

# Mines Control & Conservation of Minerals Division

## highlights

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## 7.2 MINES CONTROL & CONSERVATION OF MINERALS DIVISION

MCCM Division is the core Division of IBM that is in charge of regulation of mines. As the functioning of MCCM Division is cardinal to the management of Indian mines and since major policy initiatives with regard to mines' regulation and enforcement of systematic & scientific mining practices emanate from this Division, the Committee spent an inordinate proportion of time studying all facets of this Division's operations with an object to streamline operative processes & suggest measures so as to prepare the Division for futurity. The Committee, while perusing the various aspects & work of the Division, had to assimilate the different technical imperatives, such as, Mining Plan, Scheme of Mining, Inspection of Mines, Mine Closure Plans, Work-flow systems involved in the various regulatory tasks of the Division, including approval of mining plan and inspection of mines. Each of these, technical obligations of MCCM Division is vital in setting the course for embarking on to the role of a National Technical Regulator which IBM is heralded to transform into. The Committee while formulating its adjudications on MCCM Division did consult the report of the Sub-committee on "The components and the approval process of mining plan" to cognise the specific concerns of the Division and suggest pragmatic remedies. The various factors that came under the purview of discussion of the Committee are reviewed as under:

### 7.2.1 Clear Defined Systems to Increase Objectivity of the Tasks

In pursuance of the regulatory activities that IBM undertakes as prescribed under Mineral Conservation and Development Rules, 1988, and to perform the role as a National Regulator, IBM had scrupulously crafted out an architecture to promote and effectuate scientific and systematic mining and now has been gradually transiting towards establishing the norms of sustainable development in the Mineral Sector as a Surveillance and Monitoring Agency which in the backdrop of the present socio-economic scenario is indeed a sensitive and crucial responsibility entrusted upon IBM. Over the years IBM issued several guidelines and developed internal manuals on various activities of MCCM Division and put to effect substantive mechanisms for administration of the regulatory system. In spite of IBM's best endeavours, the Committee is of the opinion that subjectivity in the system still persists and have not been totally eliminated. In other words, the Committee feels that the perception about the work-flow processes and the systems involved in various activities varies

amongst different officers in the system, as well as among the miners and consultants with regard to mining practices that are in operation. Consequently, at the field level, implementation of these guidelines varied from region to region on the basis of the interpretations and perception of the officer executing the task. Additionally, it was felt by the Committee that some of these guidelines require phasing out or review, so that they are suitably updated. Therefore, in order to encourage evolvement of standardised processes to promote transparency in the regulatory activities of IBM, the Committee recommends that the Divisional office review all the tasks in its sphere so that clear work flow processes and systems in the form of standardised work flow charts with appropriate time limit for each task specified, are developed and put to effect. The work flow processes and systems so developed should be regularly and continuously reviewed and updated by the Divisional officer inter alia keeping in view the mining policy and legislation and after receipt of prior approval in this regard of the competent authority. Along with this, the Divisional office would also have to prepare elaborate manuals for field level officers in the Regions to effectively execute the assigned tasks. Similarly, the Industry must be elaborately and thoroughly educated about the work flow processes, systems and conditions thereof, so that fulfillment of requirements of the applicants while seeking approvals do take place unhindered. All these and other steps to improve perception and accurate transmission of information to IBM officers, Industry personnel and consultants are mandatory requisites that will render objectivity to the entire process. For easy access of the manuals so developed, the same would have to be placed on IBM portal.

### 7.2.2 Ensuring Internal Audit Mechanism for the Regional Offices

The present hierarchical system provides for monitoring and periodical sample checks on the tasks carried out by subordinate officers. This ensures necessary checks and balances, and also allows for monitoring quality of outputs in various regulatory tasks performed by the officers in the Regional offices of IBM. However, these mechanisms have lost their significance in recent times due to paucity of human resource in IBM, which has in effect impaired the functioning of this system. The Committee also did observe that execution of tasks through convoluted hierarchical levels most often congest the process making it administratively too cumbersome resulting in inordinate delays. While issues pertaining to human resource shortage have to be necessarily addressed, the Committee in order to improve efficacy feels that systematic transformation is rather crucial and hence recommends introduction of such a system of internal audit that could enable the tasks performed by the Regional Offices to be superintended by the Zonal offices under whose control they operate. This system would ensure quality and infuse the necessary checks and balances in the mechanism, and would ensure speedy conduct of business. With minor modifications and refinement in the reporting structure the new internal audit mechanism could be brought into operation. Under the new





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scheme, the RCOM would continue to report to the Zonal office. The Zonal office at its level would be required to critically examine and audit the performance of the Regional Office on quarterly basis. The Zonal office would then have to send its quarterly performances and audit report to the Divisional Office. The Divisional office, will examine the audit report of the Zonal office and rate the performance of both Zonal as well as the Regional offices. The appraisal report of the Divisional Office would then be forwarded to the Controller General for grading purposes. The Committee recommends that the internal audits should be based on standard check points and for this purpose detailed manuals on the audit mechanism would have to be evolved and be made available to both Zonal officers and Regional Controller of Mines by the Divisional office. The suggested functional hierarchy structure with work elements is shown in **Figure 7.3**.



Figure 7.3 : Suggested Functional Hierarchy Structure with Work Elements

7.2.3 Mechanism to Ensure Timely and Accurate Submission of Mineral Data

As per Rule 45 of Mineral Conservation and Development Rules 1988, every mine owner is required to submit monthly and annual returns of production in the form prescribed, within stipulated time to IBM and State Government authorities. Timely submission of returns and compilation of the returns is of utmost importance as they help in preparation of vital statistical trends on minerals, essential for formulation of Policies & Programmes for the Mineral Sector as a whole. It also helps in maintaining proper inventory of working and non-working mines, which is necessary for monitoring illegal mining activities. Presently these returns are submitted by mine lessees (in hard copy) to multiple levels of offices in IBM and also to the State Government. The Committee found that this practice of filing returns at more than one point caused discrepancies in the data received. On the whole, the coverage, timeliness and completeness of returns filed portrayed a slipshod picture. Such discrepancies in data led to causation of incomplete depictions and formulation of misleading trends. The Committee recommends that IBM would need to develop a more accurate format for data/information acquisition and should seriously contemplate switching over to a comprehensive web-enabled portal route which could facilitate online submission of information & returns and thereby faster processing and dissemination of information. The online submission of returns could ultimately be linked to the Mining Tenement Project. The Committee further recommends that the Regional offices should be made as the single authority where data should be filed and also be designated as the concerned authority to ensure collection and maintenance of data from all the concession holders. The proximity of the Concession holders to their respective Regional Offices under whose jurisdiction they fall under would facilitate the Regional Offices to assert control and mobilise results. While the data collection targets would be set by the Divisional Office, the Zonal offices would be responsible for ensuring that the data collection and entry norms have been followed by the Regional Offices. The data entered into the system would then be universally available to all the Divisions at the Headquarters. The Divisions would be responsible for assessing the quality of data and its analysis. The Committee recommends restructuring of the role of various levels of offices in IBM accordingly.

7.2.4 Role of Geologists and Reorientation of Geological Studies

The role of Mining Geologists in IBM is rather crucial. Their expertise is largely applied in ensuring systematic mining, conservation of minerals & protection of environment; conduct mining geological studies at various mining belts/mineral clusters isolated at different parts of mineral-rich districts; undertake assessment of geological reports of mineral concessions & update leasehold deposits for national mineral inventory; examine mining plans; undertake preparation of mineral maps etc. These tasks form the basis for building up the information base and arriving at

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decisions to determine the viability of mining in an area. The Committee is of the opinion that the Mining Geologists need to be optimally utilised in the MCCM Division. The Committee accordingly, recommends that the services of Mining Geologists should be utilised in the following assignments:

**7.2.4.1 Monitoring of Reconnaissance/High Technology Reconnaissance-cum-Exploration/Prospecting Licences**

During the year 2009-10, a total of 55 Reconnaissance Permits over an area of 58,382.71 sq. km and 81 Prospecting Licences over an area of 21,386 Ha have been granted by various State Governments in the country. As per MMDR Act 2011 Bill, no mining lease would be granted without prior completion of Prospecting or High Technology Reconnaissance-cum-Exploration operation. In real parlance, it would mean that once the Act gets enacted there would be an upsurge in the number of Applications for Prospecting and High Technology Reconnaissance-cum-Exploration Licences in the days to come. Presently, it is mandatory as per provisions of Mines & Minerals (Development & Regulation) Act, 1957, for a reconnaissance permit and prospecting licence holder to file a Scheme of Reconnaissance or a Scheme of prospecting, as the case may be, with the Indian Bureau of Mines and other regulatory agencies. As per MMDR Act 2011 Bill, Indian Bureau of Mines can issue directions to the holder of a non-exclusive Reconnaissance-Licence or a High Technology Reconnaissance-cum-Exploration Licences or a Prospecting Licence, for compliance with the conditions of the Permit or Licence which are necessary prerequisites for granting of Mining Lease. At present the schemes under the aforesaid concessions are not monitored enough. There is no regular mechanism to ensure whether conditions of RP or PL have been complied with or not. The Committee is of the opinion that the Mining Geologists should be assigned the task of monitoring Reconnaissance and Prospecting schemes and scrutinising the final exploration reports submitted by the concession holder at end of the exploration. This assessment would then be the base for any further exploration or preparation of mining plan. The Chief Mining Geologist should periodically compile and publish the status reports on non-exclusive Reconnaissance, High Technology Reconnaissance-cum-Exploration and Prospecting operations. The Committee also recommends that the mining geologists should ensure conversion of all the existing data available in IBM, and fresh data filed, into a digital format. Such data should be uploaded on to the portal regularly in the larger public interest after completion of statutory time limit. The Committee recommends that IBM should set time lines for this task.

