

Environment management in SCCL

Coal being the primary fuel for thermal power plants and other coal based industries, the dependence on coal continues in near future also. In this context, a number of initiatives have been taken by SCCL in order to reduce carbon foot prints.

SCCL formulated corporate environmental policy and its objectives as a part of corporate environmental responsibility.

In order to fulfil the objectives of environmental policy, guidelines have been framed in different facets of environmental management for bringing uniformity in planning, execution and monitoring systems thereby ensuring environmentally sustainable coal mining operations.

1. SCCL is taking various measures for prevention and control pollution:

i) Air pollution control measures:

- All haul roads and service roads in the OCPs are regularly sprayed with Mobile water sprinklers of 28KL capacity (69 Nos.) and 20 KL / 12 KL capacity (93 Nos.) are deployed for dust suppression
- Use of wet drilling and controlled blasting techniques in Opencast Mines for reducing air pollution as well as ground vibrations.
- Asphalting of all coal transportation roads & Covering of trucks with tarpaulin
- Regular Maintenance of all Diesel operated HEMMs as per the manufacturer's schedule for effective control of exhaust emissions.
- Effective water spraying arrangements including mobile mist spray machines are adopted in all 11 CHPs for controlling particulate emissions the Procurement of 25 number of Portable dust suppression Machines including 7 numbers in three OC Mines.
- Two coal Washeries were established for supply of beneficiated coal to consumers and Two new washery at JVR OC I & II and VKP Mine will be established shortly.
- Massive plantation on overburden dumps, green belt development in vacant lands and avenue plantation.
- 8 CAAQMS are installed in open cast mines for continuous monitoring of air quality data and connected to TSPCB website for real-time monitoring of pollution parameters (PM₁₀, PM_{2.5}, SO_x and NO₂). SCCL is installing 11 numbers of CAAQMS in other OC mines also in near future.
- Free LPG is supplied to all the employees in order to prevent usage of coal for domestic purpose
- A Coal corridor road (BT) of 17 Km. length is made in Ramagundam from 5 Incline to centenary colony (Rs. 32.56 Crores) to avoid movement of coal trucks through residential areas.
- Belt conveyor system is developed for RG OC-II, RG OC-I and Adriyala LW Project for coal transport to Silo at RG OC-I CHP
- Merry-go-round rail transport system is developed for transportation of coal from RG OC-I CHP to NTPC, Ramagundam
- Rail transport mode is preferred to avoid risks associated with road transport including air pollution
- SCCL is going in for expansion of existing 2X600 MW STPP with addition of 1x800 MW capacity unit with super critical technology, which results in less air pollution. Zero discharge is being maintained in the existing STPP.
- SCCL is monitoring air quality in about 236 stations in and around mining areas to assess the air quality and take necessary mitigation measures

ii) Water pollution control measures:

- Garland drains are made around quarry and OB dumps to collect runoff water and siltation points of sufficient size are made for collection of silt.
- OB dump surface run off is de-silted through settling tanks before discharge into natural streams. Contour drains are constructed along the slopes of OB dumps.
- Mine water is treated in filter beds for domestic consumption. Excess mine water is treated in settling ponds before discharging in to natural streams / tanks.
- 28 ETPS were established in the OCPs and effluent coming out from workshops is treated in Effluent Treatment Plants containing an oil / grease trap and sedimentation tank. The treated water is stored and reused in the mine itself.
- In large townships, complete sewerage system and modern sewage treatment facilities are established. So far, 7 STPs were established in SCCL colonies.
- Check dams / rock fill dams / water harvesting pits are constructed in mining areas for reducing silt / suspended solids in surface run-off and augmenting groundwater recharge.
- Summer storage tanks were constructed in mining areas and surrounding agricultural tanks are being de-silted for rain water harvesting and ground water recharge.
- Quality of Surface water (66 locations), ground water (82 locations) and effluent (127 locations) is being periodically monitored to assess the impact of mining on water quality

iii) Noise and Vibration control measures:

- Blasting operations are being carried out in opencast mines using Non-Electric Delay Detonators (NONELs) for reducing noise & blast vibrations
- Providing sound proof cabins for the workers deployed on HEMM
- Providing ear protection devices to workmen exposed to high noise environment
- Developing thick greenbelt around fan house and mine premises for noise attenuation

