

No. 34011/28/2019-CPAM

Government of India  
Ministry of Coal  
(MPS Section)

Room No. 622-A, Shastri Bhawan,

New Delhi, dated 22nd April, 2020

**Subject: Stakeholders consultation on draft Comprehensive Guidelines for Mining Plan, 2020 and Draft Mineral Concession (Amendment) Rules, 2020.**

The following documents are placed on the web-site of the Ministry of Coal and Coal Controller's Organization for stakeholder consultation:

- a. Draft Comprehensive Guidelines for Preparation, Formulation, Submission, Processing, Scrutiny, Approval and Revision of Mining plan for the coal and lignite blocks.
- b. Mineral Concession (Amendment) Rules, 2020.

2. Concerned Stakeholders may offer their views/observations/ comments on the both above documents on e-mail id: hitlar.singh85@nic.in within 15 days from the date of uploading these documents on the website, i.e. by 7th May, 2020. Any view/observations/comments, received after due date, shall not be entertained.

Encl: As above.



(Hitlar Singh)

Under Secretary to the Government of India  
Tel. 23382269

To,

All Stakeholders

Copy to:

1. Shri Deep Bansal, Senior Technical Director & HOD, Coal Informatics Division, National Informatics Centre - with request to upload the above documents on the website of the Ministry of Coal.
2. The Coal Controller, CCO, Kolkata – with request to upload the above documents on the website of CCO.
3. DS (Admn), MoC- with request to issue a small public notice in newspapers informing that the document is available at the website for comments.

[To be published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i)]

**MINISTRY OF COAL**

**NOTIFICATION**

New Delhi, the \_\_ March, 2020

**G.S.R. \_\_ (E).**— In exercise of the powers conferred by section 13 of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957), the Central Government hereby makes the following rules further to amend the Mineral Concession Rules, 1960, namely:—

**1. Short title and commencement.**— (1) These rules may be called the Mineral Concession (Amendment) Rules, 2020.

(2) Save as otherwise provided in these rules, they shall come into force on the date of their publication in the Official Gazette.

**2.** In the Mineral Concession Rules, 1960 (hereinafter referred to as the principal rules), for rule 2, the following rule shall be substituted, namely:—

**‘2. Definitions.**— (1) In these rules, unless the context otherwise requires,—

(i) “Act” means the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957);

(ii) “block boundary” shall mean the geological boundary of the coal or lignite block expressed by way of co-ordinates specified in the allocation order issued under section 11A of the Act or a notification of reservation issued under section 17A of the Act or vesting order or allotment order issued under the Coal Mines (Special Provisions) Act, 2015 (11 of 2015) or any other instrument or order issued under any other law in force entitling a person to carry out prospecting or mining operations;

(iii) “Form” means a form set out in Schedule I to these rules;

(iv) “geological report” means the detailed report prepared upon completion of prospecting operations in any area containing coal or lignite comprising of all geological, geophysical, exploration, core coal or lignite analysis, hydrological, geo-engineering and other information regarding exploration, location or proof of mineral deposits, acquired during the prospecting operations conducted in such area and includes drilling log;

(v) “illegal mining” means any reconnaissance or prospecting or mining operation undertaken by any person or a company in any area without holding a reconnaissance permit or a prospecting licence or as the case may be, a mining lease as required under sub-section(1) of section 4 of the Act.

Explanation – For the purpose of this clause,—

(a) Violation of any rules, other than the rules made under section 23C of the Act, within the mining lease area by a holder of a mining lease shall not include illegal mining.

(b) Any area granted under a reconnaissance permit or a prospecting licence or a mining lease, as the case may be shall be considered as an area held with lawful authority by the holder of such permit of licence or a lease, while determining the extension of illegal mining.

(vi) “project proponent” shall include an allocatee of the coal block under section 11A of the Act or a Government company or corporation in whose favour an area containing coal or lignite is reserved under section 17A of the Act or a successful bidder or an allottee of a coal mine under the Coal Mines (Special Provisions) Act, 2015 (11 of 2015) or any other project proponent having right under any other law in force to carry out prospecting operations for coal or lignite;

(vii) “railway” and “railway administration” have the meanings respectively assigned to them in the Indian Railways Act, 1890 (9 of 1890);

(viii) “Schedule” means a Schedule appended to these rules;

(x) “section” means a section of the Act.

(2) The words and expressions used herein and not defined but defined in the Act or in the Coal Block Allocation Rules, 2017 made thereunder or in the Coal Mines (Special Provisions) Act, 2015 (11 of 2015) or the rules made thereunder shall have the meanings respectively assigned to them in the said Acts or the rules.’.

**3.** In the principal rules, in rule 8,—

(a) for the words and number “and Chapter IV”, the words, numbers and letter “, Chapter IV and Chapter IVA” shall be substituted; and

(b) for the words “and mining leases”, the words “, mining leases and prospecting licence-cum-mining leases” shall be substituted.

**4.** In the principal rules, after Chapter III, the following chapter shall be inserted, namely:—

### **“CHAPTER IIIA**

#### **Geological Reports**

**21A. Applicability.**— (1) Notwithstanding anything contained in Chapter III, Chapter V and Chapter VI of these rules, the provisions of this chapter shall apply in respect of all land containing coal or lignite.

(2) On and from the commencement of the Mineral Concession (Amendment) Rules, 2020, conduct of prospecting operations and preparation of geological report in respect of any area containing coal or lignite shall be governed by the provisions of this chapter.

**21B. Prospecting operations and preparation of geological report.**— (1) For conduct of prospecting operations and preparation of geological report, a project proponent may—

- (i) engage any person upon obtaining prospecting licence or prospecting licence-cum-mining lease from the State Government;
- (ii) engage an entity specified in or notified by the Central Government under the second proviso of sub-section (1) of section 4 of the Act; or
- (iii) engage any Accredited Prospecting Agency, notified under second proviso to sub-section (1) of section 4 of the Act.

(2) Any prospecting operation shall be undertaken and every geological report shall be prepared in accordance with Indian Standard Procedure for Coal Resource Estimation issued by the Central Geological Programming Board of Geological Survey of India.

(3) Every person, entity or agency conducting the prospecting operations under sub-rule (1), shall submit a report of the work done by it during each half of financial year, stating the number of persons and machineries engaged and disclosing the complete geological data, geophysical data and all other information collected during the period to the Central Mine Planning and Design Institute Limited, a Government company and to the State Government within three months from the close of the half year to which it relates.

(4) On the completion or abandonment of prospecting operations or termination of the prospecting licence, whichever is earlier, such person, entity or agency shall also submit a report of the work done along with all information relevant to mineral resources acquired by it in the course of prospecting operations.

(5) The project proponent as well as the person, entity or agency, as the case may be, referred to in sub-rule (1), shall be responsible for the data furnished in the geological report.

**21C. Accreditation system for prospecting operations and preparation of geological report.**— The QCI-NABET shall grant accreditation to Accredited Prospecting Agency for undertaking prospecting operations and preparation of geological report in accordance with standards and procedures specified in Schedule VI of these rules.”

**5.** In the principal rules, in rule 22,—

- (i) in sub-rule (4), the portion beginning with the words “On the receipt of the application” and ending with the words “the Central Government for its approval.” shall be omitted; and
- (ii) sub-rules (4A), (4B), (5) and (6) shall be omitted.

**6.** In the principal rules, for rule 22A, the following rules shall be substituted, namely:—

**“22A.— Mining operations to be in accordance with mining plan**— On and from the expiry of a period of nine months from the commencement of the Mineral Concession (Amendment) Rules, 2020,—

- (a) no mining operations shall be undertaken except in accordance with the mining plan, which—

- (i) has been approved under clause (b) of sub-section (2) of section 5 of the Act and in accordance with rule 22B; or
- (ii) is in accordance with the system established by the State Government for preparation, certification and monitoring of mining plan under the proviso to clause (b) of sub-section (2) of section 5 of the Act and rule 22AA:

Provided that mining operation being carried on in accordance with mining leases granted prior to commencement of Mineral Concession (Amendment) Rules, 2020, shall continue to be governed by the existing approved mining plan until the same is sought to be modified;

(b) any modification in the existing mining plan during the operation of a mining lease shall also be done in accordance with clause (a).

**22AA.— System to be established by the State Government for mining plan**—(1) The system to be established by the State Government under sub-clause (ii) of clause (a) of rule 22A for preparation, certification and monitoring of mining plan shall be submitted to the Central Government for approval.

(2) The State Government shall seek previous approval of the Central Government for any modification of the system.

(3) The Central Government shall dispose of, with or without modifications, the proposals received from the State Government for approval of system referred in sub-rule (1) or modification of a system referred in sub-rule (2), within a period of three months from the date of receipt of such proposal:

Provided that the Central Government may revoke such approval for reasons to be recorded in writing and duly communicated to the State Government.”.

7. In the principal rules, for rule 22B, the following rule shall be substituted, namely:—

**“22B. Preparation and approval of mining plan.**— (1) Every mining plan other than those covered under the proviso to clause (b) of sub-section (2) of section 5 of the Act shall be prepared and submitted for approval under this rule, within a period of six months of the preparation of geological report.

(2) For preparation of mining plan under sub-rule (1), a project proponent may engage,—

(i) a person having the following qualifications and experience:—

(a) a degree in mining engineering or a post-graduate degree in geology granted by a university established or incorporated by or under a Central Act, a Provincial Act or a State Act, including any institutions recognised by the University Grants Commission under section 4 of the University Grants Commission Act, 1956 (3 of 1956) or any equivalent qualification granted by any university or institution outside India and recognised by Government of India, and

(b) professional experience of five years of working in a supervisory capacity in the field of mining after obtaining the degree; or

(ii) a Mining Plan Preparing Agency accredited for preparation of mining plan by the QCI-NABET.

(3) The QCI-NABET shall grant accreditation in accordance with standards and procedures prescribed in Schedule VI of these rules.

(4) Every mining plan shall be prepared:—

- i. on the basis of a geological report prepared in accordance with rule 21B;
- ii. in accordance with the guidelines issued by the Central Government in this regard;  
and
- iii. for an area within the block boundary:

Provided that the mining plan may cover an area beyond the block boundary not containing coal or lignite on a certificate issued to that effect by the State Government and that it intends to grant mining lease for such extended area.

(5) The project proponent and the qualified person or the Mining Plan Preparing Agency shall be responsible,—

- (i) for the data furnished in the mining plan;
- (ii) that the mining plan has been prepared in accordance with the guidelines issued by the Central Government in this regard by a person possessing the qualifications and experience specified in clause (i) of sub-rule (2) or by a Mining Plan Preparing Agency.

(6) The project proponent shall submit the mining plan for approval to such officer or authority as may be notified by the Central Government, accompanied with the following, namely:—

- (i) such non-refundable fee as may be specified by the Central Government; and
- (ii) a certificate from the project proponent to the effect that the area covered in the mining plan is not beyond the block boundary, or in case the area covered under the mining plan extends beyond the block boundary, a certificate issued by the State Government as specified in the proviso to clause (iii) of sub-rule (4).

(7) Such officer or authority shall, within a period of thirty days from the date of receiving the mining plan, grant approval or direct correction in the mining plan or pass any such order as it may deem fit:

Provided that the aforesaid period of thirty days shall be applicable only if the mining plan is complete in all respects and in case any modification is directed by such officer or authority after the initial submission of the mining plan for approval, the said period shall be applicable from the date of submission of the revised mining plan.

(8) A project proponent aggrieved by any order made or direction under sub-rule (7) may, within thirty days of the communication of such order or direction, apply to the Central Government for a revision of such order or direction thereof.

(9) On receipt of an application for revision, the Central Government shall give a hearing to the aggrieved project proponent and may confirm, modify or set aside the order or direction within thirty days and the decision of the Central Government in this regard shall be final.”.

8. In the principal rules, rules 22BB and 22C shall be omitted.

9. In the principal rules, after rule 22D, the following rules shall be inserted, namely:—

**“22E. Modification of approved mining plan.—** (1) In case of any modification in the approved mining plan, the project proponent shall submit the modified mining plan in accordance with rule 22B for approval.

(2) The modification under sub-rule (1) shall be on any of the following grounds, namely:—

- (i) change in method of mining;
- (ii) for facilitating increase in production capacity in excess of forty per cent of the sanctioned capacity;
- (iii) change in lease area;
- (iv) in the interest of safe and scientific mining;
- (v) conservation of minerals;
- (vi) for the protection of environment;
- (vii) changes in the business environment; or
- (viii) addition of reserve by way of proving of reserve in the existing lease area.

**22F. Periodic review of mining plan.—** (1) Every mining plan shall be reviewed at an interval of every five years starting from the commencement of the Mineral Concession (Amendment) Rules, 2020 or the date of execution of the duly executed mining lease deed, whichever is later.

(2) At least six months before the expiry of every five years period specified in sub-rule (1), the project proponent shall submit the mining plan with respect to mining operations for subsequent five years, to,—

—

- (i) the Central Government, in case the mining plan was approved under rule 22B; or
- (ii) the State Government, in case the mining plan was prepared and certified in accordance with the system established under rule 22AA.

(3) Every modification in the mining plan pursuant to such periodic review shall be on the grounds specified in sub-rule (2) of rule 22E.

(4) The procedure specified in rule 22AA or rule 22B, as the case may be, shall apply *mutatis mutandis* to any modification under this rule.”.

10. In the principal rules, in rule 24, after sub-rule (5), the following sub-rule shall be inserted, namely:—

“(6) The State Government shall examine an application for grant of mining lease and pass an order in writing for disposal of such application.”.

**11. Amendment of rule 24A.**—The principal rules, in rule 24A, after sub-rule (1), the following sub-rule shall be inserted, namely:—

(2) If an application for renewal of a mining lease made within the time referred to in sub-rule (1) is not disposed of by the State Government before the date of expiry of the lease, the period of that lease shall be deemed to have been extended till the State Government passes order thereon.”.

**12. Insertion of Chapter IVA.**— In the principal rules, after Chapter IV, the following Chapter shall be inserted, namely:—

#### **“CHAPTER IVA**

#### **PROCEDURE FOR OBTAINING PROSPECTING LICENCE-CUM-MINING LEASE OF COAL AND LIGNITE IN RESPECT OF LAND IN WHICH THE MINERALS VEST IN THE GOVERNMENT**

**40A. Applicability of this Chapter:** The provisions of this Chapter shall apply to the grant of prospecting lease of coal and lignite in respect of land in which the minerals vest in the Government.

**40B. Application for prospecting licence-cum-mining lease.**—(1) Upon grant of allocation order or vesting order or allotment order, as the case may be, a successful allocatee shall make an application in Form Q for grant of prospecting licence-cum-mining lease, along with such order and any other supporting documents before such officer or authority as the State Government may specify:

Provided that the State Government may, for reasons to be recorded in writing, relax requirement of submission of any of the documents specified in this sub-rule.

Provided further that a successful allocatee may engage an entity under the second proviso of sub-section (1) of section 4 of the Act, in which case, such allocatee shall apply for grant of mining lease after preparation of geological report in accordance with rule 21B and approval of mining plan in accordance with rule 22B and the provisions of Chapter IV shall apply on application, grant and conditions of such mining lease.

(2) Every application for the grant of prospecting licence-cum-mining lease shall be accompanied by,—

- (a) non-refundable fee of ten thousand rupees;
- (b) all documents required for grant of a prospecting licence as specified under rule 9; and
- (c) the security deposit specified under rule 20.

**40C. Acknowledgement and disposal of application for prospecting licence-cum-mining lease.**— (1) Receipt of an application for grant of prospecting licence-cum-mining lease shall be duly acknowledged by the State Government.



(2) The State Government shall execute a prospecting licence deed in Form F, within a period of ninety days from the date of receiving of such application, complete in all respects.

(3) The provisions of rules 14, 16, 18, 19, and 21 shall apply to such prospecting licence.

**40D. Conduct of prospecting operations.**— (1) Upon execution of a prospecting licence deed, the said allocatee within the period specified in section 7 of the Act, shall undertake prospecting operations, prepare geological report in accordance with rule 21B and submit a mining plan for approval in accordance with rule 22B.

**40E. Conduct of mining operations.**— (1) Upon approval of mining plan, the said allocatee shall submit a copy of such approval to the State Government alongwith all documents required for grant of mining lease as specified under rule 22 for execution of mining lease deed of prospecting licence-cum-mining lease:

Provided that the State Government may, for reasons to be recorded in writing, relax requirement of submission of any the documents specified in rule 22:

Provided further that the State Government may, with previous approval of the Central Government, impose such other conditions for conduct of mining operations in the mining lease deed, as it may deem fit.

(2) The State Government shall execute a mining lease deed in Form K of the Schedule I, within a period of ninety days from the date of receiving of such documents complete in all respects.

(3) The provisions of rules 22A, 22AA, 22B, 22D, 22E, 22F, 27, 29A, 30, 32, 33, 36, 37, 37A, 38 and 40 shall apply *mutatis mutandis*, to such mining lease.

**40F. Renewal of prospecting licence.**—(1) An application for renewal of a prospecting licence under the prospecting licence-cum-mining lease deed for the purpose of completing prospecting operations, shall be made at least ninety days before the expiry of the prospecting licence and shall be accompanied by a statement containing, -

- (a) reasons for renewal;
- (b) a report of the details of prospecting operations undertaken by the applicant;
- (c) the details of expenditure incurred;
- (d) the number of man days for which the work was undertaken; and
- (e) the justification for the additional period required to complete the prospecting work.

(2) Receipt of an application for renewal shall be duly acknowledged by the State Government within three days of receipt of such application.

(3) The application for renewal shall be accompanied by non-refundable fee of rupees one thousand per square kilometre on a *pro rata* basis of the area for which the renewal of the prospecting licence is applied for.

(4) The State Government may condone delay in submission of an application for renewal of a prospecting licence made after the time limit specified in sub-rule (1), provided that such application has been made before the expiry of the prospecting licence.

(5) An application for the renewal of a prospecting licence shall be disposed of by the State Government before the expiry of the period of prospecting licence and if application is not disposed of within that period, the license shall be deemed to have been renewed for a period not exceeding the period for renewal of prospecting license under sub-section (2) of section 7 of the Act, or the period for which the application is made, whichever is less.

**40G. Renewal of mining lease.**— (1) An application for renewal of mining lease under the prospecting licence-cum-mining lease shall be dealt with in accordance with rules 24A and 24B, as the case may be.

**13.** In the principal rules, in rule 45, for clause (ia), the following clause shall be substituted, namely:—

“(ia) mining operations shall be undertaken in accordance with the mining plan, prepared and approved under rule 22B, modified under rule 22E and reviewed under rule 22F.”.

**14.** In the principal rules, rule 52 shall be omitted.

**15.** In the principal rules, after Chapter X, the following Chapter shall be inserted, namely:—

#### “CHAPTER XI

##### Penalty

**76. Penalty.**— Any contravention of the provisions of these rules shall be punishable in accordance with the provisions of sub-section (2) of section 21 of the Act.”.

**16.** In the principal rules, in Schedule I, after Form P, the following form shall be inserted, namely:—

“Form Q

MODEL FORM

APPLICATION FOR GRANT OF PROSPECTING LICENCE-CUM-MINING LEASE

[See rule 40A]

(To be submitted in triplicate)

GOVERNMENT OF.....

Received at.....(place) on.....(Date)

Initial of Receiving Officer... Dated ..... day of ..... 20...

To

.....

.....

Through.....

Sir,

I ....., the authorized signatory of .....(name of successful allocatee company or corporation) request that a prospecting licence-cum-mining lease under the Mineral Concession Rules, 1960 be granted to ..... (name of successful allocatee company or corporation).