The Committee also observed that the expenditure on exploration in the country is rather low as compared to the international expenditure incurred by mineral-rich nations. Global spending on exploration in 2010 was \$10.68 billion with Canada (18%), Australia (11%), US (8%), Peru (7%) & Mexico (6%) being leaders in the pack (Figures in parentheses indicate % of share). The exploration spending in India is

around \$ 15/sq km which is marginal when compared to \$ 124/ sq km in Australia and \$ 118/ sq km in Canada (source: McKinsey Report, 2011). Experiences of certain countries, pursuant to additional exploration and beneficiation activities driven specifically by state-of-the-art technology have shown significant rise in reserve position. Presently there is no proper accounting on the expenditure incurred in India in respect of exploration other than that reflected by GSI & MECL. In the light of such revelation, the Committee recommends that apart from monitoring the Reconnaissance and Prospecting operations, IBM Geologists should undertake to keep track of the expenditure invested in the Schemes of Reconnaissance/Prospecting vis-à-vis actually incurred and compile this information. Such data could be essential in shaping & formulating our policies.

**7.2.4.2 Compliance with UNFC**

IBM is required to maintain data on exploration and assessment of resources and reserves in the country as per UNFC system. The Committee is of the view that IBM will have to undertake periodic field inspections of the Reconnaissance/Prospecting areas to ensure proper compliance with the UNFC after reviewing reconnaissance and prospecting plan proposals as filed under proviso of MCDR. To begin with, the minerals, namely, iron ore, manganese, chromites, limestone/dolomite, base metals may be taken up so as to ensure that exploration is carried out as per the UNFC System and progressively from Stages G4→ G3→ G2→ G1. This will enable determination of reserves and remaining resources on the basis of geological study and feasibility study of F2 stage at least. The advantages of this exercise would be that if the prospecting reports are prepared as per the UNFC norms, it will be easier for the RQP/lessee to prepare the Mining plan. In this connection, the Central Government has directed all State Governments to insert a special condition under Rule 27(3) of Mineral Concession Rules 1960 with regard to taking up of assessment of mineral resources as per UNFC in phased manner in all existing and new mining leases and complete the task within one year to 5 years (depending on the extent of the lease area) from the date of imposition of such condition. The Committee, on perusal of the nature of this job recommends that this be handled by the Mining Geologists in a phased manner with due emphasis attached to fixing of targets & time frame for accomplishment of each target.

**7.2.4.3 Examination of Geological aspects of Mining Plan/ Scheme of Mining**

Mine Planning and Mine Designing are largely dependent on the assessment of mineral resources and reserves. It is essential that a deposit is properly evaluated through adequate exploration. Proper assessment of mineral reserves and resources facilitates adoption of appropriate mining methods. It also ensures clear demarcation of mining pit limits, essential for conceptualisation of mine closure. The Committee is of the opinion that involvement of Mining Geologists for examination of geological part of the Mining Plan and Scheme of Mining is necessary

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in order to affirm on aspects relating to viability & adequacy of exploration, resource quantity & quality assessment of the deposit and codification of the deposit as per UNFC. The Committee acknowledging that such works fall under the domain expertise of Mining Geologist, recommends that Mining Geologists of IBM should appropriately be involved in the process of approval of Mining Plan/Scheme of Mining.

#### 7.2.4.4 Implementation of Threshold Values of Minerals

As minerals are finite and non-renewable, matters relating to conservation & judicious utilisation of minerals have been gaining momentum. Taking due cognisance of this, necessary proactive measures have been identified by IBM and as first up issued guidelines for stacking of mineral rejects, i.e., fractions of ROM that are below the threshold value and that which could be used in future, subject to their marketability, modification in end-use and suitable technology intervention. The assessment of mineral rejects and their utilisation will depend largely on physico-chemical characteristics inter alia availability of breakthrough technology. Since as prerequisite improvisation have to be brought about in process-mineralogy, analytical and physical characterisation with specialisation in geology to a certain extent, the Committee recommends that utilisation of expertise of Mining Geologists, with the purpose to undertake Mineral Reject studies must be encouraged and in furtherance of which the Mining Geologist would have to conduct periodic field inspections for collection of samples from the waste dump, mineral rejects, sub-grade mineral stacks; analyse data, formulate threshold values of minerals; and hypothesise areas for utilisation or end-use industry. Furthermore, Mining Geologist while examining mining plans and schemes of mining should explore the possibility of incorporating such proposals for amenability to beneficiation studies which could further the scope of utilisation of mineral through upgradation of its rejects. Such proposals should only be considered for inclusion after proper background studies are conducted to ascertain the fact that such intervention for utilisation of rejects in respect of the mineral under consideration could yield to be beneficial. Inclusion of such proposals not only will promote conservation of minerals but also would engender zero-waste practices. In the long haul, such affirmative measures would firm up the belief on mineral conservation among mining lease holders and would ensure better regulation & control over India's mineral wealth. As short-term benefit, however, such means of utilisation of sub-grade/reject minerals would improve the prospect of royalty accrual for the Government.

#### 7.2.4.5 Regional Mineral Development Study (RMDS)

The erstwhile Regional Mineral Development Study (RMDS) of multi-disciplinary approach, according to the Committee, should be revived in order to address sustainable development concerns, and would need to be entrusted to the Mining

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*The Committee proposes that the mining geologists could undertake the work of accessing, processing & analysing data every year instead of the current practice of perusing data only once in five years.*

Geologists as they are the competent group to undertake monitoring of mineral/mine intelligence; for interpreting empirical data on mineral resources at regional level; and for identifying gaps in exploration activities that may need attention. The Committee while moderating on the scope of such studies observed that necessary reorientation and modification would need to be administered in order to increase the relevance of these studies. Advocating expansion in coverage with due emphasis on standards, procedures and practical guidance for Sustainable Development of Mineral Resources in a holistic manner on the regional scale, the Committee observed that the outcome of the RMDS studies could facilitate formulation of policies & guidelines and preparation of capacity-based Regional Development Planning and further could lay the ground works for taking up mineral processing studies. The Committee further recommends placing of the results of RMDS studies on IBM portal for wider dissemination—which, it believes, could concomitantly lead to generation of sponsored ore dressing projects.

#### 7.2.4.6 Updating National Mineral Inventory

The Indian Bureau of Mines updates the National Mineral Inventory once every five years. Though this work is carried out under the guidance of ME Division, Mining Geologists posted in the MCCM Division are engaged in updating of mineral inventory of leasehold areas. The data from approved mining plans/schemes, MCDR reports and information filed by the lease holders in their returns serve as a base matrix for this activity. The Committee observed that the mining geologists get involved in this activity only when the updating work of NMI is underway. The Committee is of the opinion that consequent to the implementation of the new format of filing annual returns through online procedures in electronic form by the miners – which in all likelihood would get operational soon – would enable expeditious accessibility of data for analysis purpose. The Committee proposes that the mining geologists could undertake the work of accessing, processing & analysing data every year instead of the current practice of perusing data only once in five years. This, could facilitate IBM to review the NMI on an annual basis.

#### 7.2.4.7 Preparation of Mineral Maps

Another crucial occupation that falls under the domain expertise of Mining Geologists is preparation and authentication of mineral maps. IBM carries out the function of preparation of Mineral Maps through its Mineral Map Cell. The Mineral Map Cell of IBM in pursuance of the directives received from the Ministry of Mines and Ministry of Environment & Forests had commenced in 2002-03 the work of preparation of mineral maps with forest overlays on a scale of 1:50,000. These mineral maps cover details of freehold & leasehold areas and other prospective mineral deposits, infrastructure, along with forest overlays which are



important fixtures that are vital in deciding on issues relating to minerals policy, grant & renewal of mining leases, development, planning mining activity in ecologically fragile areas and reservation of areas for mineral exploitation. Further, they also supplement the efforts in maintaining the NMI. So far IBM has covered almost all the mineral-rich Topo sheets covering States of Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu and Uttarakhand. The entire activity is scheduled for completion in 2011-12. The Committee observed that the legal status of the mineral-bearing land is not reflected in the maps and is of the opinion that it would be useful to include one more layer that shows the legal status of the land in these maps. The Committee, for the purpose of geo-referencing these maps further recommends that IBM initiate necessary steps to coordinate with Ministry of Environment and Forests and Department of Land Records to achieve this objective. The Committee additionally proposes that the existing facilities available at IBM's Mineral Maps Cell be upgraded suitably so that facilities for monitoring mining activities with satellite imageries could be in place and therefore recommends that IBM initiate project proposals to ensure early installation of such modern infrastructural facilities.

**Progress of Reclamation of Mining Land/Abandoned Mines**  
(Excluding Fuel, Atomic & Minor Minerals)

Year	Number of mines abandoned	Number of mines where reclamation has been carried out	Total area reclaimed in abandoned mines (in Ha)	Number of mines where reclamation is being carried out	Extent of area where reclamation is being carried out (in Ha)
Previous years	73	36	604.82	543	8108.52
2002-03	11	04	31.35	146	615.45
2003-04	07	05	6.01	128	591.52
2004-05	11	08	14	134	515
2005-06	00	00	00	111	836
2006-07	00	00	00	63	166
2007-08	00	00	00	10	390
2008-09	00	00	00	67	524
2009-10	00	00	00	61	482
2010-11	00	00	00	56	402
Cumulative up to 2010-11	102	53	656.18	1319	12,630.49

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- IBM is statutorily required to undertake inspections of mines for all major minerals.

**Progress of Cumulative Afforestation in Important Mines in the Country**  
(Excluding Fuel, Atomic & Minor Minerals)

Year	Area covered (in Ha)	Number of trees planted (in '000)	Number of trees survived (in '000)	Percentage of survival
1989-90	1505	3161	2236	71
1990-91	1884	4352	2749	63
1991-92	2578	4815	3533	73
1992-93	2163	4346	2812	65
1993-94	10777	31051	21088	68
1994-95	14035	39714	28649	72
1995-96	15591	44807	29563	66
1996-97	17141	45903	31571	69
1997-98	21462	47495	34145	72
1998-99	22155	49122	34849	71
1999-00	23557	52323	37027	71
2000-01	25030	55438	39137	71
2001-02	26650	58114	41098	70
2002-03	27647	61241	42790	70
2003-04	29109	64446	44801	70
2004-05	30688	69299	47724	69
2005-06	33821	78933	53584	68
2006-07	35318	83712	56515	68
2007-08	36271	86639	58290	67
2008-09	37405	90413	60597	67
2009-10	38621	94138	63016	67
2010-11	39032	99540	67687	68

**7.2.5 Inspection of Mines**

IBM is statutorily required to undertake inspections of mines for all major minerals. The inspections are carried out either as an authenticating measure prior to according approval to mining plan and during the tenure of the mining lease on a regular basis to ensure that the lessee's operations conform to the mining plan and other statutory requirements, including adherence to EMP. Some of the concerns pertaining to this activity and the recommendation of the Committee are given below:



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After the advent of the concept of sustainable development in Mining and Mineral Industry and its adaptation in the proposed MMDR Act, it has become rather imperative to foster the efforts that would show mining in a positive light and as that which would be reflected upon as activities that yield positive economic impacts. Simultaneously, all negativities about mining with regard to adverse social and environmental impacts have to be reversed by putting into effect concrete rehabilitation action programme.