iv) Plantation works in SCCL

- SCCL raised plantations on its overburden dumps, vacant areas, colonies, etc. in an area of 12,172 ha with 5,29,77412 saplings up to Nov-2019.
 - i) OB Dump plantation: 4898 Ha.
 - ii) Block plantation: 6736 Ha.
 - iii) Avenue plantation: 538 Ha.
 - Plantation has so far been done in an area of 652 Ha. with 30,29,034 saplings during current Monsoon.
 - Scientific studies are being conducted to estimate the standing bio-mass of SCCL plantation and assess carbon sequestration potential.
 - SCCL is participating in Haritha Haram Programme in all the mining areas of SCCL by taking up massive plantation works
 - Supply of Eucalyptus Clones to the surrounding villages of coal fields at a cost of Rs. 68,31,000 during the year 2018-19.
 - Supply of 3.00 Lakh nos of fruit bearing plants/saplings for free distribution among 2018-19.
 - Supply of 33 lakh nos of good & healthy Eucalyptus clones to distributed all over the State under CSR - Telanganaku Haritha Haram, its cost is 6831000 programme during the year 2018-19
 - The procurement of Eucalyptus clones for planting on OB, Block plantations of SCCL areas and for distribution under "Telanganaku Haritha Haram" programme 37.66 lakh clones were planted during 2018-19 planting season.
2. SCCL is taking up various developmental works in surrounding villages as a part of its commitment towards corporate social responsibility.
- SCCL formulated Corporate CSR policy and is making annual budgetary provision for CSR activities.

- The CSR funds are being spent for establishment of infrastructure facilities in the surrounding villages like roads, drainage network, education and medical facilities.
 - SCCL is taking up vocational training, skill development, literacy programmes and army recruitment training for unemployed youth etc.
 - SCCL adopted Tiryani Mandal, one of the most backward Mandals of SCCL command areas for its overall development
 - SCCL is supplying drinking water to surrounding colonies/villages especially during summer season
 - SCCL is maintaining schools, colleges in mining areas and including Polytechnic for providing better education to the surrounding villagers
3. SCCL is implementing environment friendly measures for sustainable development
 - Supply of coal to Heavy water Project through aerial rope way.
 - Introduction of surface miner technology in Koyagudem OCP avoiding conventional blasting in coal extraction
 - In-pit crusher and conveyor technology in one of the opencast mines (RG OC-II)
 - High wall mining in Medapalli Opencast Project
 - Establishment of highly mechanized Adriyala Long Wall Project and three more project with LW technology are in the pipeline
 4. SCCL is implementing energy efficient practices at the mines and colonies for reducing overall power consumption like switching over LED lighting systems, use of energy efficient pumps & motors, use of renewable energy resources like solar power.

Innovative measures for environment protection:

1. SCCL is conducting trial studies on use of chemical additives in water spraying on haul roads of opencast mines for controlling fugitive dust emissions, which are the main contributors of air pollution. In this connection, a firm order was placed on M/s Ozindia Innotech Private Limited, Hyderabad for supply of dust suppression chemical for carrying out a trail study at one of the oc mines viz., KTK OC-II Project, BHPL. Similar studies are proposed to be carried out in two more mines for studying the efficacy of the chemical additives in dust suppression.
2. The processed overburden (POB) is being extensively used in the stowing process in SCCL replacing the original sand from river to fill the underground voids.

So far, about 25,68,416 Cu.m. of Processed Overburden was produced upto October 2019 and used for stowing in SCCL underground mines and the same is compacted in the de-coaled area successfully as a substitute for river sand.

After the success of the innovative product i.e., processed OB for use in stowing operations in UG mines, SCCL has commissioned 4 similar plants its mining areas.

The innovative practice of utilising processed OB as an alternative to river sand for use in stowing in underground mines is an environment friendly initiative adopted in SCCL for which company bagged Golden Peacock Award under innovative products/services category, in the year 2015.

3. SCCL is using processed OB in place of River sand for stowing purpose in underground mines. SCCL so far utilised 24,13,941 Cu.m. of processed OB for stowing purpose in UG mines thereby conserving River sand to that extent.

Mining of deeper deposits is becoming increasingly significant as the coal reserves near the surface and at shallow depths are getting exhausted. However,

extraction of such deposits often creates ground control problems. Continued practice of mining with filling for exploitation of thick coal seams is foreseen in situations where surface mining is not possible or the overlying seams have to be maintained intact.

By stowing Bottom Ash in underground mines, SCCL is able to show solution to the environmental problem posed by ash produced by Power Plants. Bottom ash of courser ash of +53 micron size is used as stowing material in mines and it is possible to reduce dependence on conventionally opted hydraulic sand stowing thereby consumption of river sand can be reduced. Upto September 2018, about 59,21,663 Cu.m of bottom ash was successfully stowed in various underground coal mines under the guidance of DGMS authorities and CIMFR.