2.A sum of ten thousand rupees in accordance with Rule 40A of the Mineral Concession Rules, 1960 has been deposited.

3.The required particulars are given below:—

- (i) Name of the applicant with complete address.
- (ii) Is the applicant a private company, public company or corporation?
- (iii) An attested copy of the certificate of registration of the company or corporation shall be enclosed.
- (iv) Nature of business of applicant.
- (v) Number and date of the valid clearance certificate of payment of mining dues (copy enclosed) or affidavit when not holding any mining lease.
- (vi) If on the date of application the applicant does not hold a prospecting licence, it should be stated whether an affidavit to this effect has been furnished to the satisfaction of the State Government.
- (vii) Mineral or minerals which the applicant intends to prospect and mine.
- (viii) Period of prospecting licence stage for which the prospecting licence-cum-mining lease is required
- (ix) Extent of the area the applicant wants to prospect.
- (x) Details of the area in respect of which prospecting licence-cum-mining lease is required. (District, Taluq, Village, Khasra No., Plot No., Area, etc.)
- (xi) (a) Does the applicant have surface rights over the area for which he requires a prospecting licence?  
(b) If not, has he obtained the consent of the owner, and the occupier of the land for undertaking prospecting operations. If so, the consent of the owner and the occupier obtained in writing be filed.
- (xii) Brief description of the area with particular reference to the following:
  - (a) the situation of the area in respect to natural features such as streams etc.
  - (b) in the case of village, areas, the name of the village and if only a part of the village is applied for, the khasra number, the area in hectares of each field or part thereof applied for.

**N.B.** - The areas shall cover whole or recognised part survey numbers.

(c) In the case of forest areas, the name of the working circle, the range and the felling series.

- (d) For areas where no forest maps or cadastral maps are available, a sketch plan should be submitted on scale showing the area applied for together with boundary, if any, of any other existing mining lease or prospecting licence area if the area applied for has any common point or line with the boundaries of existing prospecting licence or mining lease areas.
- (xiii) The areas applied for should be marked on plans as detailed below:
- (a) In case a cadastral map of the area is available, the area on this map should be marked showing the name of the village, Khasra number and area in hectares of each field and part thereof.
- N.B.** - The area applied for shall cover whole survey numbers.
- (b) In the case of forest maps, the area should be marked on the map showing the range and felling series.
- (c) In case neither cadastral nor forest maps are available, the area should be marked on sketch plan drawn to scale showing on this plan all important surface and natural features, the dimensions of the lines forming the boundary of the area and the bearing and distance of all corner points from any important, prominent and fixed point or points.
- (xiv) An affidavit, that the up-to-date income tax returns, as prescribed under the Income Tax Act, 1961, have been filed, and tax due, including the tax on account of self-assessment has been paid.
- (xv) Particulars of the areas mineral-wise within the jurisdiction of the State Government for which the applicant or any person joint in interest with him:
- (a) already holds under prospecting licence and mining lease;
- (b) has already applied for but not granted;
- (c) being applied for simultaneously.
- (xvi) Nature of joint in interest, if any.
- (xvii) If the applicant intends to supervise the works, his previous experience of prospecting and mining should be explained; If he intends to appoint a manager, the name of such manager, his qualifications, nature and extent of his previous experience should be specified and his consent letter should be attached.
- (xviii) Financial resources of the applicant.
- (xix) Particulars of receipted treasury challan attached for the amount referred to at 2 above.
- (xx) Any other particulars or sketch map which the Applicant wishes to furnish.
- (xxi) Authorization letter/ power of attorney from the successful allocatee company authorising the authorised signatory to submit the application for prospecting licence-cum-mining lease is enclosed.

I/We do hereby declare that the particulars furnished above are correct and am/are ready to furnish any other details, including accurate plans as may be required by you.

Yours faithfully,

(Signature and designation of the applicant)

Place

Date

Note:

- 1- The application should relate to one compact area only.
2. Such large-size map, as may be available, should be attached for proper demarcation of the areas, specially when the area Applied for is 40 hectares or less.
3. Detailed plan and topographical map are to be attached in triplicate with the original application.”.

17. In the principal rules, after Schedule V, the following Schedule shall be inserted, namely:—

“Schedule VI

[see rule 21C (2) and 22B (3)]

(Standards and procedures for accreditation)

1. **Scheme for Accreditation of Accredited Prospecting Agency (APA)**
2. **Scheme for Accreditation of Mining Plan Preparing Agency (MPPA)**

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## 1.0 SCHEME FOR ACCREDITATION

NABET, a constituent Board of the QCI, developed Accreditation Scheme for Prospecting and Mining Plan Preparation Agencies/ Organizations (hereinafter called ‘the Scheme’) with inputs from various stakeholders including experts in the field, regulatory agencies and consultants.

This document describes the scheme’s requirements of human resources, consultancy quality assurance systems and procedures to be followed, the assessment process and the accreditation criteria. Various aspects of the scheme are-

- a) Eligibility (who can get accredited) and coverage of the scheme
- b) Human resource – qualification and experience requirement
- c) Scope of accreditation
- d) Consultant organization quality assurance system (CQAS)
- e) Assessment and accreditation process
- f) Closure/suspension/delisting/on hold etc. Of applications

For the implementation of the Scheme, NABET is guided by a group of eminent professionals in the field of Prospecting and Mining and allied subjects and structured secretariat.

One complete cycle of Accreditation covering 3-year period comprising Initial Accreditation, Surveillance Assessment and Re-accreditation process. All the three processes involve assessment in 3 stages:

Stage I	-	Checking completeness of the application by NABET secretariat
Stage II	-	Technical review of documents
Stage III	-	Office assessment

### 1.1 Eligibility for accreditation

Only organizations meeting the eligibility criteria of this Scheme are considered for accreditation. These consultant organizations can include government bodies, public sectors undertakings and private organizations which could be proprietorship firms, partnership firms or companies (Pvt. & Public Limited), bodies registered under Society Acts, under Section 25 of Companies Act, Research Institutes and the like. All requirements of the Scheme as mentioned in this document are to be complied with for an organization to get accredited. A sole proprietorship owned by an individual or in personal name can also apply if it fulfils all other requirements of the Scheme.

### 1.2 Scope of the Scheme

The Scheme covers the scopes for Prospecting and Mining Plan Preparation Agency who will prepare Geological Report (GR) and Mining Plan entrusted by project proponent. Hence the scheme is divided into two sections describing guidelines for accreditation of scope viz.

1. Scheme for Accreditation of Accredited Prospecting Agency (APA)
2. Scheme for Accreditation of Mining Plan Preparing Agency (MPPA)

#### 1.2.1 Scheme for Accreditation of Accredited Prospecting Agency

Any Prospecting Agency (Applicant Consultant Organization) must have expertise in all the relevant fields or can have MoU with agencies having particular expertise if they are short of any specific area for preparation of comprehensive geological report. The Accredited Prospecting Agency (APA) organisation can provide consultancy for prospecting services required for Geological Report (GR) preparation. APA should cover following aspects –

- a. Drilling (Coring & Non-coring)
- b. Topographical Survey



- c. Geo-physical survey (borehole & surface)
- d. In-seam Seismic survey, HRSS, Seismic Refraction
- e. Interpretation of Stratigraphy & structure
- f. Coal Quality assessment
- g. Geo-technical studies
- h. Geo-chemical testing
- i. Hydro geological studies
- j. Geological Modelling
- k. Coal / Mineral Resource Evaluation
- l. facility for preserving drilling cores, with self/ drilling partner

### 1.2.1.1 QUALIFICATION, EXPERIENCE AND FUNCTIONS OF EXPERTS

Experts involved in the Geological Reports preparation comprise Project Coordinator (Prospecting) and Technical Area Experts (TAE). They may be helped by team members. The qualification and experience requirements of the experts and roles envisaged for them are detailed below-

#### A 1. Project coordinator (Prospecting):

##### A 1.1 Minimum educational qualifications

- a. Master's (post-graduate) degree/ M. Tech in either subject- Geology/ Applied Geology/Geophysics/Hydrogeology/Remote Sensing & GIS/ from a UGC/AICTE recognized University/ Institution or equivalent.
- b. Desirable – Relevant trainings/ courses of 6 months duration and above.

##### A 1.2 Experience of Project Coordinator

- a. Minimum 15 years overall work experience after the completion of above-mentioned qualifying degrees.
- b. Officers retired/served for minimum 15 years in Central/ State Government/ Research Institutes/ universities/ Colleges as Geologist will be considered to fulfill the minimum experience.
- c. Proficient in MS office, CAD, ArcGIS, Modelling Software, Data Processing Tools, Geological Modelling Tools.

##### A 1.3 Prospecting Specific experience:

- a. Project Coordinator(PC) must have Specific experience related to planning and managing the advanced Prospecting projects
- b. Designing and implementing QAQC protocols
- c. Geological modelling and Geostatistical analysis,
- d. Resource Estimation and Resource classification in accordance with UNFC, NI 43-101, JORC and SAMREC reporting codes.
- e. Prepared at least 3 Geological Report.
- f. Monitoring of 3 Geological Report (auditing, performance evaluation etc.),
- g. A total of three in combination of (e) and (f)

#### **A 1.4 Expected functions of Project coordinators (Prospecting):**

The Project coordinator should be thoroughly aware of Prospecting methodology, requirements and be familiar with the guidelines of report preparation, MMDR Act, Prospecting rules and all relevant regulations and its Amendments. S/he must have a clear concept and thorough knowledge of prospecting and Prospecting requirements. S/he should share this information with other team members.

##### **The expected functions of Project Coordinator are as follows:**

- a) Complete understanding about the project specification, develop broad scoping of the project taking into consideration site specific requirements
- b) Meeting with project Director/Owner, framing the methodology for Prospecting program.
- c) In depth understanding in respect of topography, hydrology streams, Geology, Hydrogeology, land use etc.,
- d) Visiting the site for appropriate duration for the selection of sampling locations and deciding the type of samples in consultation with the TAEs.
- e) Collating and reviewing the reports of the TAEs which must include analysis and interpretation of data.
- f) Developing the draft Geological Report and circulating the same amongst team members for final feedback and ensuring completeness of the report.
- g) Discussing the draft Geological Report with the project directors/owners for their comments.

The following areas of expertise have been identified which are required for carrying out these studies-

<b>i.</b>	<b>Geology</b>	<b>GEO</b>
<b>ii.</b>	<b>Geophysics</b>	<b>GP</b>
<b>iii.</b>	<b>Remote Sensing &amp; GIS</b>	<b>RS</b>
<b>iv.</b>	<b>Surveying</b>	<b>SUR</b>
<b>v.</b>	<b>Hydrogeology</b>	<b>HG</b>

#### **A 2.0 Technical Area Expert (Prospecting):**

##### **A 2.1 Minimum educational qualifications**

- a. Master's (post-graduate) degree/ M. Tech in Science and other subjects - Geology, Applied Geology, Geophysics, Hydrogeology, and Remote Sensing & GIS from a UGC/AICTE recognized University/ Institution.
- b. Bachelor's degree/diploma or equivalent in technical subjects such as Mechanical (Drilling), Geotechnical and Earth Resource Engineering and equivalent from a UGC /AICTE recognized University/ Institution.
- c. Desirable – Relevant trainings/ courses of 6 months duration and above.

##### **A 2.2 Minimum Experience for Technical Area Expert (TAE)**

- a. An expert should have a minimum 5 years overall experience in the concerned technical area(s) knowledge in preparing Prospecting/ Geological report(s).
- b. Officers retired/served for minimum 5 years in Central/ State Mining Departments/Organization/ Research Institutes/ universities/ Colleges as Geologist, Geophysicist, Remote Sensing & GIS expert and Hydrogeologist will be considered if work in the respective areas.

- c. Proficient in MS office, CAD, ArcGIS, Modelling Software, Data Processing Tools, Geological Modelling Tools.

### **A 2.3 Specific Educational Qualification and Experience for each TAE**

#### **A 2.3.1 Technical Area Expert - Geology (GEO):**

- a. **Educational qualifications specific to functional area**
  - i. Master's (post-graduate) degree/ M. Tech in either subject- Geology/ Applied Geology from a UGC/AICTE recognized University/ Institution or equivalent.
  - ii. Desirable – Relevant trainings/ courses of 6 months duration and above.
- b. **Experience specific to functional area must include**
  - i. Hands-on experience in geological Prospecting, mapping, and data interpretation
  - ii. Knowledge of geological principles, basin modelling and mineral reserves
  - iii. Preparation of ore body model using SW like Minex, Datamine, Geosoft, Minesoft, Surpac, AutoCAD, etc.
  - iv. Familiarity with Prospecting geology concepts and survey processes
  - v. Ability to interpret 2D/3D seismic data and create geologic maps and models
  - vi. Ability to identify natural resources and determine their economic value
  - vii. High level of analytical skills to interpret Prospecting data pertaining to mineral prospects.
  - viii. Experience in Coal/ Metal mining model preparation is preferred
- c. **Role and Responsibilities**
  - a. Performs scouting of Prospecting activities in the region, preparation of Prospecting activity plans and budget
  - b. Execution of drilling operations at prospective locations, Collection, evaluation and reporting on field samples and prepare activity logs.
  - c. Created and presented accurate geology-based maps, cross sections, and geological models.
  - d. Directed, supervised and managed all work performed by field crews and drillers.
  - e. Entered and maintained sample information and Prospecting data in relevant database.
  - f. Interpreted and complied with all applicable governmental regulations and laws.
  - g. Evaluation of geological & mineable resources of proposals received from national & international prospects;
  - h. Research on the feasibility of developing these mineral prospects by analysing, reviewing, and forecasting data for operational and business planning and preparation of the feasibility study report.
  - i. Study of available GSI, MECL and other Prospecting reports, compilation and correlation for assessing the likely potentiality of the mineral prospect.

#### **A 2.3.2 Technical Area Expert - Geophysics (GP):**

- a. **Educational qualifications specific to functional area**
  - i. Master's (post-graduate) degree/ M. Tech in either subject- Geophysics/ Applied Geophysics from a UGC/AICTE recognized University/ Institution or equivalent.

- ii. Desirable – Relevant trainings/ courses of 6 months duration and above.

**b. Experience specific to functional area must include**

- i. Planning and execution of Geophysical Surveys including special studies using suitable geophysical technique and equipment.
- ii. Geophysical methods comprise of measurement of signals from natural or induced phenomena of physical properties of sub surface formation.
- iii. Various physical properties that are made use of in different geophysical techniques are electrical conductivity, magnetic susceptibility, density, elasticity & radioactivity etc.

**c. Role and Responsibilities**

- i. Prospectively evaluation and Prepare concepts/ plays/ leads/ prospects inventory
- ii. 2D & 3D seismic interpretation incorporated with all wells data, Well seismic calibration
- iii. Evaluate post- drill well findings based on interpretation and integration of data.
- iv. Observe the reaction of recording equipment to detect irregularities
- v. Use computers for data management, quality control and communication between the office and field locations
- vi. Carry out Vertical electrical sounding, Magnetic / EM profiling and Borehole logging.
- vii. Interpretation of the date, synthesis of results and preparation of reports
- viii. Maintenance and updating of Geophysical records
- ix. Proper transportation and maintenance of equipment's.
- x. Must be acquainted with state and national policies.

**A 2.3.3 Technical Area Expert – Remote Sensing & GIS (RS):**

**a. Educational qualifications specific to functional area**

- i. M.Sc./ M. E/ MTech or equivalent in either subject- Remote Sensing/ Geoinformatics/ Geology/ Applied Geology /Geography from a UGC/AICTE recognized University/ Institution or equivalent.

Or,

- ii. BE / B Tech in GIS/ Remote Sensing / Spatial Sciences/ Geomatics / Geoinformatics and any other relevant fields
- iii. Desirable – Relevant trainings/ courses of 6 months duration and above.

**b. Experience specific to functional area must include**

- i. Sound knowledge of GPS, GIS and Remote Sensing software's like ArcGIS 10, QGIS, Erdas imaging, Digital photogrammetry
- ii. Experience on ArcGIS extensions like Spatial Analyst, Data Management tool, Overlay Analysis.
- iii. Experience in GIS database management.

**c. Role and Responsibilities**

- i. GIS layer analysis, feature extraction using satellite data.
- ii. Coordinates and assigns GIS personnel to projects.
- iii. Provides team lead oversight on projects including quality assurance, data analysis, map production and report production

- iv. Selects from multiple procedures and methods to accomplish tasks.
- v. Excavation measurement to slope stability.

#### **A 2.3.4 Technical Area Expert - Surveying (SUR):**

- a. Educational qualifications specific to functional area**
  - i. Full time Degree/Diploma in Surveying from a Govt. recognized institute and possessing valid Mines Surveyor's certificate of Competency from DGMS and having one-year post qualification experience in relevant field
  - ii. Desirable – Relevant trainings/ courses of 6 months duration and above.
- b. Experience specific to functional area must include**
  - i. Having post qualification experience in Topographical Survey, Borehole survey and relevant experience.
  - ii. Familiarity with Prospecting geology concepts and survey processes
  - iii. Verify the accuracy of survey data including measurements and calculations conducted at survey sites.
  - iv. Calculate heights, depths, relative positions, and other characteristics of terrain.
  - v. Experience in Coal/ Metal mining.
- c. Role and Responsibilities**
  - i. Search legal records, survey records, and land titles to obtain information about boundaries in areas to be surveyed.
  - ii. Prepare and maintain sketches, maps, reports, and legal descriptions of surveys to describe, certify, and assume liability for work performed
  - iii. Prepare or supervise preparation of all data, charts, plots, maps, records, and documents related to surveys.
  - iv. Determine longitudes and latitudes of important features and boundaries in survey areas using theodolites, transits, levels, and satellite-based global positioning systems (GPS).
  - v. Coordinate findings with the work of engineering and architectural personnel, clients, and others concerned with projects.
  - vi. Plan and conduct ground surveys designed to establish baselines, elevations, and other geodetic measurements.
  - vii. Conducting Topographic survey, leveling etc.
  - viii. Locate and mark sites selected for geophysical prospecting activities such as efforts to locate petroleum or other mineral products.

#### **A 2.3.5 Technical Area Expert - Hydrogeology (HG):**

- a. Educational qualifications specific to functional area**
  - i. Master's (post-graduate) degree in Science/Technology or equivalent in either subject- Hydrogeology, Hydrology and Water Resources Management from a UGC/AICTE recognized University/ Institution or equivalent.
  - ii. Desirable – Relevant trainings/ courses of 6 months duration and above.
- b. Experience specific to functional area must include**
  - i. Analysis of surface hydrogeological data pertaining to ground water, flow fluctuation, estimation of flows; setting up and interpretation of gauging station readings, designing of ground water table measurement and monitoring network, computation of ground water recharge, flow rate and direction.

- ii. Plotting of ground water contours.
  - iii. Analysis and description of aquifer characteristics e.g. Permeability, transmissivity, storage coefficient etc., estimation of groundwater potential and recharge phenomenon, determination of impact of withdrawal of groundwater.
  - iv. Geology and Geo morphological analysis/description/ Stratigraphy/Lithology.
  - v. Developing Geo-hydrological maps.
  - vi. Must be acquainted with state and national policies.
  - vii. Understanding of policies, guidelines and the legislation related to ground water
- c. **Role and Responsibilities**
- i. Collecting basic mine production data, such as annual output, drainage quantity, water inflow,
  - ii. The water inflow (including static-storage and recharge rate) of mine was predicted and calculated by horizontal catchment channel method, big well method and replenishment quantity method, respectively.
  - iii. Hydrogeological condition changes of open-pit coal mine in grass area during production process

### **A 3.0 Team Member (TM)**

A provision of 'Team Member' has been included in the Scheme to provide opportunity to

- a. experienced professionals in their own fields but lacking experience to enter the profession
- b. Existing experts to expand the field of association
- c. Persons who have obtained eligibility qualification but do not meet the experience requirements of TAE or EC
- d. This provision is available only for in-house experts

### **A 3.1 Expected functions of team member**

The team member (TM) is expected to be involved both in field work as well as in the discussions amongst the PC and the TAEs. Since s/he is expected to be knowledgeable in area of expertise, emphasis should be given to acquaint her/him on aspects, developing the management plans and finally in report writing for her/his part of association in the study.

