

Minutes of review meeting taken by Secretary, Mines on activities of GSI held on 19.3.2020 at 05:30 PM, Shastri Bhawan, New Delhi

The review meeting on the various activities being implemented by Geological Survey of India (GSI) under the chairmanship of Secretary, Mines was held on 19.3.2020 in his chamber. During the meeting the follow up actions on actionable points emerged from the interaction held on 11.2.2020 with Director General, GSI were also discussed in detail. The meeting was attended by Shri Alok Chandra, Economic Adviser, Shri U. C. Joshi, Joint Secretary, Mines, Shri M. Sridhar, Director General, GSI, Shri Pradeep Singh, Director (Technical), Shri Sanjeev Verma, Director, M/o Mines and Dr. Deshraj Trivedi, Sr. Geologist.

2. At the beginning of the meeting, Director (Tech.) conveyed to the chairman that a presentation will be made on 20th April, 2020 by the two expert geoscientists of GSI on "Comparison of GSI with world's best Geoscience Organisations".

3. Meeting was initiated with the brief presentation by Shri M. Sridhar, Director General, GSI on the activities of GSI and follow up actions on the actionable points emerged from the interaction held on 11.2.2020. The following action points have been emerged from the deliberations for implementation in a time bound manner:

a. Regarding preparation of Vision Document 2025 on Rare Earth Elements (REEs), DG, GSI informed that a request for nomination of members from AMD, IREL, TIFR and BARC was sent by GSI. Three organizations i.e. AMD, TIFR and IREL have responded to the request. However, the response from BARC is still awaited. The committee will be constituted after getting response from BARC. In this regard Chairman advised that the Vision document be finalised with the existing committee members and sent to BARC for comments. It was decided that the Vision Document on REEs be submitted to this Ministry by 31.3.2020 positively.

[Action: DG, GSI]

b. Regarding finalisation of status report on exploration of Potash and Gold it has been conveyed that an expert group have been constituted and status report will be submitted by May, 2020. In this regard Secretary, Mines expressed his serious concern and desired that the status note on Potash and Gold be submitted by 15.4.2020 positively.

[Action: DG, GSI]

c. Regarding deployment of Supervisory Officers [SOs] in field and headquarter based assignments DG, GSI has conveyed that the field and headquarter based assignments are equally important for smooth functioning of GSI. He conveyed that SOs are playing crucial role in project monitoring, formulation of new projects, monitoring of laboratory related components ensuring continuous supply of samples and their scheduled analyses. In this connection chairman advised DG, GSI and ADG & HoDs of GSI may take appropriate decision for deployment of officers judiciously ensuring fruitful utilisation of available manpower in GSI. Ministry will not involve itself in micro management of GSI affairs. The deployment and effective utilization of officers is an administrative matter of GSI and to be dealt with DG, GSI only. However, the general directions/norms/ guidelines issued by DG, GSI and Ministry of Mines from time to time may be followed.

[Action: DG, GSI/Dir(T)]

d. A group is proposed to be constituted for finalisation of CRIRSCO, compliant model for adoption by Ministry for reporting Mineral Exploration Results, Mineral Resources and Mineral Reserves, to quantify, qualify, and categorize mineral assets. The group will consist of officers from MoM, GSI, IBM and NACRI. DG, GSI is requested to nominate officers to the Group immediately. It was decided that the final document be submitted by 30.4.2020 for implementation and adoption.

[Action: Dir(T)/GSI/IBM/NACRI]

e. On the matter of Disaster Management Plan [DMP], it has been conveyed that GSI has framed committees on DMPs for regional and State Unit offices and DMPs will be submitted within the period of two months. Secretary, Mines expressed that the matter may be expeditiously followed and submitted by 30.4.2020 for timely implementation. The decision regarding establishment of a Disaster Management Cell (DMC) in DGCO, GSI has already been conveyed to GSI. The necessary action for establishment of DMC may be taken by 31st March, 2020.

[Action: DG, GSI]

f. The 59th CGPB meeting have been cancelled due to COVID-19, however, the annual program of GSI for FS 2020-21 is to be approved by Chairman, CGPB. In this regard Secretary, Mines desired that a synopsis on the various projects finalised for implementation during FS 2020-21 under different commodities and survey activities be submitted. The agenda may be circulated among the members of CGPB committee for comments. The comments received from the members be incorporated in the proposal before final approval. This exercise is to be done on priority so that the project proposals are to be approved before 1.4.2020.

[Action: DG, GSI/CGPB Secretariat]

g. GSI has taken up a number of national programmes for generation of baseline geo-science data. The plethora of data generated will be hosted on National Geoscience Data Repository (NGDR). High-end IT including AI applications have to be developed to be used in enhancing understanding of physical systems as well as for prediction-centric Decision Support Systems. Though AI is used in various areas of Earth modelling including weather prediction, ocean current modelling etc which represent dynamic systems with constant data feed, its application in geology is still to be developed to the desired level. It was decided that GSI will prepare a proposal for establishment of a Big Data Analytics Center in Delhi-NCR and submit to the Ministry within a period of 30 days.

