

MANDATE, GOALS AND OBJECTIVES

Role of the Ministry

Ministry of Mines is responsible for survey and exploration of all minerals, other than Natural Gases, Petroleum and Atomic Minerals for mining and metallurgy of non-ferrous metals like Aluminum, Copper, Zinc, Lead, Gold, Nickel etc. and for administration of the Mines and Minerals(Development and Regulation) Act, 1957 in respect of all mines and minerals other than Coal, Lignite, Sand for stowing, Natural gas and Petroleum.

The Ministry of Mines has two subordinate offices and four Public Sector Undertakings under its administrative control. There are three research institutions are also funded by the Ministry of Mines. These are listed below:

Subordinate Offices

- (i) Geological Survey of India(GSI),Headquarters at Kolkata
- (ii) Indian Bureau of Mines(IBM), Headquarters at Nagpur.

Public Sector Undertakings(PSUs)

- (i) National Aluminium Company Limited(NALCO, Bhubaneswar.
- (ii) Hindustan Copper Limited(HCL), Kolkata
- (iii) Mineral Exploration Corporation Limited(MECL), Nagpur.
- (iv) Bharat Gold Mines Limited(BGML),Kolar Gold Fields, Karnataka.*
*BGML has been closed under Section 25(O) of the Industrial Disputes Act, 1947 from 1.3.2001.

Research Institutions

- (i) Jawaharlal Nehru Aluminium Research Development and Design Centre,(JNARDDC), Nagpur
- (ii) National Institute of Rock Mechanics,(NIRM),KGF, Karnataka.
- (iii) National Institute of Miners' Health (NIMH), Nagpur.

Constitutional and Legislative provisions:

The distribution of the Legislative powers between the Central Government and State Government is governed by Part XI of the Constitution of India. Article 246 of the Constitution of India refers to the Union List-I, State List-II and Concurrent List-III containing entries as given in the Seventh Schedule. Entry 54 of List-I of the Constitution gives powers to the Central Government for regulation of mines and mineral development to the extent to which such regulation & development under the control of the Union is declared by Parliament by law to be expedient in the public interest. The State Governments on the other hand have been given powers under Entry-23 of List-II for regulation of mines and mineral development subject to the provisions of List-I with respect to regulation and development under the control of the Union. Parliament has enacted the Mines and Minerals (Development & Regulation) Act, 1957 (MMDR Act, 1957) under Entry 54 of List-I to provide for the regulation of Mines and development of minerals under control of the union.

National Mineral Policy (NMP), 1993:

With the basic structural reforms initiated by the Government of India in July, 1991, in fiscal, industrial and trade regimes for globalisation of the economy, the National Mineral Policy(NMP) was announced in March, 1993. Some of the salient features of the NMP are as under:-

- 13 minerals viz. iron ore, manganese ore, chrome ore, sulphur, gold, diamond, copper, lead, zinc, molybdenum, tungsten, nickel and platinum group of minerals which were reserved exclusively for the public sector were thrown open to the private sector.
- Induction of foreign technology and foreign participation in exploration and mining for high value and scarce minerals;
- Foreign equity investment in joint venture in mining promoted by Indian companies to be encouraged;

In short, the National Mineral Policy 1993 recognised the need of encouraging private investment including foreign direct investment and State-of-the-Art technology in mineral sector. Further, NMP 1993 has stressed that the Central Government in consultation with the State Governments, shall continue to formulate the legal measures for the regulation of mines and the development of mineral resources to ensure basic uniformity in mineral administration and to ensure that the development of mineral resources keep pace, and is in consonance with the national policy goals. It is, therefore, evident that the amendments in the Act to cater to future demands is an ongoing process.

Statutory provisions regarding reservation of mineral bearing areas:

Traditionally, mining activities have been undertaken mostly in the public sector, and through the Central and State Public Sector Undertakings. The erstwhile rule 58 of the Mineral Concession Rules, 1960 initially provided the statutory provision for reserving mineral bearing areas for exploitation in the Public Sector Rule 58, MCR, 1960 provided as follows:

“58 Reservation of areas for exploitation in the public sector etc. The State Government may, by Notification in the official gazette, reserve any area for exploitation by the Government Company within the meaning of section 617 of the Companies Act, 1956 (1 of 1956).”

However, after the provision of reservation was made part of the Mines and Minerals (Regulation and Development) Act, 1957, the Rule 58, MCR, 1960 was deleted vide GSR 449(E) dated 13.4.1988 are valid and these sustain indefinitely, till de-reserved.

In 1986, the Central Government inserted a new Section 17A of the Mines and Minerals (Development and Regulation) Act, 1957, under which, as per subsection (1) of Section 17A of the Act, the Central Government could, with a view to conserving any mineral and after consultation with the State Government, reserve mineral bearing areas. Similarly as per subsection (2) of Section 17A of the Act, the State Government could reserve mineral bearing areas for exploitation by the Public Sector Undertakings owned or controlled by it or by the Central Government.

In January, 1994, the Central Government inserted a new sub-section (1A) to Section 17A of the MMDR Act, 1957, under which the Central Government could, in consultation with the State Government, reserve mineral bearing area for exploitation by the Central Public Sector Undertakings, while under amended Section 17A(2), the State Government could reserve mineral bearing areas with the approval of the Central Government for exploitation by State Public Sector Undertakings.

Mandate, goals and objectives of the Subordinate offices & PSUs are as under:

1. Geological Survey of India (GSI)

The Geological Survey of India is responsible for collection, collation and dissemination of geological data and providing basic geological information needed in all developmental activities of the country.

Mandate

The mandate of the GSI is depicted below:

- Preparing and updating geological, geophysical and geochemical maps of the country and its offshore area.
- Exploring and assessing mineral and energy resources of the country and its offshore areas.
- Systematically exploring the shallow subsurface domain of the country and developing and maintaining national drill core libraries and documentation centres.
- Conducting research in earth sciences and promoting application of the new knowledge for effecting management of the earth system and its resources.
- Fostering and promoting the understanding of geological knowledge to reduce risk to life and property from geological hazards and addressing societal issues to enhance quality of life.
- Creating and maintaining earth science data basis and acting as the national repository of earth science data generated by various organizations and disseminating these in public domain for developmental, educational and societal needs.
- Holding, protecting and maintaining collections of rare and representative geological materials as national geological monuments, museums and parks.
- Representing India in international bodies, participating in international collaborative scientific projects and developing data sharing net works with other countries.
- Providing consultancy services and undertaking commercial projects in the country and abroad.
- Undertaking such other activities, including training, as may become necessary in the light of developments in the field of earth and planetary sciences and related subjects.

Goals and Objectives:

GSI is predominantly involved in four broad work domains viz- Basic Earth Science Data Generation, Natural Resources Surveys, Environment and Earth-System studies and Dissemination of Information.

Basic Earth Science Data Generation: To map the country geologically in progressively larger scale commensurate with changing concepts.

Natural Resources Assessment: In this traditional area of maximum thrust, the goals would continue to be

- ⇒ Discover, assess and augment the natural resources endowment/inventory through extensive regional exploration on land and in the sea (Exclusive Economic Zone) EEZ.
- ⇒ Better understand the genetic processes leading to localisation of mineral deposits.
- ⇒ Establish and maintain an information base on the total mineral assemblages of mineral/rock resources to evolve and update waste management plans for the mineral industry.
- ⇒ Assessing the past, present and future demands for natural resources and update the resource base.
- ⇒ Provide high quality exploration services, at component level, to investors and developmental agencies, on commercial terms.

Environment & Earth Systems studies: In this emerging domain laying increasing emphasis on the effects of human interaction vis-à-vis inexorable natural processes. The goals would be:

- ⇒ Update, using current concepts and approaches, the geological database of the country (including EEZ),
- ⇒ Attain the present on-land geoscientific information level for the EEZ both in quality and data density.
- ⇒ Understanding active geologic processes and their results, on land and in the sea affecting Man and Environment.
- ⇒ Understanding the Earth System, particularly the dynamics of the geosphere, including commonplace to catastrophic events, in their historical perspective and their effects, direct and indirect, short and long term.
- ⇒ Regional scale assessment of abiotic factors of environmental degradation and development of a comprehensive data base thereon, to be relied upon for ensuring sustainable development through human activity.
- ⇒ Provide sound geoscientific advice for construction and developmental projects in the water resources, power, transportation and urban development sectors.

⇒ Provide services for integrated surveys for development of natural resources and terrain potential, in harmony with sustainability of the land/sea.

Information Services: The goals in this domain would be

- To establish and maintain a comprehensive geoscience data base (including the Geological Map of India).
- To enhance the facilities for the public to rapidly locate, access and use geological maps and other geoscience information packages.
- Effective transfer of integrated, collated and/or customised knowledge acquired through scientific activities of the organisation to policy making bodies.
- Maintenance of a first-rate earth system science library with nation-wide reference facility.

