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No.4[2]97-M.I
Government of India/Bharat Sarkar
Ministry of Mines/Khan Mantralaya

New Delhi, the 12th March, 2009

Resolution

F.No. 4[2]97-M.I The Central Geological Programming Board (CGPB) was established through Government of India Resolution dated 27th July, 1966. The CGPB was constituted primarily to co-ordinate activities on geological mapping and mineral prospecting, exploration and exploitation in the country, with the Geological Survey of India (GSI) as the nodal department and the State Geology and Mining departments and Central Government institutions as the participating members. Besides drawing up *inter se* priorities among various schemes of geological investigations and exploration for minerals in different parts of the country, the Board was also assigned the task of making broad recommendations on policy and HR development etc. in the Geosciences sector. Subsequently, to complement the activities of the CGPB State Geological Programming Boards (SGPB) were constituted in the States to co-ordinate geoscience activities within the State and to interface with the CGPB and GSI.

5. The announcement of the National Mineral Policy, 2008, and the emergence of a large number of newly established Central and State level organizations as well as research institutions in the scientific sector have also added urgency to the necessity of revamping of the CGPB mechanism.

6. It has accordingly been decided to reconstitute the Central Geological Programming Board and its Subcommittees and to provide for better coordination between Central and State level stakeholders by encouraging the regular functioning of State Level Geological Programming Boards, setup by the State Governments to achieve the requisite synergy.

7. It is, therefore, ordered that with immediate effect, the Central Geological Programming Board shall be constituted as follows:-

- | | | | |
|-------|---|---|--------------|
| (i) | Secretary, Ministry of Mines | - | Chairman |
| (ii) | Additional Secretary, Ministry of Mines | - | Member |
| (iii) | Director-General, Geological Survey of India | - | Member |
| (iv) | Joint Secretary (Mineral Policy) | - | Member |
| (v) | Representatives (not below rank of Joint Secretary) from
Department of Environment, MoEF
Department of Forest, MoEF
Ministry of New and Renewable Energy | - | Members (10) |

Ministry of Earth Science
Ministry of Civil Aviation
Ministry of Water Resources
Ministry of Coal
Ministry of Steel
Ministry of Defence
Ministry of Science & Technology.

- | | | | |
|--------|---|---|------------------|
| (vi) | Advisor (Minerals), Planning Commission | - | Member |
| (vii) | Heads of Central Organizations | - | Members (23) |
| (viii) | State Secretaries, Mining and Geology / Industry | - | Members |
| | (Directors, Mining & Geology would be Permanent Invitees) | | |
| (ix) | Representatives of Industry | - | Members (10) |
| (x) | Sr.Dy. /Dy. DG, GSI in-charge of Wings, Regions, Map & Publication, Information Technology & Training Institute | - | Members |
| (xi) | Dy. DG (In-charge CGPB Sectt.), GSI | - | Member-Secretary |

The Chairman may nominate a representative of any other organization related to Geoscience as a Special Invitee to a meeting of the Board or as a Permanent Invitee to all meetings of the Board.

8. The Central Geological Programming Board shall meet at least once in six months, and shall be responsible to:-

- (i) help provide the general strategic direction of geoscience activity in relation to GSI and other stakeholders, and advise the Ministry of Mines on policy issues of geoscience.
- (ii) effect programmatic coordination among central agencies in the sector and promote multidisciplinary/ multi-institutional approaches.
- (iii) enable better interaction between central agencies and State level organizations for coordinated planning and execution.
- (iv) help build training, Human Resource, and research capability within the sector particularly at State level and coordinate the capability for optimum use.
- (v) identify new areas and new technologies for geoscientific activities, and advise on adoption strategies.
- (vi) advise on Geoscience partnerships between GSI, and State and Central Level or other agencies including research and academic institutions.
- (vii) actively promoting use of Information Technology in geoscientific activity, develop Geoinformatics with a strong spatial database; facilitate coordination among geoscientific agencies to develop common standards and sharable databases under the National Spatial Data Infrastructure(NSDI) architecture; and encourage wide and easy

dissemination of geoscientific information through internet based technologies.

- (viii) approve five-yearly detailed sub-sectoral targets on a rolling plan basis and annual programme on a State-wise basis.

9. The Central Board shall be supported by 12 Committees for the various sub-sectors as follows:-

- (i) I : Ferrous Minerals (Iron, Manganese & Chromite, etc.)
- (ii) II : Precious Metals & Minerals (Gold, Platinum Group of Elements, Diamond & Precious Stones)
- (iii) III : Non-Ferrous and Strategic Minerals (Basemetal, Tin, Tungsten, Bauxite, etc.)
- (iv) IV : Industrial & Fertilizer Minerals
- (v) V : Energy Minerals & Resources (Coal, Lignite & Geothermal)
- (vi) VI : Marine Geology & Exploration and Coastal Geoscience
- (vii) VII : Airborne Survey & Remote Sensing
- (viii) VIII : Geology & Mineral Resources of North Eastern Region
- (ix) IX : Geoscientific Investigations (Geotechnical investigation, natural hazards, climate change, Environmental Geology, Shallow subsurface Geology & Subsurface Hydrology)
- (x) X : Fundamental and Multidisciplinary Geoscience
- (xi) XI : Geoinformatics and data management
- (xii) XII : Geoscience for Sustainable Development.

The composition and terms of reference of the Committees will be as given in Annexure-A. The Committees shall meet at least twice a year and shall submit recommendations to the Central Board in respect of the respective sub-sector.