### **A 3.2 Requirements of Experts/ Number of experts Required:**

1. Project Coordinators must be in-house (full time employee).
2. Experts involved in preparing Geological reports must be in-house (full time employee).
3. Any organization to be accredited must have one approved in-house PROJECT COORDINATOR (GL), one in-house TAE (GL).
4. The other TAE may be in-house or empanelled. The organisation must cover remaining TAs as per the project requirement.

### **1.2.2 Scheme for Accreditation of Mining PLAN Preparing Agency (MPPA)**

The Mining Plan Preparing Agency (MPPA) shall prepare Mining Plan in accordance with the standard and procedures approved by Central Government. An applicant / consultant organisation must have expertise in all the relevant fields or can have MoU with agencies having particular expertise if they are short of any specific area for preparation of comprehensive Mining Plan. The Accredited Mining Plan Preparing Agency (AMPPA) can provide consultancy for services required for Mining Plan and Pre-feasibility/ Feasibility report preparation. AMPPA should cover following aspects –

- a. Mining Plan for underground and open cast mines
- b. Pre-Feasibility/ Feasibility studies of open cast and underground mines
- c. Detailed design of underground and open cast mines
- d. Operational plans for open cast mines
- e. Techno-economic appraisal of mining projects
- f. Technical audit of working mines
- g. Introduction and adaptation of new technology for underground and open cast mines
- h. Preparation of manuals and special reports

#### **1.2.2.1 QUALIFICATION, EXPERIENCE & FUNCTION OF EXPERTS (Mining)**

Experts involved in the Mining Plan preparation comprise Project Coordinator (Mining) and Technical Area Experts (TAE). They may be helped by team members. The qualification and experience requirements of the experts and roles envisaged for them are detailed below-

#### **B 1. Project coordinator (Mining Plan)**

##### **B 1.1 Minimum educational qualifications**

- a. A BE/ B. Tech/ M. Tech Degree in Mining Engineering/ Opencast Mining/ Mining Machinery or equivalent granted by a university established or incorporated by or under a Central Act, A Provincial Act or a State Act including any institutions recognized by the University Grants Commission under Section 4 of the University Grants Commission Act, 1956 (3 of 1956) or any equivalent qualification granted by any university or institute outside India and recognized by Government of India.
- b. Desirable – Relevant trainings/ courses of 6 months duration and above

##### **B 1.2 Experience of Project Coordinator**

- a. Professional experience 15 years overall work experience after the completion of above-mentioned qualifying degrees. Modification to a mining plan shall be carried out by a person qualified to prepare a mining plan
- b. Officers retired/served for minimum **15** years in Central/ State Government/ Research Institutes/ universities/ Colleges will be considered to fulfil the minimum experience.
- c. Proficient in MS office, CAD, ArcGIS, Modelling Software, Data Processing Tools, Geological Modelling Tools.

##### **B 1.3 Mining Plan Preparation Specific experience:**

Project Coordinator (PC) must have Mining Plan Preparation Specific experience as follows:

- a. Prepared at least 3 Mining Plans.
- b. Monitoring of 3 Mining Plan (Pre-feasibility/ Feasibility report, auditing, performance evaluation etc.),
- c. A total of three in combination of (a) and (b)

##### **B 1.4 Expected functions of Project coordinators (Mining Plan):**

The Project Co-ordinator (Mining plan) shall prepare Mining Plan in accordance with guidelines issued by Central government as per the approved standards and procedures and shall be responsible for correctness of the data furnished. Mining engineers design the future mine layouts capable of achieving production and mine development objectives, taking into account the geological characteristics and structure of the mineral resource. They prepare production and development schedules and monitor progress against these. The Project coordinator should be thoroughly aware of Mining Plan requirements and be familiar with the guidelines of report preparation, MMDR Act, rules and all relevant regulations and its Amendments. S/he must have

a clear concept and thorough knowledge of Mining Plan requirements. S/he should share this information with other team members.

Understanding of preparing mining plan including the following activities-

- i. Detailed topography, mine geology, mineral deposit & existence, details of Prospecting, indicating geological and recoverable reserve, sections calculations, slice plan/level plan method, its layout phases, mechanization, operations, mine life, overburden, reservoir, mineral estimation etc and other.
- ii. Blasting parameters, types of explosive, powder factor, storage of explosive
- iii. Mine drainage, stacking of mineral rejections, use of mineral & its processing and waste disposal,
- iv. Environmental management plan describing the impact of mining and beneficiation on environment on the following over the next five years giving brief information about water regime, biodiversity, quality of air, noise level, climatic conditions, socio-economic, regional aspects and others along with time bound action.
- v. Year wise proposal of reclamation of land.
- vi. Monitoring schedules for different environmental components after the commencement of mining and other related activities.
- vii. Mine closure plan and Rehabilitation & Resettlement plan.
- viii. Leadership quality in planning, selecting and guiding the team

The Mining expert is the key person for preparing Mining reports and plans.

## **B 2.0 Technical area experts for Mining Plan and Design**

### **B 2.1 Technical Area Experts (TAEs)**

Mining Plan and Design is also multi-disciplinary activity where the central figure is the Mining Expert (ME) who should have broad knowledge and practical experience of preparing Mining Plan. S/he should have-

- a) Clarity in the concept of the mining, knowledge of the applicable standards, Acts, Rules and regulations.
- b) Domain knowledge and understanding of the organization, industry.

The following areas of expertise have been identified which are required for carrying out these studies-

i.	Mining Engineering	ME
ii.	Mining Geology	MGEO
iii.	Remote Sensing & GIS	RS
iv.	Civil, Electrical & Mechanical	CEM
v.	Marketing & Finance	M & F
vi.	Socio Economics	SE
vii.	Environment, Health & Safety	EHS
viii.	Geotechnical (optional)	GT

### **B 2.2 Minimum Educational Qualification for TAEs**

- a. A BE/ B. Tech/ M. Tech Degree in Mining Engineering/ Opencast Mining/ Mining Machinery or equivalent granted by a university established or incorporated by or under a Central Act, A Provincial Act or a State Act including any institutions recognized by the University Grants Commission under Section 4 of the University



Grants Commission Act, 1956 (3 of 1956) or any equivalent qualification granted by any university or institute outside India and recognized by Government of India.

- b. Professional experience of three (5) years of working in a supervisory capacity in the field of mining after obtaining the degree.
- c. Desirable – Relevant trainings/ courses of 6 months duration and above.

### **B 2.3 Minimum Experience for TAEs**

- a. An expert should have a minimum 5 years overall experience in the concerned technical area(s) knowledge in preparing Mining Plan.
- b. Officers retired/served for minimum 5 years in Central/ State Mining Departments/Organization/ Research Institutes/ universities/ Colleges will be considered if work in the respective areas.
- c. Proficient in MS office, CAD, ArcGIS, Modelling Software, Data Processing Tools, Geological Modelling Tools.

### **B2.4 Specific Educational Qualification and Experience For Each TAE**

#### **B 2.4.1 Technical Area Expert – Mining Engineer (ME):**

- a. **Educational qualifications specific to functional area**
  - i. A BE/ B. Tech/ B. Sc Engg. / AMIE / M. Tech Degree in Mining Engineering/ Opencast Mining/ Mining Machinery or equivalent granted by a university established or incorporated by or under a Central Act, A Provincial Act or a State Act including any institutions recognized by the University Grants Commission under Section 4 of the University Grants Commission Act, 1956 (3 of 1956) or any equivalent qualification granted by any university or institute outside India and recognized by Government of India
  - ii. Desirable – Relevant trainings/ courses of 6 months duration and above.
- b. **Experience specific to functional area must include**
  - i. Mining Plan/ Pre- Feasibility/ Feasibility Project Report preparation
  - ii. Design of Mining Methods for OC/UG Coal, Metal and Non-Metal Mines
  - iii. Knowledge in broad range current and new UG/OC mining operations
  - iv. Emerging mining technologies and concepts
  - v. Techno- Economic Feasibility for Coal, Metal and Non- Metal Minerals.
  - vi. Selection of Mining Equipment's and Machineries
  - vii. Practical experience in risk management in Mine Design
  - viii. Design and scheduling best practice tools and methodologies.
  - ix. Knowledge of Geology, GIS, Drill & Blast, mining principals and other related mining support services
- c. **Role and Responsibilities**
  - i. Prepare surface and underground plans and blueprints of a mining plans, use of survey data and risk assessment of mine.
  - ii. Prepare Mining Plan/ Pre- Feasibility/ Feasibility Project that describe results and processes of mining,
  - iii. Reconciliation of Prospecting data from economical mine plan, production plans reports.

- iv. Use of mine planning software - Use specialized software to plan, design and model for mining operations
- v. Planning equipment for mineral treatment; communicate and collaborate with engineering experts
- vi. Generate weekly, monthly, quarterly or annual production plan.

#### **B 2.4.2 Technical Area Expert – Mining Geologist (MGEO):**

##### **a. Educational qualifications specific to functional area**

- i. Master's (post-graduate) degree/ M. Tech in either subject- Geology/ Applied Geology from a UGC/AICTE recognized University/ Institution or equivalent.
- ii. Desirable – Relevant trainings/ courses of 6 months duration and above.

##### **b. Experience specific to functional area must include**

- i. Preparation of ore body modelling using Geological Prospecting data, its interpretation, mapping using SW like Minex, Datamine, Geosoft, Minesoft, Surpac, AutoCAD, etc
- ii. Ability to interpret 2D/3D seismic data and create geologic maps and models
- iii. Knowledge and experience of the technologies currently implemented for mining plan, GIS, Drilling, mining principals

##### **c. Role and Responsibilities**

- a. Performs scouting of Prospecting activities in the region, preparation of Prospecting activity plans and budget
- b. Execution of drilling operations at prospective locations, Collection, evaluation and reporting on field samples and prepare activity logs.
- c. Create accurate geology-based maps, lithologs, cross sections and geological models.
- d. Directed, supervised and managed all work performed by field crews and drillers.
- e. Entered and maintained sample information and Prospecting data in relevant database.
- f. Interpreted and complied with all applicable governmental regulations and laws.
- g. Evaluation of geological & mineable resources from national & international prospects;
- h. Research on the feasibility of developing these mineral prospects by analysing, reviewing, and forecasting data for operational and business planning and preparation of the feasibility study report.
- i. Study of available GSI, MECL and other Prospecting reports, compilation and correlation for assessing the likely potentiality of the mineral prospect.

#### **B 2.4.3 Technical Area Expert – Remote Sensing & GIS (RS):**

##### **a. Educational qualifications specific to functional area**

- i. Master's (post-graduate) degree in Science/Technology or equivalent in either subject- Geology/ Applied Geology/ Geo-informatics from a UGC/AICTE recognized University/ Institution or equivalent.
- ii. Desirable – Relevant trainings/ courses of 6 months duration and above.

##### **b. Experience specific to functional area must include**

- i. Sound knowledge of GIS and Remote Sensing software's like ArcGIS, QGIS, Erdas etc.
- ii. Experience on ArcGIS extensions like Spatial Analyst, Data Management tool, Overlay Analysis.
- iii. Experience in GIS database management.
- c. **Role and Responsibilities**
  - i. Remote Sensing, GIS, GPS,
  - ii. Digital photogrammetry,
  - iii. Excavation measurement to slope stability.

#### **B 2.4.4 Technical Area Expert - Surveying (SUR):**

- a. **Educational qualifications specific to functional area**
  - i. Full time Degree/Diploma in Mining & Mines' Surveying from a Govt. recognized institute and possessing valid Mines Surveyor's certificate of Competency from DGMS and having one-year post qualification experience in relevant field
  - ii. Desirable – Relevant trainings/ courses of 6 months duration and above.
- b. **Experience specific to functional area must include**
  - i. Having post qualification experience in Topographical Survey, Borehole survey and relevant experience.
  - ii. Familiarity with Prospecting geology concepts and survey processes
  - iii. Verify the accuracy of survey data including measurements and calculations conducted at survey sites.
  - iv. Calculate heights, depths, relative positions, and other characteristics of terrain.
  - v. Experience in Coal and Metal mining.
- c. **Role and Responsibilities**
  - i. Search legal records, survey records, and land titles to obtain information about boundaries in areas to be surveyed.
  - ii. Prepare and maintain sketches, maps, reports, and legal descriptions of surveys to describe, certify, and assume liability for work performed
  - iii. Prepare or supervise preparation of all data, charts, plots, maps, records, and documents related to surveys.
  - iv. Determine longitudes and latitudes of important features and boundaries in survey areas using theodolites, transits, levels, and satellite-based global positioning systems (GPS).
  - v. Coordinate findings with the work of engineering and architectural personnel, clients, and others concerned with projects.
  - vi. Plan and conduct ground surveys designed to establish baselines, elevations, and other geodetic measurements.
  - vii. Conducting Topographic survey, levelling etc,
  - viii. Locate and mark sites selected for geophysical prospecting activities such as efforts to locate petroleum or other mineral products.

#### **B 2.4.5 Technical Area Expert – Civil, Electrical & Mechanical (CEM):**

- a. **Educational qualifications specific to functional area**

- i. BE/B. Tech/B.Sc. Engg. /AMIE/M Tech in Mechanical/Electrical/Civil Engineering from recognized University or Institute approved by AICTE
  - ii. Desirable – Relevant trainings/ courses of 6 months duration and above.
- b. Experience specific to functional area must include**
- i. Design of various structures for both open-pit and underground mines
  - ii. Plan and design hydraulic systems and transportation structures and systems
  - iii. Manage the construction, operation and maintenance of the work
  - iv. Test soils and various other material to determine the requirement needed for the building of foundations and structures
  - v. Assist in the design and drawing of complex electrical systems
  - vi. Work extensively with electrical equipment such as circuits and transformers
  - vii. Experience in planning and optimising of Plant and Machinery for mining plan
- c. Role and Responsibilities**
- i. Design and Layout of Civil Infrastructure Design (Township, Water Works Distribution, Domestic Effluent Plant)
  - ii. Coal Preparation and coal Handling Units (CHP) Design
  - iii. Heavy Earth Moving Machinery Equipments (HEMM) Workshop Design.
  - iv. Mine Shafts Units, Mine Ventilation by Simulation Modelling
  - v. Washery Design and Implementation of Modern Washability Methods
  - vi. In-Pit Crushing and Conveying System (IPCCC) and ROPECON Technology Application
  - vii. High Angle Belt Conveying System in both O/C & U/G Mines
  - viii. Energy Efficiency Study (Electrical & Diesel Equipments) of Mines and International Bench Marking of the Mining Activities
  - ix. Consultancy on “Energy Sensitive Organizational Structure”
  - x. All mine specific software development and IT enabled services
  - xi. GPS enabled monitoring mechanism

**B 2.4.6 Technical Area Expert – Marketing & Finance (M&F):**

- a. Educational qualifications specific to functional area**
- i. CA/ ICWA or B. Tech with MBA.
  - ii. Desirable – Relevant trainings/ courses of 6 months duration and above.
- b. Experience specific to functional area must include**
- i. Experience in establishing commercial viability of the project, Budgeting and financing;
  - ii. Identifies the existence of markets or long-term, contracts for the product; and decides whether or not the mine should be developed
  - iii. Stripping costs where removal of overburden occurs for production, calculation of stripping adjustments
  - iv. Determination of impairment charges
- c. Role and Responsibilities**
- i. Detailed Project Costing & Financial Structuring.

- ii. Risk Analysis Study
- iii. Macro and Micro Analysis of Project Viability
- iv. Equipment's Depreciation and amortization
- v. Profitability Index Study.

**B 2.4.7 Technical Area Expert – Socio-Economics (SE):**

**a. Educational qualifications specific to functional area**

- i. Master's (post graduate) degree in Social Welfare / Sociology/ Political Science/ Psychology/ Geography/ Anthropology/ Economics/Environmental Economics/Urban Planning/Regional Planning/Environmental Planning, Developmental Sciences  
or  
Rural Development and Management – rural economics/ Economic Sociology/ Demographic Studies  
or
- ii. MBA (Rural Management)  
or
- iii. Any other social science related subject  
or
- iv. 2 years Post Graduate Diploma in Sociology from recognized Institution like Tata Institute of Social Sciences, Xavier Institute of Social Sciences, Ranchi/Xavier Institute of Management, Bhubaneswar/XLRI, Jamshedpur and other reputed institutes.
- v. Desirable – Relevant trainings/ courses of 6 months duration and above.

**b. Experience specific to functional area must include**

- i. Conducting baseline socio-economic surveys through interviews/questionnaire/focused group discussions/participatory rural appraisal (PRA)/rapid rural appraisal (RRA)
- ii. Methodologies on extrapolation of census data to project an up-to-date status including selected ground validation of the same
- iii. Conduct social needs assessment studies
- iv. Evaluation of socio-economic status of both tribal and non-tribal areas
- v. Demonstrated capacity to interact and develop rapport at community level will be an added advantage
- vi. Conduct Rehabilitation and Resettlement (R & R) studies for people displaced due to developmental projects and development for R & R plan
- vii. Assessment of social changes arising out of development projects

The following are the additional expectation from the expert:

- Understanding of policies, guidelines and the legislation related to R & R issues
- Social Impact Assessment of development projects in Rural/ Urban areas

**B 2.4.8 Technical Area Expert – Environment, Health & Safety (EHS):**

**a. Educational qualifications specific to functional area**

- i. B. Tech/B. E/ M. Tech in Environmental Engineering, Civil, Geotechnical engineering or Engineering Geology or equivalent.

- ii. Desirable – Diploma in (Industrial Safety) from premier institutions (like CLI, RLIs, NITIE, NITs, P. G. Diploma recognized by State Board of Technical Education).

**b. Experience specific to functional area must include**

- i. Outstanding knowledge of EHS management systems and related software
- ii. Familiarity with OHSAS standards and regulations
- iii. Planning of Long-term Sustainability initiatives (Natural capital, Human capital)
- iv. Specifications for Specific Dust emission, water consumption, energy consumption, Solid waste utilization and Green belt development.
- v. Facilitate Engineering & Project department by implementing various environment improvement projects
- vi. Should have experience as Safety Officer preferably in Mining Industry

**c. Role and Responsibilities**

- i. Prepares and assist in compliance's, general risk assessments and other safety assessments to support Health, Safety and Environmental management
- ii. Responsible for Industrial Hygiene, Occupational Health, Waste Management and business process enhancements
- iii. Maintain EHS configurations and Maintain operational procedures around supported environments
- iv. Write, implement, and manage HSE Programs, Policies and Procedures
- v. Develop Safe Operating Procedure (SOP's) and Job Hazard Analysis

**B 2.4.9 Technical Area Expert - Geotechnical (GT):**

**a. Educational qualifications specific to functional area**

- i. B. Tech/B. E/ M. Tech in Civil, Rock Mechanics and Geotechnical engineering or Engineering Geology or equivalent.
- ii. Desirable – Relevant trainings/ courses of 6 months duration and above.