Policy Framework / Strategies:

The different goals are pursued with appropriate strategies. The majority of the strategies, which are discussed below are actively followed and rest are of course in planning stage. Those are as follows

Strategies for Natural Resources Assessment:

- Regional level assessment of on-land mineral resources to continue
- Prioritising the search for
 - high value and high tech minerals.
 - marginal or deficient minerals
 - mineral commodities with high demand for export.
- Entering into strategic alliances with partners of global standing, from the government or private sector, for providing end-to-end exploration services on commercial terms.
- Qualitative improvement in geoscientific database by making it denser, broader, deeper and within higher precision analytical levels.
- Enhance inputs from gravity, magnetic, electrical and electromagnetic surveys for substantiating deep sub-surface projections through ground- and aero-geophysical surveys.
- Ensure feedback from research institutions and the user industry on demand profiles, changes in specifications etc. to focus exploration.

- Standardise methods of exploration and assessment of usable mineral concentrations within EEZ, through appropriate use of ship-borne and aerial geophysical surveys, sampling, drilling etc.
- Magnetic, gravity and seismic surveys to be intensified along the Territorial Waters and the EEZ
- High resolution air-borne laser bathymetric survey of Territorial Waters and the coastal strips for geomorphologic and geotechnical studies.
- High resolution off-shore surveys for gas hydrates and ocean thermal energy potential.
- Crustal modelling and natural resource prognostication by integration of geological, geophysical and geochemical data at all levels including field, compilation and in-house exercise.

Strategies for Environment and Earth System Studies:

Intensify specialised thematic mapping with emphasis on geophysical, geochemical and structural parameters and inputs from remote sensing, SAR interferometry, GPS applications etc.

- Extrapolate and interpolate sub-alluvial and sub-trap lithology and structure from air-borne and ground geophysical data.
- Studies on natural hazards, aimed at long term mitigation planning and for short-term prediction of events, along with likely mid- and post-disaster scenarios.
- Contributions to development of a base line disaster management information system enveloping geoscientific parameters with terrain characteristics, geomorphology, transport network and potential damage sites.
- Expansion and upgradation of monitoring capabilities as a partner in inter-institutional efforts, particularly in the areas of seismology, Himalayan glaciations, and heat flow studies, plate movements, intraplate movements etc.
- Develop a comprehensive; time-sequenced geo-environmental data base incorporating chemical characteristics and changes thereon, source as well as dispersal of contaminants, climatic changes in the geological past and their effect on biota etc.
- Develop, in association with other disciplines, groups and agencies, locale-specific ecosystem management strategies to restore degraded habitats and facilitate sustainable development.
- Provide geo-environmental base line data and case specific advice to Ministry of Environment & Forests (MOEF), Central and State Pollution Control Boards etc., particularly for assessment of EIA/EMP reports and their monitoring.
- Carry out regional scale geo-environmental assessment related to major issues like toxicity of ground water such as arsenic contamination in the Bengal basin, fluorosis.

- To carry out, on consultancy basis, site-specific investigations on land and off-shore, for major civil constructions (dams, canals, bridges, tunnels, roads, rail-lines etc.) slope and foundation stability studies (power houses, industrial plants, ports and harbours, terminals, multi storied buildings etc.)
- Enter into partnership or alliances with other agencies in the government or private sector, to complement the in-house capabilities (for example, soil science, wind studies, mineral economics) and rejuvenate the vitality and flexibility of the scientific cadres.
- Promote inter disciplinary interactions and practice multi-disciplinary team-work, in laboratories, in the field, during map compilation and writing of monographs.

Information Services:-New strategies can improve this work area and contribute to far better visibility of the organisation.

- Infusion of information technology (IT) into all aspects of data collection, collation and dissemination, with standard formats, protocols and check-points.
- Progressive use of GIS and geospatial technologies for creation of integrated mutually referable data bases.
- Introduce innovative geoinformation packages in the digital mode, as an alternative to maps and publications, amenable to delivery through the intranet and extranet via GSI PORTAL..
- Improve periodicity of updated publications and maps designed for public consumption.
- Enhance value-added services such as customised maps and reports, tailored to the specific needs of each user, instead of generalised write-ups.
- Take a pro-active role in geoscience education and popularisation through electronic media, exchange of scientists with Universities/ Research Institutions, brochures and news bulletins etc.

Vision

Emphasis on 'Public Good' services addressing current and future societal needs.

2. Mineral Exploration Corporation Limited (MECL)

Mandate

The Mineral Exploration Corporation Ltd., registered under Companies Act 1956, was formed on 21st October 1972 with a mandate to carry out detailed exploration of mineral prospect to bridge the gap between exploration of a prospect and its eventual exploitation.

Mission

To establish the exploitable mineral reserves within the shortest time, on cost effective basis with geo-scientific and allied services for mine planning and related activities in India and abroad.

Objectives

The basic aim of MECL is to bridge the gap between preliminary exploration of mineral prospect and its commercial exploitation. To achieve this aim and accomplish its Mission, the Company has the following objectives.

- To plan, promote, organise and implement programmes for detailed mineral exploration and to perform functions assigned by the Government from time to time within and outside the country.
- To carry out geological, geo-technical, geophysical survey, remote sensing & environmental studies and IT enabled services for exploration of minerals.
- To carry out exploratory drilling and developmental mining operations, to prove and estimate the reserves of various minerals/ores.
- To take up projects for exploration, developmental mining and related activities in association with MNC's through MOU/bilateral agreement routes.
- To undertake jobs on commercial basis in various fields of mineral exploration as well as for purposes other than mineral exploration, such as geo-technical, mine constructions and commercial mining of minor minerals.
- To offer consultancy services for obtaining prospecting license, mining lease, exploitation by mining and beneficiation for different types of minerals, rocks and ores.

- To obtain prospecting license and mining lease for different types of minerals, in India and elsewhere for the purpose of mining and processing.

Vision

MECL the premier exploration agency in the country now, carries out exploration for coal, lignite, base metals, strategic minerals etc., to meet the requirement of mineral industry in the country with its vision as “MECL to be the leader in natural resources by 2020” .

3. Indian Bureau of Mines (IBM)

Indian Bureau of Mines (IBM), established in 1948, is a subordinate Organization under Ministry of Mines, engaged in promotion of conservation of minerals, protection of environment in mines and scientific development of mineral resources other than coal, petroleum & natural gas, atomic minerals and minor minerals. Towards this end it performs regulatory functions, namely enforcement of Mineral Conservation and Development Rules, 1988, relevant provisions of Mineral Concession Rules, 1960 framed under MM(DR) Act, 1957, and as a facilitator, it undertakes scientific and techno-economic research oriented studies in various areas such as geological appraisal, mining, ore-beneficiation, environmental protection, mineral resources of the country and functions as a data bank of mines and minerals. It also advises the Central and State Governments on all aspects of mineral industry, trade and legislation.

The activities of IBM are in accordance with its charter of functions notified by the Government vide resolution No. 35/1/2002-M.III dated 6th March 2003. These are in the nature of regulatory and service activities for scientific and systematic development of mineral resources, conservation of minerals, protection of environment in mines, for the mines other than coal, petroleum, natural gas and atomic minerals and minor minerals.

Charter of Functions/Mandates/goals and objectives :

- To promote systematic and scientific development of mineral resources of the country (both onshore and offshore)
- To approve mining plans, schemes and mine closure plans having regard to conservation of minerals and protection of mines environment.
- To collect, collate and maintain database on exploration, prospecting, mines and minerals and to bring out publications / bulletins highlighting the problems and prospects of mining industry.

- To play a pro-active role in minimising adverse impact of mining on environment by undertaking environmental assessment studies on regional basis.
- To conduct *suo moto* techno-economic field studies in mining, geology, mineral processing and environmental aspects including analysis of ore and minerals and to promote R & D activities in these areas.
- To provide technical consultancy services on promotional basis within the country and abroad in the field of mining, geology, mineral processing and environment.
- To provide training to the scientific, technical and other cadres of the department and persons from the mining industry and other agencies for human resource development.
- To advise the Government on matters in regard to the mineral industry, relating to environment protection and pollution control, export and import policies, trade, mineral legislation, fiscal incentives and related matters.
- To promote awareness about conservation, systematic and scientific development of mineral deposits and protection of environment including restoration and rehabilitation of mined out areas through exhibitions and audiovisual media.
- To promote and monitor community development activities in the mining areas.
- To undertake any such other activity as may become necessary in the light of the developments in the field of geology, mining, mineral beneficiation and environment.

Policy Framework and Vision :

"To promote and facilitate rapid and sustainable development of national mineral sector, continuing with efforts for systematic and scientific development of mineral deposits, conservation of minerals, protection of mining environment by regulating mining activities, to update mineral inventory, utilisation of waste and low grade resources by technology development, implementation of apt mining method, monitoring of community development in and around mining areas and to develop and implement mineral information system for collection collation, retrieval and discrimination of data on mines and minerals."

