with 21 % efficiency is also under progress.

- ❖ In urban mobility area, Electric mobility is fast emerging as a future mode of transportation to reduce emission from vehicles. BHEL through in-house R&D efforts has developed & successfully tested at ARAI, Motors, Controllers & Charging infrastructure for E-mobility application.
- ❖ BHEL is also working on development of environment friendly green technology for power generation and has successfully developed 25 kW PEM (Proton Exchange Membrane) fuel cell stack for strategic applications and further working to increase the capacity. BHEL has also developed and demonstrated Proton-exchange membrane (PEM) Fuel cell powered 1.25 kW Hybrid Electric Golf cart vehicle for drive range extension of electric vehicles.
- ❖ BHEL is offering environment friendly technology of Air-cooled condenser to ensure water saving in modern thermal power plants. Further in-house developments are also undertaken to make it more cost competitive.

D. ANTI-CORRUPTION

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

The Vigilance function of BHEL is headed by Chief Vigilance Officer (CVO) who acts as an extended arm of Central Vigilance Commission (CVC) in the Company. Each Manufacturing Unit / Power Sector Region / Industry Sector of BHEL has a Vigilance set-up headed by a Senior Officer reporting to the CVO.

Preventive Vigilance has been the focus area of BHEL as proactive vigilance is better than the reactive one and reduces the chances of corruption. The main objective is to progressively reduce ambiguity and discretion in the process by plugging the loopholes in the system, thereby making decision making process more objective & transparent and also reducing the scope for malpractices. The Audit reports (internal, statutory and CAG reports) are also being scrutinized so as to determine whether there is any vigilance angle involved in respect of the irregularities brought out in such audit reports.

Random checks of the activities in the organization are conducted through routine inspections, surprise checks, system studies, CTE type inspection etc. Based on the findings of these inspections/ scrutiny's, Improvements are suggested on various provisions of BHEL Policies /

Guidelines / Manuals so as to minimize discretionary powers and to bring further clarity in provisions wherein there is chance of misinterpretation.

Major procurements in the company i.e. above Rs. **2 crores** are carried out under **the provisions of Integrity Pact**. Integrity Pact is a set of measures which, both the vendor and the company, undertake to ensure corruption free procurement without delay or prejudices. All these procurements are independently monitored by Independent External Monitors (IEMs) appointed by Central Vigilance Commission.

Vigilance Department maintains an **Online Complaint System** where any person or company can report issues pertaining to corruption in a confidential manner to the Vigilance Department. The system also enables the complainant to check the status of their complaint from time to time till they are resolved/finalized. BHEL also has an extensive and well established 'Whistle Blower Policy'. Any employee of the company can report corruption matter in confidentiality to the Top Management. The policy provides provision for protection of the '**Whistle Blower**' from any kind of harassment through non-disclosure of his identity and enabling him to report such issues without any fear.

Vigilance Department also **interacts** frequently with the executives of various units/ regions through structured training programmes on preventive vigilance and enable them to act in a transparent and unbiased manner.

A **session on preventive vigilance** has been made mandatory in all the General Management Programs / Strategic Management Programs / Young Managers Programs organized by BHEL's Corporate Learning & Development (CLD) Department of BHEL. As per the suggestion of the Commission, a two days training programs on 'Preventive Vigilance' has also been included in the induction training and mid-career training programs for executives from January, 2021.

As per the directives issued by CVC vide circular no. 15/09/2021 dated 1st September, 2021, Vigilance Awareness Week (VAW)-2021 was observed from 26th October to 1st November, 2021 on the theme "Independent India @75: Self Reliance with Integrity (स्वतंत्र भारत @75: सत्यनिष्ठा से आत्मनिर्भरता)" across Corporate Office, Manufacturing Divisions, Power Sector Regions, Offices and Project Sites of BHEL.

The observance of Vigilance Awareness Week commenced with administering **INTEGRITY PLEDGE** by the employees. Chairman & Managing Director, BHEL administered the Integrity Pledge to all Unit / Regions Heads as well as Executive Directors / GMs of Corporate Office through video conferencing on the inaugural day of Vigilance Awareness Week 2021. HODs of respective departments administered Integrity Pledge to the employees of their departments. Messages received from Govt. Dignitaries were also read out. The link of 'Integrity Pledge' (<https://pledge.cvc.nic.in>) was provided on BHEL internet and the intranet sites of various

manufacturing Units/ Regions/ Offices and all the stakeholders were encouraged to take the integrity pledge.

Vigilance Department organized various programmes (**approx. 200**) i.e. debates, elocutions, panel discussions, essay writing, quiz, slogans/ cartoon / poster competitions etc. on the theme of **Vigilance Awareness Week 2021** for employees, their wards and students of schools and colleges in various cities across India keeping in view the COVID-19 guidelines. An **online quiz** competition on PAN BHEL basis was organized by Corporate Vigilance Department to generate awareness about rules, regulations & policies. A total of about 689 employees participated in the online quiz. Further, an online crossword competition was also organized wherein a total of about 878 employees participated. Messages received from dignitaries and photographs of activities conducted during the VAW 2021 were regularly shared on the social media accounts (Facebook, Instagram, YouTube, WhatsApp groups and Twitter Handle) of BHEL.

As a part of the awareness series, 10 nos. **animated clips** (VAW Theme, PIDPI complaint, Housekeeping activities, lodging of complaints etc.) were developed in-house and released during the VAW. These clips were shared with the employees and were also uploaded on the BHEL's website / social media platforms.

Central Vigilance Commission entrusted BHEL with the responsibility of conceptualizing and producing a **short film for spreading awareness** about Integrity Pledge amongst citizens. On the advice of the Commission, a short film on Integrity Pledge was prepared jointly by Corporate Vigilance Department and Corporate Communication Department of BHEL. This short video clip (<https://cvc.gov.in/media/video-gallery/integrity-pledge-hindi>) was screened at various forums and also telecasted on Doordarshan National Network on 26.10.2021 during the inaugural of Vigilance Awareness Week-2021. The quality and contents of the film were highly appreciated by stakeholders and citizens alike. For this work, the **Commission recognized the efforts of BHEL** and issued appreciation letters to Vigilance and Corporate Communication officials involved in this task.

Vigilance Department publishes quarterly e-Newsletter '**DISHA**' 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 and to share best practices, case studies and articles. Four issues were published during the year and a total of 36 issues have been published since 2013. The e-newsletter is given wider publicity and is sent to all employees through e-mail and also hosted on BHEL's units/ Regions Intranet webpage.

Besides preventive and participative vigilance measures, **punitive vigilance** has its own prominence. It acts as deterrence to others and also provides for an opportunity to deviant officers to mend their ways and align their actions with Company's policies.

BHEL is committed to work against all forms of corruption including extortion & bribery by laying down a framework of anti-corruption measures. The Whistle Blower Policy provides an opportunity for fearless reporting of corruption activities by employees of the company, while practice of Integrity Pact, IEMs, Online Vigilance Complaint system etc. provides a platform for reporting of corruption related issues promptly and without fear by all stakeholders.

***** **End of CoP 2021-22** *****