**b. Experience specific to functional area must include**

- i. Rock strength tests like Triaxial test, compressive strength test, Unified compressive strength etc
- ii. Rock-quality designation (RQD) measured as a percentage of the drill core in lengths of 10 cm or more
- iii. Investigation, analysis and modelling of geotechnical issues
- iv. Geotechnical characterization of borehole core and domain modelling
- v. Impact testing, Scratch testing etc.
- vi. Work closely with the Geology department to optimize safe, timely drill-hole results

**c. Role and Responsibilities**

- i. Slope design for open pits
- ii. Headings, roadways and drifts for underground operations
- iii. Panel and longwall design
- iv. Tailing dam design
- v. Special constructions

- vi. Geological Structure using precision measuring and testing instruments

### **B 3.0 Team Member (TM)**

A provision of 'Team Member' has been included in the Scheme to provide opportunity to

- a. Experienced professionals in their own fields but lacking experience to enter the profession
- b. Existing experts to expand the field of association
- c. Persons who have completed 5 years after obtaining eligibility qualification but do not meet the experience requirements of TAE or EC
- d. This provision is available only for in-house experts

### **B 3.1 Expected functions of team member**

The team member (TM) is expected to be involved both in field work as well as in the discussions amongst the PC and the TAEs. Since s/he is expected to be knowledgeable in area of expertise, emphasis should be given to acquaint her/him on aspects, developing the management plans and finally in report writing for her/his part of association in the study.

### **B 4.0 Requirements of Experts/ Number of experts Required:**

- 1. Project Coordinators must be in-house (full time employee).
- 2. Experts involved in preparing Mine Planning reports must be in-house (full time employee).
- 3. Any organization to be accredited must have one approved in-house Project Coordinator (Mining), one in-house TAE (Mining).
- 4. The other TAE may be in-house or empanelled. The organisation must cover remaining TAs as per the project requirement.

## **1.3 Coverage of the Scheme**

This comprehensive document describes the scheme's requirements of human resource, Quality Management Systems and procedures to be followed, integrity of data, the assessment process, the accreditation criteria and other relevant requirements of the Scheme.

## **1.4 Updation of the Scheme**

**The accreditation Scheme is dynamic in nature. Modifications and updation will take place from time to time with the consultation and approval of Ministry. It ought to be for continually improving the delivery and effectiveness of the consultancy.**

QCI/NABET reserves all rights to amend its procedures and fees etc., as it may deem fit. Applicants are requested to refer to the updated scheme on the QCI/NABET website (<http://nabet.qci.org.in/>) before applying for their accreditation/surveillance/re-accreditation/expansion or modification of scope.

## **2.0 Requirements for Accreditation**

The accreditation requirements have been developed with a view to have system-based approach. The scheme specifies the following six essential requirements for accreditation:

- i. Human resource
- ii. Field investigation and laboratory arrangement
- iii. Suitable infrastructure, P & M, Software, office and Equipment
- iv. Quality Management System (QMS)
- v. Quality of reports
- vi. Organizational commitment
- vii. Compliance to conditions of accreditation/ improvements achieved

## 2.1 Human resource

Preparation of a Prospecting report and Mining Plan and mine design is essentially multi-disciplinary activity where inputs are required from experts having knowledge of the prospecting, mining and industry/sector for which reports are to be carried out.

### 2.1.1 Project Coordinator (PC)

The Project coordinator should have broad knowledge about the project. The role of the PC includes, but not be limited to, studying and understanding the project, setting-up the team, visiting the site with the team, evolving work schedule and ensuring that data are appropriately utilized for generating the comprehensive report, correct interpretation and correlation of the data, and maintenance of necessary records.

**The essential requisites for PC include the following –**

- Conceptual understanding of project requirements, process and outcome.
- Knowledge of the applicable Acts, Rules and Regulations governing the project.
- Domain knowledge
- Leadership quality in planning, selecting and guiding the team

Thus, for Project Coordinator emphasis is given on experience and maturity.

For educational qualification, minimum experience and expected functions of Project Coordinators (PC) for different schemes please refer to below mentioned respective appendices.

1. Project Coordinator Prospecting
2. Project Coordinator Mining Plan

### 2.1.2 Technical Area Expert (TAE)

TAEs are expected to identify and assess in their respective areas of expertise for adequate input for the report input and provide their expert inputs to the PC. TAEs should have -

- an in-depth knowledge in their respective areas of specialization
- understanding of the legislations and rules/regulations with respect to the technical areas
- the capability of identifying the need of the project,

For educational qualification, minimum experience and expected functions of Project Coordinators (PC) for different schemes please refer to below mentioned respective appendices.

1. Technical Area Expert Prospecting
2. Technical Area Expert Mining Plan

### 2.1.3 Team members (TM)

A provision of 'Team Member' has been introduced to:

- Encourage induction of new professionals experienced in their respective technical areas but lack direct related experience.
- Give opportunity to professionals in the field to build their competencies for handling different technical areas under the Scheme. This provision is available for in-house employees only.

NABET must be informed about involving professional as team member **prior to actually engaging** her/him for the job.

### 2.1.4 General conditions for experts

- a. Experts involved in preparing reports, namely PCs and TAEs, can be both, in-house (full time employee) or empanelled as per requirement.



- b. **In-house (IH) expert**- is a full-time employee working on the pay rolls of the applicant organization (AO)/accredited consultant organization (ACO) on regular basis (not on ‘time to time basis’ or on ‘as an when required’ basis) and gets appropriately paid as per her/his qualification and experience. All payments to an in-house expert are to be made through bank and are subject to TDS, as applicable.
- c. An expert working full time (as per the above definition) in an organization and not working in any capacity, part time or full time, in any other organization, may opt for a designation as ‘**Consultant**’. Such a person may be considered as an ‘in-house expert’ after necessary due diligence by NABET assessors during office assessment.
- d. **Empanelled expert**—an AO/ACO may also have ‘empanelled’ experts. An empanelled expert may be a ‘freelancer’ (not a full-time employee of any organization) or may be working with an NGO or Research organization/Academic institute. In the latter case, a No objection certificate (NOC) is to be obtained from the Registrar for a University, the Principal for a college and the head of organization for an NGO or a Research organization, as the case may be. The AO/ACO must have an MOU/written agreement with such experts. Details to be included in NOC and MOU/Agreement.
- e. A person working in an organization other than a NGO/Research/Academic Institute cannot opt as an empanelled expert for an AO/ACO. A full time Director in a Private/Public Limited company or a ‘Partner’ in a partnership firm is considered as a full-time employee of the organization/firm and is not eligible to opt as an empanelled expert under the Scheme. However, if a person is an Independent Director in a company, s/he is eligible to be an empanelled expert with a maximum of five AO/ACO. In such cases, relevant documentary evidence has to be furnished of his/her being an Independent Director in the company.
- f. An expert employed with an NGO or a Research/Academic institute may seek empanelment with a maximum 3 AO/ACO. (subject to condition 5.1.6 xi given below)
- g. All empanelled candidates/experts are required to furnish a Declaration of Association signed by the candidate/expert and countersigned by the authorized signatory of the AO/ACO. There should also be a MOU or Agreement between the empanelled candidate/expert stating the tenure and scope of association duly signed by both parties.
- h. Empanelled experts may contribute to the report as and when the work is assigned to them. However, their expected functions are same as those for IH experts.
- i. PCs, TAEs and TMs must maintain field log books of their visits to the site giving the observations, work done etc., for the stated activity.
- j. Submission of any false or misleading information in any of the above aspects, shall lead to the cancellation of approval of such experts and/or application/ accreditation of the organization.

## 2.2 **Field investigation and laboratory arrangement**

Collection of quality primary data is of crucial importance for preparing Prospecting, Mining Plan and Pre-Feasibility/ Feasibility reports. A good understanding of the project based on visit to the project site by approved PCs and TAEs is of utmost importance for developing the scope of study and for data collection.

The field investigation would include as per the Prospecting plan to cover following aspects:

- i. Exploration coverage
- ii. Borehole Density as per ISP norms
- iii. Coring and Non-Coring Drilling data
- iv. Geophysical logging
- v. RQD and Physico-Mechanical test
- vi. Survey Data
- vii. Hydrogeological Data

### 2.2.1 **Laboratory arrangement for analysis and records of Results w.r.t.DATA**

The AO/APA may have an in-house laboratory or agreement/MOU/Work Order with one or more external laboratories for work related to collecting data. If it engages more than one laboratory to cover its requirements of Prospecting report being carried out in different parts of the country, it should have a clear internal guideline of assigning the work to a particular laboratory and maintaining the necessary record of the same.

Laboratories engaged for the Coal core analysis should be carried out in Govt/NABL accredited recognized laboratory. All analyses should be carried out as specified guidelines. The scope of accreditation/recognition/certification should cover relevant parameters.

In specific cases, in-house laboratories of a university/ research institute may also be considered, and assessed by the Assessors to be appropriate for consideration under the Scheme.

Wherever such data generation includes collection of samples at the site by the AO/APA followed by analysis of the same at the laboratory, a detailed written down procedure should be available with the AO/APA in the QMS, including methodologies for collection, preservation and transportation of such samples to the laboratory. The procedure should specifically address as to who are to be involved in selecting sampling locations, parameters to be analysed for, collection, preservation/transportation etc. of samples.

### **2.3 Suitable infrastructure, P & M, Software, office and Equipments: May be referred at the website of QCI-NABET**

### **2.4 Quality management system (QMS) -**

One of the long-term objectives of this Scheme is to encourage the consultant organizations to adopt system-oriented approach for report preparation. Ideally, all Prospecting and Mining Plan Preparation Agency/ organizations should have their own report preparation manual as well which they may enrich from their learnings' over the years.

To facilitate the above, the applicant organization must maintain a Quality Management Systems (QMS) for the organizations. The QMS should be based on the current version of ISO 9001 standards. Although it is not mandatory that the organization should be ISO 9001 certified, the QMS must address the requirements of ISO 9001 and the specific requirements of the Scheme.

Prospecting Consultants are advised to establish and maintain a Quality Management System (QMS) for their organization as the same offers the following benefits;

- Creates a culture of doing things right, the very first time.
- Inculcates the culture of “saying, what we do and doing, what we say”
- Increases system orientation and reduces person specific dependence.
- Encourages uniform knowledge sharing and develops skilled work force.
- Helps develop team spirit
- Reduces duplicate work and minimizes wastages.
- Improves quality of work and brand image.

QMS should be based on ISO 9001 while addressing specific requirements of NABET Scheme. Please note that if an organization is already ISO 9001 certified, guidelines B1 to B4 and B10 are normally addressed (which may please be checked). It is then required to develop procedures for the NABET specific items i.e., B4 to B9 and integrate them with the system meaning that these should also come under the ambit of auditing, document control, management review etc.

If an organization has not been initiated into the system-oriented approach of working which is documented, audited and reviewed, it needs to acquaint itself of ISO 9001 requirements. Such organizations may initially take the help of a consultant but **MUST NOT OUTSOURCE THE WORK OF ESTABLISHING THE QMS** to him to meet the requirements of the NABET Scheme. Such an approach will be counterproductive as the system so developed is less likely to be owned by the working team and would remain a standalone document. **THE BEST WAY IS TO GET THE GUIDANCE OF A CONSULTANT BUT LET THE WORKING TEAM ESTABLISH THE SYSTEM.**

A QMS is supported by a 3-tier documentation system

- The Quality Management System manual
- Procedures
- Work instructions/forms/formats/checklists to implement the procedures

**Guidelines for developing the QMS –**

**Quality policy shall be defined to address at least following:**

- a. Be appropriate to the Organization's purpose & context, and support its strategic direction
- b. Includes commitment for, continual improvement and satisfy applicable requirements
- c. Provide a framework for setting objectives and a review mechanism
- d. Be communicated and understood within the Organization
- e. Focus on customer satisfaction

**Leadership and Planning Support & Operation- Shall give procedures for planning, operations & support for defined QMS including role and accountability of Top management.**

- a. Accountability for Effective design and implementation of QMS is defined
- b. Use of process approach and risk-based thinking is evident
- c. System for effective communication is defined and implemented
- d. Risk Management process is established, that is linked to organizations context
- e. Interested parties for organization's QMS are identified and their inputs are captured to improve QMS
- f. System for change management is defined and implemented
- g. Shall determine, provide and maintain the infrastructure necessary for its operation and processes.
- h. Shall plan implement and control the processes needed to meet the requirements as per defined QMS

**Control of documented information shall give procedures for:**

- a. Uniquely identifying documents and records
- b. Approving documents prior to issue
- c. Distribution, access, retrieval and use
- d. Control of changes
- e. Reviewing and updating of documents, as required
- f. Retention and Disposition
- g. Ensuring quick availability of relevant revision of the document
- h. Storage, protection and retrieval of documented information and handling of outdated/superseded documents

**Performance Evaluation and Review shall give procedures for:**

- a. Fixing Key Performance Indicators (KPI) of experts involved and annual appraisal of the same
- b. Assessing / ensuring the quality of Geological reports prepared
- c. Periodic and systematic audit, both internal and external and follow up action for closure of Non-conformances (NCs)/ observations.
- d. Management review giving periodicity and issues to be taken up including feedback from project proponent on quality of Geological reports prepared and necessary follow up action.

**Actions taken to address Non- conformances– shall give procedures for:**

- a. Analysing the NCs of internal audits as well as external audits including NABET to identify the causes and the actions to be taken,
- b. Identifying resources and other inputs required for such actions,
- c. Fixing the time frame and the responsibility for the actions,
- d. Ensuring the completion of the actions to be taken,
- e. Review the effectiveness of corrective actions taken
- f. Review risks, opportunities and overall QMS if required

**Competence management of staff, experts and other persons related to scope of QMS– shall give procedures for:**

- a. Define and provide the necessary persons needed for effective implementation of QMS
- b. Define the necessary competence (Education, experience and skills) for staff, experts and other persons whether in house or contractual, impacting the QMS of the organization,
- c. Assessing the work done by the prospective experts prior to their retention
- d. Framing the “terms of reference” for retention of the expert, including preparation of the report for her/his portion of the work,
- e. Assessing performance of the work done by the experts for the organization,
- f. Wherever applicable, take appropriate actions to acquire necessary competence and evaluate the effectiveness of actions taken
- g. Maintain appropriate documented information as evidence of competence.

**Collection and measurement of primary data**

‘Primary’ data will cover all forms of data collected through the field work, for assessing the project area. The procedures for collecting primary data should include:

- a. Site visits by the Prospecting team to familiarize about site conditions to plan for the Prospecting  
Selecting the number and location of monitoring stations and the type of sampling and parameters to be monitored
- b. Interpretation of data including statistical analysis to arrive at meaningful information
- c. Specifying as appropriate for the scope of Prospecting methodologies to be followed and interpretation of the same.

**Collation, synthesis and interpretation of secondary data –**

Authenticity, credibility, appropriateness and relevance of the secondary data are the cornerstones of a good Geological report. Secondary data shall be used to supplement the primary data and under no circumstances this shall be used as a replacement of primary data. This procedure should include information on:

- a. When secondary data would be resorted to
- b. Relevant secondary data to be collected as appropriate for Prospecting study requirements
- c. Sources of secondary data ensuring their reliability and age
- d. Validation of important secondary data by cross verification at the site or from other sources
- e. Ensuring the brevity of the data (eliminating irrelevant information)

It is a good practice to give reference to the source when secondary data is used.

**Control of externally provided process, products and services**

Organization shall give procedure to apply necessary controls for the externally provided processes, products and services.

The manual should mention procedures for:

- a. Defining the conditions when outsourcing would be resorted to
- b. Assessing the capability of the agency to take up the work to be outsourced
- c. Drawing up the terms of reference for the outsourced work
- d. Identifying steps to be taken to ensure the quality of the outsourced work
- e. Timely review, monitor and control on outsourced services as per defined QMS

**Laboratory work for Prospecting data – should give procedures for:**

- a. Assessing a laboratory for its capability to analyze the parameters required for collection of surface and sub surface Prospecting data and studies
- b. Identifying the scope of work to be assigned to the lab and those to be done by the Prospecting Consultant Organization
- c. Collection, preservation and transportation of samples from site to the laboratory
- d. Quality assurance by the team of the primary data collection work including supervision at site
- e. Type of records to be maintained by the laboratory and the team on the baseline data collection work

**Customer satisfaction & Complaints–shall give procedures for**

- a. Monitor customers perceptions of the degree to which their needs and expectations are fulfilled.
- b. Informing the clients about the provision of complaints
- c. Accepting complaints
- d. Handling and disposal (including authority and responsibility) of the same within reasonable time
- e. Maintaining records of complaints
- f. Ensuring implementation of correction and corrective actions

## **2.5 Quality of Prospecting (GR), Mining Plan and Pre-feasibility/ Feasibility reports**

One of the important objectives of the Scheme is to establish the quality of report prepared by Consultant Organizations, give feedback to them on areas of improvement so that there is consistent report quality. The assessment criteria include accuracy of site description, quality of data, analysis and interpretation of the data.

## **2.6 Organizational commitment**

The objective of the Scheme is to identify credible Prospecting and Mining Plan Preparation Agencies organizations who should prepare best quality Prospecting (GR), Mining plan and Pre-feasibility/ Feasibility report in the country. This will be possible when there is a commitment from the accredited agencies towards comprehensive report. This has been factored in the Scheme and for Re-accreditation assessment compliance to the accreditation condition by the accredited agency/ organization since receiving accreditation is also taken into account (see Section 6 below).

## **3.0 ACCREDITATION CYCLE**

Accreditation Cycle in this Scheme is for 3 years and comprises 3 types of assessments:

**Initial accreditation (IA):** In the IA, the potential of the applicant organization is assessed and based on that accreditation is granted. On successful completion of the initial assessment, an applicant organization is given accreditation for 3 years, subject to a surveillance assessment after 18 months.

**Surveillance assessment (SA):** This is to assess performance after IA. The basic objective is to judge to what extent the performance along with compliance to the conditions of accreditation has been met. SA falls due 18 months after IA.

**Re-accreditation (RA):** Following the principle of ‘consistency’, in RA the emphasis is laid on the consistent quality achieved by the ACO during the period of accreditation. Since, the ultimate objective of the Scheme is to improve the quality of Mining plan/ Geological Reports being prepared in our country, weightage accorded to it gradually increases from IA to SA to RA.

On completion of three years from initial accreditation, the organization is re-assessed broadly as per the process followed for Initial Assessment with emphasis on improvements achieved.

#### 4.0 ACCREDITATION PROCESS

The accreditation procedure for IA, SA and RA includes three processes:

- A. Application assessment process
- B. Office assessment process
- C. Decision making process

#### 4.1 Application assessment process

There are separate application forms for IA, SA, RA, expansion of scope and supplementary assessment for replacing approved experts who may have left the organization. These can be downloaded from the NABET website [www.http://nabet.qci.org.in/](http://nabet.qci.org.in/).

Applicants are advised to go through the accreditation scheme carefully prior to preparing/submitting their application. They must complete the Self-assessment to know if the applications are ready for submission and whether they are ready for NABET assessment. This would greatly reduce processing time benefiting both, the Applicant organization (AO) /Accredited Consultant Organization (ACO) and NABET. Applications are to be submitted in soft format only. In case, NABET requires hard copy of a document, the same is intimated to the AO/ACO.

Application for SA must be submitted three months prior to the when SA is due i.e. on completion of 16 months after date of office assessment for IA. Similarly, RA application should be submitted three months prior to expiry of accreditation period i.e., on completion of 34 months after date of office assessment for IA.

NABET application process is on-line and procedure to be adopted for applying on-line will be posted on the QCI/NABET website.