Each Committee shall submit, well before the second CGPB meeting of each year, a report on all Terms of Reference of the Committee along with specific recommendations, so as to enable the preparation of a detailed Report to the Board in its next meeting as provided in para 8 of the Resolution.

10. The Committees shall continuously monitor programme activity and make recommendations to better implement, in particular, the following mandates emanating from the National Mineral Policy, 2008 through the program mode :-

- (a) *“The Geological Survey of India (GSI), the Indian Bureau of Mines (IBM) and the State Directorates of Mining & Geology will be strengthened with man power, equipment and skill sets upgraded to the level of state of the art.” (Para 2.2)*
- (b) *“To enable the use of state-of-the-art exploration techniques, scientific mining and optimal use of minerals through ore dressing and beneficiation technologies it is necessary not only to promote research and development in minerals but to simultaneously establish appropriate educational and training facilities for human resource development to meet the manpower requirements of the mineral industry. These matters will receive prime importance and a*

comprehensive institutional framework for Research & Development, and Training will be developed.” (Para 2.7)

- (c) *“The Geological Survey of India is the principal agency for geological mapping and regional mineral resources assessment of the country. It shall be responsible for drawing up action oriented plans towards these ends in close cooperation with all other agencies engaged in this task. Detailed exploration on land is done by the Mineral Exploration Corporation, Directorates of Mining and Geology of the State Governments and various Central and State Public Sector Organisations. In conducting exploration for minerals special attention will be given by these government agencies to the development of strategic minerals through systematic investigation of potential sources which are difficult to otherwise access.” (Para 5.1)*
- (d) *“It is necessary to ensure that India’s exclusive economic zone is explored and exploited to the maximum possible extent. The Ministry of Earth Sciences (MoES) and its agencies are entrusted with the task of sea-bed exploration and mining. Cooperation between MoES and GSI will be institutionalized so as to achieve this objective within a time bound framework. The task of mapping out the extended economic zone will be expedited and completed within the time prescribed by the International Sea Convention so that no area of sea bed mining is lost to the country.” (Para 5.3)*
- (e) *“Particular attention will be given to the survey and exploration of minerals in which the country has a poor resource-cum-reserve base despite having the geological potential for large resources. Minerals for which there is demand within the country either for use or for export after processing will be prioritised. Exploration for lower grade hematite, magnetite, base metals, noble metals, diamonds and high grade Ilmenite will be put on the fast track.” (Para 5.4)*
- (f) *“Coordination of the regional exploration work by government agencies is at present being done by the Central Programming Board of the Geological Survey of India. The disaggregated projects are generally discussed in the State Level Committees and other technical forums before being incorporated into the annual programme. The existing arrangement shall be revamped to ensure that projects and programmes are prioritised in line with the national policy goals and are chalked out after taking into account the exploration work undertaken by the private sector.” (Para 5.5) and then data released after lock-in period.*
- (g) *“Thrust will be given to exploitation of mineral resources in which the country is well endowed so that the needs of domestic industry are fully met keeping in mind both present and future needs, while at the same time exploiting the external markets for such minerals.” (Para 7.2)*

- (h) *“As the mining sector takes off, the country will need more and more mining engineers, geologists, geo-physicists, geo-chemists and geo-instrumentation specialist. A comprehensive review of the sector’s man power needs will be undertaken and educational institutions will be geared to meeting these needs in the medium and long term.” (Para 7.6)*
- (i) *“Extraction of minerals closely impacts other natural resources like land, water, air and forest. The areas in which minerals occur often have other resources presenting a choice of utilization of the resources. Some such areas are ecologically fragile and some are biologically rich. It is necessary to take a comprehensive view to facilitate the choice or order of land use keeping in view the needs of development as well as needs of protecting the forests, environment and ecology. Both aspects have to be properly coordinated to facilitate and ensure a sustainable development of mineral resources in harmony with environment.” (Para 7.10)*

11. There shall be a dedicated full-time secretariat for the Central Geological Programming Board and for each of the Committees, which shall be serviced by the GSI. GSI shall bear the expenses on account of TA/DA as per Government of India notification and entitlement, for one member of each State Government for attending the Committee meetings.

12. To facilitate coordinated planning, taking into account State-Level priorities for survey, mapping, exploration and other geoscientific activities, and also to help factor in State-Level requirements for training, HR and technical capacity building into the programmatic framework, each State Government would be encouraged to constitute a State Level Geological Programming Board and to activate the Board where it already exists. Guidelines will be issued by the Ministry of Mines in consultation with GSI, and as per the recommendation of the Central Board to facilitate constitution/ reconstitution of such Boards to better serve the geoscientific interests of the State Government. The State Level Boards may include local representatives of GSI and other Central and State-Level stakeholders and private agencies having an interest in the State-Level geoscientific programme and may be mandated with activities at State-Level similar in nature and scope as the Central Board, so as to enable the Recommendations of the State Boards to form a primary input for the Central Board and its Committees.

13. The Ministry of Mines and GSI place high importance to building partnerships with State Government institutions and help build up capacity through the mechanism of the State Boards and otherwise. Accordingly, 10% of GSI's Plan budget for its Schemes will henceforth be earmarked for activities recommended by State Level Boards and fitting in with the overall framework of the Five Year Plan. Preference will be given to such activities where there are any or all of the following:-

- (a) Active participation of State Government in survey, exploration or research
- (b) Sharing of State Government data, particularly long-term collaboration on sharing of spatial databases.
- (c) Use of State Government infrastructure and facilities including laboratories.

