

ENVIRONMENTAL MANAGEMENT AT BDL

BDL is ISO 14001 certified since 2014. BDL has implemented / renovated the followings under the banner of ISO 14001 certification in Kanchanbagh, Bhanur and Visakhapatnam Units to protect environment and save mother earth.

AIR POLLUTION:

Venturi scrubbers are installed to control chemical fumes generated during electroplating operations and intake of fresh air is also given for maintaining comfortable environmental condition in Electroplating section and therefore, preventing / minimising air pollution. BDL has installed diesel generator sets as per CPCB norms and hence, controlling air pollution inside the premises. BDL is also having green belt cover inside the premises to curtail fugitive emissions.



Venturi Scrubber

WATER POLLUTION:

BDL has installed Effluent Treatment Plants (ETPs) in Kanchanbagh and Bhanur Units. The wastewater generated from electroplating section is treated in ETP. Heavy metals are treated in the plant and the discharge is periodically tested for compliance. Effluents containing the residues of Cyanide, Cadmium, Nickel, Zinc, Chromium, Copper, and Lead etc. are treated in the ETP.

In pursuance of continuous improvement towards excellence, BDL has also installed RO plant at Kanchanbagh for treating ETP output water, which is otherwise, was released to drain. The electroplating shop consumes around 20 KL fresh water per

day and the EP shop effluents are treated at ETP. By installing RO plant 85% of 20 KL (i.e. 17 KL) effluent treated water is recycled back to EP shop thus conserving natural resource like fresh water. By this, BDL has implemented zero liquid discharge system.



Effluent Treatment Plants



RO Plant at ETP Outlet

BDL is having Sewage Treatment Plants (STP) in Kanchanbagh (250 KLD Cap.) and Bhanur (2.2 MLD Cap.) and Visakhapatnam Units (10 KLD Cap.). Treated water is being recycled for gardening purpose.



Sewage Treatment Plants

NOISE POLLUTION:

BDL has installed diesel generator sets as per CPCB norms and hence, controlling noise pollution inside the premises. In view of the above, Day and Night Noise levels are being monitored as per frequency and actions are taken if it crossing the prescribed limits. Schedule and Preventive maintenance are carried out as per schedule as a measure to control noise of machines. High noise zone is also declared by displaying High Noise Zone Area so that employees are alerted before entering by wearing earplugs / ear muffs.

LAND POLLUTION:

The following waste is disposed in effective manner to prevent land contamination:

- Food waste is being disposed by means of animal feeding and composting;
- The biomedical waste is being disposed through the agency registered with the Pollution Control Board;
- The lead acid batteries are given to the authorized recyclers / dealers on buy back basis as and when required;
- The hazardous waste such as Waste Coolant water, RO Reject, Waste Oil, Empty Chemical Containers, Life Expired chemical and ingredients, ETP Sludge, Paint Sludge, Empty Glass Bottles, MS Paint Container, Chemical Soaked Cotton Waste etc. is being disposed through agency certified with pollution control board;
- The waste oil is secured handled by maintaining second containment to avoid spillage and leakages of oil. E-waste is being disposed through registered recyclers;
- Solid Waste such as ferrous and non-ferrous metal is being disposed through M/s MSTC (A Govt. of India Undertaking) so housekeeping maintained in the premises. The waste is stored in scrap yard having different types of

designated compartment and closed sheds for each waste inside the premises.

Apart from the above, BDL has taken various steps to control and prevent pollution by means of the following:

- Testing of environmental parameters such as ambient air quality, wastewater from sewage treatment plant and effluent treatment plant, work zone monitoring, air quality of diesel generator set and venturi scrubber are being monitored periodically through certified agency as per regular intervals;
- MSDS (Material Safety Data Sheet) are being maintained and communicated for various hazardous chemicals and preventing hazards which may affect public. This is also made available in local language;
- PUC is being checked for vehicles and then allowed inside the premises;
- A circular released to ban on single use plastic inside the premises;
- Air conditioning plants and environmental chambers are replaced / retrofitted, modified refrigerants;
- BDL is celebrating world environment day on 5th June every year. On this occasion, tree plantation and various competitions are organized based on the theme. World environment day is being celebrated with great enthusiasm in all the units of BDL. On this occasion, banners are being displayed at prominent locations and saplings are planted on 5 June. Slogan writing, elocution and quiz competitions etc. are also organised based on the themes;
- Cleaner technology is implemented by inducting CNC Machines, Flow Forming, Robotic Welding, Electro Discharge Machining, Electro Chemical Machining and Wave Soldering machines.