Therefore, it is felt that the dimension & parameters of inspections of individual mine unit need to be reviewed in the line of the recent conceptualisation, which is, systematic mine planning with closure proposals and that which would integrate regional, environmental, socio-economic parameters in order to achieve sustainable development in mining. Some concerns pertaining to this activity and the recommendations of the Committee are described below:

First and foremost, the Committee observed that the system of briefing in RCOM office before inspection and debriefing after inspection is not followed with the intensity as it ought to. The Committee acknowledges the fact that the dwindling strength of personnel and increasing number of mines which require to be inspected have jointly led to this situation. The Committee recommends that the system needs to be vigorously pursued and altered in such a way that every case and issues relating to it gets complete attention. The Committee also recommends that implementation of Mining Plan with special emphasis on production capacity of the mine should be the thrust of the inspections.

Other recommendations for inspections made by the Committee are as follows :

**7.2.5.1 Multidisciplinary Inspections**

Currently mines are inspected by a single officer, who could either be a Mining Engineer or a Mining Geologist. On perusal of the various technical aspects involved that require careful dispensation during mine inspection, such as, mining, geology, mineral engineering, environment etc., the Committee advocates that officers of corresponding subject matter domain & expertise must conjointly undertake inspection assignments. As regards other critical dimensions of sustainable development that need to be fostered viz social, economical, environmental and institutional, the Committee proposes and underlines the need for involvement of multidiscipline personnel in the mine inspection team. Therefore in order to enhance the quality of inspections and raise the bar especially in case of large mines, a multidisciplinary team for inspection of mines have to be constituted. The Committee recommends that the inspection of mechanised and underground mines should be necessarily carried

out by a team of Mining Engineers, Geologists and Ore Dressing officers. The inclusion of Ore Dressing experts during inspection is crucial in today's circumstances for mines of such minerals, for instance, copper, lead-zinc etc. where inputs with regard to mineral processing/beneficiation work would be necessary to improve/diversify the prospect of mining operations. Inspections should also lay thrust on ascertaining compliance of a miner in adopting processes as prescribed to him with regard to mechanisation, automation and computerisation of mining operations. The inspection teams would have to ensure that the mine operators optimally recover all useful grades of ROM and attaches due attention on the ecology and environment. In respect of all other mines, the Committee recommends that inspections could be conducted by a single officer. However, in carrying out such inspections all parameters would need to be checked & ascertained.

The EIA and EMP are integral parts of the Mining Plan which are monitored by IBM during inspections. Additionally, Progressive Mine Closure Plan (PMCP) too, since 2003, has become part of the Mining Plan under which various environmental parameters are also required to be monitored. The Committee in its observation appreciated the fact that IBM over the years has developed the expertise in monitoring environmental aspects of mining areas. The Committee also observed that IBM-BRGM project on "Development of Application Techniques in Relation to Environmental Management in Mines and Waste Resources" has facilitated IBM to develop the required capacities & skill in the subject. The Committee, to streamline the process further, recommends that a mechanism be evolved in concordance with Ministry of Environment & Forests for implementation of environmental conditions for mining projects in order to avoid any duplication of procedures with respect to environmental monitoring of mine sites.

**7.2.5.2 System of Audit of Inspections and Reporting Channels**

The Committee perused the present system of review of mining inspections undertaken at the level of Zonal and Divisional offices. The Committee is of the opinion that, in line with the proposal to introduce audit appraisal with the purpose to enhance quality, a three-level functional reorientation in respect of inspections would have to be effectuated. At the first level of RCOM, the function would involve actual inspections based purely on targets as per systems defined for the purpose. The second level, i.e., Zonal level, would ensure quality of inspections based on a system of audit which would provide critical inputs for improving the systems taken up at the first level and also all aspects that would have bearing on sustainable development aspects in mineral/mining belt in addition to collation of data and its synthesis. The Divisional office which would constitute the third level, would act as the planning and monitoring unit for setting the targets and monitoring the performance of the first level, and also

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as the work flow process and systems designing unit for the first level and the second level. The Committee recommends suitable reorientation of functions and reporting channels at the Regional offices, Zonal offices and the Divisional Office. The schematic layout for mechanism of monitoring is shown in **Figure 7.4**.

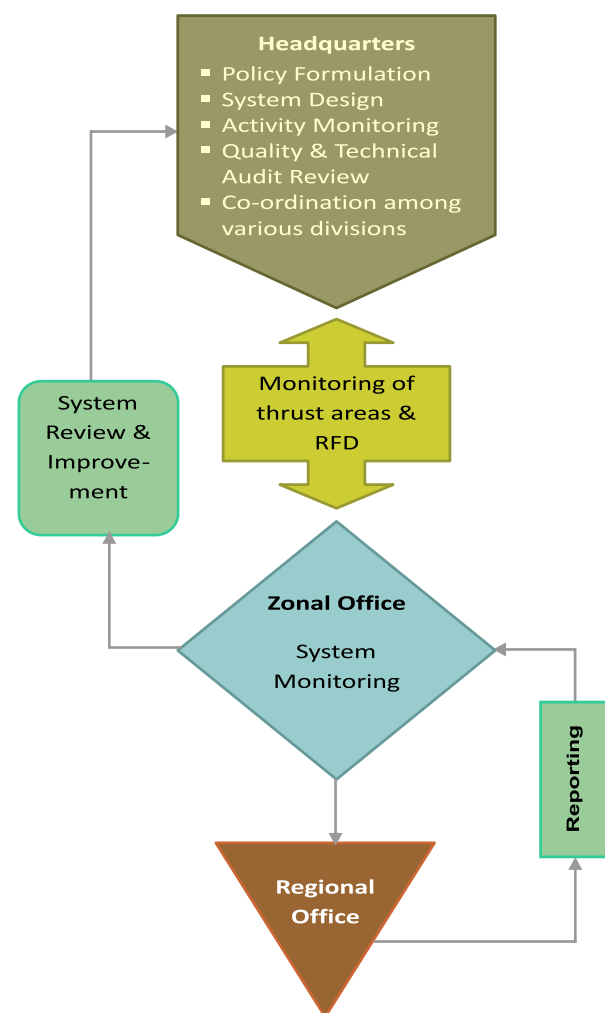


Figure 7.4 Schematic Layout for Mechanism of Monitoring

**7.2.5.3 Periodicity of Inspections**

The Committee has observed that IBM due to constraints mainly paucity of personnel, is not able to undertake inspections of all the mines on an annual basis – the mines are therefore inspected generally in a cycle of two to three years. At present, the State Governments do not have a role in the inspection process. This has also lead to lack of coordination between the State Governments and IBM in terms of jurisdiction. According to IBM, its jurisdiction is limited to MCDR compliance, while the State Governments claim that as the designated regulator, IBM should take action in all cases where mining takes place, even in case of digression outside the lease

areas. While it is a fact that several mechanisms initiated by IBM to ensure quality of inspections and coordination with the State Governments have fallen into disuse due to shortage of officers, the Committee is of the opinion that streamlining of work flow processes and systems for conducting inspections, along with delegating inspection activities for some minerals to the State Governments as the capacities of their DGM develop, would facilitate better regulation of mining activities.

This would increase the involvement of the State Governments and also allow IBM to increase its focus on quality. Such a system will also be in sync with the proposed three-tier system, in which IBM would formulate & prepare the systems of inspections while the State Governments would undertake inspections in accordance with the systems, and the entire process would have to be available for external audit. Till such time when the State Government's capacities are not fully developed, IBM would have to continue to undertake inspections of all mines on the basis of predetermined objectives, such as, auditing of mining methods, quick disposal of sub-grade reject, waste management, rehabilitation & reclamation of degraded land, social & economic aspects etc. IBM should continue formulating various inspection modules and maintaining the stipulated periodicity with regard to surveillance & monitoring during this period. The Committee, as interim measure, recommends that:

- a) in case of mechanised mines IBM would conduct inspections annually,
- b) in case of mines with area more than 50 hectares, IBM would conduct annual inspections,
- c) in case of all other mines, annual inspections would be conducted in at least 40% mines preferably on rotational basis. The mines less than 50 Ha would submit report on compliance of rules to IBM on prescriptive points, based on which and depending on the impact, IBM would carry out inspections.
- d) mines where violations are observed should be inspected twice in a year to ensure compliance with rules.

Further, the Committee also recommends identification of the criteria on basis of parameters, such as, economic and strategic importance of minerals, categories of mines, nature of mining operations, extent of lease area, geological & ecological setting of the areas etc. wherein involvement of State Govts. would be essential in the inspection process and all those functions of mineral regulation which could be delegated to the State Governments.

**7.2.5.4 Use of Technology**

It is necessary to ensure that the lessee establishes permanent lease boundary pillars and ensure that mining activities are carried out within the areas of the lease granted. Many times due to improper demarcation of lease area on the ground, georeferencing of the lease area gets hampered. In such cases, to ascertain whether

*To ensure quality of inspections, IBM should increasingly involve the State Governments in the process.*

*IBM should continue formulating various inspection modules and maintaining the stipulated periodicity with regard to surveillance & monitoring of mines.*



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mining activities are carried out within the area allotted to a lessee as approved in the Mining Plan have become a constraint. With increase in demand for minerals, demarcation of lease boundaries between two and more miners in an area have increased the level of concerns. The Committee is of the view that in order to ensure greater compliance of rules and reduce incidences of illegal mining, GPS or DGPS surveys be made as necessary accoutrements in the inspection process conducted by IBM. The Committee also recommends that all inspections of mining operations & monitoring of environmental parameters for the purpose of accuracy and precision of data, should be carried out in a scientific manner with the utilisation of modern equipment and technology like digital/video camera, remote sensing, satellite imageries and GIS user-applications.

