

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

Shastri Bhawan,
New Delhi, the 29th June, 2016

To

1. Director, IIT Kharagpur
[Kind Attn.: Prof. K. Pathak, HOD,
Dept. of Mining Engineering, IIT, Kharagpur.]
2. Director, IEST, Shibpur.
[Kind Attn. : Prof. Ajoy Kumar Roy, Dept. of Mining Engineering, Indian
Institute of Engineering Science and Technology, Shibpur.]

**Subject: Addition of IIT, Khargpur and IEST, Shibpur as agencies for
Assessment and Certification of works done of Mine Closure
Activities of coal and lignite mines as per approved Mine
Closure Plan (Progressive & Final) –Reg.**

Sir,

I am directed to refer to **Para 3** of this Ministry letter no. 55011-01-2009-CPAM dated 7th January, 2013 regarding **Guidelines for Preparation of Mine Closure Plan** (copy enclosed) and to state that the Government has decided to include the following two institutions as agencies for Assessment and Certification of works done in mine closure activities of Coal and lignite mines as per approved Mine Closure Plan (Progressive and Final):

1. **Indian Institute of Technology (IIT), Kharagpur ; and**
2. **Indian Institute of Engineering Science and Technology (IEST), Shibpur.**

Yours faithfully

Encl. : As Above.


(I P Nagpal)

Under Secretary to Govt. of India(CPAM)

Tele : 011 23073937

E-mail Id : socpam.moc@nic.in

Copy to :

1. The Coal Controller, Kolkata-700001.
2. Technical Director (NIC) with the request to place it to Website of the Ministry under the Caption Policies and Guidelines.
3. The Chairman, Coal India Limited, Kolkata
4. The Chairman-cum-Managing Director, CMPDIL, Ranchi
5. The Chairman-cum-Managing Director, NLC, Neyveli.
6. The Chairman-cum-Managing Director, SCCL, A.P.
7. CA-I /CA-II/CA-III Section for necessary action.

(21)

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

Shastri Bhavan,
New Delhi, the 7th January, 2013

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 refer to this Ministry letter of even no. dated 27th August, 2009 regarding Guidelines for preparation of Mine Closure Plan and modified Guidelines vide letter of even number dated 3rd September 2009, 11th January, 2012, and 23rd April, 2012 and to state that Para 5 of the letter/guidelines and Para 6 and Para 8 of the Annexure of the guidelines has been further amended. It has been decided by the Government that all coal (including lignite) mining operations in India shall henceforth be governed as per these modified guidelines listed in the Annexure to this letter, including the preparation of Mine Closure Plans (MCPs), which shall be incorporated in the Project Report/Mining Plan henceforth, for new and existing mines. The Mine Closure Plans (progressive and final) shall be approved along with the approval of Mining Plans/ 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.

2 (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

211

approved as per these guidelines within a period of one year from the day when the original guidelines came into effect [i.e. 27th August, 2009]. However, a number of mine owners are yet to comply with the same. In view of this all the mine owners are required to obtain the approval of Mine Closure Plan within a period of one year from the date of publishing of these guidelines failing which Government will take action as appropriate.

2 (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 when the original guidelines came into effect [i.e. 27th August, 2009].

2 (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 concerned Board of the Company wherever the power is so delegated for approval of the Mining Plan.

2 (v) Four copies of MCPs of all mines covered at Sub-Para iv) above shall be submitted to Ministry of Coal within one month of the approval 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 deposited for the proposed Escrow Account as directed by Ministry of Coal.

3. The Mine Closure Plans 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 by the Coal Controller as per the certification by National Environmental Engineering Research Institute (NEERI) or Central Mine Planning and Design Institute Limited (CMPDIL) or any

2/12

other such institute as may be notified by the Government for these purposes to create a self sustained ecosystem. Provided that such restoration shall be completed within the period specified in Mine Closure Plan failing which the amount in the Escrow account shall be forfeited. The details for preparation of Final Mine Closure Plan are given in Annexure.

4. Various project specific activities as per paragraphs 3, 4 and 6 of the guidelines are enclosed at Annexure 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 provided per hectare of total Project Area for the purpose is to be deposited every year after commencement of any activity on the land for the mine after opening a Fixed Deposit Escrow Account prior to obtaining mine opening permission from Coal Controller. 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. If the Mine owners fail to deposit the annual amount required to be deposited, the Government can withdraw the mining permission.

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 sole responsibility of the mine owner. *Mining is to be carried out in a phased manner initiating afforestation/reclamation work in the mined out area of the first phase while commencing the mining in the second phase i.e. continuation of mining activities from one phase to other indicating the sequence of operations depending on the geo-mining conditions of the mine.* Up to 80% of the total deposited amount including interest accrued in the ESCROW account may be released *after every five years in line with the periodic examination of the Closure Plan as per Clause 3.1 of the Annexure of the Guidelines. The amount released should be equal to expenditure incurred on the Progressive mine closure in past five years or 80% whichever is less. The balance*

(21)

amount shall be released to mine owner/leaseholder at the end of the final Mine Closure on compliance of all provisions of Closure Plan. This compliance report should be duly signed by the lessee and certify that said closure of mine complied all statutory rules, regulations, orders made by the Central or State Government, statutory organisations, court etc. and certified by the Coal Controller.