Assessment of the applications is carried out in 3 stages -

##### **Stage I– Checking completeness of the application by NABET secretariat**

Applications submitted by an AO/ACO must be complete in all respects and is inclusive of all supporting documents mentioned in the checklist of Application Form (for IA, SA, RA) of this Scheme.

NABET secretariat checks if the

- (a) Application is complete in all respects,
- (b) Information submitted is in relevant formats and
- (c) Application is accompanied by the requisite fee.

In case an application is grossly incomplete in respect of candidates/experts, laboratory arrangement etc., NABET secretariat informs the AO/ACO of the inadequacies. Such applications are processed further once the inadequacies are addressed. For other applications, the NABET secretariat forwards the application to the principal assessor (see below) with its observations for technical scrutiny. The AO/ACO is advised to carefully study the requirements before filling in the application.

##### **Stage II - Technical review of documents**

Assessors with vast experience in the relevant fields conduct technical review of documents of the applications submitted to NABET. For each application two assessors are assigned. The Principal Assessor (PA) carries out the Stage II assessment supported by the NABET staff. The PA is joined by a Co-Assessor (CA) for the office assessment (see below). In case the number of experts involved is large,

NABET may assign more CAs to expedite the process. After Stage II assessment the PA may raise Non-Conformances (NCs) and/or Observations (Obs.) pointing out the areas where the application does not meet the requirements of the Scheme. After the NCs and Obs. are successfully closed by the AO/ACO, further processing of the application i.e. the office assessment is taken up.

### **Stage III - Office assessment**

It involves assessment of an application in the following six aspects:

- a. Quality and performance of personnel
- b. Infrastructure, P & M, adequate Software (SW) and Hardware (HW)
- c. Field investigations and laboratory systems to ensure data integrity
- d. Quality Management System
- e. Quality of Prospecting Work, Mining Plan and Pre-feasibility/ Feasibility report data
- f. Organizational evaluation/commitment
- g. Compliance to condition of accreditation/ improvements achieved(for SA and RA)

The assessment process is primarily evidence based and objective in nature. After obtaining accreditation, an ACO is expected to strictly abide by the conditions of accreditation. Efforts towards capacity building and commitment to quality work are given due weightage.

Normally, 10 days prior notice is given to the AO/ACO for office assessment. However, NABET reserves the right to visit the office/site un-announced, if it is deemed necessary.

#### **4.2 Decision making process**

On completion of office assessment process, a joint report is prepared by the PA and CA (or CAs) and sent to the NABET secretariat for further processing. The PA is responsible for the final report. NABET secretariat after checking the completeness of the report, obtains clarifications/additional information, if required, from the AO/ACO/Assessors. The case is then put before the accreditation committee by the NABET secretariat for its consideration, review and decision on accreditation. The final outcome is thereafter uploaded on QCI/NABET website <http://nabet.qci.org.in/> accreditation becomes effective from the last date of the office assessment.

#### **4.3 Time frame for application and accreditation processes**

Completion of application, assessment and accreditation processes depends on the following:

- a. Receipt of complete information at NABET for Stage I and II assessments along with necessary documents and closure action of NCs/Obs., as applicable, for IA, SA and RA applications.
- b. Timely submissions of such information by AO/ACO within the time frame stipulated by NABET vide section 10 for SA and RA. For initial accreditation AOs are requested to submit the required details as early as possible.
- c. Timely raising of queries by NABET within 15 days for Stage I and 1 month for Stage II.

Subject to the above, all efforts are made by NABET to complete the process of granting accreditation within 3 months of submission of complete information by AO/ACO.

#### **4.4 Accreditation process outcome**

The salient outcomes from accreditation process are as follows:

- a. **Accredited** – in case the applicant clears the assessment and accreditation processes successfully, the result is posted on the QCI/NABET website and the AO/ACO is also informed separately.
- b. **Not approved** – if the AO/ACO fails to obtain 40% marks in the office assessment or does not fulfill any other requirements of the Scheme, the application is not approved and accreditation is not granted.

- c. **Cancellation** - in case an ACO does not fulfil conditions of accreditation or does not submit complete application for SA or RA in time, a reminder is given to do the same in the next 15 days. If complete application is not submitted even after 15 days, a final notice is served for responding giving another 15 days' time.

In the event of non-compliance after the final notice as well, the accreditation granted to the ACO is cancelled and its' name is removed from the list of accredited consultants. In case it wishes to get considered again under the Scheme, it is required to submit a fresh application with requisite fee. Fresh assessment is then carried out as per IA norms

- d. **Incomplete applications** – If an AO submits an incomplete application in which requisite details are not provided or it does not meet the requirements of the Scheme in respect of eligible candidates for EC and FAEs, QMS, Laboratory details etc., the same is put in the 'incomplete applications' list. NABET intimates the AO of the deficiencies in the application. If it is an application for IA, the same is processed further once all requirements are fulfilled.

#### 4.5 Category of accredited consultants

Prospecting and Mining Plan Preparation Agency/ organizations are granted accreditation in categories 'A' or 'B'. Experts are also approved in categories A or B under this Scheme.

If an approved category A expert scores less than 50% marks in SA, s/he is issued an alert and her/his approval status may be changed to Cat. B. A category B expert is upgraded to category A if -

- a. S/he meets the experience requirements stated in the Scheme/has addressed the shortfalls of earlier assessment in the re-application
- b. Scores 60% or more in SA/RA/Supplementary Assessment and
- c. Recommended for up-gradation by the assessors on fulfilment of point a, b above and final decision of Accreditation Committee.

#### 5.0 GRANT OF ACCREDITATION

Results of the accreditation committee meeting are uploaded on the QCI/NABET website within a month of the AC meeting in which the relevant case is discussed. A formal letter from NABET is sent within one month from the date of approval by the accreditation committee mentioning the approved sectors with category, experts approved with category, detailed conditions of accreditation and NCs & Obs., if any. NABET's certificate of accreditation is issued on successful closure of all NCs and Obs.

#### 5.1 Maintaining Accreditation

Accreditation of Prospecting and Mining Plan Preparation Agency is subject to compliance to the requirements of the QCI – NABET Scheme. These include, but are not limited to:

- a. Implementation of systems/procedures documented in the QMS manual of the ACO including the corrective and preventive actions for the NCs and Obs. of IA, SA, RA, as applicable.
- b. ACOs are encouraged to prepare their own 'Report preparation manual' detailing the procedures followed right from the time of placing quotes for the work to completion of the project.
- c. Timely replacement of experts - in case any approved PC or TAE leaves the ACO, s/he needs to be replaced with in a specific time.
- d. Intimation of changes – in case of any change in the organization related to systems, procedures, laboratory and other facilities, the same is to be intimated to NABET in the within one month.
- e. Payment of fees, as applicable, to NABET as per the terms of accreditation.
- f. At the beginning of the reports prepared by the ACO a declaration is to be given by the ACO mentioning the names of the PC and TAEs involved. This form must be duly signed by them and countersigned by the CEO of the organization.



- g. Familiarity with the site conditions is a fundamental requirement, concerned PC and relevant TAEs are expected to visit the site for appropriate duration prior to commencing the work as well as during the period of primary data collection and for ground validation of secondary data.
- h. All PCs and TAEs and team members involved in the project should maintain a field logbook with noting done at the site. NABET's assessors may verify these during the office assessment. It is worthwhile to maintain other documentations on the expert's site visits viz., expert's report, and authorization of tours, travel documents etc.
- i. The ACO is to strictly avoid practices/actions mentioned in Section 9.3 to ensure that accreditation granted to it is not cancelled.
- j. The ACO is to maintain the following records (in soft or hard format)
  - i. A register of attendance of employees involved in project.
  - ii. Names of the experts (both in-house and empaneled) involved in projects handled by the consultant organization.
  - iii. Details of involvement of empaneled experts, in terms of time devoted to various projects.
  - iv. Updated declaration of empaneled experts indicating the number of organizations they are associated with.
  - v. All documents related to laboratory work and implementation of QMS

## **5.2 Changes after accreditation**

Since accreditation of a consultant organization is based on the experts approved, an ACO must inform NABET if an approved expert leaves the organization and propose a replacement in accordance of the Scheme's requirements within one month. NABET would arrange assessment of such candidate/s either during the next assessment due or earlier. Failing to propose a replacement on time is a non-conformance, viewed seriously and may also result in cancellation of accreditation.

A new candidate may be proposed as a PC or a TAE for assessment at any time. However, for a person already assessed and not approved may be proposed only after a gap of 3 months enabling her/him to address the shortfall.

## **5.3 Suspension/cancellation/debarment of accreditation**

NABET may suspend or cancel an accreditation or even debar an organization on account of any or more grounds during accreditation process or after, but not limited, to the following:

- a. Non-compliance or violation of the NABET's requirements and conditions of accreditation and deviation from facts as stated in application and enclosures
- b. In case an approved expert leaves the organization, the ACO is required to inform NABET of the same within one month and get a replacement approved within the next two months.
- c. Submission of false or misleading information in the application or in subsequent submissions
- d. Improper use of NABET's accreditation mark, letter of accreditation from NABET or the QCI/NABET logo
- e. Carrying out changes in Project coordinators/experts without NABET's approval
- f. Failure to report any major legal (mandatory compliance) changes and evident conflict of interest
- g. Using fraudulent practices by the ACO in respect of its submission/interaction with NABET which include, but not limited to, deliberate concealment and/or submission of false or misleading information, suppression of information, falsification of records or data, unauthorized use of accreditation.
- h. Violation of the Code of Conduct for the consultant organizations.
- i. Any other condition deemed appropriate by NABET.

The decision for the suspension/cancellation/debarment is taken by the NABET accreditation committee.

A clarification may be sought and put up to the accreditation committee for final decision on the matter.

#### **5.4 Actions for misconduct/fraudulent activities**

Submission of false or misleading information or use of fraudulent practices, an AO/ACO may be disqualified for up to one year, to be decided by the accreditation committee depending on the seriousness of the action. Such AO/ACO will be able to re-apply only after expiry of the disqualification period. The application is to be accompanied with an undertaking from the CEO of the organization that, if such practices are repeated, it will render the organization ineligible to participate in the NABET accreditation scheme any further. The same approach is applicable for individual experts (ECs and FAEs) as well.

#### **5.5 Confidentiality**

All information, documents and reports submitted by an AO/ACO to NABET are utilized by the NABET, assessors, members of accreditation and technical committees for the purpose of assessment and accreditation. These may also be shared with MoC, Govt. of India and other members of the International Personnel Certification Association. However, the identity of the accredited consultant organizations would be masked for sensitive information related to business whenever it is called for/appropriate. In case an AO/ACO wants the information to be kept confidential, a communication must be sent to NABET citing reasons for the same. NABET reserves the right to take appropriate decision in this regard. NABET also reserves the right of taking appropriate action against an ACO for deliberate breach of confidentiality.

The ACO is required to have adequate arrangements consistent with applicable laws to safeguard confidentiality of all information provided by its clients. These arrangements are extended to include organizations or individuals acting on its behalf and as its representatives.

### **6.0 GRIEVANCE REDRESSAL MECHANISM**

There are two methodologies available under the Scheme for addressing the grievances of AOs and ACOs–

- a. Review of Decisions
- b. Appeal

#### **6.1 Review of decisions**

In case an AO/ACO wishes for review/reconsideration of any decision taken by NABET, they may send a request for same to NABET.

##### **The following procedure is applicable:**

- a. Request received from AO/ACO by NABET is recorded in the same serial as date of receipt
- b. Request must mention specific complaints (not generic in nature) and supported by documentary evidence.
- c. Anonymous/ pseudonymous requests are not be entertained.
- d. Only substantial errors/mistakes on procedural matters are taken up for consideration. Re-assessment of any aspect of assessment or request for deviation from the Scheme cannot be considered.
- e. Such ‘Reviews’ are taken up for consideration in a meeting of the relevant Accreditation Committee as early as possible.
- f. Agenda of such meetings is intimated to the AO/ACO.
- g. AOs/ACOs making the request may present their case in person to the AC, if they so desire.
- h. Decision of the AC is intimated to the concerned organizations as well as posted on QCI website.

#### **6.2 Appeal**

An AO/ ACO may apply for Appeal in case it is not satisfied with the ‘Review’ decision.

An ‘Appeal’ must include the specific issues on which the appellant is filing the appeal accompanied by supporting documents, fees for appeal. The following information is to be provided while submitting the appeal -

Sl.No	Specific issue/s submitted in Review	Supporting documents submitted in Review	Decision of Review Committee	Additional/ new issues submitted in Appeal now	New supporting documents added now
1	-	-	-	-	-

The following procedure is applicable:

- i. Formation of 3-member Appeals Committee by NABET, chaired by a member of NABET Board and comprising one more member from NABET Board and one subject specialist.
- ii. The Appeals Committee proposed is approved by the Chairman, NABET Board.
- iii. The documents received from the appellant are submitted to the members of the Appeals committee by NABET Secretariat.
- iv. Process of hearing by the committee - the committee fixes a date for the hearing which is intimated to the appellant by NABET secretariat. A reasonable notice period is given for the appellant to appear in the hearing. The committee gives due opportunity to the appellant and the NABET secretariat to present their cases. The committee gives its decision after hearing both the sides and based on deliberation within it.
- v. The decision of the Appeals committee is intimated to the appellant by NABET Secretariat.

## 7.0 CODE OF CONDUCT

All ACOs are obliged to improve the standing of the consultancy profession by rigorously observing the Code of Conduct. Failure to do so may result in the suspension or cancellation of accreditation.

### 7.1 Use of QCI and NABET logo

- a. The QCI and NABET accreditation logo is the property of NABET and its use is controlled. Compliance to the guidelines and conditions is required for using NABET Accreditation Mark
  - i. Whenever a Prospecting and Mining Plan Preparing Agency is accredited, NABET shall inform the relevant entity about the conditions of the use of accreditation mark.
  - ii. Accreditation mark can be used by NABET accredited consultant organizations only.
- b. Guidelines and conditions of use of accreditation mark**
  - i. Accreditation mark as appears on NABET Accreditation certificates can be printed as coloured image or black and white
  - ii. Accreditation mark shall not be used to suggest any approval or sponsorship of NABET other than the organization accredited.
  - iii. Accreditation mark shall not be used in any way that misleads the reader about the accreditation status of the consultant organization
  - iv. Accreditation mark is not transferable and is to be used only by the accredited consultant organization as described in its application.
  - v. Accredited consultant organization upon suspension or withdrawal or expiry of its accreditation (however determined), shall discontinue the use of NABET accreditation mark on all media of communications by the organization including promotional material, letter head, newsletters, brochures, annual reports, business cards, websites and advertisements etc.
  - vi. NABET reserves the right to change the conditions as and when considered necessary and the same shall be communicated to consultant organization.
  - vii. Use of accreditation mark is applicable for consultant organizations only and not for individual expert/s.
- c. Verification**

- a. NABET may, at its discretion, carry out verification of proper use of the accreditation Mark.
- b. If any misuse of the accreditation is noticed, NABET initiates actions as per procedure for suspension and/or cancellation of its accreditation.

## 7.2 Undertaking by consultant organization

The consultant organization undertakes to:

- a. Act professionally, accurately and in an unbiased manner.
- b. Be truthful, accurate and fair to the assigned work, without any fear or favour.
- c. Judiciously use the information provided by or acquired from the client in carrying out the project and to maintain the confidentiality of information received or acquired in connection with the assignment.
- d. Use the expertise of only approved experts of relevant category in the preparation of Mining Plan/ Geological Reports.
- e. Avoid and/or declare any conflict of interest that may affect the work to be carried out.
- f. Not accept any favour from the clients, or their representatives.
- g. Not act in a manner detrimental to the reputation of any of the stakeholders including NABET and the client.
- h. Co-operate fully in any formal enquiry procedure of NABET.

Prior to accreditation, the AO signs the “Code of Conduct for Prospecting and Mining Plan Preparing Agency” and sends it to the NABET secretariat.”.

[F. No. 34011/28/2019-CPAM]

ANINDYA SINHA, Project Adviser

Note:- The principal rules were published in the Gazette of India, Part II, Section 3, Sub-section (i) *vide* number G.S.R.1398 dated the 26th November, 1960 and lastly amended *vide* number G.S.R. 710(E), dated the 8th October, 2014.

**F. No. 34011/28/2019-CPAM**  
**Government of India**  
**Ministry of Coal**

**Shastri Bhawan, New Delhi**  
**The ..... March 2020**

**To,**

**All the existing Coal and Lignite block allocates**

**Subject: Guidelines for Preparation, Formulation, Submission, Processing, Scrutiny, Approval and Revision of Mining plan for the coal and lignite blocks.**

Sir,

I am directed to inform that the guidelines for formulation of Mining plan and Mine Closure Plan has been amended. It has been decided by the Government that all coal (including lignite) mining operations in India shall henceforth be governed as per modified guidelines enumerated below.

- 1. Mining Plan:** All coal (including Lignite) mining operation in India shall henceforth be governed as per these modified guidelines listed below and henceforth, the Mine Closure Plan and Final Mine Closure Plan shall be integral part of Mining Plan. The Guideline/format for formulation of Mining plan is enumerated at **Appendix – I**.
- 1.1. Implementation of the approved Mining Plans shall be sole responsibility of the mine owner.** Mining operations shall be undertaken in accordance with the duly approved mining plan. The mining plan once approved shall be valid for the balance life of the Mine, provided that any modification(s) of the mining plan is approved by the approving authority and such approval of the modified mining plan shall remain valid for the balance duration of the mining mine. Modification of the approved mining plan during the operation of a mining lease also requires prior approval.
- 1.2.** The mining plan will have to be prepared in phases. The Stage plan for 1st year, 3rd year, 5th year, year of achieving Peak rated capacity, Final year (i.e. at the end of mine life) and post closure shall be submitted at the time of initial submission of mining plan. The project proponent shall get the mining plan updated by **Qualified Person/ Accredited Mining Plan preparing Agency** and submit to competent authority for review at least 180 (one hundred eighty) days before the expiry of 5 (five) year. Non submission of updated Mining Plan for review during the stipulated time may result in cancellation of the approved mining plan.
- 1.3.** The mining plan shall only be modified **a.** for change in mining method; **b.** for changes in the business environment; **c.** for facilitating increase in production capacity in excess of forty per cent of the sanctioned capacity; **d.** change in lease area; **e.** in the interest of safe and scientific mining; **f.** conservation of minerals; **g.** for the protection of environment & **h.** addition of reserve by way of proving of reserve in the existing lease area. For other minor changes (including any change in land type) in the mining plan approval of the respective Company Board shall suffice. While submission of revision/modification of mining plan the reason for revision shall be specified in writing by the lessee.

Note:- Under this provision the project proponent is allowed to produce coal/lignite up to a level of 140% of the capacity (i.e. the sanction capacity plus 40 percent of the sanctioned capacity) as

per the approved mining plan. The production plan envisaged in the approved the Mining plan shall not require revision/ modification of mining plan so long the coal/lignite production does not surpasses 140% of the sanctioned capacity, provided that there is no change in parameters specified in Para 1.3. However, at the time of updation in compliance to Para 1.2 referred above the calendar plan/ production plan and stage plan shall have to be updated by the project proponent.