Action Areas :

Inspection of Mines:

- To ensure systematic and scientific development of mineral deposit, conservation of minerals and protection of environment by implementation of Mineral Conservation & Development Rule, 1988 .

Mineral Inventory :

- Adoption of United Nations Frame Work Classification (1999) of assessment of resources and preparation of national minerals inventory.

Mineral Beneficiation:

- Technology developments to use the available low-grade ores and minerals.
- Suitable use of wastes and recovery of associated minerals and metals.
- Conducting in-plant studies in order to improve the productivity of mineral beneficiation plant.

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Legislation and Guidelines :

- Simplification of procedures for mineral concession and required clearances, framing of legislation for development of marine mineral resources, promoting foreign investments and technical collaborations with joint ventures.

Information System :

- Acceleration of the process of dissemination of Geological information, mineral maps with forest and environment data, status of mineral deposits, mining and industry data on production, uses, marketing information, latest technology developments etc. for user agencies and to implement computerized online information system on mine tenement .

Sustainable Development :

- Norms and standards for regional environment appraisal and monitoring with stress for reclamation and rehabilitation of mines out and management of wastes/rejects.

Industrial Promotion :

- Technology up-gradation and R & D activities with collaboration within the country and abroad.

Visions towards realistic approaches are:

- To Promote systematic and scientific development of the mineral resources of the country, conservation of minerals and protection of environment in mines and bringing awareness of the same in the mining industry, for the minerals other than coal, petroleum & natural gas, atomic minerals and minor minerals through its regulatory and advisory functions.
- To benefit the mineral industry through its scientific, techno-economic, research oriented studies and training on various aspects of mining, geology, ore beneficiation and environment for R&D efforts on sustainable development, new technological developments & value additions.
- To conduct market surveys to assist the mineral trade in the marketing of minerals, keeping in view the domestic demand & export potential.
- To function as data bank on mines and minerals and publishing periodically statistical information relating to mines and minerals and bringing out technical publications for the support of mining & mineral industry.
- To advise Central and State governments on all aspects of mineral industry, trade, legislation etc., for the growth of mineral industry.
- To adopt computerized on line mine tenement system for instant disposal/retrieval on mines and minerals.

4. Hindustan Copper Limited (HCL)

Hindustan Copper Limited (HCL) a Govt. of India Enterprise and the nation's only producer of primary copper from indigenous resources was incorporated in the Public Sector on 9th November 1967. The major activities of HCL are exploration, mining, beneficiation, smelting, refining and casting of finished copper metal into saleable products. HCL produces primary copper in the form of cathode/ wire bar/wire rod. Apart from copper, HCL also produces various by-products like precious metals Gold, Silver, Sulphuric acid, Selenium etc. The present smelting and refining capacity of HCL is supported by mining/beneficiation activity and import of concentrate to cover the short fall.

5. National Aluminium Company Limited (NALCO)

The National Aluminium Company Limited (NALCO), an integrated multi-locational Aluminium Complex, was incorporated on 7th January, 1981 to implement the Bauxite, Alumina and Aluminium Project in the backward tribal areas in Orissa, in the Public Sector. The existing operation comprises of the following main components :-

- (i) 4.8 million tpa Bauxite mine at Panchpatmali in Koraput District(Orissa) including 2.4 Million tpa bauxite Mine capacity added by way of expansion project commissioned in Dec,1999.

- (ii) 15.75 lakh tpa Alumina Plant at Damanjodi, Koraput District (Orissa) which includes 7.75 lakh tpa of Alumina capacity added by way of debottlenecking / expansion.
- (iii) 3,45,000 tpa Smelter Plant at Angul, Angul District (Orissa) which includes capacity addition of 1,15,000 tpa by Oct.'04 by way of expansion.
- (iv) Captive Power Plant at Angul, Angul District (8 units of 120 MW each) to supply power to Smelter Plant.
- (v) Port Handling facilities at Visakhapatnam (Andhra Pradesh) to handle export of Alumina & Import of Caustic Soda.

Mission

- To achieve growth in business with a global competitive edge providing satisfaction to the customers, employees, share holders and community at large.

Objectives

- To continue to remain the lowest cost producer of Alumina in the world and to strive to become low cost aluminium producing Global Company in five years time. (The benchmark for attaining this status will be provided next year).
- To become the 6th largest Company in the world in Alumina production.
- To complete 2nd phase Expansion within 50 months from the Zero Date.
- To promote a result-oriented organisational ethos and work culture that empowers employees and helps realisation of individual and organisational goals and maximise internal customer satisfaction.

Vision

- To be a Company of global repute in Aluminium Sector.

6. Science & Technology(S&T)

The necessity of continuous up gradation of the technology and introduction of newer technologies for use of minerals and non-ferrous metal sectors was recognised by the Ministry of Mines in 1978. Under this the S&T projects are approved by the Standing Scientific Advisory Group(SSAG) of this Ministry.

OUTLAYS, OUTPUTS AND OUTCOMES

This chapter relates to Non-Plan and Plan Budget of the Ministry of Mines for 2006-07.

Non-Plan Budget

The Non-Plan Budget of this Ministry is Rs.254.02 crore . Out of which Rs.8.86 crore for Secretariat Proper, Rs.197.71 crore for GSI, Rs.16.13 crore for IBM, Rs.3.41 crore as grant to BGML, Rs.2.30 crore for payment of salary to three autonomous bodies, Rs.0.28 crore for contribution to International bodies, Rs.0.33 crore for holding National Mineral Awards and Rs.25.00 crore as Non-Plan loan to HCL for payment of their debentures, have been provided.

Plan Budget

The Planning Commission has approved the Plan Budget of this Ministry at Rs.883.69 crore consisting of Rs.250.00 crore through Gross Budgetary Support(GBS) and Rs. 633.69 crore through internal and extra budgetary resources(IEBR). Rs.622.14 crore for NALCO through their internal resources(IR), Rs.165.50 crore for GSI through GBS, Rs.24.00 for IBM, Rs.30.00 crore for HCL through GBS, Rs.25.00 crore for MECL(Rs.17.00 crore for promotional work through GBS and Rs.8.00 crore through their IR). Rs.8.05 crore for S&T(Rs.4.50 crore from GBS and Rs.3.55 crore through their IEBR and Rs.9.00 crore(GBS) for construction of residential and official building of GSI and IBM, have been provided.

The detailed financial outlays, projected physical output and projected/budgeted outcomes(intermediate/partial & final for year 2006-07 as the case may be) organization for the Ministry of Mines are given in **Annexure-I**.

1.Geological Survey of India(GSI)

Financial Outlay 2006-07:

The Financial Plan Outlay is Rs. 165.50 crore.

Projected physical outputs and budgeted outcomes:

In case of GSI, the Projected Physical Outputs or Quantifiable Deliverables Targets are considered as the likely physical targets to achieve through its various geo-scientific activities during course of the specified period. The Field Season Programme (FSP) of GSI is approved during the course of Central Geological Programming Board (CGPB) Meeting. FSP is formulated on the basis of policies and directives laid down by the Government.

Projected Budgeted Outcome:

GSI is a scientific organisation of international repute and is actively engaged in locating and harnessing the natural resources for meeting the growing demands of mineral / metal industries, power sector (thermal, hydro and nuclear), agriculture, irrigation and communication sectors etc.; management of risk due to natural hazards such as flood, landslide, earthquake, defining and delineating areas prone to environmental degradation and providing geological inputs to optimise the developments in the transport and communication sectors as well as responsive participant in international geoscientific fora. It is an agency known nationally and internationally for its high credibility for its information base and publications. Its activity arena is not restricted within the sub-continent, but also extended beyond the shorelines to include the Exclusive Economic Zones (EEZ) in the surrounding oceans and also the icy continent of Antarctica for inventory of resources. Such kind of activities, lay the foundation for country's economic growth. The mineral based industries of the country, which are operating smoothly today largely because of the work done by GSI. The other major beneficiary sectors of GSI's activities include Industry and Minerals, Energy, Water Resources, Agriculture, Rural Development, Transport and Communication, Science and Technology, Education, Tourism, Ocean Development, Defence etc.

Objectives of each scheme/programme, with financial outlays and projected physical, outputs/outcomes are furnished in the Outcomes/Targets in the Outcome Budget for the year 2006-07 at **Annexure-I(Item No.1)**.

2.Mineral Exploration Corporation Ltd.(MECL)

Financial Outlay 2006-07 :

Keeping in view the requirement of funds for mineral exploration activity under promotional programme, Ministry of Mines approves the plan / annual outlays for promotional projects. In addition outlay for capital expenditure to limited extent are also approved.

In BE 2006-07 a provision of Rs. 17.00 crores(GBS) has been kept for promotional work to be carried out on behalf of Ministry of Mines and Rs. 8 crores (IEBR) for capital expenditure for replacement / procurement of new plants & machineries. The details of financial out lay under both the heads along with out puts and the final outcomes for 2006-07 is given in **Annexure-I(Item No.2)**

3.Indian Bureau of Mines (IBM)

During 10th plan, the various general and S&T schemes of IBM were merged with analogous programmes and grouped into four schemes. The objectives and functions of these schemes are very much relevant to the charter of functions of IBM.