Recommendations of the State Level Boards will be considered in the first meeting each year of the Central Board, and accepted items will be included in the Annual Field Season proposal to be brought before the second meeting of the Central Board each year.

(S. Vijay Kumar)
Additional Secretary to the Government of India

ORDER

Ordered that the Resolution be published in the Gazette of India Extraordinary.

Ordered also that a copy of the Resolution be communicated to all concerned.

(S. Vijay Kumar)
Additional Secretary to the Government of India

The Manager,
Government of India Press,
Mayapuri, New Delhi

COMPOSITION AND TERMS OF REFERENCE OF THE COMMITTEES

I : Ferrous Minerals (Iron, Manganese, Chromite, etc)

Convenor : Sr.Dy. / Dy. Director General, GSI, Eastern Region Office (ERO), Kolkata

Member Secretary: Director (Com. I), GSI, ERO, Kolkata

Members:

1. Ministry of Steel (Director-Tech Level)
2. Ministry of Mines, Director (Policy)
3. Ministry of Environment and Forest (Director Level)
4. DGM, Govt. of Karnataka
5. DGM, Govt. of Andhra Pradesh
6. DGM, Govt. of Goa
7. DGM, Govt. of Tamil Nadu
8. DGM, Govt. of Maharashtra
9. DGM, Govt. of Madhya Pradesh
10. DGM, Govt. of Chhattishgarh
11. DGM, Govt. of Jharkhand
12. DGM, Govt. of Orissa.
13. IBM
14. MECL
15. TISCO
16. FIMI
17. Rio Tinto Exploration India Ltd.
18. Dy. DG of operations and Directors of GSI associated with the items of Ferrous Group investigations, Director (Monitoring) and Director (CGPB), GSI, CHQ.

Permanent Invitees:-

- i. National Mineral Development Corporation (NMDC)
- ii. Orissa Mining Corporation Ltd. (OMC)
- iii. Jindal Steel and Power Ltd.
- iv. Adhunik Group of Industries
- v. Manganese Ore (India) Ltd. (MOIL)
- vi. Raipur Alloy Steel Ltd.
- vii. Sarda Energy & Minerals Ltd.
- viii. Steel Authority of India Limited (SAIL)

II : Precious Metals & Minerals (Gold, Platinum Group of Elements, Diamond & Precious Stones)

Convenor : Sr. Dy./ Dy. Director General, GSI, Southern Region Office(SRO), Hyderabad

Member Secretary: Director (Com. II), GSI, SRO, Hyderabad

Members:

1. Director / DS, Ministry of Mines dealing with concessions.
2. Representative of Ministry of Environment and Forests (MOEF)
3. DGM, Govt. of Karnataka
4. DGM, Govt. of Andhra Pradesh
5. DGM, Govt. of Tamil Nadu
6. DGM, Govt. of Maharashtra
7. DGM, Govt. of Madhya Pradesh
8. DGM, Govt. of Jharkhand
9. DGM, Govt. of Orissa
10. DGM, Govt. of Kerala
11. DGM, Govt. of Chhattishgarh
12. DGM, Govt. of Uttar Pradesh
13. DGM, Govt. of Rajasthan
14. FIMI
15. MECL
16. IBM
17. NGRI
18. De Beers India Minerals Private Ltd.
19. Rio Tinto Exploration India Ltd.
20. Geo Mysore Services (India) Ltd.
21. ISRO (NNRMS)
22. Reliance Industries,
23. Dy.DG of Operations and Directors of GSI associated with the items of Precious Metals & Minerals Group investigations, Director (Monitoring) and Director (CGPB), GSI, CHQ.

Permanent Invitees:-

- i. Hutti Gold Mines Company Ltd. (HGML)
- ii. CRA Exploration India Pvt Ltd.,
- iii. BHP Khanij Anveshan Pvt Ltd.,
- iv. BHP Minerals Pvt Ltd.,
- v. Rungta Mines Ltd.,
- vi. Skanda Impex Pvt Ltd.,
- vii. Bengal Exploration
- viii. New Eastern Agencies
- ix. Deccan Gold Mining Ltd.
- x. Metal Mining India Pvt. Ltd.
- xi. AMIL Mining India Pvt Ltd.
- xii. Premier Nickel Mines Pvt Ltd.
- xiii. Ramgad Minerals and Mining Pvt Ltd.
- xiv. National Mineral Development Corporation (NMDC)

III : Non-Ferrous and Strategic Minerals (Basemetal, Tin, Tungsten, Bauxite)

Convenor : Sr. Dy./ Dy. Director General, GSI, Western Region Office(WRO), Jaipur

Member Secretary: Director (Com. III), GSI, WRO, Jaipur

Members:

1. Ministry of Mines, Director (Aluminium)
2. DGM, Govt. of Andhra Pradesh
3. DGM, Govt. of Rajasthan
4. DGM, Govt. of Kerala
5. DGM, Govt. of Maharashtra
6. DGM, Govt. of Tamil Nadu
7. DGM, Govt. of Karnataka
8. DGM, Govt. of Orissa
9. DGM, Govt. of Jharkhand
10. AMD
11. IBM
12. MECL,
13. ISRO (NNRMS)
14. Geo Mysore Services India Pvt Ltd.,
15. Dy. DG of operations and Directors of GSI associated with the items of Strategic and Non-ferrous Group investigations, Director (Monitoring) and Director (CGPB), GSI, CHQ.