**Number of Underground Mines during 2010-11**  
(Excluding Fuel, Atomic & Minor Minerals)

Mineral	Category 'A'	Category 'B'	Total
Apatite	-	1	1
Asbestos	1	2	3
Barytes	-	1	1
Chromite	5	-	5
Copper Ore	3	-	3
Gold	3	1	4
Lead & Zinc	6	-	6
Manganese Ore	8	4	12
Mica	3	25	28
Salt(Rock)	-	1	1
Steatite	2	19	21
<b>Grand Total</b>	<b>31</b>	<b>54</b>	<b>85</b>

**7.2.5.5 Thrust Areas of Inspections**

As envisioned in the National Mineral Policy and to further the concept of zero-waste mining into realistic terms, the Committee deliberated extensively on the prospects for achieving this objective. In the lines of the enumerations spelled out in the Policy Framework, the Committee implied that there must be an adequate and effective legal and institutional framework in place that would mandate zero-waste mining and that which would prevent sub-optimal and unscientific mining. The Committee added that enforcement of strict adherence to the Mining Plan and to that of all attached parameters must carry weightage & any violation should bear its repercussions. In agreement with the view that all avenues which would bolster value addition in minerals be explored fully, the Committee emphasised that latest techniques that would help achieve this purpose, i.e., beneficiation, calibration, blending, sizing, concentration, pelletisation, purification and general

customisation of product, must be promoted and given the necessary fillip. The summary of the Committee's recommendations on the main thrust areas of inspections are a) monitoring the compliance of Mining Plan and Scheme of Mining ensuring optimal and scientific mining practices; b) be oriented towards mandating zero-waste mining and adoption of scientific waste management policy; c) encourage value addition through various tools of mineral processing and metallurgical techniques.

**7.2.6 Streamlining the System of Approval of Mining Plan**

IBM is vested with the responsibility of according approval to mining plans for all major minerals (except fuel and atomic minerals) and has been doing so since the introduction of the concept of mining plan in the year 1987-88. Subsequently, the task of approval of mining plans of opencast mines in respect of 29 non-metallic and industrial minerals was delegated to the State Governments. The Committee examined in detail the existing system of approval of mining plans and all other issues of concern with reference to process and approval of mining plans and has purported the following recommendations for streamlining the system:

**7.2.6.1 Competency of Recognised Qualified Persons (RQPs)**

The Mining Plan is prepared by such persons recognised by IBM for the purpose who are designated as Recognised Qualified Person (RQP). RQP operates as a technically competent person who assists the mine operators in preparing a feasible mining plan and while doing so fulfils all technical conditions in strict adherence to the prevalent norms/guidelines so that approval from IBM gets accorded. A RQP therefore functions as an operative link between IBM and mine operators in general and small mine operators in particular. The eligibility criteria of RQP have remained the same over a period of time despite there being continuous changes in issues and challenges faced by the Mining Industry. In terms of their performance it has been generally noticed that in spite of clear guidance and number of training programs organised by IBM from time to time, majority of Mining Plans submitted to IBM by the RQPs do contain deficiencies and on most occasions require IBM advisory and are referred back for modification in order to make the plan fit for approval. Such impasse not only negates the purpose for which RQP system was structured but also prolongs the process causing unwanted delays. The Committee observed that most of the RQPs are individuals with Mining Engineering or Geological Science background operating on an individual basis. There are exceptions of a few RQPs operating together in the form a Company. The reason that weighs against such individual experts is that a single person more or less deals with the entire gamut of issues in a technical document of vital importance such as a Mining Plan. In other words, several issues in present day mining besides reserve and resources which include resource estimation as per UNFC with economic, feasibility & geological axis; sustainable development

*IBM, in order to ensure greater compliance of rules and reduce incidences of illegal mining, should utilise GPS or DGPS surveys as necessary accoutrements in the inspection process.*

*To further the concept of zero-waste mining in realistic terms, the Committee added that strict adherence to Mining Plan must be enforced.*





issues relating to economic, environmental, social and ecological parameters; emphasis on post-mining land forms, technological advancements, corporate-social responsibility etc. often are relegated as nondescript features. In today's time, it is expected of RQPs to be able to deal with all these issues in a comprehensive manner for the purpose of putting together the document of Mining Plan. Further the Committee is of the opinion that RQPs apart from preparation of Mining Plans should have the capability to prepare pre-feasibility and feasibility reports as per JORC system in order to prepare bankable documents. A single individual with exposure and knowledge in one field, the Committee felt, would be ill-equipped to fulfil the multidimensional requirements, each and all of which require expertise and domain knowledge. The situation thus demands that prospective RQPs, for effective functioning need to be suitably equipped in terms of infrastructure facilities and technical support in the form of men, material, equipment etc. in order to deserve recognition and be granted as Recognised Qualified Person. The Committee further is of the opinion that IBM should not be the authority to grant approval to be recognised as RQPs. The job should be left instead to an independent agency, for instance, "Quality Council of India" – which needs to be constituted. This Agency would have to stipulate the eligibility criteria, such as, qualifications, experience, system for surveillance, re-assessment, suspension, cancellation of recognition etc. and regulate the grant of recognition and de-recognition of the RQPs. The Committee suggests that, the Agency after assessing the credentials of an applicant should classify the RQPs into various grades depending on the levels of competency and capability to handle preparation of Mining Plans for different categories of mines. By effectuating such a system, IBM could rest assured that the quality of RQPs and the Mining Plan prepared by them that would come for approval will be of reasonable standards. The Committee felt that the best suited to function and be registered as RQPs would be companies/firms and not independent experts. A company or firm, the Committee felt, could augment the efficacy of the system from the present ways and could be made accountable for the job that they are designated to function.

**Processing of Statutory Documents by IBM**  
(Since their introduction as on March 2011)

	Mining Plans (Since 1987)	Schemes of Mining (Since 1992)	Final Mine Closure Plans (Since 2003)
Received at IBM	15,215	4,790	231
Withdrawn by applicant	1,000	174	13
Approved	12,578	3,900	176
Not Approved	1,535	601	28
Referred back to applicant /RQP for modifications	28	22	03
Under processing in IBM	74	93	11

highlights

**7.2.6.2 Norms and Guidelines for Preparation of Mining Plan**

The present norms and guidelines for preparation of Mining Plans in practice allow scope for discretion to the approving authority. The Committee is of the opinion that the norms and guidelines should be more objective and should cover the latest techno-economic aspects of various components of mining parameters and should ensure that only the best available technology is put into use in order to achieve optimum exploitation of minerals in total conformity with standard scientific & systematic methods, criteria for conservation of minerals and sustainable development framework. The Committee recommends that IBM should layout comprehensive guidelines/procedures in order to:

- ♦ update standard norms and formats for preparation of Mining Plans for various categories of Mines;
- ♦ prepare a standard 'checklist' for preliminary scrutiny of Mining Plan so as to ensure that the application for Mining Plan submitted for approval is complete in all respect;
- ♦ prepare standard methodology for examination of Mining Plan including officers to be involved in the field;
- ♦ prepare standard norms to bring about cost-effective exploration of different minerals to suit small-scale mining and that which could be worked through different topographic features to determine the extent of mineralisation;
- ♦ prepare clear-cut guidelines and norms to categorise mining operations into manual, semi-mechanised and mechanised groups.
- ♦ develop model guidelines for preparation of Mining Plan for different types of mineral deposits classified under UNFC and to devise methodologies for cluster mining approach and collective restoration plan for small deposits /contiguous small leases over a single lease that could be granted on cooperative basis.
- ♦ fix the standard time limit for each stage of approval of mining plan.
- ♦ devise a self-automated system which could keep track of validity of proposals for the first five year period of any Mining Plan and remind all due dates for review of Mining Plan and submission of proposals for next five years in the form of Scheme of Mining and inform the mining lessee accordingly.
- ♦ display all standards guidelines/procedures on the portal.
- ♦ prepare a Manual of instructions/circulars for preparation of Mining Plans for the use of RQPs as a reference book.
- ♦ revise and update existing 'Manual of Processing of Mining Plan' handed out to the inspecting/approving authority of IBM as a Standard reference book.
- ♦ organise periodic workshops/trainings for inspecting officers of IBM to update their knowledge and improve their skills.
- ♦ organise periodic workshops/meets to update the 'RQPs' on the latest developments and requirements introduced for processing of Mining Plans and Schemes of Mining.

*In today's time, RQPs are expected to deal with all issues of mining plan in a comprehensive manner. The Committee feels that the best suited to function and be registered as RQPs would be companies/firms and not independent experts.*

*The norms and guidelines for preparation of Mining Plans should be more objective and should cover the latest techno-economic aspects of various components of mining parameters and should ensure that only the best available technology is put into use in order to achieve optimum exploitation of minerals.*



The Committee recommends that IBM revise the format of Mining Plan and Scheme of Mining keeping in view the new provisions of Mines & Minerals (Development & Regulation) Bill 2011 and the Framework of Sustainable Development.

### 7.2.6.3 Processing of Mining Plan

In the present system of approval of mining plan, IBM largely plays a role of a facilitator than as a regulator. The mining plan is examined both at desk and in the field and scrutiny comments are offered for modifications in the mining plan. Most of the scrutiny comments are advisory in nature to improve the quality of mining plan, before final approval is accorded. Some of the scrutiny comments advise alternative methods for augmentation of mineable reserves to achieve desired cut-off grade as per UNFC while the other report on the nature of adequacy of exploration, scientific mining, conservation of minerals and protection of environment, community development / CSR activities after taking stock of the situation in the vicinity of the mines and advise viable alternatives which are better than the one included in the plan by the mine operator. Though such backup measures of IBM play an important role in mineral development, it also leads to delays especially when the RQP is not able to modify the Mining Plan document in a timely manner. The Committee recommends that there is a need for IBM to identify the mandatory items, factual items and advisory items in a mining plan. The treatment of these items is indicated in **Figure 7.5**.

