



# **CONSERVATION AND DEVELOPMENT OF TRANSPORT INFRASTRUCTURE**

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## Coal Conservation

Conservation of Coal is an important area, particularly when our Coal reserves are finite. The aspect of conservation of Coal is taken into account right from the planning stage and maximum recovery is ensured during the implementation stage. Mines are designed to work the Coal seams either through opencast or through underground methods depending on the technical feasibility and economic viability.

Mechanised opencast (OC) mining is presently the commonly adopted technology for extraction of thick seams at shallow depth. This is also important from the conservation point of view since the percentage recovery by this technology is around 80% to 90%. Presently, this technology dominates the Coal industry contributing about 93.3% of country's Coal production. Further, whenever it is feasible, the developed pillars of underground mines are being extracted through opencast operations.

Introduction of new technologies like longwall method, shortwall method, highwall mining and Continuous Miner technology have resulted in increased percentage of extraction in underground mining (UG).

With the improvement in roof support technology with mechanized bolting with resin capsules it has been possible to maintain wider gallery span and extract seams under bad roof conditions more efficiently resulting in improved conservation of Coal.

## Sand Stowing

Sand stowing in underground mines is yet another effective means of Coal conservation, which is widely in use for extraction of Coal pillars from underground coal seams lying below built-up areas, such as important surface structures, railway lines, rivers, nallahs, etc. which otherwise would have resulted in locking of coal in pillars. Stowing also helps in the extraction of thick seams in several lifts increasing the percentage of extraction. Due to scarcity of sand, various experimental trials are being conducted

to use other materials like fly ash, boiler ash, crushed overburden material etc. for stowing in underground mines as substitute for sand. Currently, crushed overburden material is being used commercially for stowing purposes in underground coal mines where sand is not available in the near vicinity of the mine or it is costlier to transport sand from distant river sources.

## Conservation and Development of Transport Infrastructure

### RAILWAY INFRASTRUCTURE PROJECTS

In order to achieve the planned growth in production and evacuation in future, CIL has undertaken the construction of major railway infrastructure projects. These railway infrastructure projects are being implemented by either Indian Railways (on deposit basis) or JV companies formed with IRCON representing Railways, Subsidiary company (representing CIL) and concerned State Government.

Presently there are three major rail infrastructure projects (CIL-2 & SCCL-1) being implemented on deposit basis and four rail infrastructure projects being implemented by JV companies.

### Deposit basis:

- East Central Railway, Patna is executing the Tori-Shivpur new BG line with a length of about 44.37 km for North Karanpura Area of CCL, Ranchi, and Jharkhand with a project cost of Rs 2399 Cr.
- South Eastern Railways, Kolkata is executing the Jharsuguda- Barpali- Sardega railway infrastructure project with a length of about 52.412 km for Ib Valley Coalfield of MCL situated in Sundargarh district of Odisha at a cost of Rs 1044 Cr.
- South Central Railway (SCR), Secunderabad is executing Bhadrachalam to Satuupalli railway infrastructure project with a length of about 53.20 km for Godavari Valley

Coalfields Coalfields of SCCL situated in Bhadradi – Kothagudam district of Telangana at a cost of Rs 704.31 Cr .

### Joint Venture basis:

- Execution of Shivpur- Kathotia section, with a length of 49.085 km is being undertaken by a JV company named Jharkhand Central Railway Limited (JCRL) with CCL, IRCON and State Government of Jharkhand as its partner at an estimated cost of Rs 1634.15 Cr.
- Chhattisgarh East Rail Limited(CERL), a JV company formed by SECL, IRCON and the State Government of Chhattisgarh, is executing the construction of East Rail Corridor, in two phases:
  - Phase I: Kharsia-Dharamjaigarh with spur to Gare-Palma and three feeder lines of about 132 Km. at an estimated cost of Rs 3055 Cr.
  - Phase II: Dharamjaigarh – Korba with a length of about 62.5 km at an estimated cost of Rs 1572 Cr.
- Chhattisgarh EastWest Rail Limited(CEWRL), a JV company formed by SECL, IRCON and the State Government of Chhattisgarh, is executing the construction of East-West Rail Corridor (Gevra Road to Pendra) via Dipka, Katghora, Sindurgarh and Pasan with a length of about 135 km, Urga- Kusmunda of about 16 Km and Feeder lines of about 35 Km at an estimated project cost of Rs 4919 Cr.
- Mahanadi Coal Railway Limited (MCRL), a JV company formed by MCL, IRCON and the State Government of Odisha is executing the construction of railway infrastructure projects in the Talcher coalfield of MCL, to cater to the evacuation of coal, in two phases:
  - Phase I (Inner corridor): Angul- Balram- Jharpada-Tentuloi link at Talcher Coalfield of MCL with a length of 69.10 Km. (which consists of the Jharpada- Kalinga- Angul link of 14.22 km length) with an estimated cost of Rs 1300 Cr (excluding the cost of land).
  - Phase II (Outer corridor): Tentuloi- Budhapunk of approximately 136Km length.