Permanent Invitees:-

- i. Defence Research and Development Organisation. (DRDO, Hyderabad)
- ii. Hindustan Copper Limited(HCL)
- iii. National Aluminium Company Limited(NALCO)
- iv. Defence Metallurgical Research Laboratory (DMRL, New Delhi)
- v. Starlite Industry
- vi. Metal Mining India Ltd.
- vii. Anglo American Exploration Pvt Ltd.,
- viii. Golden Patriot Mining Pvt Ltd.
- ix. Indo Gold Mines
- x. Mogul Resources
- xi. HINDALCO
- xii. IMMT, Bhubaneshwar
- xiii. Indian Rare Earths Ltd., Kerala
- xiv. Kerala Rare Earths Minerals Ltd.
- xv. BARC

IV : Industrial and Fertiliser Minerals

Convenor : Sr. Dy. / Dy. Director General, GSI, Central Region Office(CRO), Nagpur

Member Secretary: Director (Com. IV), GSI, CRO, Nagpur

Members:

1. Director, Ministry of Mines
2. Director, Ministry of Fertilizer
3. Director, Department of Industry
4. DGM, Govt. of Jharkhand
5. DGM, Govt. of Rajasthan
6. DGM, Govt. of Uttar Pradesh
7. CGM, Govt. of Gujarat
8. DGM, Govt. of Madhya Pradesh
9. DGM, Govt. of Meghalaya
10. DGM, Govt. of Maharashtra
11. DGM, Govt. of Jammu & Kashmir
12. DGM, Govt. of Andhra Pradesh
13. DGM, Govt. of Karnataka
14. DGM, Govt. of Orissa
15. DGM, Govt. of Tamil Nadu
16. DGM, Govt. of Kerala
17. DGM, Govt. of Himachal Pradesh
18. IBM
19. MECL
20. Dy. DG of operations and Directors of GSI associated with the items of Industrial and Fertilizer Mineral Group investigations, Director (Monitoring) and Director (CGPB), GSI, CHQ.

Permanent Invitees:-

- i. RSMDC
- ii. Representative of Cement Industry (ACC Limited)
- iii. Pyrite Phosphate Chemicals Ltd., New Delhi

V : Energy Minerals & Resources (Coal, Lignite & Geothermal)

Convenor : Sr. Dy. / Dy. Director General, GSI, Coal Wing, Kolkata

Member Secretary: Director (Com. V), GSI, CW, Kolkata

Members:

1. Ministry of Coal (Director-Tech Level)
2. Ministry of New and Renewable Energy (Director-Tech Level)
3. Planning Commission (Advisor : Coal)
4. DGM, Govt. of Maharashtra

5. CGM, Govt. of Gujarat
6. DGM, Govt. of Rajasthan
7. DGM, Govt. of Chattisgarh
8. DGM, Govt. of Jharkhand
9. DGM, Govt. of West Bengal
10. DGM, Govt. of Orissa
11. DGM, Govt. of Uttarakhand
12. DGM, Govt. of Madhya Pradesh
13. DGM, Govt. of Tamil Nadu
14. DGM, Govt. of Orissa
15. DGM, Govt. of Andhra Pradesh
16. DG, Hydrocarbons
17. NGRI
18. NLC
19. MECL
20. CIL (CMPDIL, Ranchi)
21. SCCL
22. CIMFR
23. ISRO/NNRMS
24. KDMIPE
25. Reliance Industries Limited, Bombay
26. Dy. DG of operations and Directors of GSI associated with the items of Energy Minerals & Resources (Coal, Lignite & Geothermal), Director (Monitoring) and Director (CGPB), GSI, CHQ.

Permanent Invitee:-

- i. SAIL
- ii. NEC
- iii. Tata Steel
- iv. NTPC
- v. Indian School of Mines University (ISMU), Dhanbad
- vi. Arrow Energy Limited

TERMS OF REFERENCE FOR COMMITTEES OF THE CGPB FOR MINERALS (COMMITTEE- I TO COMMITTEE- V)

Committee – I : Ferrous Minerals, Committee – II : Precious Metals & Minerals, Committee – III : Non Ferrous and Strategic Minerals; Committee – IV : Industrial & Fertilizer Minerals and Committee – V : Energy Minerals and Resources Committees of the CGPB were reconstituted with the following terms of reference:-

1. To formulate annual and five year plans for regional, detailed and promotional exploration on a national scale.
2. To review the work done so far relating to the activity domain of the Committee including the ongoing programs along with utilization of budget of promotional exploration schemes sponsored by different Ministries of Government of India .
3. To coordinate the exploration work by Government, Public and Private Agencies as per the defined plan objectives and priorities.
4. To facilitate and promote partnership between Central and State organizations and Public – Private partnership in exploration.

5. To prepare status papers, long/short term perspective plans, updating manual of end-users specifications keeping in view progressive advancement of knowledge and technology.
6. To prepare and update the database (including status map) of all regional and detailed exploration involving Central, State and private agencies.
7. To formulate methodology and act as nodal agency for data sharing and dissemination.
8. To advise government on conservation and optimum utilization of minerals taking into consideration the future needs of the country through adoption of scientific mining, ore dressing and beneficiation technology in tune with global standards.
9. To ensure data filing by the concession holders engaged in regional exploration as per rule, and monitor its availability in public domain after lock-in period through an identified system.
10. To prioritize Research & Development work in the mineral sector related to exploration techniques, modernization of field/sampling equipments and beneficiation.
11. To advise Government on human resource development and training of personnel in order to strengthen the manpower of Central and State organisations.