4. In SCCL, usage of clay bricks for civil construction works was totally dispensed and replaced with fly ash bricks since 01.04.2015. The consumption of fly ash bricks for the last four years is 6,23,08,604 Nos..
5. SCCL installed solar water heaters on administrative buildings, guest houses, etc. Presently, SCCL is generating 174 KW of solar power and is proposing to construct 300 Mega Watt solar plants in a phased manner in an effort for switching over to renewable sources of energy. SCCL generated 5,78,000 KWH solar power generated upto Nov-2019.
6. SCCL studied the use of diesel additive supplied by M/s Le Gazole Plus Eco Solutions Pvt. Ltd., Hyderabad by mixing it in diesel tanks of Heavy Earth Moving Machinery (HEMM) being operated in two of its opencast mines for diesel consumption and exhaust emissions. The study was conducted from November, 2016 to Mar, 2018. It has been established that the exhaust emissions came down by 40% with the use of diesel additive. There was also a reduction in HSD oil consumption to the tune of 2,98,210 litres in both the mines, due to which CO2 emissions were reduced by 708 Tons. It is further proposed to use diesel additive on a larger scale in future. Thus, SCCL has initiated this study as a step towards protecting environment by way of reduced consumption of diesel and thereby reduced emissions.

AWARDS

- **National Award for the Fly Ash Utilization 2004-05**
 - jointly awarded by Ministry of Power, Ministry of Environment & Forests and DST.
- **Golden Peacock Environment Management Award-2005 in “Mining Category”**
 - from World Environment Foundation.
- **TERI Corporate Environmental Excellence Award 2004-05**
 - from TERI, New Delhi.
- **TERI Corporate Social Responsibility Award 2004-05**
 - from TERI, New Delhi.
- **Greentech Environment Excellence Award 2005 - 06**
 - from Greentech Foundation
- **Indira Priyadarshani Vriksha Mitra Award - 2004**

- presented in 2007 by MoEF, Gol for outstanding contributions made in the field of afforestation and waste land development.
- "Golden Peacock Innovative Product/Service Award" for the year 2015 at Dubai
- The Award for "Top Assessee of Central Excise" of Hyderabad Zone has been conferred on The Singareni Collieries Company Ltd. for the year 2013-14 as company paid Rs 652 crore towards Central Excise and Clean Energy Cess
- Sri N Sridhar, IAS, C&MD has received the prestigious State Governments "Best Management Award" from Sri Naini Narshimha Reddy, Hon'ble Minister for Home & Labour of Telangana State
- Sri N. Sridhar, IAS, C&MD SCCL received National Award for Excellence in Cost Management–2015 in Large Mining PSUs Division
- "Asia Pacific Entrepreneurship - 2018" award to Sri N Sridhar, IAS, C & MD SCCL. Enterprise Asia studies the performance of different Private and Government Institutions.
- SCCL received National Award for Excellence in Cost Management 2016 from chief guest of awards giving ceremony Sri Piyush Goyal, the Hon'ble Union Minister of State for Power, Coal, New and Renewable Energy and Mines in a function held at New Delhi on 18-07-2017.
- "Asia Pacific Entrepreneurship - 2018" award to Sri N Sridhar, IAS, C & MD SCCL. Enterprise Asia studies the performance of different Private and Government Institutions.
- Sri N Sridhar, IAS, C & MD SCCL has received "Global Leadership Award" from Royal Family, Dubai at a summit organised by Institute of Economic Studies in Dubai on 28.06.2018.
- Sri N Sridhar, IAS, C & MD SCCL has received Telangana Red Cross Society "Best Service Award" for the year 2017-18 from the Hon'ble Governor of Telangana State Sri ESL Narasimhan on 10-Aug-2018.
- Sri B. Bhaskara Rao, Director (Project & Planning), SCCL has received "Asia's most trusted company 2018 Award" to SCCL on 26.8.2018 at Bangkok by International Brand Consulting Corporation, USA (IBC Info media Pvt. Ltd).
- GM (CP&P) Sri Y Rajeswara Reddy on behalf of the C&MD,SCCL received (MGMI) National Award for 'Excellence in Performance' for Best Production and Productivity of Singareni on 06.09.2018 at 7th Coal Summit-2018 held in New Delhi from Chief Guest former secretary of Central Coal Ministry Alok Parthi.
- SCCL received "Coal India Productivity Award" from Indian institute of Industrial Engineering, Bhuvaneshwar on 27.09.2018. Sri Ch.Vijaya Rao, GM

(Naini), SCCL has received the Award on behalf of the C&MD from former President of Mauritius Rajkeswur Purryag.

- Sri N Sridhar, IAS, C & MD SCCL received “India’s Best Company of the Year 2018” Award in Mumbai on 08-Mar-2019. INDIA’S BEST COMPANY OF THE YEAR AWARDS is a unique bench marking project which defines the credibility of India’s most successful, fastest growing & upcoming companies.
- Sri N Sridhar, IAS, C & MD, SCCL has received “Manager of the Year” award from Mrs Christina Briggs, President "Global Club of Leaders" & Founder of prestigious group of senior Executives “Europe Business Assembly” and Prof. John Netting, Director General of EBA.