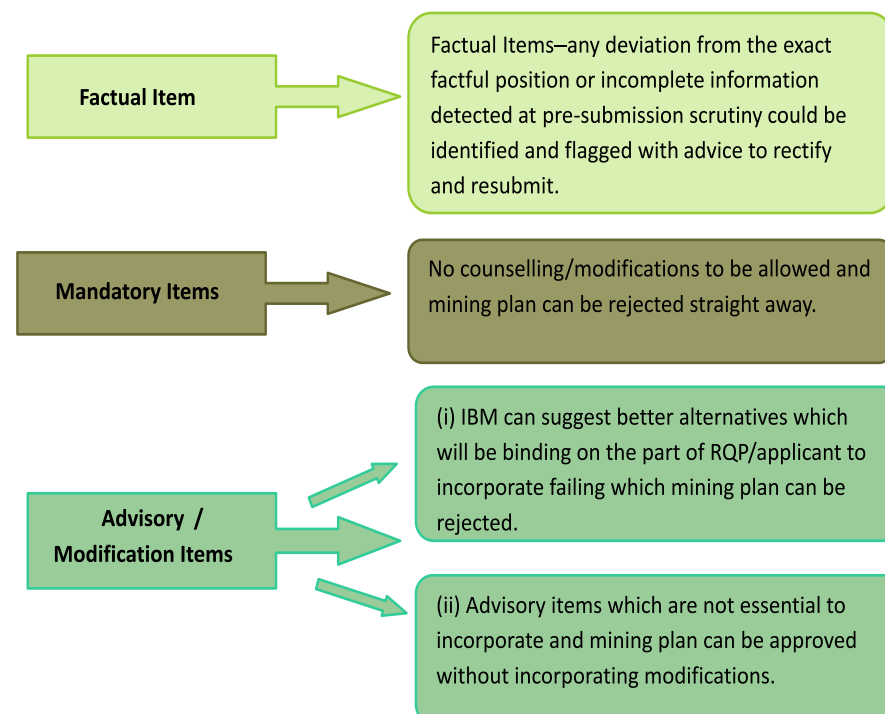


Figure 7.5 : Model Approach for Processing of Mining Plan

## highlights

While processing of Mining Plan there is a need for IBM to identify the mandatory items, factual items and advisory items in the mining plan.

The Committee recommends that the Regional Controller of Mines be empowered in all regulatory activities and that Mining Plans, Schemes of Mining and Mine Closure Plans in respect of all categories of mines be dealt at the Regional office.

### 7.2.6.4 Regional Office to Approve Mining Plans

As indicated in the Role and Vision Statement, the Regional office should be the sole and ultimate authority for all regulatory activities. Therefore, the Committee recommends that the present system of approval of Mining Plan and Mine Closure Plan in respect of mechanised mines by the Controller of Mines may be dispensed with. The Regional Controller of Mines should be empowered in all regulatory activities and therefore, the Mining Plans, Schemes of Mining and Mine Closure Plans in respect of all categories of mines should be dealt with by the Regional Office. The model flow diagram for processing of mining plan is indicated in **Figure 7.6**.

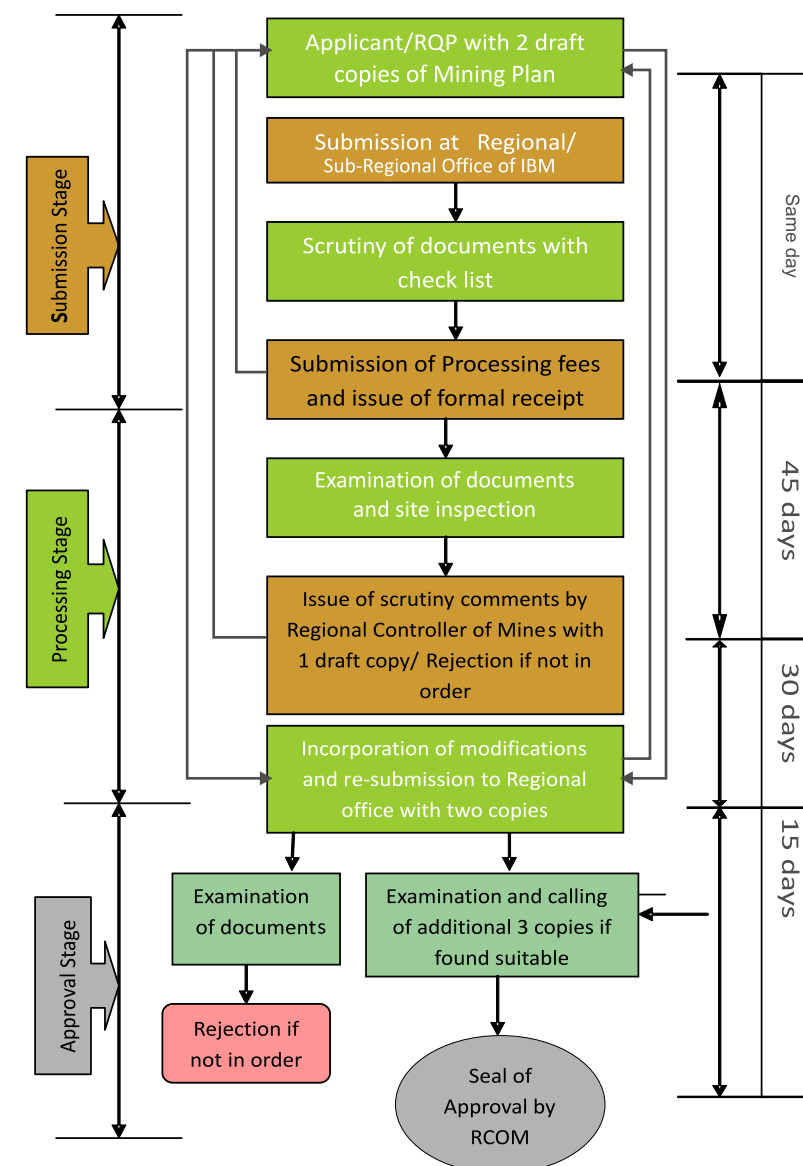


Figure 7.6 : Model Flow Diagram for Processing of Mining Plan



## highlights

**7.2.7 Special Intervention Required in Cases of Illegal Mining**

The Committee is of the opinion that the mining activities carried out without valid mineral concession and illegal transport of minerals are considered as illegal mining, whereas mining operations conducted without adherence to Rules are considered as technical violations. The increasing incidences of illegal mining, and the lack of capacities in the State Governments to effectively deal with this menace, have led IBM to intervene and take up additional responsibilities in addressing the various concerns. While the Central Government has been regularly monitoring the actions taken by the State Governments, and assisting them wherever possible, it is IBM that bears the duress of conducting inspections and spearheading the course of action against incidents of illegal mining which are directly brought to the notice of the Central Government. These special intervention activities though conducted by IBM, cannot fructify without the concerted efforts & cooperation of the State Governments concerned. Since, IBM, at its disposal does not have any separate facilities that would ensure safety of its inspecting officers, dependence on State Government is all the more crucial. Moreover, such inspections tax the limited resources at the Regional level, which in turn impacts the quality of work undertaken at IBM's Regional offices.

**7.2.8 Offshore Area Mineral Regulation**

The Central Government in exercise of its powers vested as the owner of minerals lying in the offshore areas of the country has enacted the Offshore Areas Mineral (Development and Regulation) Act, 2002. With effect from 14th January 2010, the Central Government in its notification authorised IBM as the Administering Authority for grant of mineral concessions under this Act and has also authorised IBM to regulate the exploration and mining activities. This additional portfolio would require IBM to develop additional capacities to handle the regulation of the offshore mining activities, and for this purpose it would need a dedicated strength of staff and officers, and Offices. The Committee has considered the requirement and it recommends the following:

**7.2.8.1 Offshore Areas Management Cell in Headquarters**

IBM should set up an Offshore Minerals Development & Regulation Cell in its Headquarters, that which would be under the superintendence of the Chief Controller of Mines and under the overall control of the Controller General who is the designated 'Administering Authority' under the Offshore Areas Mineral (Development & Regulation) Act, 2002. The Cell would need a definite work space/premises along with adequate number of the technical and ministerial officers and staff. The main functions of the Offshore Minerals Development & Regulation Cell will be as follows:

- Processing of applications for grant and renewal of Reconnaissance Permit, Exploration Licence, Production Lease in the offshore areas.
- To decide on matters regarding imposing payment of compensation on the holder of operating right for any pollution or damage caused to the marine environment.
- To prepare Action Plan for inspection of mines to oversee & monitor the implementation of various conditions & criteria as specified under the Offshore Areas Mineral (Development and Regulation) Act, 2002 and Offshore Areas Mineral Concession Rules 2006.
- To declare Safety Zone for offshore activities and to prescribe norms for regulation of the safety and health of persons and safety of property.
- To monitor the accounting of collection of royalty or fixed rent whichever is greater from the holder of Production Lease.
- To monitor the accounting of collection of amount for payment to the International Seabed Authority towards fulfilment of obligation of the Union under Article 82 of the UN Convention on Law of the Sea, 1982 from lessee whose production operation extends beyond two hundred nautical miles from the baseline of the territorial sea.
- To render assistance to the Secretary, Ministry of Mines, who under this Act is conferred with the same powers as are vested in a Civil Court, to hear and decide cases relating to Civil Liability and Adjudication.
- To issue directions for conservation and systematic development of offshore minerals, prevention of pollution, protection of marine environment, prevention of coastal erosion or prevention of danger to life (including the marine life) or property.
- To monitor the performance of the Regional Office under the Offshore Mineral Development & Regulation Cell.
- To liaison with various Government departments like Ministries of Defence, Environment and Forests, Home Affairs, Agriculture, Ocean Development, Shipping, Petroleum and Natural Gas etc. for grant of mineral concessions in the offshore areas.
- To issue guidelines and advise to the Regional offices with regard to offshore minerals so that there is uniformity in approach.