Financial Outlay 2006-07:

The financial outlay proposed for the four schemes for 2006-07 is as follows:

Sl. No.	Name of scheme	Proposed outlay (Rs. in crore)
1.	Inspection of mines for scientific and systematic mining, mineral conservation and mines environment	4.94
2.	Mineral beneficiation studies – utilization of low grade and sub grade ores and analysis of environmental samples	5.74
3.	Technological upgradation & Modernization	6.51
4.	Collection, processing, dissemination of data on mines and minerals through various publications	4.31

5.	Capital Expenditure (works outlay)	0.10
6.	Provisions for NER	2.40
	Total	24.00

Objectives of each schemes/programme, with financial outlays and projected physical outputs/outcomes are furnished in the Outcomes/Targets in the Outcome Budget for the year 2006-07 at **Annexure – I(Item No.3)**

4.Hindustan Copper Ltd.(HCL)

Financial Outlays

This is a continuous process for achieving maximum utilisation of the existing capacity/facilities. Due to lack of sufficient fund, the company in the past could not replace the critical plant and mining equipment in time. As a result, the desired production from the existing facility could not be achieved. The proper and timely replacement/renewals of critical equipment in Smelter, Refinery, Milling House and various material handling equipments in mines is pre-condition for achieving better capacity utilisation. The company has been provided a plan outlay of Rs. 30.00 crore in 2006-07 as per **Annexure I(Item No.5)**.

5.Science and Technology for Replacement & Renewal(S&T)

The necessity of continuous up gradation of the technology and introduction of newer technologies for use of minerals and non-ferrous metal sectors was recognised by the Ministry of Mines in 1978. Under this the S&T projects are approved by the Standing Scientific Advisory Group(SSAG) of this Ministry. Total Plan provision of S&T for 2006-07 is Rs.8.05 crore which will be Rs.4.50 crore through budgetary support and Rs.3.55 crore through internal and external budgetary support. The non-Plan provision is Rs.2.30 crore.

6.National Aluminium Company Ltd.(NALCO)

The outcome budget for 2006-07 in detail comprising of financial outlays, projected physical outputs and projected/budgeted outcomes is placed as per the prescribed format at **Annexure-I(Item No.7)**.

Projects in hands are listed out below :

Sl. No	Project Description	Sanction cost (Rs. in Cr)	Schedule date of completion	Cumulative expenditure till 01.04.2005 (Rs. in Cr)	Plan outlay 2005- 06* (Rs. in Cr)	Plan outlay 2006 – 07 (Rs. in Cr)	Likely date of completion	Outputs/ Outcomes
1.	2 nd Phase expansion	4091.51		3.39	106.42	520.97		
a)	Mines		42 months				26 th April, 2008	Increase in capacity from 48 lakh MT to 63 lakh MT
b)	Alumina – 4 th Stream		46 months				26 th August, 2008	Increase in capacity from 15.75 lakh MT to 21 lakh MT
c)	Aluminium – 4 th Pot Line		50 months				26 th Dec., 2008	Increase in capacity from 3.45 lakh MT to 4.6 lakh MT
d)	Unit 9 & 10 of CPP		47 months				26 th Sept., 2008	Increase in capacity from 960 MW to 1200 MW
2.	Utkal E Coal Block				0.93	5.17		
3.	Qatar Project					1.00		
4.	AMR				60.00	95.00		
	Total:				167.35	622.14		

*There are scheme worth of Rs.52.74 crore on scheme completed and ongoing schemes making total outlay for 2005-06 to Rs.220.09 crore at RE stage.

2nd phase expansion :

The project is in its initial stage of implementation after being approved by Government of India on 26.10.2004. The different phases of this project are scheduled for completion as reckoned from the date of approval of the government i.e. 26.10.2004.

Utkal E Coal Block :

This project is also in its initial stage of implementation. This captive coal mine was allocated by Government of India in Aug'04 to cater to the coal requirements of, 9th & 10th Units of CPP. The mining plan has already been submitted to Government of India. M/s CMPDI have been entrusted for the preparation of DPR. Simultaneous efforts are being made for forest clearance, land acquisition, feasibility study for

the transportation of coal from the new coal mine of CPP etc. The completion schedule depends on the financial capacity determination and investment decision based on the DPR which is under preparation.

Quatar Project :

The nomenclature and content of the scheme of the project are being changed for feasibility study of green field smelter. A team comprising of EIL and NALCO project representatives visited Middle East to Zero on countries/ places where a green field smelter could be set up. The report submitted by them is under examination. Therefore, it is premature to be contemplated in outcome budget at this stage.

Addition, Modification & Replacement for Existing Plant :

The company came into existence in 1981-82 and the original project (i.e. Orissa Aluminium Complex) was commissioned in phases over a period of 2-3 years spanning from 1985-86 to 1987-88. The life of some of the assets set up under the original project has come to an end and some are in the process of out living their life. This involves substantial capital expenditure for additions, modifications or replacements to maintain the rated capacity for which separate final/ partial outcomes is not feasible.

The cumulative effect of outcomes in past several years has culminated in achievements of the rated capacity, both from the original project and extended 1st phase expansion. Now the company is in the implementation of 2nd phase expansion, outcome of which will be known after the completion of the project after gestation period of 42-50 months which is scheduled towards the end of 2008-09.

Role of other agencies :

The 2nd phase expansion and Utkal E-coal Block to be implemented, involves huge investments and involves massive work through various contractors/ suppliers under the guidance of EPC under respective consultants. The implementation of the project inter alia envisages monitoring of all these agencies that are directly or indirectly involved in the implementation of the project which are being undertaken in the right earnest by the company.

Annexure-I

OUTCOME BUDGET 2006-07

(Rs. in crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2006-07			Quantifiable Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			4(i)	4(ii)	4(iii)				
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
			Non-Plan	Plan	Complementary Extra Budgetary Resources				
1.	Geological Survey of India								
	(i) Survey & Mapping	Creation and updating of national geoscientific information and knowledge base through ground, marine and airborne surveys.	-	30.79	-	(i) Specialised Thematic Mapping (in sqkm) 8850 (ii) Geochemical Mapping (in sqkm) 19880 (iii) Geophysical Mapping (in sqkm) 13360 (iv) Multisensor Survey (in lkm) 28000 (v) Parametric Studies within	Furnished in Appendix.-I item (a).	Continuation of Schemes from the last financial year (2005-06) and the quantified outputs will be completed as per schedule.	There may be shortfall due to following reasons: (a) Age of the Blue Water Research Vessels and Geotechnical Vessels. (b) MOD & DGCA clearance for Airborne Surveys.

						EEZ : (a) Bathymetry (lkm)8000 (b) Magnetic (lkm)8000 (vi) Systematic Coverage within TW (sqkm) 3500 (vii) Parametric Studies within TW: (a) Bathymetry (lkm) and (b) Magnetic (lkm): Parametric surveys			(c) Forest Clearance. (d) Change of Thrust Areas, if any as per Govt. directives.
	(ii) Mineral Exploration	Identification as well as preliminary assessment of the mineral resources.	-	19.62	-	(i) Large Scale Mapping (sqkm) 800 (ii) Detailed Mapping (sqkm) 33 (iii) Drilling (m) 78400	Furnished in Appendix.-I item (b).	On Schedule time.	
	(iii) Specialised Investigation	Geoscientific input to water resource development, transport and miscellaneous civil engineering projects. Geo-	-	4.00	-	(in nos) 78	Furnished in Appendix.-I item (c).	On Schedule time.	

		environmental investigations for both regional and site specific studies. Greater emphasis on natural hazard studies and disaster management including earthquake and landslide zonation studies							
	(iv)Research & Development and Other Exploration	Study of Antarctic Continent Petrology, Palaeontology, Geochronology, Photo Geology and Remote Sensing etc. for support to various ongoing projects and to sort out the identified problems.	- -	6.59	- -	(in sq.km.) 994 (in nos) 70	Furnished in Appendix.-I item (d).	On Schedule time.	
	(v)Information Dissemination	Computerised archival, analyses, retrieval of geoscientific data and creation of	-	17.75	-	(in nos) 36	Furnished in Appendix.-I item (e).	On Schedule time.	

		theme-based relational database. Dissemination of data through maps, publications, customization etc.							
	(vi)Human Resources Development	Training in specialised fields for upgradation of technology and expertise	-	3.00	-	(No. of Types No. of Courses) 35(40)	Furnished in Appendix.-I item (f).	On Schedule time.	
	(vi)Modernisation and Replacement	Modernisation and expansion of laboratories and survey facilities aiming at refurbishing and upgrading the in-house capabilities of GSI.	-	67.20	-	-	Furnished in Appendix.-I item (g)	On Schedule time.	
	(vii)Provision from NER	Development of North Eastern Areas		16.55		1.Survey Mapping i)Systematic Geological Mapping (sq.km.)600 ii) Specialised Thematic Mapping (in sqkm) 150 iii) Geochemical Mapping (in			

						sqkm)3120 iv) Geophysical Mapping (in sqkm) 1640 2.Mineral Exploration: (i)Large Scale Mapping (sq.km)200 (ii)Detailed Mapping (sq.km.)2 (iii)Drilling (metre)1600 3.Specialised Investigation-17 items 4.Research & Development-6 items 5.Information Dissemination-4 items.			
		Total: (GSI) Plan		165.50	-				
	This is for maintaining basic administrative expenses of GSI.		197.71			Cannot be quantifiable as it is facilitative & supplementing to Plan Outcome only.	This Non-Plan expenditure is to be facilitate implementation of Plan schemes only.		