The Committee shall have power to co-opt other institutions as invitees as felt necessary for fruitful deliberation of the Committee.

VI : Marine Geology & Exploration and Coastal Geoscience

Convenor : Sr.Dy. / Dy. Director General, GSI, Marine Wing, Kolkata

Member Secretary: Director (Com. VI), GSI, MW, Kolkata

Members:

1. Ministry of Mines, New Delhi (Director Tech Level)
2. Ministry of Earth Science, New Delhi (Director Tech Level)
3. Department of Science & Technology (DST), New Delhi (Director Tech Level)
4. Indian Bureau of Mines (IBM), Nagpur
5. Directorate General of Hydrocarbon (DGH), New Delhi
6. DGM, Govt of West Bengal
7. DGM, Govt. of Orissa
8. DGM, Govt. of Andhra Pradesh
9. DGM, Govt. of Tamil Nadu
10. DGM, Govt. of Kerala
11. DGM, Govt. of Karnataka
12. DGM, Govt. of Maharashtra
13. DGM, Govt. of Goa
14. CGM, Govt. of Gujarat
15. Oil & Natural Gas Corporation (ONGC), Dehradun
16. National Centre for Antarctic and Ocean Research (NCAOR), Goa;
17. National Institute of Oceanography (NIO), Goa
18. Atomic Mineral Directorate for Exploration and Research (AMD), Hyderabad
19. Dy. DG of operations and Directors of GSI associated with the investigations on Marine Geology & Exploration and Coastal Geoscience, Director (Monitoring) and Director (CGPB), GSI, CHQ.

Permanent Invitees:-

- i. Indian Ports Association (IPA), New Delhi
- ii. Shipping Corporation of India (SCI), Mumbai
- iii. Indian Navy (IN), New Delhi
- iv. National Physical Oceanographic Laboratory (NPOL), Kochi
- v. National Hydrographic Office (NHO), Dehradun
- vi. Space Application Centre (SAC), Ahmedabad
- vii. Indian National Centre for Ocean Information Services (INCOIS), Hyderabad
- viii. National Institute of Ocean Technology (NIOT), Chennai
- ix. Coastal Erosion Directorate, Central Water Commission, New Delhi
- x. Integrated Coastal and Marine Area Management (ICMAM), Chennai
- xi. Central Water and Power Research Station (CWPRS), Pune

TERMS OF REFERENCE FOR COMMITTEE VI (MARINE) OF THE CGPB

1. To formulate annual and five year plans on a national scale.

2. To review the work done so far relating to the activity domain of the committee including ongoing projects;
3. To make concrete suggestions on the various on-going programmes of GSI and other organizations with reference to Plan objectives;
4. To recommend changes, if necessary, in priorities assigned to various items of work. The priorities and sharing of responsibilities between MoM and MoES have to be defined with respect to (a) systematic seabed mapping & regional offshore mineral exploration in Exclusive Economic Zone (EEZ) and also allocated deep sea areas as per mineralisation and (b) systematic seabed mapping of the Extended EEZ in future.
5. To update the classification of the coastal geomorphology and digitization of the data with a view to use these data for planning remedial measures for coastal disasters
6. To propose reclassification of offshore data generated by various organizations for data dissemination to various user agencies keeping in view the strategic and classified nature of the offshore data and to work out the modalities of exchanging the same amongst member organizations as well as in the public domain.
7. To prepare status papers, long/short term perspective plans and creating end users specifications in view of new developments in NMP 2008.
8. To suggest collaborative programme between GSI and other member organizations and specialized institutions in India and abroad for development of knowledge in marine geosciences.
9. To advise on any other matter of special significant relating to the particular activity domain viz., coastal geoscience, geotechnical parameters, environmental assessment etc. as considered necessary by the Committee.
10. The Committee shall have power to co-opt other institutions as invitees as felt necessary for fruitful deliberation of the Committee.

VII : Airborne Survey & Remote Sensing

Convenor : Sr.Dy. / Dy. Director General, GSI, AMSE Wing, Bangalore

Member Secretary: Director (Com. VII), GSI, AMSE, Bangalore

Members:

1. Ministry of Mines, New Delhi (Director Tech Level)
2. Ministry of Defence. (Director Tech Level)
3. IBM
4. DGM, Govt. of Madhya Pradesh
5. DGM, Govt. of Orissa
6. DGM, Govt. of Rajasthan
7. DGM, Govt. of Andhra Pradesh
8. DGM, Govt. of Karnataka
9. DGM, Govt. of Chhattisgarh
10. National Remote Sensing Center (NRSC), NNRMS (Standing Committee-Geology)
11. Oil and Natural Gas Corporation (ONGC);
12. Atomic Mineral Division (AMD),
13. Central Ground Water Board (CGWB)

14. DG of Hydrocarbons (DGH), New Delhi
15. National Geophysics Research Institute (NGRI)
16. All Regional Remote Sensing Centre (RRSC-ISRO)
17. M/s RIO TINTO,
18. M/s De Beers
19. M/s GeoMysore
20. Dy. DG of operations and Directors of GSI associated with the investigations on Airborne Survey & Remote Sensing, Director (PGRS), Director (Monitoring) and Director (CGPB), GSI, CHQ.

