IMMEDIATE

FAX

No.34011/(48)/2009-CPAM
Government of India
Ministry of Coal

New Delhi, the 6th December 2010

To

All the existing
Coal and Lignite block allocates
(As per list attached).

Subject Guidelines for preparation of Mining plan for the coal and lignite blocks.

Sir,

With a view to bringing in uniformity and to standardize the preparation of Mining Plan by the Coal/Lignite block holders, this Ministry has prepared final draft guidelines which are available on the official website of this Ministry. The intended stakeholders are requested to furnish their suggestions, if any, within 15 days from the date of issue of this letter.

Yours faithfully,

(Sandeep Gupta)
Under Secretary to the Govt. of India.

Copy to:-

1. **The Director, Coal controller's Office, 1- Council House Street, Kolkata.**
2. **Chairman, CIL, 10-Netaji Subash Road, Kolkata (W. B). (FAX: 033-22483373).**
3. **CMD, Central Mine Planning & Design Institute Limited, Gondwana Place, Kanke Road, Ranchi (Jharkhand) (FAX No.0651-2230003).**
4. **CMD, Neyveli Lignite Corporation, Cuddlore Distt. Neyveli- 607801 (Tamil Nadu) (FAX : 04142-252646).**
5. **CMD, Singareni Collieries Company Limited, Kothagudem Collieries, Khammam Distt.(A.P). (FAX : 040-23307653 / 23393746).**
6. **The Adviser (Projects), Ministry of Coal, New Delhi.**
7. **Tech. Director (NIC) with the request to place it to Website of the Ministry.**

Guidelines for preparation of Mining Plans for Coal/Lignite Blocks

The following guidelines are issued for preparation of mining plans for coal/lignite block development by the block holders.

A. Cover Page

The Cover page should contain the following informations:

- **(i)** Name of the Coal/Lignite Block area **(Acre/Hectare/Sq. Km.)**
- (ii) Name of the Coalfield and its location i.e. District and State
- (iii) Name and address of the Applicant
- (iv) Indication, if it is a Revised Mining Plan and if so, the Revision no. i.e. First Revision, Second Revision etc.
- (v) Targetted capacity
- (vi) Date of preparation of Mining Plan
- **(vii) Indication, if the Mining Plan is re-submitted after incorporation the suggestions of Standing Committee**
- **(viii)** Name and address of Recognised Qualified Person (RQP) who has prepared the Plan **with Registration No.**

B. Documents to be enclosed

- (i) Copy of the Allotment Order
- (ii) Copies of earlier approvals of the Mining Plan, if any
- (iii) Copy of MOC's letter granting recognition to RQP for preparation of Mining Plan
- (iv) Letter of Authorization by the Block Allottee/Applicant to the RQP for preparing Mining Plan.
- (v) A certificate by the RQP that he has been duly authorized by the mining company to prepare mining plan on their behalf and that he has a valid recognition from MOC under MCR, 1960 to prepare the mining plan and that provisions of all relevant rules and regulations have been considered while preparing the mining plan.
- (vi) Certificate from empowered representative of/or Block Allottee/Applicant that the mine will be developed as per the approval of the Mining Plan from Ministry of Coal and all Other approvals, as required will be obtained from relevant authorities.
- (vii) Confirmation from RQP that he has verified the Block area with the relevant plans supplied by CMPDI/SCCL/NLC and area covered by the Mining Plan does not encroach on any other Coal/Lignite Block.
- (viii) Copy of the document to establish that the Geological Report has been duly purchased from CMPDI, GSI/MECL as the case may be.
- (ix) Index of chapters contained in the Mining Plan
- (x) No of volumes in the Mining Plan and their contents.
- (xi) List of Plans/drawings
- (xii) List of Annexures
- (xiii) List of Abbreviations used.