- 1.4. The Mining Plan submitted for approval shall have approval of the concerned Board of the Company.
- 1.5. The base date of the Mining Plan should be taken as cut-off date on which the extractable reserve, balance life etc. has been quantified;
- 1.6. The proposed lease area in the Mining Plan shall include the coal bearing area, mine entries, area required for overburden dump and other mining related infrastructure. Evacuation route outside the block will not be part of the Mining plan.
- 1.7. Pre-mining land ownership/land type furnished in the mining plan will be of indicative in nature along with data source at its footnote (viz. from topo sheet, cadastral plan etc.).
- 1.8. The excavation/ mining area envisages in the mining plan must be restricted within the allotted/vested geological block boundary and if the project area is confined within the allotted block boundary, a certificate to this effect is to be provided by the **Qualified Person/ Accredited Mining Plan preparing Agency** preparing the mining plan. The certificate must be made on the Conceptual Plan depicting Geo-reference Co-ordinates (shape co-ordinates) of the project boundary, Lease boundary and Geological Block boundary (binding co-ordinates given in the vesting order).
- 1.9. Under provisions of Rule 16 of MCR 1960, State Government is custodian of the exploration data. As such in the cases, where the project area extends beyond the block boundary the Mines and Geology Department of the concerned State Government shall issue a certificate specifying (a) intent of the State Government for grant of lease beyond the vested geological boundary; (b) non-existence of coal/ lignite in the area beyond the vested/allotted geological block boundary to rule out the issue of encroachment and use of coal bearing area (beyond the vested/allotted block boundary) in the mining plan. The application for issue of certificate from the Mines and Geology Department of the State Government must be supported with proof of the non-existence of coal/lignite in the area under reference (along with their geo-reference coordinates) duly certified by custodian agency viz. CMPDIL/ SCCL in case of coal and NLCIL in case of lignite.

Where the project area extends beyond the block boundary, the certificate issued by the Mines and Geology Department of the concerned State Government must be attached in the Mining Plan.

- 1.10. In case of auctioned/allotted blocks, the peak rated capacity of the Mining Plan shall not be less than the peak rated capacity defined in the Coal Mine Development & Production Agreement (CMDPA)/Allotment Agreement.
- 1.11. The approval of the revised Mining Plan shall not result in changes in the terms and conditions as well as efficiency parameters mentioned in the CMDPA/Allotment Agreement signed at the time of allotment/vesting for the auctioned/allotted blocks.
- 1.12. The project proponent shall envisage the action plan for exploration and liquidation of the balance reserve which is yet to be projectised.
- 1.13. The project proponent shall take all necessary precautions regarding safety of mine workings and persons deployed therein and shall adhere to all the statutory clearances with regards to safety.

- 1.14. Proposed project area envisaged in the mining plan shall not encroach into any other adjacent coal block unless permitted to do so by the Ministry of Coal in writing.
  - 1.15. The approval of the Mining Plan is without prejudice to the requirement of approvals from competent /prescribed authority under the relevant rules/ regulations etc.
  - 1.16. The project proponent shall submit an undertaking that the mine shall be operated as per the Environment Clearance (EC) & Forestry Clearance (FC) for the project.
  - 1.17. **Statutory Obligation:** 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, Forest and Climate Change (MoEFCC), Central Pollution Control Board (CPCB), State Pollution Control Board (SPCB), Directorate General of Mines Safety (DGMS) or any other organizations describing the nature of conditions and compliance positions thereof, should be indicated in the Mining Plan.
- 2. Mine closure Plans:** 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. The Mine closure details of the Mining Plan should be oriented towards the restoration of land back to its original condition as far as practicable.
- 2.1. Mining is to be carried out in a phased manner along with reclamation and afforestation work in the mined out area.
  - 2.2. 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 Institute of Technology (IIT-ISM) or any other institutes/ organizations/ agencies specified from time to time for the purpose.
  - 2.3. Various project specific activities viz. mined-out land details & their technical and biological restoration plan, water quality management, infrastructure to be retained and demolished, disposal of mining machinery, etc. shall be furnished in the relevant paras. Where the backfilling of the mine void is being carried out as part of regular mining operation, it shall not be included in the list of progressive mine closure activities. However, in case, where the backfilling of mine void is being carried out specifically for closure of the mine, the same shall be included in the list of activities to be taken up for mine closure.
  - 2.4. 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.
  - 2.5. **Abandonment cost:** The total cost for carrying out such activities shall be estimated for assessment of abandonment cost of the mine involving progressive and final mine closure 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 overburden dump, filling up of de-coaled 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.

- 2.6. **Escrow Account Calculation:** In August 2009 it was estimated that typically closure cost for an opencast mine comes 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 the-then price level. Accordingly vide letter dated 7<sup>th</sup> January 2013 a guideline for mine closure was issued which needed modification in these rates based on the wholesale price index (WPI) as notified by Government of India from time to time while preparing the Mining plan and Mine Closure Plan. The escalated rate (based on the current base year i.e. 01.04.2019) is Rupees Nine Lakh per hectare in opencast and Rupees one lakh fifty thousand per hectare for underground Mine. These rates will be considered as Base Rate to be applicable from 01.04.2019, which may change as specified from time to time by the Government of India.

*[Exemplary Calculation: {(Rs 6 lakhs x 1.561 linking factor for base year 2004-05 x WPI 121.1 as on April 2019) / (WPI as on August 2009)} = Rupees 8.75 lakh, rounded to Rupees 9 (nine) lakhs per hectare in case of Opencast project].*

Henceforth, these rates will stand modified based on the wholesale price index (WPI) as notified by Government of India from time to time. Annual closure cost is to be computed considering the total project area of the mine multiplied by escalated rate (at the above mentioned rates) and dividing the same by the balance life of the mine in years. 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.]*

Further, in case of the mine, where escrow account is already open, the annual closure cost is to be computed considering the total project area at the above mentioned rates minus the amount already deposited and dividing the same by the balance life of the mine in years and annual cost as arrived should be compounded @5% annually.

- 2.7. **Financial Assurance:** The Mining Company/ Mine Owner as a part of Financial Assurance will open a Fixed Deposit Escrow account, with the Coal Controller Organization (on behalf of the Central Government) as exclusive beneficiary prior to commencement of any activities on the land/project area of the mine and shall submit the same to Coal Controller Organization (CCO) before the permission is given for opening the mine. The mining company shall cause the payment to be deposited at the rate computed as indicated at Para 2.6. The owner of the company may select the Schedule Bank where the Escrow account is to be opened and inform the same to the Coal Controller, CCO, Kolkata.
- 2.8. Coal Controller, Kolkata shall get the WPI (used for escalation of closure cost at the time of formulation of Mining plan) updated, at the time of opening of Escrow account. The mine owner/ company including all public/ private sector companies shall deposit the yearly amount in a Schedule Bank in accordance with Para 2.6.
- 2.9. Final Mine Closure: The details of the Mining Plan (covering Final Mine Closure Plan envisaging the details of the updated cost estimates for various mine closure activities and the Escrow Account already set up, shall be submitted to the approving authority for approval at least five years before the intended final closure of the mine.



- 2.10. Final Mine Closure would be considered to be completed only after acceptance of the third party audit report by the Coal Controller on the compliance of all provisions of Mine Closure Plan. Any Institute/ Organization/Agency as may be notified by the Government for this purpose may be engaged for Third Party audit to create a self-sustained ecosystem. Failure of restoration within the specified period may result in forfeiture of Escrow Account created as per Para 2.6& 2.7. The details of the Final Mine Closure Plan along with the details of the updated cost estimate for various mine closure activities and escrow account already set up shall be submitted at the time of approval of final mine closure plan.
- 2.11. **Time Scheduling for abandonment:** The Action plan for carrying out all abandonment operations (progressive and final mine closure) should be furnished in the form of bar chart for a period of life of the mine plus three years of final closure period.
- 2.12. **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 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 50% 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 Para 2.2. The amount released should be equal to expenditure incurred on the progressive mine closure in past five years or 50% whichever is less. The balance 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.
- 2.13. **Responsibility of the mine owner:** It is the responsibility of the mine owner 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.
- 2.14. 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).
- 2.15. The money to be provided per hectare of total Project Area for the purpose is to be deposited every year on commencement of any development 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. If the Mine owners fail to deposit the required annual amount to be deposited in accordance with Para 2.6 & 2.7, the Government can withdraw the mining permission.
- 2.16. 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 2.3 2.6, 2.7, 2.8 & 2.9above.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.
- 2.17. **Final Closure Certificate:** The Mine owner shall be required to obtain a mine closure certificate from Coal Controller to the effect the protective, reclamation, and rehabilitation work in

accordance with the approved Mining plan covering final mine closure provisions/activities have been carried out by the mine owner for surrendering the reclaimed land to the State Government.

- 2.18. 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 organizations, court etc. and duly certified by the Coal Controller. This should also indicate the estimated extractable coal reserves and coal actually mined out.
- 2.19. 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.

### **3. Formulation of Mining Plan by Qualified Person (QP) or Accredited Mining Plan Preparing Agency (MPPA):**

- 3.1. System of granting Recognition to a person for preparation of mining plan u/s 22C of MCR 1960 & preparation of mining plan only by RQP u/s 22B of MCR 1960 shall be done away with, after expiry of period of nine months from the commencement of the Mineral Concessions (Amendment) Rules, 2020.
- 3.2. After expiry of the period of 9 months of the commencement of Mineral Concession (Amendment) Rule 2020, no mining plan shall be accepted unless it is prepared by Qualified Person or Accredited Mining Plan Preparing Agency (MPPA).
- 3.3. Quality Council of India (QCI) or National Accreditation Board for Education and Training (NABET) is engaged for accrediting following entities:
  - (i) Accredited Prospecting Agency (APA) for undertaking prospecting operations and preparation of geological reports for Coal and Lignite Mines, and
  - (ii) Mining Plan Preparing Agency (MPPA) for preparation of mining plan (for Coal, Lignite Mines and Sand for Stowing)
- 3.4. The Quality Council of India (QCI) or National Accreditation Board for Education and Training (NABET) shall grant accreditation in accordance with such standards and procedures as specified in schedule VI of Mineral Concession (Amendment) Rule 2020.
- 3.5. Qualified Agency (QP) or Mining Plan Preparing Agency (MPPA) who prepares mining plan for a block/mine, shall have recognition from the concerned company board that the qualification of the QP or accreditation of the MPPA has been duly verified and is in line with the relevant provision of the MCR (Amendment) 2020.

### **4 Submission, Processing and Scrutiny of Mining Plan**

- 4.1 Every mining plan submitted for approval under section 5 (2) b shall be accompanied with a non-refundable fee notified from time to time in this regard, for the project area specified in the mining plan.
- 4.2 All pages (including cover page, plates and Annexures) shall bear the signature & stamp furnishing details of the QP/Accredited Mining Plan preparing Agency (MPPA).

- 4.3 Ministry of Coal is in process of development of on-line portal for submission and approval of mining plan. system of acceptance of Physical copy shall be continued till the development of online portal for submission and approval of mining plan.
- 4.3.1 **Submission to Physical Copy Mining Plan to Ministry of Coal:**
- 4.3.1.1 The project proponent shall submit one soft copy and four hard copies of draft Mining Plan - one each to the concerned Administrative Section of the Ministry of Coal for the concerned block (i.e. CBA-I Section for coal and lignite blocks allotted under MMDR Act 1957, CBA-II/ Nominated Authority Section for CMSP 2015, CA Section for blocks allotted under Coal Mines Nationalisation Act (CMN) i.e. CIL/SCCL/NLCIL/SAIL/TSL blocks etc.), Mining plan and Safety (MPS) Section of Ministry of Coal, Coal Controller, CMPDIL/ Extended office of CCO & the dispatch receipt of the speed post (confirming that the draft Mining Plan has been sent). The contact details and correspondence address shall be updated time to time, on the website of the Ministry of Coal.
- 4.3.1.2 The project proponent shall incorporate the observation (if any) and submit the modified mining plan to MPS Section of the Ministry of Coal, concerned administrative section of the Ministry of Coal, Coal Controller and CMPDIL/ Extended office of CCO.
- 4.3.1.3 **Submission of Mining Plan (after incorporating compliance) to Ministry of Coal:** The project proponent shall submit 04 (Four) hard copies & 01 (one) soft copy of modified Mining Plan and the compliance to the observations along with copy of the dispatch receipt of the Speed Post (confirming that the modified Mining Plan has been sent to PMS Section of the Ministry of Coal, concerned administrative section of the Ministry of Coal, Coal Controller, and CMPDIL/ Extended office of CCO).
- 4.3.1.4 The procedure of submission at Para 4.3.1 will be replaced by process of submission at para 4.3.2 on development of portal for online submission and approval of Mining Plan.
- 4.3.2 **Online System of Submission of Mining Plan for Approval:**
- 4.3.2.1 Project proponent shall register online, using registered official mail ID.
- 4.3.2.2 For the purpose of preparation of Mining plan through a QP or MPPA, project proponent shall share a temporary login with QP/MPPA. This temporary login shall be valid till the preparation and approval of mining plan only.
- 4.3.2.3 The QP/MPPA shall upload the Mining plan through the temporary login and submit it to the project proponent; QP/MPPA once submits the mining plan to the project proponent, he shall not be able to modify.
- 4.3.2.4 The Project Proponent shall make payment of processing charges/fees online as notified from time to time by Ministry of Coal;
- 4.3.2.5 The Project Proponent shall after incorporating relevant company board approvals submit the mining plan to the Approving Authority; The mining plan submitted to approving authority shall become visible to Administrative Section for the respective block, MPS section, members of the Internal Committee, Coal Controller, CMPDIL/ Extended office of CCO (for Scrutiny) simultaneously. System of SMS alerts shall be available at all stages;

## 5 Scrutiny of Mining Plan

- 5.1.1 Ministry of Coal is in process of creating an extended office of Coal Controller Organization at Delhi which shall be delegated with the work of Scrutiny of mining Plan. Till the creation of the extended office at Delhi, the current system of getting the mining plan scrutinized through CMPDI,

Ranchi shall continue. Subsequent to creation of Extended office of CCO at Delhi a letter to this effect shall be issued separately.

- 5.1.2 Administrative Section of the Ministry of Coal (dealing with the block) shall scrutinize the mining plan with respect to Vesting order/ allotment order and CMDPA signed with allottee at the time of allotment and submit observations to MPS section (till the development of portal for Mining plan approval) within Fifteen (15) days of receipt of the Mining Plan. Non-submission of comments within the stipulated time may be presumed as “no comment” from the administrative section;
- 5.1.3 CMPDIL/ Extended office of CCO at Delhi shall scrutinize the mining plan and submit comments to MPS Section of MoC and Approving Authority within Fifteen (15) days of receipt of the Mining Plan. Non-submission of comments within the stipulated time may be presumed as “no comment” from CMPDIL/Extended office of CCO;
- 5.1.4 MPS Section of MoC shall communicate the observation (if any) to the project proponent for compliance (as per Para 4.3).
- 5.1.5 Members of the Internal Committee shall examine the mining plan from Technical and administrative angle based on the observations of the Administrative Section dealing with the respective block & CMPDIL/ Extended office of CCO.

## **6 Approving Authority:**

- 6.1 On and from the date of publication of order and upto the expiry of period of nine months from the commencement of the Mineral Concession (Amendment) Rules, 2020, the power to approve mining plan for all categories of coal and lignite mines and sand for stowing shall be exercisable by Project Adviser, Ministry of Coal.
- 6.2 On and from the expiry of period of nine months from the commencement of the Mineral Concession (Amendment) Rules, 2020, the power to approve mining plan for all categories of coal and lignite mines including sand for stowing shall be exercisable by the Coal Controller, CCO, Kolkata, a subordinate office of Government of India in the Ministry of Coal.
- 6.3 The person delegated to approval of Mining Plan under sub-section (1) of section 26 read with clause (b) of sub-section (2) of section 5 of the Mines and Minerals (Development and Regulation) Act, 1957 (67 of 1957) (hereinafter, the ‘Act’) may seek help of an Internal committee constituted for the purpose.
- 6.4 The approving authority shall dispose of the application for approval of the Mining Plans within a period of 30 days from the date of receiving of such application (The Mining Plan received on or before 30th of Current Month will be considered in the ensuing meeting). Provided that the aforesaid period of 30 days shall be applicable only if the Mining Plan is complete in all respect, and in case of any modifications subsequently suggested after the initial submission of the Mining Plan for approval, the said period shall be applicable from the date on which modified mining plan is re-submitted.
- 6.5 MPS section of MoC shall communicate the decision of the approving authority within a period of 5 working days.

## **7 Internal Committee for Scrutiny of Mining Plan:**

- 7.1 Members of the Internal Committee shall examine the mining plan from Technical and administrative angle based on the observations of the Administrative Section dealing with the respective block & CMPDIL/ Extended office of CCO.
- 7.2 The internal committee, shall recommend the mining plan for “Approval” or “Rejection”. In case of recommendation for Rejection, the committee shall record the reason for Rejection.
- 7.3 Till the opening of CCO office at Delhi, the internal committee shall consist of:
1. Director (Technical), MoC
  2. Director/ Deputy Secretary, MoC of the section dealing with the allocation/allotment of the respective block
  3. Coal Controller or his representative
  4. Director level officer of CMPDIL
- 7.4 After opening of CCO office at Delhi, the internal committee shall consist of:
1. Director level officer of CCO
  2. Director/ Deputy Secretary of the section dealing with the respective block
  3. Regional Controller, CCO Delhi Office

## **8 Revision:**

- 8.1 Any person aggrieved by any order made or direction issued in respect of mining plan by an officer competent to approval mining plans shall within 30 days of the communication of such order or direction, apply to the Secretary (Coal), Ministry of Coal for a revision of such order or direction thereon.
- 8.2 On receipt of any application for revision the authority shall give the aggrieved person a reasonable opportunity of being heard and may within 30 days confirm, modify or set aside the order or direction and his decision thereon shall be final

- 9 This Guideline** supersedes the previous orders and are without any prejudice to any other relevant rules and regulations, such as those issued by the State Governments, Ministry of Environment, Forest and Climate Change, Ministry of Labour and Employment, etc.

Yours faithfully,

**(Hitlar Singh)**

Under Secretary to the Government of India

Copy to: -

1. All Joint Secretaries, MoC.
2. Coal Controller, Coal Controller's Office, 1- Council House Street, Kolkata.
3. CMD, CIL, Newtown, Rajarhat, Kolkata-700156, W.B
4. CMD, NLCIL, Cuddlore, Distt. Neyveli- 607801 (Tamil Nadu).
5. CMD, Singareni Collieries Company Limited (SCCL), Kothagudem Collieries, Khammam Distt.(A.P).

6. Tech. Director (NIC) - with the request to place it to Website of the Ministry of Coal.

**DETAILS TO BE FURNISHED IN THE MINING PLANS FOR COAL/LIGNITE BLOCKS**

**A. Cover Page**

The Cover page should contain the following information:

- (i) Name of the Mining Plan
- (ii) Indication, if it is a Modified Mining plan seeking approval under Rule 22 A(2) of MCR 1960, it should be marked as “**Modified Mining Plan with Modification No**” i.e. First Modification, Second Modification etc.
- (iii) Name of the Coal/Lignite Block area (Acre/Hectare/Sq. Km.)
- (iv) Name of the Coalfield and its location i.e. District and State
- (v) Name and address of the Applicant
- (vi) Targeted capacity
- (vii) Name of the **Qualified person/ Accredited Mining Plan preparing agency (MPPA)** preparing the mining plan with details

**B. Index of Chapters of the Mining Plan (Including Mine Closure Plan) / Mine Closure Plan or Final Mine Closure Plan**

<i>Sl No.</i>	<i>Chapters</i>	<i>Page No</i>
1	Checklist	
2	Project Information	
3	Exploration, Geology, Seam Sequence, Coal Quality and Reserve	
4	Mining	
5	Safety Management	
6	Infrastructure Facilities proposed and their Location	
7	Land Requirement	
8	Environment Management	
9	Progressive & Final Mine Closure Plan	

**C. Index for List of Annexure**

**D. Index of List of Plans/ Drawing Attached enclosed as Plates**

**E. List of Abbreviations used.**

- (viii) All Plans must be colored distinctly with proper legends.

