

ENVIRONMENTAL MANAGEMENT IN STEEL AUTHORITY OF INDIA LTD.

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ENVIRONMENT MANAGEMENT DIVISION
STEEL AUTHORITY OF INDIA LIMITED
KOLKATA – 700 013

STEEL AUTHORITY OF INDIA LIMITED

4 Nos. Integrated Steel Plants (12 MT)

3 Nos. Special Steel Plants

Major Iron Ore Mines

- Dalli (5.5 MT)
- Rajhara (3.5 MT)
- Kiriburu (4.25 MT)
- Meghahatuburu (4.3 MT)
- Bolani (3.44 MT)
- Barsua (2.0 MT)
- Kalta (0.8 MT)

7 Nos. of Flux Mines (2 MT)

SAIL : ENVIRONMENTAL POLICY

- Integrate sound environmental management practices in all activities
- Conduct our operations in an environmentally responsible manner to comply with applicable regulations and strive to go beyond
- Progressively adopt cleaner and energy efficient technologies
- Minimise waste generation and promote recovery, recycle and reuse
- Increase greenery in and around our plants and mines
- Strive for continual improvement in our environmental performance by setting challenging targets, measuring progress, taking corrective action and communicating environmental information to all concerned
- Enhance environmental awareness amongst our employees, and the general populace around the plants and mines
- Encourage our business associates to adopt similar approach for environmental protection

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Environment Management Division

EMD is a corporate unit monitoring and facilitating the environment management and pollution control activities in the SAIL Plants and Mines. Head quartered in Kolkata, EMD is certified with ISO- 9001: 2000. The main activities of the EMD are:

- Implementation of EMS linked to ISO – 14001
- Environmental quality monitoring
- Conducting EIA / EMP Studies
- Performance evaluation of pollution control facilities
- Co-ordination with statutory bodies
- Developing implementation strategy for mitigation measures and monitoring the execution of the projects.
- Outside consultancy jobs : CPCB Assignment "Development of National Environmental Standards for Indian Iron Ore Mines & Cleaner technologies"

Environmental Management Practices

- Air Quality Management
- Water quality Management
- Noise Quality management
- Waste Dump
- Tailings Management

Environmental Management Practices

Air Quality Management

- Dry drilling with dust extraction system / Wet drilling
- Pre-wetting of blasting site
- Blasting under favorable wind and atmospheric conditions
- Black topping of long life haul roads
- High pressure water atomized mist sprays at Hoppers.
- Side wind guards, covers on high and steep conveyers
- Stationary atomized mist spray at Stock Pile Areas
- Dust consolidation on mine haul roads by spraying mixture of water & chemical binders.
- Spraying loaded trucks with water.

Environmental Management Practices

Air Quality Management (contd..)

- Dust suppression / dry fog system at Crushing & Screening Areas
- Water spraying systems at Junction houses / transfer points
- Compaction & gradation, and drainage on both sides of haul roads.
- Spraying loaded trucks with water.
- Stabilization and vegetation of dead waste dumps and completed tailings pond.

Environmental Management Practices

Water Quality Management

Process Effluent

- Process effluent shall be routed to Thickener for solid / liquid separation and recycle the clarified water to the maximum possible extent (70 %). Addition of coagulants is practiced to improve the water quality.
- Underflow from the thickener shall be sent to Tailings Pond for settling of solids. Clarified effluent from the Pond shall be recycled back to the system.

Environmental Management Practices

Water Quality Management

Process Effluent (contd..)

- Additional pond shall be provided for holding the process effluent in case power failures / thickener shut down.
- Seepage pond shall be provided downstream of the tailings pond and pumping of seepage water to the tailings pond.

Workshop Effluent

- Effluent generated from the HEMM / Auto Garage shops mainly contain oil, grease and suspended solids. Effluent Treatment Plant shall be installed to treat these effluents. Treated effluent shall be used for dust suppression.

Environmental Management Practices

Water Quality Management

Storm Water

- Sedimentation basins / check dams shall be constructed at all strategic points to avoid carry over of suspended solids from area discharge during the rainy season.
- Wash off from the waste dumps shall be properly routed through garland drains and passed through sedimentation basins / check dams before discharging.
- Desilting of these basins / dams shall be done after monsoon every year.

Environmental Management Practices

Noise Quality Management

- Maintaining haul roads and vehicles in good condition
- Locating haul roads at sufficient distance from residential areas
- Lining of screens & hoppers with resilient materials
- Enclosing high noise areas with high mass acoustic enclosures
- Fitting effective mufflers to all items of equipment.
- Forming earth mounding along or around the high noise areas.
- Development of green belt between mining operations and residential areas

Environmental Management Practices

Waste Dumps

- Shall be located on a secured and impervious rock.
- Site should be as far as possible away from natural water courses, shallow aquifers etc.
- OB / Waste Rocks should be back filled into mined excavations to the maximum extent possible.
- The height, area and shape of the waste dump should be designed considering land availability, topography and climatic conditions
- Completed out slopes of the dump shall not exceed 20° - 28° from the horizontal.
- The dump must be properly graded and terraced with contour drainage as necessary.

Environmental Management Practices

Waste Dumps (contd..)

- The waste material may be used as road material, binding material or construction aggregates, after crushing to proper size.
- Terracing of dumps must be accompanied by stabilization of the slopes (using coir geotextiles or hydroseeding etc.).Each terrace shall be properly vegetated. Non-active dumps shall be stabilized with vegetation
- Appropriate garland drains at individual terrace and around the waste dumps shall be provided to guide the rain water to main discharge channel, besides boulder pitching at the slope of the dumps, retaining wall at the toe of the dump.

Environmental Management Practices

Tailings Management

- Tailings ponds shall be re-vegetated with suitable species once the dam is abandoned.
- Recovery of Iron ore fines from the waste dumps and tailing ponds shall be practiced if possible.
- Disposal of slimes / wastes into the exhausted pits may be practiced wherever possible.



THANK YOU