C. Summarised Data

1. General	
a) Name and address of the Applicant Company	
b) Name and address of the Block Allottee	
c) Relationship between the applicant and allottee company	
d) Status of the Applicant Company : Central /Public Sector Undertaking/State Government Undertaking/JV Company/ Pvt Company/Public Co/Others (Specify)	
e) Name of the Coal Block together with name of Coalfield & State where located	
f) Date of allotment	
g) End Use of Coal/Lignite as per Approval by the Competent Authority	
h) ROM Quantity proposed to be produced as per Mining Plan	
i) Norms adopted for calculating ROM quantity requirement in case it differs from the quantity indicated in the Allotment Order.	
j) Beneficiation required – Yes/No	
k) Requirement of Beneficiated Coal & expected availability thereof.	
l) Period for which Mining Lease has been granted/is to be renewed/ is to be applied for.	
m) Date of Expiry of earlier Mining Lease, if any	
n) RQP who has prepared the Mining Plan Name Address Phone No/Fax/Email ID Registration No & date till valid Date of grant/Renewal of RQP Status Validity	

D. Information regarding earlier approved Mining Plans, if any		
a) Approval Letter no. and Date b) Lease Area c) Date of grant of Lease d) Date of Expiry of Lease e) Targetted Production f) Proposed **year** of start of Production g) Proposed **year** of achieving the targeted production level h) Envisaged life of the mine (in years) i) Date of actual commencement of Mining Operations, if operations already started j) Likely date of Mining Operations, if operations not yet started & reasons for non-commencement of operations k) Planned production and actual levels achieved in last 3 years l) Coal :- U/G O/Cast OB m) Reasons for difference between the planned and actual production levels n) Reason for revision of the Mining Plan o) Details of changes in the new mining plan compared to earlier approval (i) Lease Area (ii) Block Boundary (iii) Production level (iv) Reserves (v) Mining Technology(Additional sheets to be used, if required) **(vi) Land use pattern**	Old Plan	New Plan

E. LOCATION	
a) Location of the Block Taluka/ Village/ Khasra/ Plot / Block Range / etc. District / State	
b) Name of the Coalfield/ Coal belt	
c) Particulars of adjacent blocks: North, South, East, West	
d) Area of the Allotted Block (hectares) i Geological block area ii Mining Block Area	
e) Reference no. of plan of block boundary issued by CMPDI/ SCCL/ NLC (A copy of the Plan also to be annexed)	
f) Whether the lease boundary/ required boundary is same as demarcated by CMPDI/ SCCL/ NLC for delineating block/sub-block	
g) Existing mining Lease Area in case of existing mines, (hectares)	

h) Applied/ required Lease Area as per the Mining Plan under consideration (hectares)	
i) Whether the applied lease area falls within the allotted block	
j) Area (hectares) of lease which falls outside the block/sub-block delineated by CMPDI/SCCL/NLC.	
k) Details of outside area: - Whether forms part of any other coal block - Whether it contains any coal/lignite reserves - Purpose for which it is required, e.g. roads/ OB dumps/ service buildings/ colony/ safety zone/ others (specify)	
l) Whether some part(s) of the allotted block has not been applied for mining lease. - Total area in Ha. of such part(s). - Total reserves in such part(s). - Brief reasoning for leaving such part(s),	
m) Type of Land involved in Hectares - Forest Land - Non Forest Land o Tenancy Land o Govt. Land	
n) Broad Land Use Pattern (Forest, Township, Industrial, Agricultural, Grazing, Barren etc.)	
o) Proximity of public road / railway line/major water body if any and approximate distance	
p) Topo sheet No. with latitude and longitude	

F. GEOLOGY AND EXPLORATION			
a) Name of the Geological Block and area in hectares			
b) Name of the Geological Report (GR) with year of preparation			
c) Name of the agency which conducted exploration and prepared GR			
d) Period of conducting exploration			
e) Details of drilling (by all agencies)	Agency	Meterage	No. of BHs
	Total		
f) No. of boreholes drilled within the block			
g) Overall borehole density within the block (no./ sq. km)			
h) Area covered by 'detailed' exploration within the block (hectares)			
i) Area covered by 'detailed' exploration outside the block (hectares) - No. of boreholes drilled outside the block - Bore hole density for outside area (no./sq. km)			
j) Whether entire lease area has been covered by 'detailed' exploration.	(yes/no)		
k) Whether any further exploration is required or suggested and timeframe in which it is to be completed			
l) Number of coal/lignite seams/horizons - thickness range of coal seams - mean Thickness of total coal horizon - Standard Deviation of thickness - Minimum & maximum depth of coal seams			
m) Gross Calorific Value (GCV in K Cal/kg) and useful Heat Value(UHV in			

K.Cal/Kg), of coal as per GR : Range Mean	
n) Quality (Grade) of coal as per GR : Range Mean	
o) Total geological reserves in the block	
p) Depletion of reserves (in case of running mine)	
q) Additional reserves established (if any for running mine)	
r) Geological reserves considered for mining: by opencast by Underground	
s) Corresponding Extractable reserves: by opencast by Underground	
t) Percentage of recovery w.r.t. geological reserves: by opencast by Underground	

* Seam wise details of items (f) to (t) to be included in the relevant chapter.

