

No. 55011-01-2009-CPAM
Government of India
Ministry of Coal

Shastri Bhavan,
New Delhi, the 27th Aug, 2009

To

1. The Chairman, Coal India Limited, Kolkatta
2. The Chairman-cum-Managing Director, CMPDIL, Ranchi
3. The Chairman-cum-Managing Director, NLC, Neyveli.
4. The Chairman-cum-Managing Director, SCCL, A.P.

SUBJECT: GUIDELINES FOR PREPARATION OF MINE CLOSURE PLAN –REG.

Sir,

I am directed to state that it has been decided by the Government that all coal (including lignite) mining operations in India shall be governed as per the guidelines listed in the Annexure to this letter, as modified from time to time for preparation of Mine Closure Plan (MCP), which shall be incorporated in the Project Report / Mining Plan henceforth, for a new mine. The Mine Closure Plan (progressive and final) shall be approved along with the approval of Mining Plan/ Feasibility Report / Project Report as applicable.

2 (i) All coal mine owners shall adopt a Mine Closure Plan for each of their mines comprising progressive closure plan and final closure plan duly approved by the competent authority.

(ii) All coal mine owners, who are operating coal mines without the approval of any Mine Closure Plan are required to obtain a Mine Closure Plan approved as per these guidelines within a period of one year or two years in advance of mine closure whichever is earlier from the day these guidelines come into effect.

(iii) All coal mine owners, who have already been accorded approval of Mining Plans/Project Reports without the Mine Closure Plans as per these guidelines, are also required to prepare and obtain the approval of Mine Closure Plan as per these guidelines within a period of one year from the day of these guidelines coming into effect.

(iv) The competent authority for approval of the Mine Closure Plan shall be the Standing Committee constituted by the Ministry of Coal for the purpose of approval of Mining Plans. In case of projects/mines of Government Companies, the competent authority to approve the MCP will be the authority competent to approve the Mining Plan.

(v) Two copies of MCP of all mines covered at Sub-Para iv) above shall be submitted to Ministry of Coal within the timeframe indicated at (ii) and (iii) referred above. The Companies shall carry out all changes in the Closure Plan including the amount of money to be levied for the proposed Escrow Account as directed by Ministry of Coal.

3. The Mine Closure Plan will have two components viz. i) Progressive or Concurrent Mine Closure Plan and ii) Final Mine Closure Plan. Progressive Mine Closure Plan would include various land use activities to be done continuously and sequentially during the entire period of the mining operations, whereas the Final Mine Closure activities would start towards the end of mine life, and may continue even after the reserves are exhausted and/or mining is discontinued till the mining area is restored to an acceptable level to create a self sustained ecosystem.

4. Various project specific activities as per paragraphs 3, 4 and 6 of the enclosed guidelines for preparation of Mine Closure Plan shall be adhered to. The total cost estimate is to be assessed based on the activities as mentioned in the paragraphs 3, 4 and 6 of the said guidelines. The money to be levied per hectare of mining lease is to be deposited every year after

commencement of any activity on the land for the mine after opening an Escrow Account. Mining company/owners including all Public Sector Undertakings shall deposit the yearly amount in a Scheduled Bank in accordance with paragraphs 7 of the guidelines Annexed herewith.

5. The details of the final Mine Closure Plan along with the details of the updated cost estimates for various mine closure activities and the Escrow Account already set up shall be submitted to the Ministry of Coal for approval at least five years before the intended final closure of the mine.

6. Implementation of the approved Mine Closure Plan shall be the sole responsibility of the mine owner. It is estimated that major expenditure on final mine closure plan will be incurred during last five years of the project life. Upto 20% of the deposited amount from the Escrow Account can be released every year starting from 4th year before the proposed mine closure date. The balance amount will remain as security. The Coal Controller's Organization shall release the fund from the Escrow Account based on the progress made in the closure activities for the mine.

7. The Government may at any time require certain activities to be included in the mine closure plans, which it may consider necessary for the safety and conservation of environment or in compliance with any modification/ amendment in the relevant legislation.


8. *Statutory obligations:* The legal obligations, if any which the lessee is bound to implement like special conditions imposed while execution of lease deed, approval of mining plan, conditions imposed by the Ministry of Environment and Forests, State of Central Pollution Control Board or by any other organisation describing the nature of conditions and compliance position thereof should be indicated here (the copies of relevant documents may be attached as Annexure).

9. It is to be clearly understood that the funds so generated are towards the security to cover the cost of closure in case the mine owner fails to complete the relevant closure activities. The prime responsibility of mine closure shall always lie with the mine owner, and in case these funds are found to be insufficient to cover the cost of final mine closure, the additional fund shall be recovered from the mine owner by the Government.

10. After the closure of the mine, the reclaimed leasehold area and any structure thereon, which is not to be utilized by the mine owner, shall be surrendered to the State Govt. concerned following a laid down procedure as in vogue at that point of time.