The Committee observed that the headquarters of GSI's offshore mineral exploration activities is based at Mangalore. Therefore, the Committee recommends that in future, as the mineral developmental activities in offshore areas expand, the Controller of Mines (Offshore Minerals) may be posted at Mangalore.

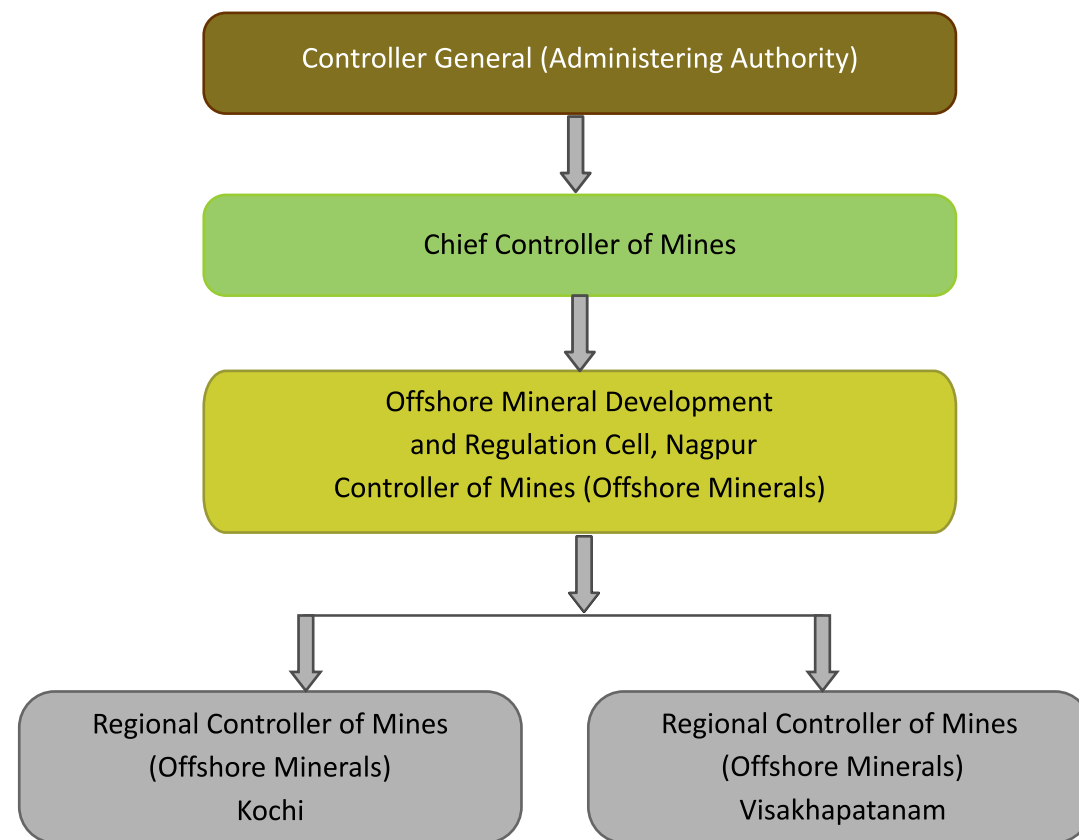
*The increasing incidences of illegal mining, and the lack of capacities in the State Governments to effectively deal with this menace, have led IBM to intervene and take up additional responsibilities in addressing these concerns.*

*With effect from 14th January 2010, the Central Government in its notification authorised IBM as the Administering Authority for grant of mineral concessions for offshore areas of the country.*



**7.2.8.2 Creation of Two Regional Offices at Kochi for West Coast and at Visakhapatnam for East Coast**

Considering the geographical locations of the minerals identified in the offshore areas and their proximity to the nearest port city, and the need to regulate the Offshore mining activities, the Committee recommends setting up of two Regional Offices for Offshore Minerals, one at Kochi in Kerala for the entire West Coast and the other in Visakhapatnam, Andhra Pradesh for the East Coast. Each Regional office will be headed by the Regional Controller of Mines (Offshore Minerals) and supported by adequate number of technical officers. The Regional Controller of Mines (Offshore Minerals) will report directly to the Chief Controller of Mines. The details of the organisation structure of the proposed Regional Office for Offshore Minerals are depicted in **Figure 7.7**.



**Figure 7.7 : Proposed Structure of Offshore Mineral Development & Regulation Cell & Regional Offices for Offshore Minerals**

**7.2.8.3 Functions of Regional Offices for Regulation of Offshore Minerals**

The Regional offices for offshore minerals will perform the following functions:

- Approve the Work Programme of the Exploration Licence and Production Lease.
- Inspection of mines to monitor the implementation of various criteria as specified under Offshore Areas Mineral (Development & Regulation) Act 2002 and Offshore Areas Mineral Concession Rules, 2006.
- Collection of royalty or fixed rent whichever is greater from the holder of Production Lease.
- Collection of amount for payment to the International Seabed Authority towards fulfilment of obligation of the Union under Article 82 of the UN Convention on Law of the Sea, 1982 from lessee whose production operation extends beyond two hundred nautical miles from the baseline of the territorial sea.
- To initiate and launch prosecution cases against defaulters for violations of Offshore Area Minerals (Development & Regulation) Act 2002 and Offshore Area Minerals Concession Rules, 2006.
- To seize and detain any vessel or mine; or arrest any person whom the inspecting officer has reasons to believe has committed an act of violation.

**7.2.9 Role of Various Levels of MCCM Division**

**7.2.9.1 Regional Office**

In pursuance of the exercise of restructuring the regional and zonal level operations of IBM, there is a need for redefining the existing roles of the offices under MCCM Division at various levels and reinforce them wherever necessary. As envisaged in the Role & Vision Statement of IBM, it is necessary to change the functional approach of the Regional Offices. The Committee is of the view that there is a need to instil functional autonomy in the Regional Offices with the purpose to improve the efficacy of execution of all the regulatory tasks allotted to it. In order to do so, the Regional Controller of Mines (RCOM) would be individually accountable for the functioning of the Regional Offices under his charge, and it would be his responsibility to ensure achievement of annual targets set by the Divisional office in respect of the activities of the region.

*The Committee recommends setting up of two Regional Offices for Offshore Minerals, one at Kochi in Kerala for the entire West Coast and the other in Visakhapatnam, Andhra Pradesh for the East Coast.*

*The Committee is of the view that there is a need to instil functional autonomy in the Regional Offices with the purpose to improve the efficacy of execution of all the regulatory tasks allotted to them.*



## highlights

**Functions of Regional Office**

- a) Conduct various types of inspections and pursue follow-up actions, such as, prosecutions, wherever necessary
- b) Accord approval to Mining Plan/Schemes of Mining /Mine Closure Plan
- c) Conducting Regional Mineral Development Studies
- d) Ensure filing of returns and notices by the concessionaires, with full coverage and within stipulated time limit
- e) Ensure implementation of UNFC
- f) Monitor all issues pertaining to Reconnaissance/Prospecting/Large Area Prospecting Licences
- g) Ensure Implementation of threshold values of minerals
- h) Update National Mineral Inventory in respect of leasehold areas
- i) Ensure submission of forms by mineral consuming industries and exploration agencies

The RCOM would report on the performance of the region to the Zonal office. In order to complete its tasks, the Regional offices would be given standard processing sheets (SPS) or computerised systems for each task, which would be designed by the Divisional office. Similar SPS or systems would be designed for Zonal offices as well by the Divisional office to conduct quality checks on the regions/sub-regions that fall under its jurisdiction. The Committee recommends that all Regional Offices be suitably restructured and staffed for the above stated purpose.

In addition to the above, mass awareness programmes, such as, Celebration of Mine Environment and Mineral Conservation (MEMC) Weeks should be organised by the Regional Offices in concordance with the Mines that fall under their respective jurisdictions. IBM via its Regional Offices shall convey messages of positive impacts of mining in socio-economic contexts; its efforts to maintain environmental balance by causing minimal damage to ecological system; and conduct mass education programmes with a message to refrain from illegal excavations, lend cooperation in afforestation and development programmes especially development of infrastructure like electricity, water supply and sanitation etc. in and around mine sites.

**7.2.9.2 Role of Zonal Offices**

The Zonal Office is under the charge of Controller of Mines (COM). The Controller of Mines monitors the implementation of Annual Programme of the Regional offices falling under his jurisdiction and also issues directions from time to time in order to achieve systematic mining, conservation of minerals and protection of environment. The inspection reports are submitted to Controller of Mines and sample scrutiny of these inspections is carried out by the Zonal offices. With the redefinition of the roles of Zonal Office, the Committee recommends the following:

**Zonal Office to Work as Technical Auditor**

The Controller of Mines would ensure that all regions strictly adhere to the SPS and computerised systems designed for carrying out the regulatory activities by the Regional Offices. The COM would be the technical auditor and he would carry out technical auditing of various inspection reports submitted to the Regional Controller of Mines and ensure that all established procedures as laid down are adhered to and in case of deviations point them out to the Divisional office. The Committee suggests that mandatory 10% technical auditing should be carried out at the level of Zonal offices. Technical auditing by an external auditor to suggest improvement in the system and not as a fault finding mechanism may also be considered by IBM. For this purpose IBM may prepare the panel of external auditors comprising of experts in consultation with FIMI. The Controller of Mines will report to the Chief Controller of Mines. Therefore, the Controller of Mines will act as an internal technical auditor to ensure quality of regulatory activities performed by the Regional Offices. For this task, he would also seek assistance of officers from regions other than that where he proposes to carry out technical audit for reasons of objectivity. Based on the technical audit, the zonal offices would also give feedback for formulation of policy and planning and also for improvement in the SPS or other systems that are in operation.

**Pro-active Role in Curbing Illegal Mining**

National Mineral Policy, 2008, enumerates that the States will be assisted to overcome the problem of illegal mining through operational and financial linkages with the Indian Bureau of Mines. It is therefore, necessary to create suitable work process systems in IBM that would enable coordination and vouchsafe assistance to State Government agencies for prevention of illegal mining. The Committee opined that since the mineral rights vest with the State Government and maintaining law and order is the prime responsibility of the State Government, the onus of curbing illegal mining falls primarily on the State Governments. However, the Committee recommends that IBM should provide mineral intelligence inputs to the State Governments as discussed in Chapter VI.