Permanent Invitees:-

- i. Director General of Civil Aviation (DGCA)
- ii. Oil India Limited (OIL)
- iii. M/s. BHP
- iv. M/s Cairns
- v. Karnataka, Gujarat, Rajasthan State (Remote Sensing Centres)
- vi. Project Coordinator, ASRS Group

TERMS OF REFERENCE FOR COMMITTEE VII (AIRBORNE SURVEY & REMOTE SENSING) OF THE CGPB

1. To formulate annual and five year plans on a national scale.
2. To review the work done by various organisations so far relating to the activity domain of the Committee.
3. To make concrete suggestions on the various on going-programmes of GSI and other organizations with reference to Plan objectives.
4. To develop mutual interaction and collaboration amongst the different organizations with a view to share databases and developing applications for making least use of the information for geoscientific purposes.
5. To promote dissemination of basic aerogeophysical data and maps in the public domain and find out ways to remove restrictions in sharing aerogeophysical data or suggest suitable remedial measures necessary from time to time.
6. To review and monitor technological developments in airborne and heliborne remote sensing and suggest new and cutting edge technology for adoption for survey and mapping, including hyperspectral and gravity mapping.
7. To review the prevalent rules/restrictions of acquisition, processing, utilization, archiving and publication of data accrued through RP/LAPL.
8. To advise the Government on any related matter as the Committee consider necessary.

The Committee shall have power to co-opt other institutions as invitees as felt necessary for fruitful deliberation of the Committee.

VIII : Geology & Mineral Resources of North Eastern Region (NER)

Convenor : Sr. Dy./ Dy. Director General, GSI, NER, Shillong

Member Secretary: Director (Com. VIII), GSI, NER, Shillong

Members:

1. Director (Technical), Ministry of Mines
2. Advisor (Technical Programming Planning Co-ordination), Ministry of Mines
3. Rep. of Planning Commission, Govt. of India (Advisor – Minerals)
4. Representative of MoES, Govt. of India
5. Representative of MoEF, Govt. of India
6. Indian Bureau of Mines (IBM)
7. Mineral Exploration Corporation Ltd (MECL)
8. Central Ground Water Board (CGWB)
9. Central Water Commission (CWC)
10. Oil and Natural Gas Corporation Ltd. (ONGC),
11. Atomic Minerals Directorate (AMD)
12. DGM, Govt. of Arunachal Pradesh
13. DGM, Govt. of Assam
14. DGM, Govt. of Manipur
15. DGM, Govt. of Meghalaya
16. DGM, Govt. of Mizoram
17. DGM, Govt. of Nagaland
18. DGM, Govt of Tripura
19. DGM, Govt. of Sikkim
20. Tata Iron & Steel Ltd, Tatanagar
21. Central Mine Planning and Design Institute Ltd (CMPDIL)
22. Dy. Director General, Training Institute, Hyderabad
23. Dy. DG, GSI, Coal Wing, Kolkata, Dy. DG of operations and Directors of GSI associated with the investigations on Geology & Mineral Resources of NER, Director (Monitoring) and Director (CGPB), GSI, CHQ.

Permanent Invitees:-

- i. Representative of DONER, Govt. of India (Director level)
- ii. NEC (Advisor, Minerals)
- iii. Brahmaputra Board
- iv. Border Road Organisation
- v. OMC, Bhubaneshwar
- VI. OIL
- VII. NHPC
- VIII. NTPC
- ix. NEEPCO
- x. North-East Institute of Science & Technology(formerly RRL), Jorhat
- xi. Representative from Geology Dept.,
- xii. Nagaland University.
- xiii. Manipur University

- xiv. Guwahati University
- xv. Dibrugarh University
- xvi. Tezpur University
- xvii. Northeastern Hill University, Shillong
- xviii. IIT, Guwahati
- xix. Lafarge India Pvt Ltd.,
- xx. ACC

TERMS OF REFERENCE FOR COMMITTEE VIII (NORTH-EASTERN REGION) OF THE CGPB

1. To formulate annual and five year plans on a regional scale.
2. The Committee to act as a common platform for all participants (Govt., public, private, universities, R&D institutions etc.) in the field of Geoscience activity.
3. To monitor and co-ordinate all earth science related activity in NER by the different stake holders, both public and private, for mapping, exploration & exploitation of mineral resources.
4. To address all issues related to the fragile ecosystem of the Region in terms of both natural and anthropogenic hazards.
5. NER being the hydropower store house of the country with both public and private organizations engaged for its development, the Committee will act as a common platform to deliberate/ resolve all issues particularly directed towards geological surprises and engineering solutions on water resource development.
6. To recommend changes, if necessary, in priorities assigned to various items of work.
7. To prepare status papers on various emergent issues, long/short term perspective plans.
8. The Committee shall have power to co-opt other institutions as invitees as felt necessary for fruitful deliberation of the Committee.

IX : Geoscientific Investigations (Geotechnical investigation, Natural Hazards, Climate Change, Environmental Geology, Shallow subsurface Geology & Subsurface Hydrology)

Convenor : Sr. Dy. / Dy. Director General, GSI, Northern Region (NR), Lucknow

Member Secretary: Director (Com. IX), GSI, NR, Lucknow

Members:

1. Director (Technical), Ministry of Mines
2. Ministry of Environment and Forest (Director Technical)
3. Ministry of Earth Sciences, New Delhi
4. NRSC (ISRO)
5. DGM, Govt. of Jammu & Kashmir
6. DGM, Govt. of Himachal Pradesh
7. DGM, Govt. of Uttarakhand
8. DGMs of NorthEastern States
9. National Environmental Engineering Research Institute, Nagpur

10. Central Ground Water Board (CGWB)
11. Dy. DGs and Directors of GSI associated with the Geoscientific Investigations (Geotechnical investigation, natural hazards, climate change, Environmental Geology, Shallow subsurface Geology & Hydrology), Director (Monitoring) and Director (CGPB), GSI, CHQ.