		Total: (GSI) Non-Plan	197.71						
		Total: GSI	197.71	165.50	-				
2.	Mineral Exploration Corporation Ltd.								
	(i)Promotional		-	17.00	-	i) Drilling 24365 mts. ii)Dev. mining 634m iii)Associated geological activities (mapping, survey, sampling analysis, geological report and ore body modeling.	Preparation and submission of Geological reports incorporating delineation of structure of ore body along with geological reserves.	One year	Normally the mineral prospects are located in forest area and the exploration shall be taken up subject to necessary forest clearance
	(ii)Capital		-		8.00	Replacement of old plants & equipment.	To improve the productivity and performance .	One year	
		Total: MECL	-	17.00	8.00				

3.	Indian Bureau of Mines								
	(i) Inspection of mines for scientific and systematic mining, mineral conservation and mines environment.	To ensure systematic and sustainable development of mineral resources, promotion of conservation of minerals, protection of mine environment through statutory enforcement of MM(D&R) Act 1957, MCDR 1988 and relevant portions of MCR 1960 and community development in mining areas, by carrying out regular inspections/studies of mines, other than coal, petroleum & natural gas, atomic minerals & minor minerals	-	4.94	-	For enforcement of MCDR and approval of Mining Plans/Scheme of Mining, 2500 mines will be inspected and 12 mining geological studies covering the aspects of community development in mining areas will be completed as per the annual programme . The out come of this scheme is systematic & scientific development of the mineral deposits, conservation of minerals,	It is a continuous process for achieving scientific and systematic mining, mineral conservation , community development and protection of mines environment	Inspection of 2500 mines and 12 mining geologies-cal studies will be completed during the year 2006-07.	Fulfillment of the target is subject to the availability of existing strength of inspecting officers, throughout the year. All the activities under various schemes/ programmes of IBM are in accordance with its charter of functions notified by the Government dated 6 th March 2003 . Activities under this scheme are in the nature of regulatory and

						<p>protection of environment and sustainable closure of the mines. For this purpose mining plans, scheme of mining & mine closure plans, prepared by the lessees are being approved by IBM and are being sustainable closure of the mines. For this purpose mining plans, scheme of mining & mine closure plans, prepared by the lessees are being approved by IBM and are being monitored for their effective implementation.</p>			<p>service activities and the outcome can not be quantified in terms of money value.</p>
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						Through mining geological studies, community development activities carried out by the mining industry in the mining areas will be monitored.			
	(ii) Mineral beneficiation studies – utilization of low grade and sub grade ores and analysis of environmental samples	To ensure value addition to the low grade ores, which are otherwise going as wastes and to help directly or indirectly to the mineral industry for optimum exploitation of mineral resources of the country. Further, analysis of air, water, solids wastes etc. for monitoring of mine effluent parameters are also being carried out.	-	5.74	-	The activities are carried out in IBM's three laboratories and pilot plant situated at Nagpur, Ajmer and Bangalore. In these three laboratories 70 Ore Dressing Investigations, 50,000 Chemical Analysis and 2,300 Mineralogical Examinations will be conducted as	It is a continuous process for achieving value addition to the low/sub-grade ores and monitoring of mine effluent parameters.	All these activities will be completed during the year 2006-07.	Fulfillment of the target is subject to the availability of existing strength of officers & staff, throughout the year. The activities under this scheme are in the nature of promotional, technical consultancy and research oriented. Incidentally

					<p>per the annual programme 2006-07. Besides, clay testing laboratory at Kolkata regional office will be set up. Action for procurement of equipment required for the laboratory will be taken up during the year. Most of the mineral deposits found in nature fall short of the grade required by consuming industries and therefore needs upgradation by ore dressing process to suggest ways & means for their economic utilization, as a part of</p>			<p>some revenue is also generated and therefore the total outcome can not be quantified in terms of money value.</p>
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						conservation studies			
	(iii) Technological upgradation & Modernization	To estimate the National Mineral Reserves & Preparation of Mineral Maps with forest overlays, To ensure development of new mining methods for scientific and systematic development of mineral resources, including environmental management of mines. To develop the Human resources and infrastructure.	-	6.51	-	During the year 2006-07 the following activities will be carried out: Updation of NMI as on 1-4-2005 will be completed for remaining 33 minerals out of 65 and summary outputs for remaining 50 minerals will be generated. 100 multi-mineral maps along with forest overlays in respect of Tamil Nadu and part of Karnataka will be prepared. 5-7 Mining/Geological assignments &	Updated NMI as per UNFC will facilitate planners to formulate plans & strategies for exploration & exploitation of mineral deposits and entrepreneurs to make investment decisions. Mineral maps with forest overlays will have a special significance for chalking out all future plan for ecological sustainable	All these activities excepting the S&T project will be completed during the year 2006-07. The S&T project on "Attenuation of Hexavalent Chromium by bio-remedial technology" will be continued during this year. Proposed new sub-schemes will be taken up if approved by	Under the S&T scheme repeated cultivation of crops is required for experimental tests on Attenuation of Hexavalent Chromium. Risks are as of occurrences of natural calamities. Completion of multi mineral maps along with forest overlays is subject to the timely availability of forest maps from FSI. Implementation of proposed new sub-scheme is subjected to

					<p>Environmental assessment studies on regional basis – one study of a mineral belt having cluster of mines and 1-2 rock mechanic studies/ground vibration studies will be completed.</p> <p>16 Training courses will be completed.</p> <p>Besides above, S&T project on “Attenuation of Hexavalent Chromium by bio-remedial technology” will be continued.</p> <p>A new sub-scheme namely, Management of solid waste for mining in India will be</p>	<p>development .</p> <p>Consultancy assignments/ development of new mining methods will ensure scientific and systematic development of mineral resources, including environmental management of mines. Training programmes on various aspects of mining, geology, ore beneficiation and environment will improve the skill and knowledge.</p>	<p>the Ministry.</p>	<p>the approval of Ministry. The activities under this scheme are in the nature of promotional, technical consultancy and research oriented and on human resource development. Incidentally some revenue is also generated and therefore the total outcome can not be quantified in terms of money value.</p>
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					<p>implemented subject to the approval of the Ministry.</p> <p>The outcome of this scheme is to benefit the mineral industry through its scientific, techno-economic, research oriented studies and training on various aspects of mining, geology, ore beneficiation and environment, to ensure R&D efforts on sustainable mine development with protection of environment & pollution control. Further, the outcome for this scheme is</p>	<p>S&T project on “Attenuation of Hexavalent Chromium” will help to determine the efficacy of removal of Cr⁶ by bio-remedial process.</p>		
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						to update the National Mineral Reserves & Preparation of Mineral Maps with forest overlays for their proper exploration & exploitation.			
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	(iv)Collection, processing, dissemination of data on mines and minerals through various publications	To collect data on mines and minerals through statutory returns and other means with a view to process, analyze and disseminate the data through various statistical and technical publications.	-	4.31	-	During the year 2006-07 the following publications will be released :- 12 issues of Monthly Statistics of Mineral Production, Indian Mineral Industry at a Glance, Statistical Profile of Minerals, 2 issues of Bulletin on Mineral Information, Bulletin on Mining Leases, P.L. & RPs, Directory of Mines & Mining Leases as on 31.3.2006, Indian Minerals Year Book 2005, Directory of Mineral	It is a continuous process for dissemination of data on mines and minerals through various statistical and technical publications.	All these publications will be released during the year 2006-07 and new sub-scheme on computerized online register will be taken up if approved by the Ministry.	In addition to collection of data from statutory sources, IBM also collects data from other sources like all State Govts., DGCI &S, Kolkatta, Coal Controller, Kolkata, Ministry of Petroleum & Natural Gas, Ministry of Commerce & Industry, Ministry of Steel, New Delhi, DGMS etc.. Therefore completion of these publications are subject to timely receipt of data from these sources. Implementation
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						<p>Consumers in India, Comparative Studies of Mining Laws of India and 6 selected countries, Bulletins on Recent Developments in Blasting Technology, Application of Rock Mechanics in surface and underground excavations. Ministry.</p>			<p>of proposed new sub-scheme is subject to the approval of the Ministry. The activities under this scheme are mainly of service nature. Incidentally some revenue is also generated through sale of publications. Therefore the total outcome can not be quantified in terms of money value.</p>
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						Besides, a new sub-scheme viz Computerised Online Register on Mining Tenements System will be implemented subject to the approval of the Ministry. The outcome for this scheme is to create database on mines and minerals and to disseminate data through various statistical and technical publications, which are very much useful for planning and taking policy decision by Govt. and mineral industry. The entire mining industry and			
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						concerned Govt. departments look to IBM as the agency for providing statistical & other related information on mining and mineral industries in the Country. IBM has also been recognized as one of the sub-system of National Information system of science and technology (NISSAT).			
	(v)Provision for NER	Development of mineral sector in NER.	-	2.40	-	(i)Mines will be inspected for enforcement of provision of MCDR (ii) Beneficiation tests on law grade ores and minerals	These activities will help to develop the mineral sector in NE region.	All these activities will be carried out during 2006-07.	These activities are of service nature and therefore the outcome can not be quantified in terms of