11. These Guidelines are without any prejudice to any other relevant rules and regulations, such as those issued by the State Governments, Ministry of Environment & Forests, Ministry of Labour and Employment etc.

Yours faithfully



(L. S. Janoti)
Section Officer

Encl: As above.

Copy to: (i) ✓ Tech. Director, NIC for putting on the Website of MOC.
(ii) CA-I/CA-II Section for necessary action.

**GUIDELINES FOR PREPARATION OF
FINAL MINE CLOSURE PLAN**

1. Introduction

The name of the mine owner, the location and the extent of lease area, the type of lease area (forest, non-forest etc), the present land use pattern, the method of mining and coal-processing operations, should be given in the mines closure plan.

1.1 Reasons for closure: The reasons for closure of mining operations such as exhaustion of mineral, lack of demand, uneconomic operations, natural calamity, directives from statutory organization or court etc. should be specified.

1.2 Statutory obligations: The legal obligations, if any, which the mine owner is bound to comply with such as special conditions imposed while execution of lease deed, approval of mining plan, directives issued by the Ministry of Coal, conditions imposed by the Ministry of Environment and Forests, State Central Pollution Control Board or by any other organization describing the nature of conditions and compliance position thereof should be clearly indicated in the Plan (the copies of relevant documents to be attached as Annexures).

1.3 Closure plan preparation: The decision on mine closure should have the approval of the Board of Directors of the mining company or of any other equivalent competent authority. Copy of such approval should be incorporated in the final mine closure plan.

2.0 Mine Description

2.1 **Geology:** Briefly describe the topography and general geology indicating rock types available, including toxic elements, if any, at the mine site.

2.2 **Reserves:** Indicate the coal/lignite reserves available category wise (proved, indicated and inferred) in the leasehold area estimated in the last mining plan/mining scheme approved along with the balance coal/ lignite reserves at the time of proposed mine closure, including its quality (for final mine closure plan only).

2.3 **Mining Method:** Describe in brief the mining method followed to win the coal/lignite, mining machinery deployed, production level etc.

2.4 **Coal Beneficiation:** Describe in brief the coal beneficiation facilities, if any, indicating the process description in short. Indicate discharge details of any middlings/fines/rejects and their disposal/utilization practice followed.

3. **Closure Plan**

3.1 **Mined-Out Land:** Describe the proposals/ measures to be implemented for reclamation (both physical and biological) and rehabilitation of mined-out land including the manner in which the actual site of the pit will be restored for post mining land use. The proposals should be supported with relevant plans and sections depicting the method of land restoration / reclamation / rehabilitation.

3.2 **Water Quality Management:** Describe in detail the existing surface and ground water bodies available in the lease hold areas and the measures to be taken for protection of the same including control of erosion, sedimentation, siltation, water treatment, diversion of water courses, if any, measures for protection of contamination of ground water from leaching etc. Quantity and quality of surface water bodies should also be indicated and corrective measures proposed to meet the water quality conforming to the

permissible limits should also be described. Report of hydrological study carried out in the area may also be submitted. The water balance chart should be given. If there is potential of Acid Mine Drainage, the treatment method should be given.

3.3 Air Quality Management: Describe the existing air quality status. The corrective measures to be taken for prevention of pollution of air should be described.

3.4 Waste Management: Describe the type, quality and quantity of overburden, coal/lignite rejects etc. generated and their disposal practice. If no utilization of waste material is proposed, the manner in which the waste material will be stabilized should be described. The protective measures to be taken for prevention of siltation, erosion and dust generation from these waste materials should also be described. If toxic and hazardous elements are present in the waste material, the protective measures to be taken for prevention of their dispersal in the air, environment, leaching in the surface and ground water etc. should be described. As far as possible, reclamation and afforestation shall proceed concurrently with the mine activity. The quantity of waste material required to be re-handled or back-filled in the final voids should be specified. All efforts should be made and reflected (in the Project Report/Mining plan) to keep land requirement bare minimum for external over burden dumping to minimise land degradation. This may necessitate increase of dump height to the maximum extent keeping in view the safety requirement with special emphasis on stability analysis. After back-filling of quarry voids, the left out void may be allowed to be filled with water. This will help to recharge and stabilize the water table in the neighbourhood and the local populace will benefit from it.

3.5 Top Soil Management: The topsoil available at the site and its utilization should be described.

3.6 **Management of Coal Rejects from Washery:** The steps to be taken for proper functioning of the slurry pond, handling of coal rejects and its utilization, periodic desilting, arrangement for water re-circulation, measures to prevent water pollution from slurry ponds, arrangement for surplus water overflow etc. shall be given.