Permanent Invitees:-

- i. National Disaster Management Authority, New Delhi
- ii. National Institute of Hydrology, Roorkee
- iii. CEA
- iv. NHPC
- v. NTPC
- vi. WAPCOS
- vii. NWDA
- viii. G.B. Pant Institute of Himalayan Environment and Development, Almora
- ix. Central Arid Zone Research Institute, Jodhpur, Rajasthan
- x. Central Pollution Control Board
- xi. Director, CWPRS, Pune or representative
- xii. DST, Andaman & Nicobar Administration, Port Blair
- xiii. Earthquake Risk Evaluation Centre (EREC), New Delhi
- xiv. IMD
- xv. Snow and Avalanche Studies Establishment (SASE), Chandigarh
- xvi. Dept. of Geology & Geophysics, IIT, Kharaghpur,
- xvii. Dept. of Earthquake Engineering, IIT, Roorkee,
- xviii. Dept. of Civil Engineering, IIT, Kanpur
- xix. Institute of Seismological Research, Gandhinagar
- xx. State Disaster Management (SDM)/ Relief Commissioner (RC), Govt. of Maharashtra
- xxi. SDM/ RC, Govt. of Jammu & Kashmir
- xxii. SDM/ RC, Govt. of Himachal Pradesh
- xxiii. SDM/ RC, Govt. of Uttarakhand,
- xxiv. SDM/ RC, Govt. of West Bengal
- xxv. SDM/ RC, Northern Eastern States
- xxvi. National Institute of Rock Mechanics

TERMS OF REFERENCE FOR COMMITTEE IX (GEOSCIENTIFIC INVESTIGATIONS) OF THE CGPB

1. To formulate annual and five year plans on a national scale.
2. To advise the Government from time to time on societal issues arising out of natural hazards and to suggest probable preventive / mitigation measures including rehabilitation.
3. To monitor and collect data systematically (where possible on a spatial basis) on a large number of parameters relating not only to landslides and earthquakes, but also other public-health and public good issues having a geospatial dimension like Arsenic, Fluorine pollution, etc.

4. To review the work done by different organizations including NNRMS, PM Committee on Climate Change, etc. and to assess their proposals for future work and to identify the gap areas for future course of action in the geoscientific domains under the purview of the Committee.
5. Promoting use of the state-of-the-art and research in the geo-environmental and natural hazard domains for effective management of the earth system and its resources.
6. To enable integration of relevant data sets including spatial data in order to help develop a GIS application for planning, management, prevention, etc. in respect of various geoscientific related events including natural hazards.
7. To advise CGPB on any other urgent matter relating to the particular activity domain, as considered necessary by the Committee.
8. The Committee is empowered to convene meetings on smaller groups on specialized subject matter with specific agenda.
9. The Committee may co-opt other institutions as invitees as and when necessary for fruitful deliberation.

X : Fundamental and Multidisciplinary Geoscience

Convenor : Sr. Dy. / Dy. Director General, GSI, CGL, Central Head Quarter(CHQ), Kolkata

Member Secretary: Director (Com. X), GSI, CGL, CHQ, Kolkata

Members:

1. Director (Technical), Ministry of Mines, New Delhi
2. Representative from Deptt. of Science and Technology, Govt. of India.
3. Oil and Natural Gas Commission, Dehradun.
4. National Geophysical Research Institute, Hyderabad
5. Wadia Institute of Himalayan Geology, Dehradun
6. Rio Tinto
7. De Beers
8. DDGs and Directors of GSI connected with the programmes on Fundamental Geoscience, Dy. Director General, Training Institute, Director (Monitoring), Director (CGPB), CHQ.

Permanent Invitees:-

- i. Representative of CSIR
- ii. Indian Meteorological Department, Delhi
- iii. Representative from Geology Dept., Punjab University
- iv. Representative from Geology Dept., Kalcutta University
- v. Representative from Geology Dept., Anna University
- vi. Representative from Geology Dept., Jadavpur University

- vii. Representative from Geology Dept., Delhi University
- viii. Representative from Geology Dept., M. S. Baroda University
- ix. Representative from Geology Dept., Mysore University
- x. Representative from Geology Dept., Osmania University.,
- xi. IIT's (Kharaghpur, Mumbai, Roorkee).
- xii. Centre for Earth Science Studies, Thiruvananthapuram
- xiii. Defence Metallurgical Research Laboratory (DMRL, Hyderabad)
- xiv. NCEMP, Allahabad
- xv. Birbal Sahni Institute of Paleobotany, Lucknow
- xvi. ACC Ltd.