						available in NE States. (iii) Extend consultancy services to mining industry as and when request received from NER States (iv) Impart training to personnel of mining industry of NE States (v) Supply of equipment and instruments to the state government of NE States to strengthen their capabilities for development of minerals in their states.			money value.
	(vi)Capital Expenditure (works outlay)	-	-	0.10	-	Minor works			
		Total: (IBM)Plan		24.00					

	This is for maintaining basic administrative expenses of IBM.		16.13						
		Total: (IBM) Non-Plan	16.13						
		Total: IBM	16.13	24.00					
4.	Bharat Gold Mines Ltd. For meeting expenses on maintenance of essential services .		3.41			As BGML was closed, therefore, no quantifiable deliverables.			
		Total: BGML	3.41	-	-				
5.	Hindustan Copper Ltd.								
	Replacement & Renewals	For achieving maximum utilization of the existing plant and mines-machinery by replacement and renewals.	-	30.00	-	The following are the major equipments which need to be replaced :- 1. Hydraulic	Replacement & Renewals is a continuous process to achieve the BE	Tendering by September' 06. Order placement/ utilization by 31st	Without R & R, the overall production target can not be achieved.

						Excavator 2. Tertiary Crusher 3. Coil Compactor 4. Dryer 5. Banwas Shaft Sinking 6. Dozer 7. LHD	production level. The BE production targets are as under :- MIC - 32000 T Cathode - 42000 T	March'07	
		Total: (HCL) Plan		30.00					
	For payment of debentures, HCL has been provided a Non- Plan Loan.		25.00			Not quantifiable.	It is a loan of Govt. to PSU so it is a facilitative support only.		
		Total:(HCL) Non-Plan	25.00						
		Total: HCL	25.00	30.00					
6	Other Programmes: S&T								
		Research & Development work on mining & non-		4.50	3.55	R&D Projects catering to the national		Continuous nature of research	

		ferrous metals.				requirements and for building the capabilities and strengths of the mineral & non-ferrous metals.		work	
		Total: (S&T)Plan		4.50					
	For meeting the salary of three autonomous bodies(JNARD DC,NIRM & NIMH)(Rs.2.30 crore) ,contribution to international bodies(Rs.0.28 crore) and for National Mineral Awards(Rs.0.33 crore).		2.91						
		Total : (S&T) Non-Plan	2.91						
		Total : S&T	2.91	4.50	3.55				

7.	National Aluminium Company Ltd.								
	A.Schemes aimed at Maximizing Benefits: Additional/Modifications/Renewals/Replacement(AMRs)	To maintain the production/productivity in different segments of the Company	-	-	95.00	Rated capacity is to be maintained at each of the following major plant Units Bauxite : 4800000 MT, Alumina : 1575000 MT Aluminium 345000 MT Power: 6391 MW	Rated capacity of Bauxite , Alumina, Aluminium and power will be maintained.	-	-
	B.New Schemes: Phase-II Expansion : 1. Alumina - 4th Stream, 2. Aluminium - 4th Pot Line, 3. IX and X units of CPP	Increase in Capacity : Bauxite Mines 4800000 to 6300000 MT, Alumina Refinery : 1575000 to 2100000 MT Smelter : 345000 to 460000 MT, CPP : 960 MW (120 MW x 8) to 1200 MW (120MW x 10)	-	-	520.97	The project is under implementation and is scheduled beyond 2006-07. The Outcome during the year 2006-07 is Nil. After completion of the project with approved outlay of Rs.4091 crore, the expanded output per year	Capacity will increase to 21 lakh MT of aluminium, 4.60000MT of metal and power to 1200MW upto December, 2008.	Schedule start up date from zero date (26.10.2004) Bauxite Mines : 42 Months, Alumina Refinery: 46 Months, Smelter : 50 Months, CPP : 47 months.	

						i.e.Bauxite of 63 lakh TPY, alumina of 21 lakh TPY, Power of 240MW and Aluminium of 4.60 lakh is expected to be achieved in 2008-09.			
	4.Utkal E-Coal	Allotment of a new captive coal mine by GOI to cater to coal requirement of 9th, 10th, 11th and 12th Units of CPP	-	-	5.17	The project is under implementation and is scheduled beyond 2006-07	Meet requirement of additional Coal in year 2009-10.	The completion schedule depends on the final capacity determination and investment decision.	-
	5. Quatar project	Adhoc sum of Rs.1.00 Crore has been kept. However, since Quarter did not show much interest, the project is going to be closed	-	-	1.00	The nomenclature and content of the scheme is being changed for feasibility study of "Green Field Smelter"	-	-	-
		Total: NALCO	-	-	622.14				

8.	Construction	Building construction in Indian Bureau of Mines & Geological Survey of India		9.00		GSI - Construction of auditorium and guest house at Shillong, purchase of land for official cum residential quarters at Uttaranchal, construction of auditorium and guest house at Jaipur,, purchase of land for office cum residential quarters at Guwahati . Constructions of residential quarters at, Lucknow. Purchase of land for construction of office building at Guwahati, Bhubaneswar, Dehradun in IBM.	-	Continuing Scheme	-
		Total: (Construction) Plan	-	9.00	-				

9.	Secretariat Proper This provision is for Secretariat expenditure of the Ministry.		8.86	-	-	Not quantifiable. This is for regulation of Mines and Development of Minerals under the control of Union.			
		Total: (Sectt.Proper) Non-Plan	8.86	-	-				
		Grand Total:	254.02	250.00	633.69				

PROJECTED OUTCOME OF GSI

Proposed Outcome:

(a) Survey & Mapping	Basic earth-science data to be used for (i) identifying new targets for potential mineral resources, (ii) to assess off-shore resources and their exploitation and (iii) to characterisation the entire country for proper use of resources.
(b) Mineral Exploration	Generating earth science data for (i) assessing resources of different mineral commodities and (ii) finding new mineral resources of the country.
(c) Specialised Investigation	Generate pertinent data for use in (i) major national constructions projects (ii) major national power generation projects (ii) providing environmental safeguards to the society.
(d) Research & Development & other Exploration.	(i) Research of fundamental nature to identify new application tools and (ii) adding knowledge base for Antarctica
(e) Information Dissemination	(i) Disseminate relevant part of earth science data for public use and (ii) Develop inter connectivity between different offices of GSI for speedy implementation of programmes.
(f) Human Resources Development	Create a system for providing trained manpower as per changing operational needs of GSI.
(g) Modernisation & Replacement	Improve capabilities of all laboratory for generating new types of earth science data and their processing for proper interpretation.

REFORM MEASURES AND POLICY INITIATIVES

Amendments in the Act after 1993

MMDR Act, 1957 has been amended twice in 1994 and 1999 after the declaration of the National Mineral Policy, 1993. Salient features of the amendments carried out in 1994 are as follows:

- (i) Removal of restriction on foreign equity holding in the mining sector by the company registered in India.
- (ii) Removal of 15 minerals from Part C of the First Schedule to the Act, leaving only 11 minerals for which permission of the Central Government is required for grant/removal of ML/PL.
- (iii) Greater stability on tenure of mineral concession enhancing the maximum period of grant of ML from 20 to 30 years with a minimum period of 20 years and also enhancing the period of Prospecting Licence from 2 yrs to 3 yrs.
- (iv) State Governments were empowered to terminate mining lease of minor minerals without prior approval of the Central Government.