[Action: DG, GSI]

h. The issue of construction of Central Headquarter building in Kolkata also discussed. The cadre review of GSI is under consideration before the Government. The cadre strength may be kept in consideration for the design and construction of the office space.

i. Geological Survey of India has analytical and research laboratories equipped with various high end instruments located in different regions/state units for various types of qualitative and quantitative analysis. DG, GSI informed that GSI is in the way to upgrade all its laboratories at par with international standard ISO/IEC 17025: 2017 according to the directive of Ministry of Mines. In this regard, the SOPs of all laboratories have been made ready after peer review by experts/external reviewers. Some officers have been trained on "laboratory quality management system and internal audit" as per the guidelines of ISO/IEC 17025:17025. It was decided that the process would be completed in time bound manner and GSI would give timelines for completion of the work.

j. The new initiative of the International Union of Geological Sciences (IUGS) known as the Deep Time Digital Earth (DDE) programme aiming to link geological databases and make them accessible seamlessly from one portal—rather like a geo-science search engine or 'geological Google' has been submitted by GSI in the Ministry. The proposal is under process for approval. A Nodal officer may be nominated for pursuing the proposal.

k. Another similar proposal of a body known as Initiative in Forensic Geology (IFG), an initiative of UNESCO's International Union of Geological Sciences (IUGS) has been sent by Dr. Biplob Chatterjee to GSI. IFG is a body of forensic science professionals and specialists working world wide with various law and justice departments around the world. The group collaborate with all practitioners in the forensics domain globally, for applying the tools and processes used in

Geological Sciences for forensic Investigations. Forensic Geology or Geoforensics tools are applicable in many areas ranging from regular crime investigation to environmental crimes, investigating geotechnical accidents and incidents, mine accidents, mineral stealing and frauds, etc. IUGS-IFG proposes to collaborate with the Geological Survey of India to initiate and promote Geoforensics in India during next five years (2020 - 2025) period. The modalities of this collaboration would be established after a discussion with the GSI authorities. It was decided that GSI would initiate discussions with IFG for developing an GSI-IFG collaboration. A Nodal officer for this initiative will be identified by GSI. GSI may also consult IUGS for joining other topic specific Commissions, Task Groups, and Initiatives as well as Joint Programmes with other organizations.

[Point h to k - Action: DG, GSI]

l. Directional drilling is a relatively new aspect of exploration technology in the mineral resources industry. While technology still needs to advance if its application is to be successfully integrated into the hard rock environment, it has significant implications for cost and time savings in exploration. It also has the potential to enhance exploration efficiency and production greatly. The need to achieve multiple intersections of oil-bearing reservoirs through a single parent drill hole gave birth to the idea of direct drilling. In these scenarios, a single mother hole is drilled and, from this, multiple deflections are made in preferred predetermined directions. This results in the intersection of the oil-bearing reservoir at multiple points from the single mother hole. The production of oil through this single hole is greatly increased. Directional drilling technology still is in its early stages of development as far as hard rock and deep exploration environments are concerned. GSI may study the possibility of application of technology in its mineral exploration programme and submit a concept paper in this regard. A Group may be constituted to study this aspect.

m. During the visit of Indian Delegation to INTERNATIONAL MINING & RESOURCES CONFERENCE (IMARC) – 2019 at Melbourne, Australia from 28th – 31st October'2019, the Core Scanning systems by KORE GEOSYSTEM were demonstrated. KORE GEOSYSTEM is an efficient, intuitive core imaging system that rapidly captures high-resolution images. It allows to scan at an average rate of 1,000 m of core per day. The Geo software of KOREGEOSYSTEM allowing the geologist to manage core, log lithology, alterations, veins & pick geotechnical features in the fastest and most accurate manner as the machine is equipped with XRF online analyser. It is a fully integrated system that improves consistency, quality and timeliness of geological data captured, so that geologists and engineers can spend less time acquiring data, and more time interpreting it. Giving businesses the ability to make more informed decisions, cutting time and costs. The system is a new concept and is very useful for exploration companies like GSI, MECL etc. The delegation met with Aaron Maher, Director KORE (+61 438 395 068, amaher@koregeosystems.com). GSI may study all such existing system in the market and present a programme for procurement of the system for digitization of core libraries. The programme may be submitted within 30 days.

n. GSI should equip field exploration geologist with small, lightest weight handheld X-ray analyzers/ LIBS analyser. There are now dozens of X-Ray/ LIBS analyzers being used globally for geochemical exploration projects. GSI may study possibility of procurement of these hand held devices.

m. Posting of two Senior Geologists in GSI, DGCO may be done on immediate basis to undertake these assignments. These officers will work under the supervision of Director (Technical), Ministry of Mines.

[Action: DG, GSI]

4. In concluding remarks Secretary, Mines has desired that the concerns detailed above should expeditiously be monitored and implemented in a time bound manner. He expressed that GSI should strengthen his capabilities by adopting modern technologies like directional drilling

technology, development of digital core library, creation of Big Data centre, Real time analyses and assessment of geoscience data.