## CHECKLIST

<i>Details</i>		(✓ / ✗)
Text	Project Information	
Text	Exploration, Geology, Seam Sequence, Coal Quality and Reserve	
Text	Mining	
Text	Safety Management	
Text	Infrastructure Facilities proposed and their Location	
Text	Land Requirement	
Text	Environment Management	
Text	Progressive & Final Mine Closure Plan	
<b>Annexure</b>	Copy of allotment order /Vesting order.	
<b>Annexure</b>	<p>Certificate of <b>Qualified person/ Accredited Mining Plan preparing agency (MPPA)</b>if the project area is confined within the vested/allotted block boundary and</p> <p>Where the project area extends beyond the block boundary, a certificate of <b>Qualified person/ Accredited Mining Plan preparing agency (MPPA)</b>should be supported with a certificate of State Government mines and Geology department must be attached, which should specify (a) intent of the state government for grant of lease beyond the vested geological boundary; (b) non-existence of Coal/ Lignite in the area beyond the vested/allotted geological block boundary to rule out the issue of encroachment and use of coal bearing area (beyond the vested/allotted block boundary) in the mining plan</p>	
<b>Annexure</b>	<b>Approval of the Company Board</b>	
<b>Annexure</b>	Copy of earlier approval of mining plan.	
<b>Annexure</b>	Plan / chart showing schedule of Implementation of Mine closure activities (progressive and final closure) with duration of important activities	
<b>Annexure</b>	Other document (if any)	
<b>Plates</b>	Location plan	
<b>Plates</b>	Plan certified by <b>Qualified person/ Accredited Mining Plan preparing agency (MPPA)</b> if the project area is confined within the vested/allotted block boundary and	



<i>Details</i>		(✓ / ✗)
	where the project area extends beyond the block boundary, a Plan certified by <b>Qualified person/ Accredited Mining Plan preparing agency (MPPA)</b> should be supported with a plan with geo-reference co-ordinates duly certified by the Mines and Geology Department of the concerned State Government. <b>Plan in support of Annexure - II</b>	
<b>Plates</b>	KML file of the proposed lease area, project area and geological block.	
<b>Plates</b>	Plan showing approved block boundary vis-à-vis proposed/existing mining lease & Mine boundary superimposed over it in distinct colour.	
<b>Plates</b>	Geological plan showing all the boreholes drilled and proposed to be drilled showing allotted block boundary and required lease area	
<b>Plates</b>	Representative Graphic Litholog	
<b>Plates</b>	Surface Plan showing drainage system, Contour, preferably at 3m interval, location of BH (borehole)	
<b>Plates</b>	Conceptual plan showing infrastructure facilities including colony, boundary of mining area, mine entries, roads including road diversion alignment etc.	
<b>Plates</b>	Tentative land use plan showing land type (Govt., forest and tenancy land) with its data source	
<b>Plates</b>	Floor contour plan and seam folio plan, iso-grade plan	
<b>Plates</b>	Cross-section showing coal/lignite seam(s)	
<b>Plates</b>	Plan showing existing and proposed surface layout(s)	
<b>Plates</b>	Plan showing total coal thickness and overburden thickness and stripping ratio (in case of opencast (OC) Mines)	
<b>Plates</b>	Final stage quarry plan showing haul road alignment (in case of OC Mines)	
<b>Plates</b>	Plan showing mode and location of entries and surface layouts (in case of underground (UG) Mines)	
<b>Plates</b>	Layout of the panel for each system (like Longwall, Continuous Miner, Bord& Pillar, road header etc.) should be given (in case of UG Mines)	
<b>Plates</b>	Layout of pillar extraction (in case of UG Mines)	
<b>Plates</b>	Support system (in case of UG Mines)	
<b>Plates</b>	Haulage and transport system (in case of UG Mines)	
<b>Plates</b>	Post mining land use plan	

<i>Details</i>		(✓ / ✘)
<b>Plates</b>	Progressive mine closure plan/ stage plans	
<b>Plates</b>	Reclamation plan	

## Chapter 1 : Project Information

	<i>Parameters</i>	<i>Details</i>
<b>1.1</b>	<b>INTRODUCTION</b>	
1.1.1	Name of Coal / Lignite Block	
1.1.2	Name of the Coalfield/ Lignite Field	
1.1.3	Base date of Mining Plan/ Mine Closure Plan	
1.1.4	Linked End Use Plant	
1.1.5	Distance of End use plant from the pit head of the project in “km”	
1.1.6	Mode of Coal Transport	

### 1.2 LOCATION, TOPOGRAPHY AND COMMUNICATION

1.2.1	Location of coal deposit (District and State)	
1.2.2	Communication: PWD roads, railway lines, Air	
1.2.3	Availability of power supply, water etc.	
1.2.4	Prominent physiographic features, drainage pattern, natural water courses, rainfall data, highest flood level	
1.2.5	Land use and ownership / occupancy & involvement of forest land	
1.2.6	Important surface features within the project area and major diversion or shifting involved	

### 1.3 DETAILS OF THE ALLOTTMENT AGREEMENT

1.3.1	Name the Allottee	
1.3.2	Status of the Applicant Company	
1.3.3	Details of allotment/vesting order	
1.3.4	Name and address of the applicant	
1.3.5	Relationship between the applicant and allottee company	
1.3.6	Name of the Previous allottee of the Block	

	<i>Parameters</i>	<i>Details</i>
1.3.7	Starting Date of the Mine as per CMDPA	
1.3.8	Rated Capacity as per CMDPA	
1.3.9	Production Schedule as per opening permission (meeting provisions of CMDPA if any)	
1.3.10	End Use of Coal/Lignite as per allotment order if any	

#### 1.4 DETAILS OF THE PREVIOUS APPROVAL OF MINING PLAN

1.4.1	Date of Approval																																																					
1.4.2	Conditions, if any																																																					
1.4.3	Scheduled year of start of production																																																					
1.4.4	Proposed year of achieving the targeted production																																																					
1.4.5	Date of actual commencement of mining operations, if operations already started																																																					
1.4.6	Likely date of mining operations, if operations not yet started & reasons for non-commencement of operations																																																					
1.4.7	<b>Planned production and actual levels achieved in last 3 years (Coal in Mte, OB in MM<sup>3</sup>, SR in M<sup>3</sup>/te)</b>	<table border="1"> <thead> <tr> <th rowspan="3">Calender Year</th> <th colspan="4">Planned</th> <th colspan="4">Actual</th> </tr> <tr> <th colspan="3">Coal "Mte"</th> <th>OB</th> <th colspan="3">Coal "Mte"</th> <th>OB</th> </tr> <tr> <th>UG</th> <th>OC</th> <th>Total</th> <th>"MM<sup>3</sup>"</th> <th>UG</th> <th>OC</th> <th>Total</th> <th>"MM<sup>3</sup>"</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Calender Year	Planned				Actual				Coal "Mte"			OB	Coal "Mte"			OB	UG	OC	Total	"MM <sup>3</sup> "	UG	OC	Total	"MM <sup>3</sup> "																											
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	UG	OC	Total	"MM <sup>3</sup> "	UG	OC	Total	"MM <sup>3</sup> "																																														
1.4.8	<b>Statutory obligations vis-à-vis compliance status in a tabular form</b>																																																					
1.4.9	Reasons for difference between the planned and actual production levels																																																					

#### 1.5 PARAMETERS OF APPROVED MINING PLAN VIS-À-VIS PROPOSED MINING PLAN

		<b>Approved Mining Plan</b>	<b>Proposed Mining Plan</b>
1.5.1	Block Area in "Ha"		
1.5.2	Block Area Projectised "Ha"		

	<i>Parameters</i>	<i>Details</i>	
1.5.3	Lease area “Ha”		
1.5.4	Project Area “Ha”		
1.5.5	Life of the Project “Yrs”		
1.5.6	Minimum and Maximum Depth of working “m”		
1.5.7	Net Geological Block “Ha”		
1.5.8	Production Target “MTPA”		
1.5.9	Seams Available “As per GR”		
1.5.10	Seams not considered for Mining with Reasons		
1.5.11	Gross Geological Reserve “Mt”		
1.5.12	Net Geological Reserve “Mt”		
1.5.13	Blocked Reserve “Mt”		
1.5.14	Minable Reserve “Mt”		
1.5.15	Extractable Reserves “Mt”		
1.5.16	% of Extraction/ recovery		
1.5.17	Reserve Depleted (till the base date) Reserves “ Mt”		
1.5.18	Balance Extractable reserve “Mt”		
1.5.19	Average Grade		
1.5.20	OB in MM3		
1.5.21	SR MM3/te		
1.5.22	Mining Technology		
1.5.23	Coal Beneficiation envisaged		
1.5.24	Handling of Rejects		
1.5.25	Land use pattern “ Ha”		
1	Excavation Area		
2	Top Soil Dump		
3	External Dump		
4	Safety Zone		
5	Other Use		
6	Infrastructure area		
7	Green Belt		
8	Undisturbed Area		
	<b>Total</b>		
1.5.26	<b>Reasons for revision</b>		

**Chapter 2 : Exploration, Geology, Seam Sequence, Coal Quality and Reserve**

	<i>Parameters</i>	<i>Details</i>	
<b>2.1</b>	<b>DETAILS OF THE BLOCK</b>		
2.1.1	Particulars of adjacent blocks: North, South, East, West	<b>North :</b> <b>South:</b>	<b>East:</b> <b>West:</b>
2.1.2	Location of the Block District / State		
2.1.3	Area of the Block “Ha”		
2.1.4	Area of the geological block projectised “in Ha” (Area of the geological block considered for liquidation of coal reserve)		
2.1.5	Balance area yet to be projectised “Ha”		
2.1.6	Likely Reserve in the area yet to be projectised “Mte”		
2.1.7	Geo-Reference Co-ordinates of the Block Boundary	<b><u>Geo-Reference Co-ordinates of the Block Boundary</u></b>	
		ID	Latitude
		1	° ' " N
		2	° ' " N
			° ' " N
			° ' " N
2.1.8	<p>Certificate of <b>Qualified person/ Accredited Mining Plan preparing agency (MPPA)</b> if the project area is confined within the vested/allotted block boundary and</p> <p>Where the project area extends beyond the block boundary, a certificate of <b>Qualified person/ Accredited Mining Plan preparing agency (MPPA)</b> should be supported with a certificate of State Government mines and Geology department must be attached, which should specify (a) intent of the state government for grant of lease beyond the vested geological boundary; (b) non-existence of Coal/ Lignite in the area beyond the vested/allotted geological block boundary to rule out the issue of encroachment and use of coal bearing area (beyond the vested/allotted block boundary) in the mining plan</p> <p>The Project area, Lease area and geological block area in “Ha” shall also be envisaged.</p>	<b><u>Geo-Reference Co-ordinates of the Proposed Project Area of the Mining Plan</u></b>	
		ID	Latitude
		1	° ' " N
		2	° ' " N
			° ' " N
			° ' " N

	<i>Parameters</i>	<i>Details</i>																																																																																																																																																																																																												
		infrastructure or OB dump is outside the block area;																																																																																																																																																																																																												
2.1.9	KML file of the Proposed lease and geological block.	<b>Note:</b> A printed copy of the KML file duly certified by Accredited agency should also be attached.																																																																																																																																																																																																												
2.1.10	Whether the proposed project area is confined within the allotted block boundary, if not, the reason for deviation from allotted block boundary, may be given.																																																																																																																																																																																																													
2.1.11	If the project area extends outside the allotted block boundary, confirmation about non-occurrence of coal/lignite in the area under reference needs to be furnished																																																																																																																																																																																																													
2.1.12	Type of the Project (Operating / under Implementation) and year of Starting.																																																																																																																																																																																																													
<b>2.2</b>	<b>EXPLORATION, GEOLOGY AND ASSESSMENT OF RESERVE</b>																																																																																																																																																																																																													
2.2.1	Regional geological set up of the area, local geology, structure, stratigraphic sequence, characteristics of the litho-logical units (coal seams /partings/overburden).	(In Maximum 500 Words)																																																																																																																																																																																																												
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2.2.4	Status of Exploration of the block																																																																																																																																																																																																													
2.2.5	Area covered by ‘detailed’ exploration within the block (sq. km)																																																																																																																																																																																																													
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2.2.10	Overall borehole density within the block (no./ sq. km) approx																																																																																																																																																																																																													
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	<i>Parameters</i>	<i>Details</i>
	Note : Break-up of the geological reserve for the block, considered in the proposed mining plan, to be projected later and that likely to be sterilized to be given seam wise along with the relevant plans.	
2.2.15	Methodology of reserves estimation (also mention if any software package has been used).	(In Maximum 500 Words)
2.2.16	Average GCV “KCal/kg”	
2.2.17	Gross Geological Reserve of the block “Mte”	
2.2.18	Net Geological Reserve of the block “Mte”	
2.2.19	Minable Reserve of the block “Mte”	
2.2.20	Blocked Reserve “Mte	
2.2.21	Corresponding extractable reserve of the block “Mte”	
2.2.22	Percentage of Extraction	
2.2.23	Reserve already depleted (Base date of Mining Plan)	
2.2.24	Balance Reserve (as on Base Date)	



### Chapter 3: Mining

	<i>Parameters</i>	<i>Details</i>
<b>3.1</b>	<b>MINING METHOD</b>	
3.1.1	Existing method of mining if the mine is under operation	
3.1.2	Proposed method of mining with justification on suitability of method of mining	<ul style="list-style-type: none"> <li>• Seams to be worked, Choice of Mining Method and justification for Optimization of targeted capacity, sequence of mining, production scheduling, equipment configuration etc.</li> <li>• Behavior of coal roof &amp; 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, transport and winding system in underground for coal and rock (if required) and personnel; Sources of stowing material (if applicable)</li> <li>• 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</li> <li>• <b>Location of Mine Opening:</b> In case of opencast mines location of Access trench &amp; 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 year, 3rd year, 5th year, year of achieving Peak rated capacity, Final year (i.e. at the end of mine life) and post closure subsequently, 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 &amp; justification therefor.</li> <li>• In case of underground mining, number and location, length &amp; 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.</li> <li>• Seams to be worked, method of working, Optimization of coal roof &amp; 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 1<sup>st</sup> to 5<sup>th</sup> year, at every five years subsequently, (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).</li> <li>• Adequacy of ventilation system taking into account the development works with supporting calculations,</li> </ul>

	<i>Parameters</i>	<i>Details</i>																																																						
		specifications of Main Mechanical Ventilator, blasting requirements and requirement of explosives, pumping requirements and standby arrangements. <b>(In Maximum 2000 Words)</b>																																																						
3.1.3	Coal production capacity proposed “Mtpa”																																																							
3.1.4	Justification for optimization of Coal production capacity	<b>(In Maximum 500 Words)</b>																																																						
3.1.5	Calendar year from which the production will start																																																							
3.1.6	Year of Achieving rated production																																																							
3.1.7	Coal production Plan “MT”	<table border="1"> <thead> <tr> <th colspan="2">Year</th> <th colspan="3">Coal Production Schedule</th> <th rowspan="2">OB “MM3”</th> <th rowspan="2">SR</th> </tr> <tr> <th>Year of Operation</th> <th>Calendar Year</th> <th>UG</th> <th>OC</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td colspan="2">Up to 31.03.2019</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Y-1</td> <td>2019-20</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Y-2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Y-3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Y-4</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Y-5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p><b>Note: Calendar Plan / Production Plan for the entire life of the mine.</b></p>	Year		Coal Production Schedule			OB “MM3”	SR	Year of Operation	Calendar Year	UG	OC	Total	Up to 31.03.2019							Y-1	2019-20						Y-2							Y-3							Y-4							Y-5						
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3.1.8	<b>Peak/Rated Capacity “Mtpa”</b>																																																							
	- By OC																																																							
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	- Overall																																																							
3.1.9	<b>Life of the mine : “Years”</b>																																																							
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	- Overall																																																							
<b>3.1.10</b>	Whether the proposed external OB dump site is coal/ lignite bearing: If so, whether coal/lignite below waste disposal area is extractable.																																																							
<b>3.1.11</b>	Whether negative proving for coal / lignite in the proposed site for OB dump/ infrastructure has been done.																																																							
<b>3.1.12</b>	Results of any investigation carried out for scientific mining, conservation of minerals and protection of																																																							

	<i>Parameters</i>	<i>Details</i>
	environment; future proposals.	
<b>3.1.13</b>	Type of Equipment/ HEMM proposed	

## Chapter 4 : Safety Management

	<i>Parameters</i>	<i>Details</i>
<b>4.1</b>	<b>Safety Management</b>	
4.1.1	<p><b>Important safety aspects:</b> Major Risks and uncertainties to the project viz. Proximity to river, adjacent working, geo-mining disturbances, slope stability and remedial measures suggested.</p> <p>It should also include proposed overall slope of the quarry and OB dump, dump height, strata control, fire and spontaneous heating, gas monitoring, disaster management, danger from inrush of water etc.</p>	(In Max 500 Words)
4.2.2	<p>A Commitment from the Company Board that entire mining operation will be carried out as per the Statutory provision given under Mines Act 1952, Coal Mine Regulation 2017 and wherever specific permission will be required the company will approach the concerned authorities.</p>	(To be furnished as a Part of Annexure)

## Chapter 5 : Infrastructure Facilities

	<i>Parameters</i>	<i>Details</i>
4.1	Mine infrastructure required e.g. Equipment maintenance planning, Office buildings, Workshop, Power supply arrangement, Water supply etc.	<p><b>(Tabular Form)</b>  <b>(Location to be shown in Conceptual Plan/Plates)</b></p>
4.2.	Power supply & illumination.	<p><b>(Max 500 Words)</b>  <b>(Location to be shown in Plates)</b></p>
4.3	Drainage & Pumping : Assessment of Volume of Water for Pumping, Pumping Capacity and Pump Selection	<p><b>(Max 500 Words)</b>  <b>(Location to be shown in Plates)</b></p>
4.4	Coal Handling Arrangement: Brief detail of the CHP/ Mode of Dispatch, Coal quality and Coal staking and handling arrangement	<p><b>(Max 500 Words)</b>  <b>(Location to be shown in Plates)</b></p>
4.5	Coal washing and the proposed handling/ disposal of rejects.	<p><b>(Max 500 Words)</b>  <b>(Location to be shown in Plates)</b>                      Annual Raw coal Feed plan and product with reduction in ash% from feed to product must be furnished in a tabular form</p>

## Chapter 6 : Land Requirement

	<i>Parameters</i>	<i>Details</i>								
6.1	<b>LAND REQUIREMENT</b>									
6.1.1	Total Land requirement for the mine in “Ha”	<i>Break up of pre-mining land type (indicative) and source of data.</i>								
		Land Type						Area		
		Tenancy	Agricultural							
			Township							
			Grazing							
			Barren							
			Water Bodies							
			Road							
			Community/other use							
		Govt Non Forest	Agricultural							
			Township							
			Grazing							
			Barren/other use							
		Forest	Reserve							
			Protected							
		FreeHold								
		<b>Total</b>								
6.1.2	During mining Land use details:									
		Type	Land use (Proposed)	Land Use (End of Life)	Land Use (Post Closure)					Total
					Agricul tural land	Plant ation	Water Body	Public/ Company Use	Forest Land (Returned)	
		Excavation Area								
		Backfilled Area								
		Excavated Void								
		Without plantation								
		Top Soil Dump								
		External Dump								
		Safety Zone								
		Haul Road between quarries								
		Road diversion								
		Diversion/ below River/Nala/canal								
		Settling pond								
		Road & Infrastructure area								
		Rationalization area								
		Garland drains								
		Embankment								
		Green Belt								