G. MINING	
a) Existing and proposed method of mining (Opencast for OB & coal separately with dragline/ shovel/ surface miners/ manual/ etc.) (underground by longwall/ bord & pillar/ continuous miners/ LHD/ SDL/ manual/ etc.,)	
b) **The Peak capacity as well in addition to targeted capacity** in mtpa when the mine is fully developed and the year in which proposed to be achieved By Underground : By opencast : Total :	
c) Life of the mine : Underground workings : Opencast workings : Overall :	

d) Indicate quantum of production and expected grade as in table below :-

Year	UG Production Mt	Opencast			ROM coal/ lignite (Mt)	Saleable/ Benificiated coal/ lignite (Mt)	Washery rejects (Mt)
		Production Mt	OB (Mcum)	Stripping ratio (cum/t)			
Year wise till targetted production is reached							
Total for full lease period							

Furnish the detailed calendar programme of coal production year wise and seam wise along with OB removal in the **relevant** chapter	
e) Whether the proposed external OB dump site is coal/ lignite bearing: - If so, whether coal/lignite below waste disposal area is	

extractable.	
f) Whether negative proving for coal / lignite in the proposed site for OB dump/ infrastructure has been done.	
g) Proposed configuration of HEMM for OC (Coal & OB) & Major Equipment for UG.	
h) Mode of entry for underground mines (shaft, incline, adit,):	
i) Operations that are proposed to be outsourced	
j) Proposed coal evacuation facilities Face to Surface Surface to end use plants	

H. END USE OF COAL/ LIGNITE	
a) Capacity of the approved end use plants	
b) Coal/ lignite requirement for end use plant with grade/quality	
c) %age of end use requirement to be met from this mine	
d) If washing / beneficiation of the coal/ lignite is planned to be conducted on site or adjacent to the extraction area, briefly describe the nature of the beneficiation and recovery rate **with consumption of water etc.**	
e) Proposed Use of Rejects/Middlings	

I. ENVIRONMENTAL MANAGEMENT	
a) Existing land use pattern	
b) Land area indicating the area likely to be degraded due to mining, dumping, roads, workshop, washery, township etc.	
c) Surface features over the block area	
d) No. of villages/Houses to be shifted	
e)Population to be affected by	
f) Year wise proposal for reclamation of land affected by mining activities	
g) Monitoring schedules for different environmental components after the commencement of mining and other related activities.	

J. PROGRESSIVE AND FINAL MINECLOSURE PLAN (A separate chapter is also to be incorporated)	
a) Estimated total capital expenditure for mine closure activities	
b) Major closure Activities with proposed Capital expenditure	
i. ...	
ii. ...	
iii. ...	
iv. ...	
v. ...	

vi. ...	
Other Activities	

K. OTHERS	
a) Base date of Mining Plan.	
b) Calendar year from which the production will start	
c) Results of any investigation carried out for scientific mining, conservation of minerals and protection of environment; future proposals.	
d) Signature of RQP Date Place	

Chapters

The Chapters should have following minimum information (chapters are to be supported with relevant Plans and Sections, whether specifically mentioned hereafter or not).

I. Introduction

Background in chronological order about the mining company, Location of end use plants, whether end use plant is existing or proposed, its coal requirement with quality & quantity parameters and timeframe, norms used for computing consumption, whether any variation is sought with respect to competent approvals, how much of the requirement is envisaged to be met from this mining project, whether the coal supply from the project would replace any existing linkages, how the balance requirement of coal, if any, is to be met, mode of despatch of coal, whether coal washing is being proposed, at the pithead or elsewhere.