TERMS OF REFERENCE FOR COMMITTEE OF THE CGPB FOR X (FUNDAMENTAL AND GEOSCIENCE)

1. To promote and prioritize research in the field of fundamental and applied Geoscience (Geology, Geophysics, Geochemistry, Geomatics).
2. To encourage better understanding of geological process in the crust and lithosphere, evolution of earth, localization of minerals, etc.
3. To review the state of education in Geosciences and make recommendations to improve the quality of geoscientific education particularly at higher levels in order to improve the pool of geoscience talent
4. To review policy relating to Geoscientific research and make recommendations for improving research infrastructure, funding etc; and ensure better mutual coordination between field practices and fundamental research.
5. To continuously review global technological advancements in instrumentation (analytical and scientific) and methodologies and recommend state-of-the-art techniques to be adopted, in order to modernize the laboratories, to bring these at par with international standards.
6. To facilitate and coordinate sharing of laboratory facilities available with different organizations for optimum use.
7. To promote R&D work for evolving new and efficient techniques in the mineral exploration and mining, for locating new mineral resources, value addition, maximizing utilization and conservation of existing natural resources.
8. Participation of different organizations in preparation of Standard Reference Material.
9. To help improve the geoscientific knowledge within the States and Central institutions by training or other knowledge acquisition measures for the existing personnel both in field and laboratory techniques and to suggest knowledge sets of personnel for the future.
10. To focus the long term and short-term activity domains and working plans of different organizations.
11. Collection, maintenance, preservation and documentation of earth science samples for curatorial, geological and chemical studies and for exhibition and display purposes

XI - Geoinformatics and data management

Convenor : Sr. Dy. / Dy. Director General, GSI, IT, CHQ, Kolkata

Member Secretary: Director (Com. XI), GSI, IT, CHQ, Kolkata

Members:

1. Director (Technical), Ministry of Mines
2. Indian Bureau of Mines
3. MECL
4. Ministry of Earth Sciences
5. DST (Member Secy. Dealing with Geology Earth).
6. Atomic Mineral Division
7. Directorate of Geology and Mining of all States and Union Territories
8. ONGC
9. SOI
10. NRSC
11. NNRMS
12. NGRI
13. CGWB
14. Directors of GSI associated with programmes on Geoinformatics and data management, Director (Research and Analysis) and Director (CGPB), GSI, CHQ.

Permanent Invitees:-

- i. DDG(NIC) dealing with GIS
- ii. Technical Director (NIC), Ministry of Mines
- iii. AMD (NIC)
- iv. One representative of each State to be nominated by Secretary (Information Technology) of the State
- v. NSDI
- vi. NRDMS
- vii. IMD
- viii. NDMA
- ix. MHA

**TERMS OF REFERENCE FOR COMMITTEE OF THE CGPB FOR
XI (GEOINFORMATICS)**

1. To promote use of information technology in geoscientific activity, develop Geoinformatics with a strong spatial and attribute database.
2. To facilitate coordination among geoscientific agencies to develop common standards and sharable databases under the NSDI architecture; and encourage wide and easy dissemination of geoscientific information through Internet based technologies.
3. GSI and other Central Agencies including NNRMS, and state DGMs to work together to create a distributed national geological information system.
4. To review and adopt standards and protocols for developing the system (including metadata).
5. To coordinate with Mining Tenement & Registry System being developed by IBM.
6. To formulate policy and advice CGPB for providing access to quality and unique geospatial and non-spatial data.
7. To develop new methodologies for sophisticated management of data through the use of domain enriched software to produce 3D and modeling out puts.

8. To review the work done so far relating to the activity domain of the Committee, with reference to GSI Portal.
9. The Committee shall have power to co-opt other institutions as invitees as felt necessary for fruitful deliberation of the Committee.

XII : Geoscience for Sustainable Development

Convenor : Joint Secretary (Policy), Ministry of Mines

Member Secretary : Director (Tech), Ministry of Mines

1. Advisor (TPPC), Ministry of Mines
2. Representative of Department of Environment, MoEF
3. Representative of Department of Forests, MoEF
4. Representative of Ministry of Science & Technology
5. Representative of Ministry of Health
6. Representative of Ministry of Agriculture
7. Representative of Ministry of Rural Development, (MoRD)
8. Representative of Department of Land Resources (MoRD)
9. Representative of Ministry of Urban Development
10. Representative of Ministry of Water Resources
11. Representative of Ministry of Earth Sciences
12. NEERI
13. IBM
14. CGWB
15. State Agencies dealing with GIS/Spatial data application (to be nominated by respective State Governments)

Permanent Invitees:-

- i. 10 NGOs of all India character having track record of dealing with issues relating to sustainable development to be nominated in consultation with the Ministries/ Departments at S.No.2 to 11 above.
- ii. Centre for Science and Environment, New Delhi
- iii. ZSI
- iv. BSI
- v. NBSSLUP
- vi. NSDI
- vii. NRDMS
- viii. School of Environmental Sciences, JNU
- ix. Indian Institute of Remote Sensing, Dehra Dun
- x. Indian National Centre for Ocean Information Services, Hyderabad

TERMS OF REFERENCE FOR COMMITTEE OF THE CGPB FOR XII (GEOSCIENCE FOR SUSTAINABLE DEVELOPMENT)

1. To facilitate integration of geoscience into policy making for environmental issues and to transmit the concepts to potential interest groups including policy makers, non-governmental environmental agencies and general public
2. Help develop a framework and methodology for promoting sustainable development strategies (including optimum land use) through best use of

geoscientific data gathered in the course of survey and exploration by GSI and other geoscientific organizations in the country.

3. Assist nodal agencies concerned by developing new areas for geoscientific data collection, particularly spatial data such as geomorphology to help them analyse ecosystem functions and make informed planning decisions.
4. The Committee may co-opt other institutions as invitees.