Salient features of the amendments in 1999

- (i) Introduction of a concept of reconnaissance operations as a stage of operation distinct from and prior to actual prospecting operations.
- (ii) Reconnaissance permit holder will enjoy preferential right for grant of PL.
- (iii) Area restriction of Reconnaissance Permit, Prospecting Licence, Mining Lease will apply Statewise instead of country as a whole.
- (iv) Mineral limestone has been deleted from the first schedule to the Act. Hence for only ten minerals (except fuel and atomic minerals) namely Asbestos, Bauxite, chrome ore, Copper, Gold, Iron Ore, Lead, Manganese Ore, Precious Stone and Zinc, permission of the Central Government is required for grant of mining lease.
- (v) Transfer of mining leases for these 10 minerals do not require reference to the Central Government.
- (vi) State Governments have been delegated powers to grant minerals concessions even for areas, which are do not compact or contiguous.
- (vii) State Governments have been empowered to permit amalgamation of two or more adjoining mining leases.
- (viii) State Governments have been delegated powers to approve mining plans in respect of 29 non-metallic/industrial minerals in case of open cast mines.

Consequential amendments in the Rules have also been notified in the Rules. Some of the important amendments in Mineral Concession Rules, 1960 and Mineral Conservation & Development Rules, 1988 are as under:-

- (i) Time limit for disposal of complete application for Reconnaissance Permit/ Prospecting Licence/Mining Lease has been prescribed in MCR, 60. In case of delay beyond the prescribed limit, the same has to be explained in writing.
- (ii) Time limit for disposal of Mining Plan has also been prescribed in MCR, 1960.
- (iii) Panel provision have also been provided for violation of provisions of MCDR, 1988.
- (iv) Marble Development & Conservation Rules, 2002 have also been notified for conservation & systematic development & scientific mining to conserve the marble resources and to prescribe a uniform framework with regard to systematic and scientific exploitation of marble throughout the country.
- (v) Royalty rate/Dead Rent of major minerals (other than Coal, lignite & sand for stowing) have been revised vide Gazette Notification dated 14.10.2004.
- (vi) Offshore Areas Mineral (Development & Regulation) Act, 2002 has been notified on 31.1.2003. The said Act provides for development and regulation of mineral resources in the territorial waters, continental shelf, exclusive economic zone and other maritime zones of India and to provide for matters connected therewith or incidental there to.
- (vii) The concept of Final Mine closure Plan & Progressive Mine Closure Plan has been introduced in the Rules which provides for rehabilitation of area under Mining Lease after its abandonment.
- (viii) Minimum size of Mining Lease has also been prescribed in MCR, 1960 for ensuring scientific & systematic mining.
- (ix) Unified National Framework Clarification (UNFC) has been adopted for estimation of mineral reserves in the country.
- (x) Rule 66A providing for special provisions for Atomic Mineral has been amended.

The Ministry and its subordinate offices GSI, IBM and PSUs have taken various initiatives which are as follows:

- (i) In exercise of the powers conferred by Section 13 of the MMDR Act, 1957, the Central Government has amended rule 66A of the Mineral Concession Rules, 1960 regarding special provisions relating to atomic minerals for better management of such minerals.
- (ii) In order to curb instances of illegal mining, the Ministry has advised State Governments to constitute Task Force/Flying Squads at the State and District levels for taking effective measures for preventing illegal mining, to frame rules under section 23C of the Mines and Minerals (Development & Regulation) Act, 1957 expeditiously and to furnish quarterly returns on instances of illegal mining.
- (iii) The Ministry has formulated a policy paper on the allocation of iron ore mines. A copy of the paper has been placed before the High Level Committee set up under Shri Anwarul Hoda, Member Planning Commission for its consideration.
- (iv) Geological Survey of India, in order to bring its laboratories and field equipment at par with international standards, has procured state-of-the-art laboratory and field equipment. Three major modernization proposals namely, procurement of a heliborne geophysical survey system, a new ocean going research vessel and a shallow drilling capacity geotechnical vessel are being processed. Approval for the heliborne survey system has been given and the order for purchase of Dhruv helicopter has been placed with M/s. HAL. In principle approval of the Planning Commission has been received for a new ocean going research vessel. Feasibility report for the geotechnical vessel is being prepared.
- (v) To fine policies and procedures on mineral specific mines, Working groups have been consulted for gold, iron-ore, bauxite and aluminium, lead and zinc, copper, diamond and precious stones. These Groups will formulate appropriate strategies for the development, exploration and exploitation of these minerals.
- (vi) To mobilize investors and to strengthen efforts of the Ministry in the area of regional/detailed exploration, geological and geophysical studies and to ensure mineral development of NER, Ministry of Mines organized an Investors' Meet & Conference on harnessing the mineral potential for industrial development of NER, in Shillong in November, 2005.
- (vii) An MOU for “Co-operative Staff Development Related to Environmental Governance and Mine Rehabilitation” was signed between the Ministry of Mines, Ministry of Environment & Forests and Federation of Indian Mineral Industries on the Indian side and Department of Industry & Resources, Department of Conservation and Land Management of the Government of Western Australia and the Chamber of

Minerals and Energy of Western Australia on the Western Australian side during the visit of the Indian delegation to Australia from 21st to 31st May, 2005.

(viii) The Ministry of Mines, Government of India and the Ministry of Land & Resources of the People's Republic of China have signed a Memorandum of Understanding (MOU) for cooperation in the mining sector on 15th September, 2005. This MOU is expected to set-up a framework to promote cooperation on the basis of applied research in the field of metallic and non-metallic minerals, formulation of mining regulations and policies, technical assistance and training programmes and also undertaking joint ventures in other countries.

(ix) Establishment of Geological Survey of India's NET and PORTAL is being implemented in two phases.

(x) Softcopy conversion of GSI's maps and reports has been completed. Now, their digitization is under process. These maps/reports, after digitization, will be available on GSI's portal/website.

(xi) In order to upgrade the technical competence of GSI, approval has been obtained for filling up 287 vacant posts in scientific and technical disciplines in relaxation of DoPT's guidelines.

(xii) GSI took up studies in the tsunami affected areas of Andaman & Nicobar Islands and along the east coast of India immediately after the catastrophe. It established 14 GPS stations to monitor crustal adjustment after the Sumatra earthquake by campaign mode surveys. Six micro-earthquake recording stations were established to monitor the aftershocks.

(xiii) Following the devastating earthquake that shook the western Himalaya and adjoining regions on 8th October, 2005, the Geological Survey of India has taken up a multidisciplinary study of the earthquake. Various parts of North India have been visited and the effects of the 8th October, 2005 Kashmir earthquake documented. Field investigations have been carried out in Uri Tehsil, Baramula District and Karna (tangdhar) Tehsil, Kupwara District to make an assessment of slope instability problems afflicting several villages consequent to the earthquake. Remedial and corrective measures for tackling the slope failure conditions have been outlined.

(xiv) **A Computerised on-line Register of Mining Tenements System** is being devised by IBM. The project will be beneficial in bringing uniformity and consistency in data regarding mineral resources in the country and will result in electronic exchange of data between various government organizations as well as faster dissemination of information to entrepreneurs and investors.

(xv) A project on Solid Waste Management from Mining is aimed at bringing out economically viable solutions to environment related problems in mining. The project includes assessment, characterization, utilization of mined waste. The project will evolve necessary guidelines for regulating the management of solid waste disposal in mines.

(xvi) The Ministry is exploring the possibility of third phase expansion of NALCO's activities with regard to bauxite mining, alumina refinery and aluminium smelter. A team visited UAE & Oman in April, 2005 and held discussions with the governments of these two countries. Subsequently, NALCO has engaged EIL to prepare a pre-feasibility report so that a decision could be taken on putting up an aluminium smelter in a third country. Simultaneously, efforts are being made to do the third phase expansion of NALCO in Andhra Pradesh for bauxite mining and alumina refinery.

(xvii) A proposal for financial restructuring of MECL has been approved by the Board for Reconstruction of Public Sector Enterprises (BRPSE) to strengthen the enterprise. This is expected to give a fillip to our exploration efforts.

Policy measures and initiatives of the PSUs and Subordinate Offices

1. Geological Survey of India(GSI)

Major policy decisions and steps taken:

- The Govt has set up a committee for 'The New Mineral Policy.
- Modernization programme of Geological Survey of India has been stepped up. The state-of-the-art technology has been inducted in some of the areas in the chemical analysis domain and in the ground survey areas. Upgradation of marine and air-borne survey systems of GSI is underway through purchase of Helicopter & Heliborne Geophysical Survey System, new Ocean-going Research Vessel and Geotechnical Vessel. These will help to generate valuable data for better understanding the earth processes.
- IT initiative through development of GSI PORTAL continued for making the department more transparent.
- Interaction with the concerned Ministry being continued to make available 1: 50,000 Maps after the new National Map Policy approved recently by the Govt. of India which controls the geological map publication in GSI.

- The 'Right to Information Act' has been implemented as a matter of policy of Govt. of India and being attended to.
- Steps taken to fill-up posts of Scientific and Technical disciplines in GSI for better execution of programmes and delivery of results.

2. Mineral Exploration Corporation Limited (MECL)

As a reform measure the financial restructuring of MECL has been under consideration since long. Now the comprehensive proposal on financial restructuring of MECL is at an advanced stage of consideration of Ministry of Mines.