3.7 **Infrastructure:** The existing infrastructural facilities available such as roads, aerial ropeways, conveyer belts, railways, power lines, buildings & structures, water treatment plant, water supply sources in the area etc. and their future utilization should be evaluated on case to case basis. If retained, the measures to be taken for their physical stability and maintenance should be described. If decommissioning proposed, dismantling and disposal of building structures, support facilities and other infrastructure such as electric transmission line, water line, gas pipeline, water works, sewer line, telephone cables, underground tanks, transportation infrastructure such as roads, rails, bridges, culverts etc., electrical equipments and infrastructures such as electric cables, transformers should be described in connection with restoring land for further use.

3.8 **Disposal of Mining Machinery:** The decommissioning of mining machineries and their possible post mining utilization, if any, should be described.

3.9 **Safety and Security:** Describe the safety measures implemented to prevent access to surface openings for underground workings, excavations etc. (such as fencing carried out by barbed wires) and arrangements proposed during the mine abandonment plan and up to the site being opened for general public should be described.

3.10 **Economic Repercussions of closure of mine:**

Manpower retrenchment, compensation to be given, socio-economic repercussions and remedial measures consequent to the closure of mines should be described, specifically stating the following:

- i. Number of local residents employed in the mine, status of the continuation of family occupation and scope of joining the occupation back.
- ii. Compensation given or to be given to the employees concerning their sustenance and their family members.
- iii. Satellite occupations connected to the mining industry - number of persons engaged therein - continuance of such business after mine closure.
- iv. Continued engagement of employees in the rehabilitated status of mining lease area and any other remnant activities.
- v. Envisaged expectation of the society on closure of mine.

5. Time Scheduling for abandonment

The details of time schedule of all abandonment operations as proposed in paragraphs 3 above should be described. The manpower and other resources required for completion of the proposed job should be described. The schedule of such operations should also be supplemented by bar charts etc.

6. Abandonment Cost:

6.1 Cost is to be estimated (at the time of preparation of Project Report/Mining Plan) based on the activities such as barbed wire fencing all around the working area, dismantling of structures/demolition and cleaning of sites, rehabilitation of mining machinery, plantation, physical/biological reclamation, landscaping, biological reclamation of left out OB dump, filling

up of decoaled void, post environmental monitoring for 3 years, supervision charges for 3 years, power cost, protective and rehabilitation measures including their maintenance and monitoring, miscellaneous charges etc.

6.2 It has been estimated that typically closure cost for an opencast mine will come around Rs. 6.00 lakhs per Hectare of the property leasehold and it would be Rs. 1.00 lakh per Hectare for underground mine leasehold at current price levels (August, 2009) and these rates will stand modified based on Wholesale Price Index as notified by Government of India from time to time.

6.3 Annual closure cost is to be computed considering the total leasehold area at the above mentioned rates and dividing the same by the life of the mine or 25 years which ever is lower. An amount equal to the annual cost is to be deposited each year throughout the mine life compounded @5% annually. For example if the annual cost works out to Rs 100, then in the first year the amount to be deposited will be Rs 100 , in the second year $100 \times (1+5\%)^1$, in the third year $100 \times (1+5\%)^2$ and so on.

7. Financial Assurance

- i) All coal mine owners shall strictly adhere to the following:
- ii) For financial assurance the mining company shall open a Escrow Account with any Scheduled Bank, with the Coal Controller Organisation (on behalf of the Central Government) as exclusive beneficiary. The mining company shall cause payments to be deposited in such Escrow Account at the rate computed as indicated at 6.3 above. The amount being deposited will be reviewed with such periodicity as deemed fit by the Coal Controller.
- iii) When implementation of the final mine closure scheme is undertaken by the mine owner starting five years before the scheduled closure of mining operations, the Coal Controller may permit withdrawals (four years before

final mine closure date) from the Escrow Account proportionate to the quantum of work carried out, as reimbursement. The withdrawn amount each year shall not exceed 20% of the total amount deposited in the account.

iv) An agreement, outlining detailed terms and conditions of operating the Escrow Account, shall be executed amongst the mining company, the Coal Controller and the concerned bank in order to give effect to this. The agreement shall be executed before the grant of permission by the Coal Controller to open the mine.

8. **Responsibility of the Mine owners**

It is the responsibility of the Mine owners to ensure that the protective measures contained in the mine closure plan including reclamation and rehabilitation works have been carried out in accordance with the approved mine closure plan and final mine closure plan.

The owner shall submit to the Coal Controller a yearly report before 1st July of every year setting forth the extent of protective and rehabilitative works carried out as envisaged in the approved mine closure plans (Progressive and Final Closure Plans).

9. **Provision for Mine Closure**

The mine owner shall be required to obtain a mine closure certificate from Coal Controller to the effect that the protective, reclamation and rehabilitation works in accordance with the approved mine closure plan/final mine closure plan have been carried out by the mine owner for surrendering the reclaimed land to the State Government concerned.