ENERGY CONSERVATION:

BDL is has taken proactive role to reduce energy consumption in all the units. The following is implemented:

- ✓ Replacement of old inefficient chillers with energy efficient screw chillers;
- ✓ Installed auto power factor controllers to improve power factor;
- ✓ Installed variable frequency drives for cranes, air compressors and AHUs;
- ✓ Replacement of condenser and pumps;
- ✓ Replacement of old transformer with energy efficient transformer;
- ✓ Replacement of old air compressor with energy efficient air compressor;
- ✓ Installation of micro processor controls for new air conditioning chiller units.

Under the MoD's energy efficiency action plan, the following initiatives will be implemented in due course of time:

- ✓ Replacement of conventional lights with LED lights;
- ✓ Replacement of conventional fans with BLDC Fans;
- ✓ Replacement of non-rated air conditioners with 5 star rated AC;

- ✓ Replacement of conventional motors with IE3 / IE4 Motors;
- ✓ Conversion of existing building to green building;
- ✓ Installation of 500 KW rooftop solar power plant.

REDUCTION IN PAPER CONSUMPTION:

BDL has taken following steps to reduce paper consumption:

- ✓ Food coupons are replaced with e-meal card;
- ✓ Pay slips are issued in electronic form;
- ✓ Introduced digital communication for training;
- ✓ E-Mail is being used to receive communications like Inter Department Notes (IDN), letters, circulars, agenda and minutes of meetings etc.;
- ✓ EPMS system through online and also introduced the e-circular portals;
- ✓ Annual Property Return online;

RAIN WATER HARVESTING PIT/ CHECKDAMS/ PONDS:

1.34 Lakhs m³ capacity has been constructed to recharge the ground water source in all the three units of BDL till date.





SOLAR POWER PLANT:

10 MW land based solar power plant have been installed at Bhanur Unit & upcoming Ibrahimpatnam Unit. Initially, 100 KW Photo Voltaic rooftop solar power plants have been commissioned over the canteen and D& E Building Roof.



Land Based Solar Power Plant



Rooftop Solar Power Plant

LAND USE AND BIODIVERSITY:

BDL Kanchanbagh complex is spread over an area of 365 Acres. Out of which 100 Acres is covered with Buildings and Roads. The open areas are covered with thick social forestry with species like Tectona Grandies, Subobul, Eucalyptus, Gliricidia, Millingtonia hartenses etc. Apart from this road side avenues were planted like Pheltoforums, Gulmohars, Delenixregia, Cassias, Azatrachata Indica, Ponna & Pogada etc. In addition to above, many areas are covered with different types of

Lawns like Corean carpet, Fiscue, Phasyphilum, Bermuda, Calcutta doop etc. measuring 50,000 Sq.mts. There are many Peacocks, Rabbits and Pigeons due to ecological balance. BDL is maintaining Floriculture area measuring 3.0 Acres consisting of varieties of Roses, Gladiolas, Zerbras, Lilies, Dazies, fruit plants and Nursery measuring 2.0 Acres consisting of 10,000 Nos. different types of indoor plants.

BDL Bhanur is spread over an area of 1000 Acres. The plant and township is constructed in 700 Acres and 300 Acres respectively. Township is having 120 Acres of social forestry. The plant area is covered with 300 Acres of thick wild forestry and 200 Acres of area is covered with avenue plantation. The open areas are covered with thick social forestry with species like Subabul, Teak Wood and wild forestry. Apart from this road side avenues were planted like Pheltoforums, Gulmohars & Rain Trees etc. There are many Peacocks, Rabbits and Pigeons due to ecological balance. The unit is having very good horticulture management with 20, 000 Sq. meter of Carpet Grass.

BDL Visakhapatnam is spread over an area of 14 Acres. The open areas are covered with thick social forestry with many species. Apart from this, a natural pond is being maintained along with recently developed landscaping. The unit is having very good horticulture management with Carpet Grass.





Nurseries Management