

**Minutes of the Second meeting of the CGPB committee Group-VII on Airborne surveys and Remote sensing held at RSAS (AMSE Wing), GSI, Bangalore on 18<sup>th</sup> December 2009.**

02.01.00 **Introduction**

The second meeting of the CGPB committee Group-VII on Airborne Surveys and Remote sensing was held on 18<sup>th</sup>. December 2009 under the Chairmanship of Dr. Arvind Kumar Sinha, Deputy Director General & HOD AMSE Wing and Convener of the committee.

**The following members and special invitees were present in the meeting.**

02.02.00 **S/Shri/Smt/Dr.**

1. A.K Sinha, Dy Director General and **Convener**
2. S.P. Venkata Dasu, Director (CT) and **Member Secretary**

**Representatives of Geological Survey of India**

3. R.K. Singh, Additional Director General, GSI, Lucknow
4. U.K. Ray, Additional Director General, GSI, Kolkata
5. S.G. Gaonkar, Dy. Director General, Marine Wing, GSI
6. A.K. Das, Dy. Director General, RSAS, GSI
7. J. Srinivasan, Dy Director General, Op.K&G, GSI, Bangalore
8. N.C. Sarkar, Dy Director General (GPI), GSI
9. Rajendra Sharma, Director (GP), RSAS, GSI, Bangalore
10. S.K. De, Director (GP), RSAS, GSI, Bangalore
11. Sujit Chakraborty, Director (M), CHQ, GSI
12. A.H. Chaurasia, Director, CR, GSI
13. R.G. Verma, Director, WR, GSI
14. Saswati Chatterjee, Director, CHQ, GSI
15. Y. Suguna Thulasi, Director, SR, GSI
16. D. Chakraborty, Geologist, Sr. CHQ, GSI
17. V. Singa Raju, Geologist (Sr), SR, GSI, Hyderabad
18. Sanjay Das, Geol Sr. Op. Gujarat, WR, GSI, Gandhinagar
19. A.C. Pande, Geologist (Sr.), GSI, CHQ
20. A.K. Gupta, CGPB Secretariat, GSI, CHQ
21. S. Paranthaman, Director (G), RSAS, GSI, Bangalore
22. S. Kannan, Director (G), GSI, RSAS, GSI, Bangalore
23. T. Kannadasan, Director (G), RSAS, GSI, Bangalore
24. K. Chandrashekar, Geologist (Jr.), RSAS, GSI, Bangalore
25. V.C. Srivastava, Director, NR, GSI, Lucknow
26. V. Jagannathan, Director, PGRS Division, SR, Hyderabad.
27. S. Siddaiah, Director (GP), RSAS, GSI, Bangalore
28. R. Dharuman, Director (G), RSAS, GSI, Bangalore
29. M. Prem Kumar, Director (GPI), RSAS, GSI, Bangalore
30. Dr. A.P. Mahalakshamma, Geologist(Sr.), RSAS, Bangalore
31. S.K. Vayangankar, Geologist(Sr.), RSAS, Bangalore

**Representatives of Central Govt. organizations:**

32. J. Krishnamurthy, Dy. Director, US & U), ISRO, Bangalore
33. R.N. Selvan, Sr. Mining Geologist, IBM
34. A.K. Chaturvedi, In-charge, ABS & RS, AMD
35. D.S. Mitra, ONGC, Dehradun
36. S.K. Basha, Oil India Ltd., Duliajan, Assam
37. M. Muthukannan, Scientist-D, CGWB

**Representatives of State DGMs**

38. D. Shantahappa, Jt. Director, DGM, Govt. of Andhra Pradesh
39. S.K. Verma, Geologist, DGM, Govt. of Chhattisgarh
40. Syad Abrar, Sr. Geologist, DGM, Govt. of Karnataka
41. B.N. Shankar, Dy. Director, DGM, Govt. of Karnataka
42. D.M. Patel, DGM, Govt of Gujarat