**Zonal Office to Ensure Improvement in Methods of Mining and Beneficiation**

Based on the outcome and analysis of RMDs, the Controllers of Mines in charge of Zonal Offices could suggest measures for adopting mechanisation, automation and computerisation in mining activities in the mines in the regions under their jurisdiction. The Zonal Offices should also monitor the activities of Regional Offices in the field of mineral beneficiation regulation. The focus of this activity should essentially be to identify the potential areas where value addition of run-of-mine ore through mineral beneficiation could be made feasible and if permissible identify areas and methods to facilitate cluster mining.

*The RCOM should report on the performance of the region to the Zonal office in the standard processing sheets (SPS) or computerised systems assigned for each task.*

*The Zonal Office under the charge of Controller of Mines (COM) should monitor the implementation of Annual Programme of the Regional Offices falling under its jurisdiction.*

*The COM should be the technical auditor and should carry out technical auditing of various inspection reports submitted to the Regional Controller of Mines.*



### 7.2.9.3 Role of Divisional Office

The Divisional Office of MCCM Division will continue to be headed by the Chief Controller of Mines (CCOM). He will be assisted by the Chief Mining Geologist on all matters concerning annual programme of Mining Geologists and other mining geology-related matters. CCOM as a Divisional Head will report to the Controller General, IBM, on all matters pertaining to his Division. The CCOM should oversee the entire annual programme of inspection of mines and conduct follow-ups with COMs (Zonal Heads) regarding progress and implementation of the programme undertaken at the Regional Offices. The Committee is of the opinion that the CCOM should primarily be responsible for planning annual targets for Regional and Zonal Offices and oversee directly all the regulatory activities as carried out by the Regional Offices. The Zonal Offices should report to the CCOM on the results of the internal technical audit of the Regions. Based on this, the CCOM should formulate and design the SPS and other systems to assess the performance of Regional & Zonal Offices, and issue necessary guidelines to the Zonal and Regional Offices to perform their tasks. The CCOM should assist the Headquarters in analysing the trends in the compliance of various provisions of the Act and Rules and would be the chief officer representing the MCCM Division in coordination meetings with other Divisions, and in any meeting convened for this purpose by the Ministry of Mines. He would also be responsible for ensuring the development of Mining Tenement System and any other related activity.

### 7.2.10 Establishment of Enforcement Wing

As per Mines and Minerals (Development & Regulation) Act 2011 Bill, the Government proposes to establish an independent National Mining Regulatory Authority (NMRA). One of the important functions of this authority at the national level would be to authorise investigation and launch prosecution against any person for offences committed as specified under the Act relating to major minerals which appear to arise from large-scale or on organised basis or inter-State operations for:

- a) exploration and mining for any mineral without licence or lease;
- b) undertaking of mining or exploration activity outside the area granted under licence or lease;
- c) transactions relating to or possession of mineral stock of unknown origin, or such mineral which cannot be satisfactorily accounted for; and
- d) transportation, storage, trade or export of illegally raised mineral without lawful authority.

## highlights

CCOM as a Divisional Head will report to the Controller General, IBM. The CCOM should oversee the entire annual programme of inspection of mines and conduct follow-ups with COMs (Zonal Heads) regarding progress and implementation of the programme undertaken at the Regional Offices.

In order to assist the National Mining Regulatory Authority, the Committee recommends establishment of an 'Enforcement Wing' in IBM headed by Controller of Mines (Enforcement). The Enforcement Wing would function under the direct supervision of the Chief Controller of Mines (Regulation).

The Committee feels that for efficient discharge of the aforesaid function by the authority, it would be imperative to have proper and established coordination between IBM and the proposed authority. In order to assist the NMRA, the Committee recommends establishment of an 'Enforcement Wing' in IBM headed by Controller of Mines (Enforcement). The Enforcement Wing would function under the direct supervision of the Chief Controller of Mines (Regulation). The overall mission of the Enforcement Wing will be to provide technical assistance to the proposed NMRA in investigations and prosecution and to maintain data on illegal mining activities. The Enforcement Wing on its own would keep track on any intelligence information for enforcement of rules and regulations. The Enforcement Wing would also monitor the enforcement of laws, rules and regulations by the Regional / Zonal Offices of IBM and also by the State Governments. The effectiveness of the Enforcement Wing would be measured by the number of complaints, investigations and enforcement actions attended and correlating them with the amount of time spent on the areas where such violations had occurred. The Enforcement Wing would have to be based at IBM Headquarters and assisted by adequate numbers of officers and staff.

### 7.2.11 Location and Jurisdiction of MCCM Division

The Committee is of the opinion that at present, the Regional and Zonal Offices of MCCM Division are not uniformly organised and Regional Offices are not located in all the mineral-rich States. The existing Regional and Zonal Offices are reflected in **Figure 7.8**. The Committee is also of the opinion that IBM has to increase its interaction, coordination and its synergy with State Governments, Directorate of Mining & Geology in State Government and State Forest Department, for effective administration and governance of the Mining Sector. It was also observed by the Committee that presently the "Central Zone" is overloaded as it has five Regional Offices and one Sub-regional Office at Guwahati under its command. Therefore, the Committee is of the view that it is necessary to reorganise the territorial jurisdiction of the Regional Offices of IBM as per State boundaries (refer Table 7.1). The Committee recommends the following changes:

- a) Creation of "East Zone" with its headquarters at Kolkata. Incidentally, the Ganapati Committee (1979) had also recommended setting up of a Zonal Office for Eastern India. This would reduce the work load of "Central Zone" which currently has charge of five Regional Offices and one Sub-regional Office. The Committee recommends that the existing Regional Offices at Bhubaneswar and Ranchi and an upgraded Regional Office at Guwahati shall be covered by the Controller of Mines (East Zone), Kolkata.



highlights

- b) Presently the State of Gujarat and Chhattisgarh do not have presence of IBM offices. These are two important mineral-rich states in the country contributing significantly for the minerals production of the country. Therefore, the Committee recommends setting up of Regional Offices at Gandhinagar and Raipur.
- c) There is a likelihood of increase in the mineral developmental activities in the North-eastern States. In the 15th IBM Advisory Board meeting held in August 2009, it was agreed that a full-fledged Regional Office for North-eastern States is necessary. The Committee also feels so and therefore, the Committee recommends that existing Sub-regional Office at Guwahati may be upgraded into full-fledged Regional Office to give fillip to the mineral development activities in the North-eastern Region.
- d) With the opening of an “East Zone” with headquarters at Kolkata, the Committee recommends for upgradation of the existing Regional Office at Kolkata to Zonal Office.
- e) The Committee observed that IBM presently has two Regional offices in Rajasthan — in Ajmer and in Udaipur. Since the headquarters of Directorate of Mines & Geology of Rajasthan State is located at Udaipur, the Committee recommends retaining the Regional Office at Udaipur.
- f) The Committee envisages that in the new regime IBM will have to establish synergy with the State governments for efficient regulation of the Mineral Sector and therefore IBM office should be ideally located at places where the state capital exists. Presently, the North Zonal Headquarters is located at Ajmer. In order to have better liasoning with top Government officials, the Committee recommends that North Zonal Office should be shifted from Ajmer to Jaipur — the State Capital of Rajasthan.
- g) The Committee noted that a Sub-regional Office at Nellore was opened in the year 1974 exclusively to look after mica mining activities in the districts of Nellore, Chittor and Cuddappa. However, with the sharp decline in demand for mica, mica activities in the region have reduced to a large extent. Therefore, the Committee recommends closing down the Nellore Sub-Regional Office and transferring its activities to Hyderabad Regional Office. The Committee further observed that the concept of Sub-Regional Office was to have direct field contact with Mining Industry. After re-organisation of the territorial jurisdiction of the Regional Offices as per the State boundaries, the concept of Sub-regional Office is no more relevant. Therefore, the Committee recommends that there should not be any Sub-regional Office. The recommended chart of Regional and Zonal Offices is shown in *Figure 7.9*.

- h) The Committee felt that the role of MCCM Division will not be limited to ensuring conservation of minerals but will also encompass functions like that of a National body for formulation of regulatory standards for sustainable development of mineral resources in the country and to provide support for capacity building for creation and improvement of State level regulatory systems. Apart from regulatory functions, the Division has to perform various roles as facilitator to the Mining Industry. Therefore, the Committee recommends renaming of Division as “Minerals Development & Regulation Division”.
- i) The Committee examined the suggestion from the stakeholder regarding bifurcation of the MCCM Division into Regulatory and Development Functions. The Committee after considerable deliberation felt that any bifurcation of MCCM Division into development and regulatory functions would lead to ineffective administration of the provisions of Acts and Rules. The Committee is of the opinion that Development and Regulations should go hand in hand and an integrated approach is necessary for effective administration of the provisions of the Act and its Rules. It was also felt by the committee that various recommendations made in the present report such as improvement in the quality of inspection of mines, formation of state coordination committee, multi-disciplinary inspection of mines etc. can certainly improve the quality of work output. Moreover, the Committee feels that creation of two separate work domain may also create hierarchical problems in administrative structure and therefore, recommends continuance of existing structure.