II. Details of Earlier Approval of Mining Plan

Whether any earlier mining plan was approved by the Ministry for the same area or a part of area, (a hard copy of the mining plan is to be submitted), a copy of the approval letter, and

a)	Deficiencies, if any, that existed in the approved mining plan and their rectification proposals
b)	Compliance of Condition(s) imposed if any with approval of the mining plan is to be annexed in a tabular format
c)	Salient features of the approved mining plan vis-a-vis that during actual operation (a separate chapter to be included in the mining plan proposal with full justification of any deviation)
d)	Why the revision in mining plan is required

III. Location, topography & Communication

Location of coal deposit, access to the location (Rail,Road,Air) availability of power supply, water etc.

Prominent physiographic features, drainage pattern, natural water courses, rainfall data, highest flood level, PWD roads, railway lines, ownership and occupancy of land & involvement of forest land. Important surface features and major diversion or shifting involved (also enclose a suitable Plan)

IV. Exploration, Geology, Seam sequence, Coal Quality and Reserves

- Details of exploration carried out, with time frame and agency, details of Geological report. No. of boreholes drilled and seam wise bore intersections and seam wise borehole density, whether the total area and all coal seams have been explored in detail, requirement of any further exploration and time frame.

- Regional geological set up of the area, local geology, structure, stratigraphic sequence, characteristics of the litho-logical units (coal seams /partings/overburden).

- Surface contour plan and Geological Plan both showing all the boreholes drilled and proposed to be drilled along with the allotted block boundary and required lease hold boundary marked in distinct colours.

- Methodology of reserves estimation (also mention if any software package has been used). Seam wise quality parameters and Seam wise grade wise Geological Reserves within the whole block and that considered for mining in the current mining plan that to be projectised later and that likely to be sterilized.
- In case of an existing or old mine, the reserves already extracted and reserves sterilised should also be given seam wise along with the relevant plans.
- Floor Contour Plans, Seam folio (iso-thickness) plans, iso-grade plans.
- Details of Hydro-geological study carried out, if any should also be given.

V. Mining,

- Choice of Mining Method and justification for Optimisation of targeted capacity, assumptions made, sequence of mining, production scheduling, equipment configuration, brief description of all operation, e.g. winning, transport, blasting, overburden removal and disposal, Life of the mine furnishing the assumptions made and the detailed computations.

- Geological Reserves considered for mining vis-à-vis extractable reserves. In case of opencast mine mention cut-off ratio as well as average stripping ratio. Detailed Break up of blocked reserves and losses in a tabular form

- In case of opencast mines location of Access trench & reason for selection of site thereof the mining system (geometry and bench parameters and its sequence of development, along with a drawing) and quarry parameters (surface area, floor area), thickness range of each seam and parting, minimum and maximum depth. Quarry stage plans including OB dumps for 1st to 5th year, 10 yearly intervals up to full life of the mine also indicating the volume of excavation for coal and OB, area of excavation volume of internal and external dump and the area, in hectare, for internal and external dumps and height . Seam wise calendar programme of excavation, timeframe for commencement of Backfilling & justification therefor.

- In case of underground mining, number and location, length & depth of shafts, inclines, and other mode of entries (to be shown in the plan ,e.g. Shaft 1, Shaft -2 etc.), HFL of the area, gassiness of the seams, Technology tie-ups if any.

- Seams to be worked, method of working, behaviour of coal roof & floor and support system for strata control including, Geo-technical investigations, rock mechanics study carried out already, if any, Scheme of mine development in tandem with production, extent of working for 1st to 5th year, 10 yearly intervals (all stages may be marked in distinct colour in the working plan of each seam), transport and winding system in underground for coal and rock (if required) and personnel; Sources of stowing material (if applicable).

- Adequacy of ventilation system taking into account the development works with supporting calculations, specifications of Main Mechanical Ventilator, blasting requirements and requirement of explosives, pumping requirements and standby arrangements.

VI. Manpower, Safety and Supervision

- Manpower and supervision requirement in brief, important safety aspects, including Disaster management, precautions and recommendations

VII. Coal Handling, Washing & Mode of Dispatch

- Brief scheme together with line diagram & Flow-sheet to be given along with the proposed handling/disposal of rejects.

VIII. Infrastructure Facilities proposed and their location.

Describe in brief (also enclose a Plan)

X. Land Requirement

- The present ownership and occupancy of the area and the land including forest land. Total land requirement and its breakup as per present land use and proposed land use. Cleary indicate how much of the land is proposed for mining block and if any land within the allotted block and boundary is not to be considered for mining lease.
- Similarly give details of any land out side the block boundary, if required for mining lease or for mining purposes.