	<i>Parameters</i>	<i>Details</i>								
	Water Reservoir near pit									
	UG entry									
	Undisturbed/ Mining right for UG									
	Resettlement									
	Pit head power plant									
	Water harvesting									
	Agricultural land									
	<b>Total</b>									
6.1.3	Surface features over the block area									
6.1.4	No. of villages/Houses to be shifted									
6.1.5	Population to be affected by the project									
6.1.6	Proposed Rehabilitation programme									
<b>6.2</b>	<b>DETAILS OF LEASE</b>									
6.2.1	Status of Lease									
6.2.2	Existing Lease Area "Ha"									
6.2.3	Period for which Mining Lease has been granted/is to be renewed/ is to be applied for.									
6.2.4	Date of expiry of earlier Mining Lease, if any									
6.2.5	Whether the lease boundary/ required boundary is same as mentioned in the allotment order									
6.2.6	Lease Area (applied/ required) as per the Mining Plan under consideration (Ha)									
6.2.7	Whether the applied lease area falls within the allotted block									
<b>6.2.8</b>	Area (Ha) of lease which falls outside the delineated block/sub-block									
6.2.9	<b>Details of outside area:</b>									
	<input type="checkbox"/> Whether forms part of any other coal block									
	<input type="checkbox"/> Whether it contains any coal/lignite reserves									
	<input type="checkbox"/> Purpose for which it is required, e.g. roads/ OB dumps/ service									

	<i>Parameters</i>	<i>Details</i>
	buildings/ colony/ safety zone/ others (specify)	
6.2.10	<b>Whether some part(s) of the allotted block has not been applied for mining lease.</b>	
	- Total area in Ha of such part(s).	
	- Total reserves in such part(s). (Mt)	
	- Brief reasoning for leaving such part(s)	



## Chapter 7 : Environmental Management

	<i>Parameters</i>	<i>Details</i>
<b>16</b>	<b>ENVIRONMENTAL MANANGEMENT</b>	
a.	<b>Commitment from the project proponent that the company will comply Environment and Forest Condition stipulated in the respective clearances</b>	

## Chapter 8 : Progressive & Final Mine Closure Plan

	<i>Parameters</i>	<i>Details</i>								
8.1	<b><i>Land Degradation and restoration Schedule</i></b>									
8.1.1	Land Degradation and Technical Reclamation (Commutative Area "Ha")									
			Land Degraded				Technically Reclaimed Area			
	Stage/ Year	Excav	Dump (Extn + Top Soil)	Infra/ others	Total	Backfill	Dump (Extn + Top Soil)	Others	Total	
	Up to Base year *									
	Y-1	19-20								
	Y-3	21-22								
	Y-5	23-24								
	Y-10	28-29								
	Y-15	33-34								
	Y-20									
	Y-25									
	Y-30									
	Y-33*									
	<b>Post Closure</b>									
	Y-36									
<p>* - Considering Base year i.e. 2018-19 and life of 33 years in this case</p> <p>Note: For the purpose of preparation of Stage plan and action plan for restoration and assessment of life of mine and escrow account, the year in which any activity over the proposed land is envisaged, should be considered as 1<sup>st</sup> year i.e <b>First year of development</b>.</p> <p><b>Stages of reclamation and restoration of land should be given for 1<sup>st</sup>, 3<sup>rd</sup>, 5<sup>th</sup> and subsequently every five year for the entire life of the project and for 3 years post closure.</b></p>										
8.1.2	Biological Reclamation (Cumulative in "Ha")									
			Biologically Reclaimed Area							
	Year/Stage	Agriculture	Plantation	Water Body	Public/ Company Use	Total	Forest land (Return)	Un Disturbed/ To be left for Public/com Use	Total	
	Up to Base year *									
	Y-1	19-20								
	Y-3	21-22								
	Y-5	23-24								
	Y-10	28-29								
	Y-15	33-34								
	Y-20									

		<i>Parameters</i>			<i>Details</i>							
		Y-25										
		Y-30										
		Y-33*										
		<b>Post Closure</b>										
		Y-36										
<p><b>Stages of reclamation and restoration of land should be given for 1<sup>st</sup>, 3<sup>rd</sup>, 5<sup>th</sup> and subsequently every five year for the entire life of the project and for 3 years post closure.</b></p>												
8.2	<b>Post Closure Water Quality management :</b>				<p align="center"><b>(Max 200 Words)</b></p> <p>(Existing water bodies available in the lease hold area; Measures to be taken for protection of the same including control of erosion, sedimentation, siltation, water treatment, diversion of water course if any; Measures for protection of contamination of ground water from leaching etc;)</p>							
8.3	<b>Post Closure Air Quality management :</b>				<p align="center"><b>(Max 200 Words)</b></p>							
<b>8.4</b>	<b>Waste Management (Figures in MM3)</b>											
		OB Removal (Cumulative)			External Dump (Cumulative)		Internal Backfilling (Cumulative)		Embankment (Cumulative)			
		Top Soil	OB	Total	Top Soil	OB	Top Soil	OB	Top Soil	OB		
Up to Base year *												
Y-1	19-20											
Y-3	21-22											
Y-5	23-24											
Y-10	28-29											
Y-15	33-34											
Y-20												
Y-25												
Y-30												
Y-33*												
<b>Post Closure</b>												
Y-36												
<p>* - Considering Base year i.e. 2018-19 and life of 33 years in this case</p> <p><b>Stages at 1<sup>st</sup>, 3<sup>rd</sup>, 5<sup>th</sup> and subsequently every five year for the entire life of the project and for 3 years post closure</b></p>												
<b>8.5</b>	<b>Top Soil Management – (Including Action plan for Top Soil management)</b>											
<p align="right">(All Figures are Cumulative and in MM3)</p>												
		Top Soil Used										

		<i>Parameters</i>		<i>Details</i>				
			Top Soil Removal Plan	Spreading Over Embankment	Spreading over Backfill area	Spreading over External OB Dump area	Used in Green Belt area	Total Utilised
		Up to Base year *						
Y-1	19-20							
Y-3	21-22							
Y-5	23-24							
Y-10	28-29							
Y-15	33-34							
Y-20								
Y-25								
Y-30								
Y-33*								
		<b>Post Closure</b>						
Y-36								
<p><b>Stages at 1<sup>st</sup>, 3<sup>rd</sup>, 5<sup>th</sup> and subsequently every five year for the entire life of the project and for 3 years post closure</b></p>								
<b>8.6</b>	<b>Management of Coal Rejects.</b>			(Max 150 Words)				
				<b>Proposal regarding future maintenance and dismantling of structures, slurry pond and rejects</b>				
<b>8.7</b>	<b>Restoration of Land used for Infrastructure</b>			(Infrastructure to be retained and to be dismantled are to be presented in a tabular form envisaging measures to be taken for their physical stability and maintenance for the retained infrastructure facilities)				
<b>8.8</b>	<b>Disposal of Mining Machinery</b>							
<b>8.9</b>	<b>Safety &amp; Security</b>			<b>Measures to be implemented to prevent access to surface opening for underground working, excavation etc</b>				
<b>8.10</b>	<b>Abandonment Cost and Financial Assurance</b>							
<b>8.10.1</b>	<b>Abandonment Cost : Cost of Activities to be taken up for closure of the mine</b>							

<i>Parameters</i>		<i>Details</i>			
Head		Unit	Quantity	Rate Rs/ Unit	Amount "Rs. Cr"
Progressive closure	Water quality management	LS			
	Air quality management	LS			
	Waste Management	M Cum			
	Barbed wire fencing around dump	m			
	Barbed wire fencing around the Pit	m			
	Filling of Void - Rehanding of Crown Dump	MM3			
	Top Soil management	MM3			
	Technical and Biological Reclamation of Mined out of land and OB Dump	Ha.			
	Plantation over virgin area including green belt	Ha			
	Manpower Cost and supervision				
	Toe Wall around the dump	m			
	Garland drain	m			
	Garland Drain around the dump	m			
	Any other Activity				
Dismantling of Infrastructure & Disposal/ rehabilitation of Mining machinery	Dismantling of workshop	LS			
	Rehabilitation of the dismantled Facilities	LS			
	Dismantling of pumps and Pipes/ other facilities	LS			
	Dismantling of stowing bunker, provisioning of pumps for borewell pumping arrangement				
	Dismantling of UG equipment				
	Rearranging water pipeline to dump top park/ Agricultural land	LS			
Safety and security	Dismantling of Power lines				
	Barbed wire fencing around dump				
	Barbed wire fencing around the Pit	m			
	Barbed wire fencing with masonary pillars				
	Concrete wall with Masonalry pillars around the pit	m			
	Securing air shaft and installation of borewell pump				
	Securing of Incline				
	Concrete wall fencing around the water body				
	Boundary wall around the water body				
	Stabilisation( viz benching, pitching etc) of side walls of the water body				
	Toe Wall around the dump				
Technical and Biological Reclamation of Mined out of land and OB Dump	Garland drain				
	Garland Drain around the dump				
	Drainage Channel from main Ob dump				
	Filling of Void	Ha			
	Top Soil management	MM3			
	OB Rehandling for backfilling	MM3			
	Terracing, blanketing with soil and vegetation of External OB Dump	Ha			
	Pariphenal road, gates, view point, cemented steps on bank				
Post Closure management and supervision	Expenditure on development of Agricultural land				
	Landscaping and Plantation	LS			
	Power Cost	LS			
	Post Mining Water quality management	LS			
	Post Mining Air quality management	LS			
	Subsidence monitoring for 5 years	LS			
Others	Waste Management	LS			
	Manpower Cost and supervision	LS			
	Enterpreuershship development (vocational/skill development training for sustainable income of affected people				
	Golden Handshake / Retrenchment benefits to 100 employees of OC				
	Golden Handshake / Retrenchment benefits to 200 employees of UG				
	Onetime financial grant to societies / institutions /organisations which is dependent upon the project;				
<b>Total</b>	Provide jobs in other mines of the company				
	Continuation of other services like running of schools etc.				

	<i>Parameters</i>	<i>Details</i>				
<b>8.10.2</b>	<b>Financial Assurance : Amount to be deposited in Escrow account as a security against the mine activities to be carried out for the closure of the mine</b>					
	WPI as on		Apr-19	121.10		
	WPI as on base date *		Apr-19	121.10		
	Escalation rate of Closure cost				1.00	
			UG	OC		
	Base Rate of Closure Cost "Rs. Crs./Ha"		0.015	0.09		
	Closure Cost "Rs. Crs./Ha"		0.015	0.09		
	Project Area		1000.00	885.53		
	Amount to be deposited into Escrow Account "Rs. in Crs"		15.00	79.70		
	Amount already deposited into Escrow Account "Rs. in Crs"		5.00	8.87		
	Net Amount to be deposited into Escrow Account "Rs. in Crs"		10.00	70.83		
	Rate of compounding of Annual Closure Cost				5.00%	
	Balance Life of the project "in Yrs"		10	33		
	Annual Closure Cost		1.000	2.146		
	in Crs"				184.42	
	* - Base date considered in the example is 01.04.2019 and the life of the OC mine considered is 33 years and UG mine considered is 10 years. Rs 8.87 and RS 5.0 crs have been deposited in escrow account for OC and UG mine respectively.					
			<b>Amount to be deposited into Escrow</b>			
		Year	OC	Year	UG	Total
		1	2.146	1	1.000	3.146
		2	2.254	2	1.050	3.304
		3	2.366	3	1.103	3.469
		4	2.485	4	1.158	3.642
		5	2.609	5	1.216	3.824
		6	2.739	6	1.276	4.016
		7	2.876	7	1.340	4.216
	8	3.020	8	1.407	4.427	
	9	3.171	9	1.477	4.648	
	10	3.330	10	1.551	4.881	
	11	3.496			3.496	
	12	3.671			3.671	
	13	3.854			3.854	
	14	4.047			4.047	
	15	4.249			4.249	
	16	4.462			4.462	
	17	4.685			4.685	
	18	4.919			4.919	
	19	5.165			5.165	
	20	5.424			5.424	
	21	5.695			5.695	
	22	5.979			5.979	
	23	6.278			6.278	
	24	6.592			6.592	
	25	6.922			6.922	
	26	7.268			7.268	
	27	7.631			7.631	
	28	8.013			8.013	
	29	8.414			8.414	
	30	8.834			8.834	
	31	9.276			9.276	
	32	9.740			9.740	
	33	10.227			10.227	
	<b>Total</b>	<b>171.839</b>		<b>12.578</b>	<b>184.417</b>	

## ANNEXURES

	<i>Parameters</i>	<i>Details</i>	
I	Copy of allotment order /Vesting order.	<b>Mandatory Document</b>	<b>Annexure - I</b>
II	<p>Certificate of <b>Qualified person (QP) / Accredited Mining Plan preparing agency (MPPA)</b> if the project area is confined within the vested/allotted block boundary and</p> <p>Where the project area extends beyond the block boundary, a certificate of <b>Qualified person (QP)/ Accredited Mining Plan preparing agency (MPPA)</b> should be supported with a certificate of State Government mines and Geology department must be attached, which should specify (a) intent of the state government for grant of lease beyond the vested geological boundary; (b) non-existence of Coal/ Lignite in the area beyond the vested/allotted geological block boundary to rule out the issue of encroachment and use of coal bearing area (beyond the vested/allotted block boundary) in the mining plan</p>	<p style="text-align: center;"><b>Mandatory Document</b></p> <p><b>Note:</b> Certificate should be given on conceptual plan envisaged in the proposed mining plan depicting OB area, infrastructure locations and geo-reference co-ordinates of the lease area, block area, project area;</p> <p>In case the project boundary extends beyond the allotted geological block boundary certificate of non-occurrence of coal should be clearly shown.</p> <p>Certificate should envisage that the Geo-reference Co-ordinates considered for preparation of Mining plan is in line with Vesting/allotment order and does not encroach any other adjacent block, and non-coal bearing certificate of the area in case any proposed infrastructure or OB dump is outside the block area;</p> <p>The Project area, Lease area and geological block area in “Ha” shall also be envisaged.</p>	<b>Annexure - II</b>
III	<b>Approval of the Company Board Approval: ,</b>	<p style="text-align: center;"><b>Mandatory Document</b></p> <p style="text-align: center;"><b>Board approval must Specify :</b></p> <ul style="list-style-type: none"> <li>• Approvals of Mining Plan form the Board of the company giving undertaking for correctness of data used in preparation of Mining Plan;</li> <li>• Details of the <b>Qualified person (QP)/ Accredited Mining Plan preparing agency (MPPA)</b> with certification that the eligibility of Qualified person/</li> </ul>	<b>Annexure - III</b>

	<i>Parameters</i>	<i>Details</i>
		<p>Accredited Mining Plan preparing agency has been verified.</p> <ul style="list-style-type: none"> <li>• Acceptance of the Mining Plan by the company board with recommendation for approval;</li> <li>• Undertaking 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</li> <li>• Commitment that entire mining operation will be carried out as per the Statutory provision given under Mines Act 1952, Coal Mine Regulation 2017, EP Act 1986 and FC Act 1980 and &amp; wherever specific permission will be required the company will approach the concerned authorities.</li> <li>• Financial Assurance for implementation</li> <li>• Undertaking that the reclamation &amp; rehabilitation work shall be carried out in accordance with the approved Mine Closure Plan and any modification /amendments which may be made in the mine Closure Plan by Ministry of Coal, from time to time.</li> <li>• Undertaking that the protective measures contained in the mine closure plan including reclamation and rehabilitation works will be carried out in accordance with the approved mine closure plan and final mine closure plan and undertake to submit a yearly report before 1<sup>st</sup> July of every year to the Coal Controller setting forth the extent of protective and rehabilitative works carried out as envisaged in the approved mine closure plans (Progressive and Final Closure);</li> <li>• Undertaking that they will obtain a mine closure certificate from Coal Controller to the effect that the protective, reclamation and rehabilitation works carried out in</li> </ul>



	<i>Parameters</i>	<i>Details</i>	
		accordance with the approved mine closure plan/final mine closure plan and will surrender the reclaimed land to the State Government concerned.	
IV	Copy of earlier approval of mining plan.	<b>Mandatory Document</b>	<b>Annexure - IV</b>
V	Plan / chart showing schedule of Implementation of Mine closure activities (progressive and final closure) with duration of important activities	<b>Mandatory Document</b>	<b>Annexure - V</b>
VI	Other document (if any)		<b>Annexure - ...</b>

## PLANS/ PLATES

I	Location plan				
II	<p>Plan certified by <b>Qualified person (QP) / Accredited Mining Plan preparing agency (MPPA)</b> if the project area is confined within the vested/allotted block boundary and</p> <p>Where the project area extends beyond the block boundary, a Plan certified by <b>Qualified person (QP) / Accredited Mining Plan preparing agency (MPPA)</b> should be supported with a plan with geo-reference co-ordinates duly certified by the State Government mines and Geology department.</p> <p><b>Plan in support of Annexure - II</b></p>	<p><b>Plan in support of Annexure - II</b></p> <p><b>Note:</b> Certificate should be given on conceptual plan envisaged in the proposed mining plan depicting OB area, infrastructure locations and geo-reference co-ordinates of the lease area, block area, project area;</p> <p>In case the project boundary extends beyond the allotted geological block boundary certificate of non-occurrence of coal should be clearly shown.</p> <p>Certificate should envisage that the Geo-reference Co-ordinates considered for preparation of Mining plan is in line with Vesting/allotment order and does not encroach any other adjacent block, and non-coal bearing certificate of the area in case any proposed infrastructure or OB dump is outside the block area;</p>			
III	KML file of the Proposed lease and geological block.	<p><b>Note:</b> A printed copy of the KML file duly certified by Accredited agency should also be attached.</p>			
IV	Plan in scale of not less than 1: 10000 showing approved block boundary vis-à-vis proposed/existing mining lease & Mine boundary superimposed over it in distinct colour.				
V	Geological plan showing all the boreholes drilled and proposed to be drilled showing allotted block boundary and required lease area				
VI	Graphic Litholog				
VII	Surface Plan showing drainage system, Contour, at minimum 3m interval, location of BH				
VIII	Conceptual plan showing infrastructure facilities including colony, boundary of mining area, mine entries, roads including road diversion alignment etc				
IX	Tentative land use plan showing land type (Govt., forest and tenancy land) with its data source				
X	Floor contour plan and seam folio plan, ISO-grade plan	Seam	Floor Contour	Seam Folio	
XI	X-section showing coal/Lignite seams				

XII	Plan showing existing and proposed surface layout	
	<b>OPENCAST (OC) MINES</b>	
XIII	Plan showing total coal thickness and overburden thickness and stripping ratio	<b>OC</b>
XIV	Final stage quarry plan showing haul road alignment	<b>OC</b>
	<b>UNDER GROUND (UG) MINES</b>	
XV	Plan showing mode and location of entries and surface layouts	<b>UG</b>
XVI	Layout of the panel for each system (like Longwall, Continuous Miner, Bord& Pillar, road header etc.)	<b>UG</b>
XVII	Layout of pillar extraction	<b>UG</b>
XVIII	Support system	<b>UG</b>
XIX	Haulage and transport system	<b>UG</b>

**CLOSURE PLAN**

XX	Post mining land use plan		
XXI	Progressive mine closure plan/ stage plan indicating stages at 1st,3rd, 5th, year of achieving Peak rated capacity and end of life (showing area, volume, dump height etc for OC and seam-wise layout projects and ventilation system in UG)	Year	Plate No
		1st	
		3rd	
		5th	
		PRC	
		End of Life	
XXII	Reclamation plan		

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