Once the financial restructuring is approved and implemented, MECL would be able to take up the envisaged modernisation and up-gradation of technology which in turn would facilitate improvement in achievement of intermediate output and expedite final outcomes.

Sale of reports

The pricing policy and modalities for dissemination of exploration data / sale of exploration reports prepared under promotional exploration programme has been finalised by Ministry of Mines.

Now it shall be possible for interested agencies / entrepreneurs to obtain these reports and scrutinise the results available thereof. In turn it is expected that exploration / mine development opportunity in the potential mineral prospect will increase further. Thus providing opportunities for more exploration work for MECL and overall development of potential mineral prospect and growth of the mineral industry in the country.

3. Indian Bureau of Mines (IBM)

To fulfill the visions enumerated in chapter I, IBM's missions are:

- i) Inspection and study of mines for enforcement of the provisions of MCDR, examination and approval of mining plans, schemes and mine closure plans under MCR 1960 and MCDR 1988.
- ii) Providing technical consultancy services in the field of geology, mining, mine environment and mineral beneficiation.
- iii) Research on beneficiation of low-grade ores and analysis of ores and minerals.
- iv) Conducting research on special mining problems.

- v) Publication of monographs and bulletins.
- vi) Preparation of mineral maps with forest overlays.
- vii) Preparation of inventory of mineral resources of the country.
- viii) Conducting market surveys of minerals and metals.
- ix) Collection and dissemination of statistics and information on mines and minerals.
- x) Promoting and monitoring community development activities in mining areas.
- xi) Advising the central and state governments on matters in regard to mineral industry, relating to environmental protection and pollution control, export and import policies, trade, mineral legislation, fiscal incentives and related matters.
- xii) Training of IBM personnel and persons from the mineral industry and other agencies in India and abroad.
- xiii) Specific studies on development programmes and international mineral intelligence.

For designing and implementation of outcome oriented programmes on systematic & scientific development of the mineral deposits, conservation of minerals, protection of environment and sustainable closure of the mines, mining plans, scheme of mining & mine closure plans, prepared by the lessees are being approved by the IBM. To improve the quality of implementation of these plans and schemes approved, IBM through their regular inspections are closely monitoring for their effective and strict implementation.

To have an effective delivery system in the administration of above activities IBM continue to scrutinize and approve the mining plans within the stipulated time of 90 days so that the grant of Mining Lease is not delayed, similarly the mining schemes are being approved within this time. To improve the quality of developmental programmes IBM organizes meetings of mine owners under regional/zonal offices to interact and resolve their collective problems/issues/procedural delays. Further, IBM continues to respond to all letters/inquiries received from the parties within 30 days. IBM continue to publish the periodicals as per the time schedule, for the need of industry and for the other Govt. organizations. The technical consultancy jobs offered to IBM are being completed as per the agreement and final reports are sent to the client. In certain cases, draft report will be sent to the clients for their comments. The final report are being submitted after giving due consideration to the views and comments of the clients to serve their needs. IBM also offers concessional charges on the consultancy services rendered to the small mine owners.

Some of the special measures/ initiatives taken through IBM with the outputs and outcome are as follows:

Updation of National Mineral Inventory adopting United Nations Frame Work Classification :

Updation of National Mineral Inventory as on 1.4.2005 adopting UNFC is in progress. By adopting UNF Classification, the mineral reserves/ resources are being expressed in terms of International standards which permit foreign multi-nationals/entrepreneurs to take the investment decisions in the Indian Mining sector.

Preparation of Mineral Maps along with forest overlays :

IBM has taken up preparation of multi-mineral maps along with forest overlays which are important for faster development of mines. The state-wise mineral maps will facilitate integrate approach for mineral as well as regional development and also socio-economic upliftment of the local/tribal population. Since the environment poses a serious threat to the future prospects of development of mineral resources, these mineral maps will be having special significance for chalking out all future plan for ecological sustainable development.

Planning, Monitoring and Regulation of Mines, along with Mineral Conservation and Mine Environment :

With the impact of new policies of liberalization of the economy the IBM is playing more effective and vibrant role as facilitator and coordinator in the emerging scenario with a view to make mining industry economic, efficient, profitable and eco-friendly. Consequent to the inspections/studies of mines the suggestion offered by IBM to the lessees lead to systematic development of mines, conservation of minerals and protection of environment. Mines Environment and Mineral Conservation Weeks (MEMC) celebrated under the aegis of IBM brings out awareness amongst the society.

Technology up-gradation and R & D activities :

Ore and minerals are seldom found in the form and purity as required by the consuming industries and are always associated with deleterious impurities and worthless diluents (gangue minerals). They are required by many industries, viz. metallurgical, chemical, cement, refractory, fertilizer, and a host of other industries. All these industries lay down certain specifications (chemical, physical and mineralogical characteristics) for ores/minerals.

Reserves of high grade ores/minerals are limited and their demand is increasing continuously due to rapid industrialization. Fast depleting reserves of directly usable/marketable ores and their ever increasing demand compel us to fall back upon.

i) low grade mineral resources (low and sub grade mineral deposits).

ii)mine and process rejects like waste dumps, tailing, slimes etc.

They can be profitably exploited through beneficiation. Mineral beneficiation upgrades the low grades ore/ mineral resources by discarding worthless and deleterious constituents, thus play significant role in conservation of mineral resources by recovering saleable products from them.

The result of test work/investigations carried out are brought out in the form of Reports of Investigations (R.I). These reports contain process details with flow-sheets/flowchart, grade and recoveries of concentrates with tolerance limit of impurities along with mineralogy and chemical analysis.

These reports would help entrepreneurs/sponsor parties to ascertain the possibility of exploitation and effective utilization of the particular ore/mineral deposits or wastes/rejects for valuable mineral recovery/additional recovery of values. The information is very vital for knowing the technology involved, subsequently assessment of economic viability for commercial application before taking investment decision..

IBM will find out the need of the industry for the utilisation of low grade minerals and ores and will carry out R&D studies for technological upgradation of minerals/ores for in the industry to contribute accelerated economic growth of the nation.

Dissemination of data on mines and minerals through various publications:

Various data-bases on mines and minerals are maintained in IBM for disseminating data through statistical and technical publications. These publications will be very much useful for planning and taking policy decisions by the Govt. The entire mining industry and concerned Govt. departments look to IBM as the agency for providing statistical & other related information on mining and mineral industries in the Country. Keeping this aspect in view IBM is to implement a computerized on line mine tenement system.

Data-base on reconnaissance Permits:

IBM maintains data on RPs over large areas granted to private parties/ MNCs. Analysis of data indicates about the success of the various State governments in attracting private investors and the specific minerals in which the investors are really interested. In ultimate analysis, it also indicates the discovery of new mineral potential areas and also possibilities /scope for conversion of RPs to PLs.

4. Hindustan Copper Limited (HCL)

During the financial year 2005-06, company implemented various reform measures aimed at facilitating the process of optimum decentralisation and achievement of optimum level of transparency.

It has been made mandatory that all procurement action should be processed through web hoisting in respect of individual item of more than Rs 1 lakh and Rs 2 lakh in group of items. This is likely to make the procurement process more transparent and benefit out of which transparency are as follows:

1. Enhance confidence level of the supplier
2. Wider participation
3. Competitive rate
4. Minimise scope of grievance / dispute

Company has duly complied with the provision of Right to Information Act and all the necessary data/information in this regard have been posted in the web site for easy accessibility of the general public. Public Information Officer/Asstt Public Information Officer has been duly appointed and particulars duly posted on the web site.

Decentralisation:

In order to take higher responsibility with greater autonomy in day-to-day functioning by the unit heads, the existing powers delegated to them have been reviewed in a consolidated manner and delegated power has been enhanced. By this process company will be benefited by avoiding delay in decisions making, taking timely action for production process.

Though the company have been making efforts in a smaller way for social up liftmen, no major action could be initiated in this regard due to continuance of financial stringency because of the burden of substantial accumulated loss.

5. National Aluminium Company Limited (NALCO)

FDI upto 100% has been allowed in this Sector which will ultimately increase public-private partnerships.

Aluminium Sector has one PSU viz. NALCO which is a Miniratna category-I company enjoys greater autonomy through its Board of Directors, the composition of which has 50% non-official Directors. Through the Memorandum of Understanding the performance of the Company is monitored by various evaluation parameters and targets. The Memorandum of Understanding between NALCO and Ministry of Mines consist of the following 5 parts;

- (i) Mission & Objectives of the Company
- (ii) Exercise of enhanced autonomy & Delegation of Financial powers.
- (iii) Performance evaluation parameters & targets.
- (iv) Commitments/assistance from Government
- (v) Action plan for implementation & monitoring of MOU

Company's performance is reviewed through quarterly performance report.

Transparency is being observed through the implementation of the Rights to Information Act, public grievances redressal systems etc.