**Representatives from Private agencies:**

43. S.A. Khan, M/s Geomysore Services
44. R.H. Sawkar, Geological Society of India
45. Nirmal Kumar Senapati, CAIRN Energy
46. M.S. Srinivas, CAIRN Energy

**Welcome by the Member Secretary:**

- 02.03.00 Dr. S. P. Venkata Dasu, Director (CT) and Member Secretary welcomed all the committee members and invitees from GSI and other organizations for the second meeting of the CGPB committee Gr.-VII on Airborne Surveys and Remote Sensing. He invited all the representatives of the member organization and requested them to share their valuable experience and knowledge in the field of Airborne surveys and Remote Sensing. He requested the convener of the committee Dr. A. K. Sinha, Dy DG, RSAS to conduct the proceedings.

**Opening Remarks by the Convener:**

- 02.04.00 Dr. A. K. Sinha, Deputy Director General and Convener of the committee heartily welcomed all the members of the new committee of CGPB Group-VII, which includes Airborne Surveys and Remote Sensing. He expressed his happiness over the good response from the members and hoped that it will help in meaningful and fruitful discussions. He requested the members to respond overwhelmingly and participate in meaningful discussions and effective interactions. He said that the recommendations/suggestions would go a long way in formulating programme.

- 02.04.01 He said that in view of the importance of the committee Shri. R.K. Singh, Addl. DG, and Shri U.K. Ray, Addl. DG, CHQ, GSI have decided to attend the meeting and hoped that their contribution will go a long way in planning the future programmes.

- 02.04.02 The Convener expressed his unhappiness over non-receipt of information from the state Government DGMs regarding the RP/PL licenses issued by them to the private agencies though a request was made during last meeting. He requested all the concerned state governments to immediately supply the list of RP/PL issued by them. He also informed that a list of RP/PL licenses is available on IBM web site and requested DGMs to check up the list and inform discrepancies if any to IBM and GSI. If the RP licenses are not executed in time or the reports are not submitted in time, he urged the concerned DGMs to take appropriate action against the defaulters. The data collected by the private agencies has to be shared with other organizations also after the 2 years lock-in period. A list of reports for which lock in period is over will be made available on GSI portal.

(Action: All the state DGMs)

- 02.04.03 Sri Sujit Chakaborty, Director (M), CHQ, GSI, requested all the concerned state DGMs dealing with the issue of RP/PL licenses to report the status in time to GSI and IBM for proper monitoring and see whether the RP is executed in time or not.

(Action: All the state DGMs)

- 02.04.04 Sri R.H. Sawkar, representative, Geological Society of India, expressing his view said that in the past also number of times, this issue had come up in the meeting and nothing is done. He urged that the improper execution of RP licenses or non-submission of reports should be recorded and action should be taken against the defaulters.

- 02.05.00 The Convener, Dr. Sinha, intimated that as a follow up to the High Power committee

meeting with regard to data acquisition, processing, usage and sharing Airborne geophysical data held on 10<sup>th</sup> July 2009 MOD has requested MOM to give suggestions regarding changes/modifications in its existing guidelines for collection and sharing of aerogeophysical data. He said that suggestions for modifications were submitted which included: (1) to follow time schedules of 6 weeks for granting permission, (2) validity of permission may be increased for 2 to 3 years for all private and government agencies (3) deployment of security officers in case of govt. and private agencies may be dispensed on aerial surveys that do not envisage flying over vulnerable areas (4) once the data is classified all government and private agencies be permitted to process all types of digital and analog data of unrestricted areas both within and outside the country and (5) after final classification all type of digital and analog data of unrestricted areas may allowed to be shared by government and private agencies and to be put on public domain.