7. The Government may at any time before the closure of mine 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 including the areas covered in Para 7 above. The mine owner shall undertake to provide the additional fund equivalent to the gap in funding before five years of Mine Closure failing which it may be recovered by such other methods as the competent authority may deem fit in this regard.

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 supersede the previous orders and are without any prejudice to any other relevant rules and regulations, such as those issued by

(217)

the State Governments, Ministry of Environment & Forests, Ministry of Labour and Employment etc.

Yours faithfully

Encl: As above.


(V S Rana)

Under Secretary to the Government of India

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

(275)

ANNEXURE

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

(210)

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). **Final Mine Closure Plan should also indicate the estimated Extractable coal reserves and coal actually mined out.**

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

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 and time frame.

Mining is to be carried out in a phased manner initiating afforestation work in the mined out area of the first phase while commencing the mining in the second phase i.e. continuation of mining activities from one phase to other indicating the sequence of operations depending on the geo-mining conditions of the mine. Progressive mine closure plan shall be prepared for a period of every five years from the beginning of the mining operations. These plans would be examined periodically in every five years period and to be subjected to third party monitoring by the agencies approved by the Central Government like Central Mine Planning and Design Institute Ltd. (CMPDIL), National Environmental Engineering Research Institute (NEERI), Indian School of Mines (ISM) etc. for the purpose.

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

(211)

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 parameters and the corrective measures to be taken for prevention of air pollution.

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 Coal beneficiation and Management of Coal Rejects: The coal beneficiation facilities including process description may be detailed. The proposal regarding future Maintenance or Dismantling of structures of washeries may be given.

3.6 (i) The steps to be taken for proper functioning of the slurry pond, handling of coal rejects and its utilization, periodic de-silting, arrangement for water re-circulation, measures to prevent water pollution from slurry ponds,

arrangement for surplus water overflow etc. shall be indicated in the Mine Closure Plan. Rejects dumps should be properly benched and graded on cessation of washery/mining operations and area to be reclaimed biologically. Similarly the slurry ponds should be dismantled and dewatered and area reclaimed at the end of the washery/mining operations.

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:

- (211)
- i. Number of local residents employed in the mine, status of the continuation of family occupation and **their scope of joining family occupation once again after closure of mine.**
 - 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.

4. Time Scheduling for abandonment

The details of time schedule of all abandonment operations as proposed in paragraph 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 chart.

5. Abandonment Cost

5.1 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.

5.2 It has been estimated that typically closure cost for an open cast mine will come around rupees six lakhs per hectare of the total project area and it would be rupees one lakh per hectare for underground project area at current price level (August 2009) and these rates will stand modified based on

28

the whole sale price index as notified by Government of India from time to time.

In case of the Mine Closure Plans which have already been approved earlier on the basis of lease hold area, the project proponents are required to re-calculate the closure cost on the basis of total project area and submit a certificate stating that amount in Escrow account would be deposited as per the recalculated amount.

5.3 Annual closure cost is to be computed considering the total project area at the above mentioned rates and dividing the same by the entire life of the mine in years for new projects and balance life of mine in years for operating/existing mines. 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.

6. Financial Assurance

All coal mine owners shall strictly adhere to the following:

i) For financial assurance the mining company shall open an Escrow Account with any Scheduled Bank, with the Coal Controller Organisation (on behalf of the Central Government) as exclusive beneficiary before the permission is given for opening the mine by Coal Controller. The mining company shall cause payments to be deposited in such Escrow Account at the rate computed as indicated at 5.3 above. The owner of the company may select the Scheduled Bank where the Escrow Account is to be opened and inform the same to Coal Controller, Kolkata. The Escrow Account has to be opened as per the aforesaid guidelines of the Mine Closure Plan. The amount being deposited will be reviewed with such periodicity as deemed fit by the Coal Controller.

ii) *Mining is to be carried out in a phased manner initiating afforestation/reclamation work in the mined out area of the first phase while commencing the mining in the second phase i.e. continuation of mining activities from one phase to other indicating the sequence of*

20

operations depending on the geo-mining conditions of the mine. Up to 80% of the total deposited amount including interest accrued in the ESCROW account may be released after every five years in line with the periodic examination of the Closure Plan as per Clause 3.1 of the Annexure of the Guidelines. The amount released should be equal to expenditure incurred on the Progressive mine closure in past five years or 80% whichever is less. The balance amount at the end of the final Mine Closure shall be released to mine owner/leaseholder on compliance of all provisions of Closure Plan duly signed by the lessee to the effect that said closure of mine complied all statutory rules, regulations, orders made by the Central or State Government, statutory organisations, court etc. and duly certified by the Coal Controller.

iii) 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.

7. 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).

8. Provision for Mine Closure

8.1 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.

(28)

8.2 The balance amount at the end of the final Mine Closure shall be released to mine owner on compliance of all provisions of Closure Plan duly signed by the mine owner to the effect that said closure of mine complied with all statutory rules, regulations, orders made by the Central or State Government, statutory organisations, court etc. and duly certified by the Coal Controller. This should also indicate the estimated extractable coal reserves and coal actually mined out.

8.3 If the Coal Controller has reasonable grounds for believing that the protective, reclamation and rehabilitation measures as envisaged in the approved mine closure plan in respect of which financial assurance was given has not been or will not be carried out in accordance with mine closure plan, either fully or partially, the Coal controller shall give the mine owner a written notice of his intention to issue the orders for forfeiting the sum assured at least thirty days prior to the date of the order to be issued after giving an opportunity to be heard.