XI. Environment management

Describe salient features (Detailed Plan to be submitted to MoEF under relevant rules and regulations):

1) Environmental Impact Assessment Statement describing the impact of mining

2) The time bound action, position at the end of each 5 years of mining plan period

3) Year wise proposal for reclamation of land affected.

4) Year wise Programme of afforestation.

5) Year wise stabilization and vegetation of dumps

6) Monitoring schedules for different environmental components right from the commencement of mining and other related activities

XII. Progressive and Final Mine Closure Plan *

1) The schemes/ proposals to be implemented for reclamation and rehabilitation of affected area.

2) Management of surface and ground water, ambient air indicating existing quality, corrective measures proposed to meet the standards.

3) Total Overburden, Quantity involved at 5 yearly intervals, practice and manner of its disposal and land area involved. The steps to be taken for protection and stability of overburden dump.

4) Top soil available at the site and its utilisation.

5) Generation of washery rejects, their disposal, utilization, measures to prevent water pollution.

6) Details of time schedule for all activities relating to final closure

7) The decommissioning of mining machineries, surface structures, plants etc. and their possible post mining utilisation

8) The safety measures to be implemented to prevent access to surface openings, excavations etc.

9) Disaster and Risk Assessment and action plan to deal therewith

10) Details of people employed in the mine, compensation to be given for sustenance, possible engagement in satellite occupations after closure, envisaged impact on the society due to mine closure

11) Cost of abandonment towards the activities required to be executed for rehabilitation measures including monitoring and maintenance after closure.

12) The Total estimated cost of Mine Closure

Annexures: As per requirement

* **Refer to MOC's Mine Closure Plan Guidelines**

Drawings:

i. Location Plans, indicating the rail and road links.
ii. A plan in a scale not less than 1:10,000 showing the approved block boundary vis-a-vis the proposed mining lease in distinct colours. The name of the adjacent coal blocks should also be marked.
iii. Geological Plan
iv. Surface Feature Plan also showing the drainage system, surface contours at minimum 3 m intervals, location of boreholes
v. Existing land use pattern, clearly demarcating the involvement of forest land.
vi. Floor Contour Plans, Seam folio Plans and isograde plans
vii. X-sections showing coal seams.
viii. Plan showing Proposed surface layout
ix. Conceptual Plan showing infrastructure facilities including colony, boundary of mining area, mine entries, roads including road diversion alignment etc.

x. For opencast Mines:

a. plan showing total coal thickness and total overburden thickness & stripping ratios
b. Final stage quarry plan showing haul road alignments
c. Final stage plan showing OB dumps (Both internal & external)
d. Stage plans at 1st 3rd 5th 10th 20th year intervals, including OB dumps (with area volume, dump height etc.)
e. Reclamation Plan.

xi. For Underground Projects:

a. Plan showing mode and location of entries and surface layouts
b. Seam wise layout/Projections, indicating the stages at 1st, 3rd, 5th 10th and 20th year intervals & the ventilation system.

c. Layout of the Panel (a separate plan for each system, e.g. longwall, Bord & Pillar, Road Headers etc. should be given)
d. Layout of the pillar extraction
e. Support System.
f. Haulage/Transport layout.
g. Reclamation Plan.

xii. A Plan / chart showing schedule of Implementation with duration of important activities.

xiii. Other relevant plans

Note:

i) Each page of the text and drawings must be signed and dated by the RQP along with his seal bearing the reference of his recognition and validity as per MOC communication.

ii) All Plans must be coloured distinctly with proper legends. The plans should be preferably in a scale of 1:4000/5000 but not smaller than 1:10000, except for conceptual plan and location plan. The seam X-sections should be in scale of 1:1000/2000.

iii) It has been observed during the presentation of mining plan to the Technical Members of the Standing Committee that some times the party/RQP furnishes certain facts and figures related to mining plan which differs from that incorporated in the text of the mining plan. This is not in order. However, if such need can not be avoided, the party should submit hard copies of corrigendum during presentation. Any discrepancy found subsequently may warrant a revised presentation / revision of the mining plan.

****