- 02.05.01 Shri S.G. Gaonkar, Dy DG, Marine Wing, GSI expressing his views on sharing of the data said, that GSI has requested the MOM to issue some guidelines for sharing of the data within the government organizations.
- 02.05.03 Shri M.S. Srinivas, CAIRN Energy, said that they are not getting digital data, which is very important these days. Only analog maps are available from GSI on airborne surveys. He said that CAIRN Energy is ready to share all their data and expected same from other agencies.
- 02.05.04 Dr. Chaturvedi, AMD also said that for sharing of digital data is very important as this can only help in avoiding duplication of work.

#### **Approval of the minutes of the previous meeting**

- 02.06.01 Dr. Sinha said that, no comments are received on the minutes circulated regarding the 1<sup>st</sup> meeting the Minutes of the first CGPB Committee (Group-VII) held on 17.07.2009. The members duly approved these.

#### **02.07.00 Discussions on Agenda Items:**

Convener, Dr. Sinha, said that, recently, the Special Secretary, MOM, has advised for preparation of a base document highlighting the objectives and long term plans which should be discussed during the committee meetings and finalized before CGPB meeting to be held in September. This will help in for formulating policy guidelines for consideration of the MOM and Planning Commission. Convener intimated that to begin with a base document has been prepared and presented in the review booklet of the committee. The document outlines the objectives of the themes covered by the committee and futures plans mainly of under consideration of GSI. He requested all the participating members to give thought about the future strategies and give their suggestions to the convener so that they can be incorporated into the base document for future discussions.

- 02.07.01 Dr. Chaturvedi, AMD opined that sharing of all type of digital and analog data is very important because it avoids duplication of work, which saves time, and money. Shri A.K. Das, DDG (GP), Representative from CAIRN India and all the other members present from Govt and private organizations expressed similar views.
- 02.07.02 Shri S.K. Basha, Oil India, wanted to know whether GSI can take up aerogeophysical survey for Oil India, if so, whether it will be on collaborative or commercial basis. He also wanted to know about the availability of the data.

The Convener said that all the available maps and report can be given but not the digital or raw data, as MOD has not permitted for the same.

Sri S.K. De, Director (GP), RSAS, GSI, reminded that earlier also AMSE has carried out aerial survey for Oil India, in Ganga Valley Basin and on the same basis the surveys can be taken up.

The Convener said to submit a proposal for taking up any programme for flying any area.

- 02.07.03 Shri S.G. Gaonkar, DDG said that Marine Wing, GSI is going to procure a Deep Sea Vessel for taking up gravity/magnetic data. He also opined that such data should be shared.  
Shri U.K. Ray, Addl. DG, GSI, opined that, collaborative mode is a good suggestion.

02.08.00 **Review of the work:**

Convener requested members from other govt. organizations and private agencies to present work carried out by their organizations and give their views and suggestions on the proposed work to be taken up by GSI.

- 02.08.01 Shri S.K. De, Director (GP), AMSE Wing GSI, gave a brief presentation and explained that AMSE is carrying out Airborne geophysical surveys by fixed wing aircraft and is in the process of procuring heliborne geophysical survey system.  
He gave a brief account of the work carried out along the west coast of India between 08° N to 12° N latitude, up to 60 km into the Arabian sea with a 2.50 km. line spacing and flight height of 150m above sea level. He said that the survey was taken up on the proposal submitted by the Marine Wing, GSI to cover the gap area of magnetic survey carried out by Marine Wing in the sea and high altitude aerial survey carried out earlier by the AMSE Wing on the land. He explained how the aeromagnetic data matches with the marine data in bringing out structural features of the west coast of India.

Sri S. G. Gaonkar, DDG, Marine Wing, GSI, explained the purpose of the survey. He suggested continuing the surveys further and covering the entire coastline. As there still exist gaps between the aerial survey carried out by AMSE and the survey by Marine Wing. He explained how the regional magnetic anomalies match.

- 02.08.02 ONGC representative, Dr. D.S. Mitra appreciated the effort and said that the work will help the oil industry very much.