*The Committee recommends setting up of Regional Offices at Gandhinagar and Raipur — the capitals of the two mineral-rich states Gujarat and Chhattisgarh.*

*The Committee recommends that the existing Sub-regional Office at Guwahati be upgraded into full-fledged Regional Office.*

*The Committee recommends that the North Zonal Office be shifted from Ajmer to Jaipur — the State capital of Rajasthan.*

**Table 7.1 : Proposed Territorial Jurisdictions of Zonal and Regional Offices of Indian Bureau of Mines**

Zone/Region	State/Union Territory to be Covered
<b>Controller of Mines, North Zone, Jaipur</b>	
Regional Controller of Mines, Dehradun	<ul style="list-style-type: none"> <li>▪ National Capital Region of Delhi</li> <li>▪ Union Territory of Chandigarh</li> <li>▪ Haryana</li> <li>▪ Himachal Pradesh</li> <li>▪ Jammu &amp; Kashmir</li> <li>▪ Punjab</li> <li>▪ Uttarakhand</li> <li>▪ Uttar Pradesh</li> </ul>



Zone/Region	State/Union Territory to be Covered
Regional Controller of Mines, Gandhinagar	<ul style="list-style-type: none"> <li>Union Territory of Dadra &amp; Nagar Haveli</li> <li>Union Territory of Daman &amp; Diu</li> <li>Gujarat</li> </ul>
Regional Controller of Mines, Udaipur	<ul style="list-style-type: none"> <li>Rajasthan</li> </ul>
<b>Controller of Mines, Central Zone, Nagpur</b>	
Regional Controller of Mines, Nagpur	<ul style="list-style-type: none"> <li>Maharashtra</li> </ul>
Regional Controller of Mines, Jabalpur	<ul style="list-style-type: none"> <li>Madhya Pradesh</li> </ul>
Regional Controller of Mines, Raipur	<ul style="list-style-type: none"> <li>Chhattisgarh</li> </ul>
<b>Controller of Mines, East Zone, Kolkata</b>	
Regional Controller of Mines, Bhubaneswar	<ul style="list-style-type: none"> <li>Odisha</li> </ul>
Regional Controller of Mines, Guwahati	<ul style="list-style-type: none"> <li>Arunachal Pradesh</li> <li>Assam</li> <li>Manipur</li> <li>Meghalaya</li> <li>Mizoram</li> <li>Nagaland</li> <li>Tripura</li> <li>Sikkim</li> </ul>
Regional Controller of Mines, Ranchi	<ul style="list-style-type: none"> <li>Bihar</li> <li>Jharkhand</li> <li>West Bengal</li> </ul>
<b>Controller of Mines, South Zone, Bengaluru</b>	
Regional Controller of Mines, Bengaluru	<ul style="list-style-type: none"> <li>Union Territory of Lakshadweep</li> <li>Karnataka</li> <li>Kerala</li> </ul>
Regional Controller of Mines, Chennai	<ul style="list-style-type: none"> <li>Union Territory of Andaman &amp; Nicobar Islands</li> <li>Union Territory of Puducherry</li> <li>Tamil Nadu</li> </ul>
Regional Controller of Mines, Goa	<ul style="list-style-type: none"> <li>Goa</li> </ul>
Regional Controller of Mines, Hyderabad	<ul style="list-style-type: none"> <li>Andhra Pradesh</li> </ul>

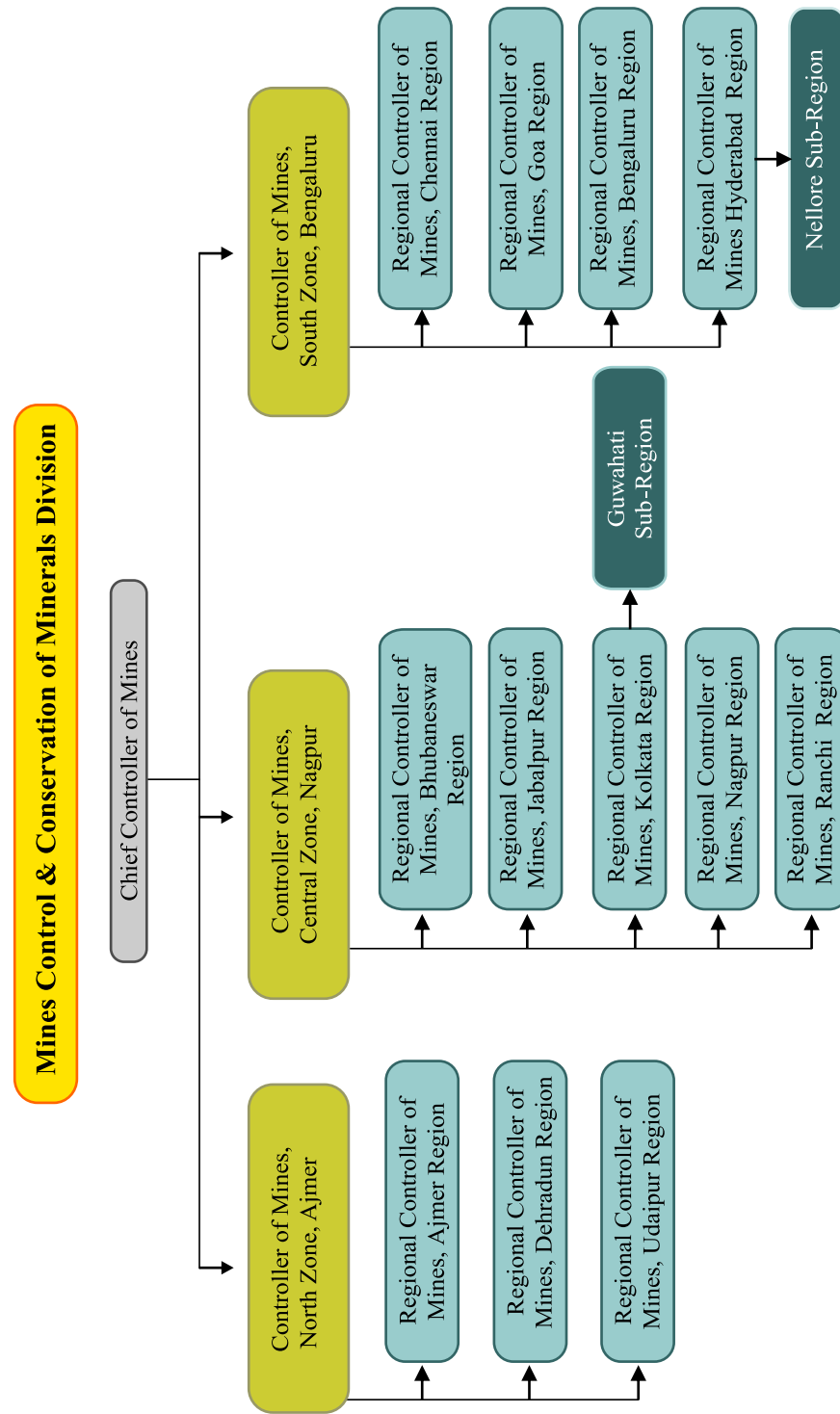


Figure 7.8 : Existing Organisational Structure of Mines Control & Conservation of Minerals (MCCM) Division



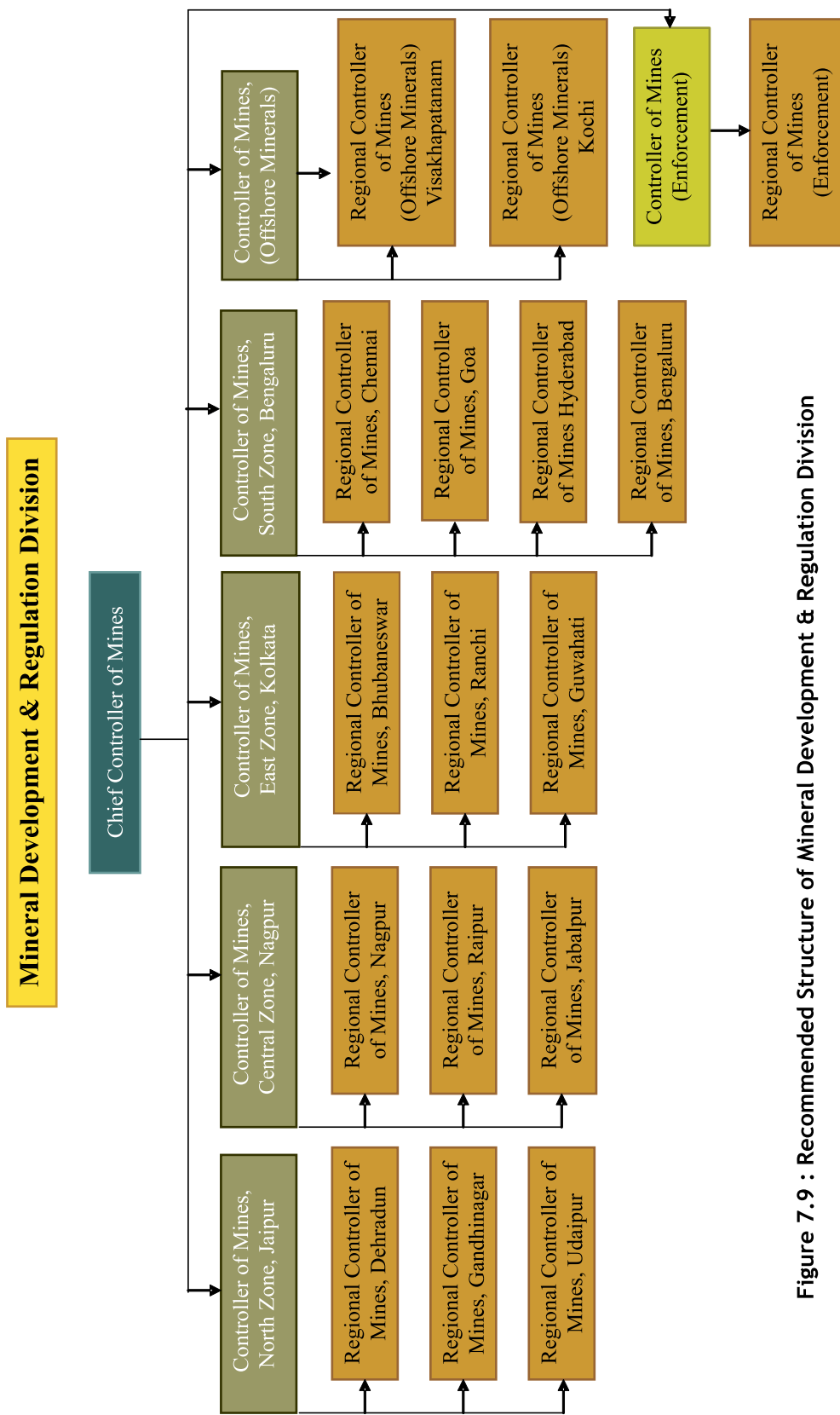


Figure 7.9 : Recommended Structure of Mineral Development & Regulation Division