The Convener added that the survey will be continued further north along the west coast, so both the oil and mineral industry will have more information.

Dr. D.S. Mitra, wanted to know whether RSAS is going to take up aerial survey in Krishna-Godavari basins. If the survey is carried out in the vicinity he wanted to know the possibility if GSI can extend into this area.

The Convener said that in future, GSI has plans to take up the survey covering the areas and requested ONGC representative to submit their suggestions and requirements along with background information.

(Action: ONGC)

- 02.08.03 Shri D. Shanthappa, Joint Director, DMG, Kadapa, AP, said no suggestions/proposals for aerial surveys are made by DMG, AP.

The Convener requested him and to other representatives if DGMs to submit status of the RPs given and executed by the concerned Pvt. Agencies. He also requested to see whether reports are being submitted as per the policy and initiate suitable action in case of defaulters.

(Action DMG, AP)

- 02.08.04 Representative from Jharkhand DMG, wanted to know about lineament data in connection with ground water investigation in Jharkhand. He wanted to know whether it is possible to know about the saturated zones beyond 50m depth by interpretation of aerogeophysical data.

Shri Rajendra Sharma said that so far such a study has not been carried out in Jharkhand and intimated that such studies were carried out by AMSE Wing in Tumkur district, Karnataka and requested them to consult the GSI report.

The Convenor said that such studies could be carried out and suggested to submit a proposal for the same.

(Action: DMG, Jharkhand)

- 02.08.05 Mr. Sawkar, Geological Society of India, said that the chromite belt is noticed from Sargur in the south to Aladahalli and beyond in the north, he wanted to know whether there is any comparison between this belt and a similar one in South Africa, particularly in occurrence of PGE mineralization and whether aerogeophysical data can help.

The Convener suggested that already EM, MAG and Spectrometric data is available for that area and maps are available which may be helpful.

- 02.08.06 Dr. Saleem Ahmed Khan, Geomysore, said that terrains in the Northeastern part of the country like Nagaland and Arunachal Pradesh are extremely difficult to work without much base data. He opined that heliborne survey might be of great help. He also said that Geomysore has submitted reports for all the RP licenses taken by them.

Shri S.K. Chakraborty, Director (M), CHQ, GSI, said whenever a company applies for PL, insufficient data is given in the report and it becomes difficult to assess the report for granting the PL.

The Convener wanted to know that whether Geomysore can put reports on the website after lock-in period of 2 years. He requested to give a soft copy of the report submitted.

Dr. Saleem Khan, said, they will consider this request.

- 02.08.07 Shri Kannan, Director, M&C, RSAS, GSI said that there is a disparity between the list of RP/PL reports submitted by the DMG, Chhattisgarh and the one available with GSI and on IBM website.

Shri Verma said that he will send a rectified list

(Action: DMG, Chhattisgarh)

- 02.08.08 The Convener, wanted to know from Shri D.M. Patel , DMG, Gujarat, status of RP licences issued and reports received in comparison with the list put by IBM on their website.

Shri Patel said he would look into it.

(Action: DMG, Gujarat)

- 02.09.00 **Review of carried out by PGRS Div. Of GSI**

- 02.09.01 Shri V. Jagnannathan, Director, PGRS, SR, GSI presented the work carried out by the PGRS Division and said that they provide support to EG Division SR, GSI, and Remote Sensing support to different Divisions of SR. Consultancy to KPC Ltd. and R&D activity. Also lineament study carried out along East Coast using remote sensing data.

- 02.09.02 Shri R. G. Verma, Director, Western Region, GSI, presented the work carried out in WR, GSI. Remote sensing studies for regional evaluation of gold and basemetal mineralization in parts of Chittaurgarh district, Rajasthan and provided remote sensing support to other Divisions of WR.
- 02.09.03 Shri. A.H. Chaurasia, Director, GSI, CR presented the work carried out by CR, GSI. During FS 2009-10. 4 items are taken up and collection of basic data is in progress.
- 02.09.04 Shri V.C. Shrivastava, Director PGRS Division, Northern Region presented the work carried out in NR. For FS 2009-10, 3 service items are taken up. Consultation of legacy data is being carried out.
- 02.09.05 Ms. Saswati Chatterjee Director PGRS CHQ and Shri S.Das Geologist Sr. presented the work carried out under the two field items on Hyperspectral mapping taken up by GSI. The items are in collobaoration with NRSA and SAC. They informed that Hyperian data has not been made available by NRSA. Shri Das also submitted that hyperian data for his item is also to be supplied by NRSA.
- 02.09.06 Dr. Chaturvedi, AMD, suggested that Hyperspectral Remote Sensing is a new field in India and rest of the advanced countries has done a lot of work in this. He suggested that youngsters should be trained in this is emerging field and lot of trained manpower is required. He suggested that since experienced faculty is very limited in the county experts from other countries might be invited for imparting training. He requested that officers from other organizations like ISRO, NGRI, GSI, AMD may also be considered for training.  
Ms. Chatterjee informed that proposed training in collaboration with ISRO could not materials so far but said that training with the help of ERDAS is being organized at CHQ. She also informed that a on line course by ITC Netherlands is also available.  
(Action: AMD)
- 02.09.07 Shri J. Krishnamurthy, Dy. Director, ISRO informed regarding the collaborative project with GSI, is being given the needed attention. He said that the hyperian data of the two areas for which GSI is having collaborative programme would be supplied by Jan. 2010. The training of the personnel in the hyperspectral work as planned out in the earlier meetings did not materialize due to lack of communication and said that training could be arranged at any time and requested GSI to give the names of officers.  
Ms. Chatterjee said that a list of 15 officers is already available which is being given to ISRO for planning the training. Shri. Krishnamurthy said that training Division will intimate the time slot available for training.
- 02.09.08 Ms. Chatterjee intimated that under the collaborative programme of Geomorphological and Lineament mapping with NRSC no progress has been made so far as MOU etc. has not been finalized with work centers. So far only the National legend scheme for Geomorphological and Lineament Mapping has been finalized in which GSI officers have actively participated. In addition to this GSI officers are presently collecting the legacy data available in reports of the work carried out in previous years. She said that NRSC in their communication received only yesterday intimated that so far fourteen work centers have given their consent and from six other centers is likely to be received shortly. NRSC has also intimated that process of signing the MOU and transferring the funds will be completed shortly.
- 02.09.09 Shri J. Krishnamurthy informed that this being the first instance of such project it is taking some time but assured that this will be completed very soon and work will be taken up as per the time schedule. Chairman requested that the list of the work centers already identified may be made available to GSI so that concerned regions may start

interacting with the centers immediately.

Shri A.C.Pande Senior Geologist PGRS Lucknow and other officers requested that the data may be simultaneously given to GSI along with work centers so that they are acquainted with the data before taking up the actual work. Sri. Krishnamurthy agreed to the suggestion and informed that he will look into the matter

02.09.10 Shri. S.K.Chakraborty informed that the FSP of GSI has already started and the progress of work has to be intimated to the MOM every quarter and thus the speedy work in this regard is essential.

The Convener again requested that said NRSC should expedite completing the necessary formalities so that GSI can take up the work as per schedule.

02.10.00 Summarizing the discussions, Convener Dr. Sinha said that the meeting was fruitful and requested the members to give their inputs to the base paper, which has to be submitted at the next CGPB meeting.

He thanked all the members for their active participation in the discussions.

02.10.01 Shri S.K. De, Director (GP), RSAS, GSI, proposed the vote of thanks to all the participating members of various organizations and to the officers of AMSE for the active participation, fruitful discussions and their cooperation in conducting the meeting.

A warm farewell was bid to Shri. R.K.Singh and Shri U.K.Ray, Addl. Directors General who will be superannuating by the end of December.