File No. Met4-14/21/2018-Met IV/Record Cell

No. Met4-14/21/2018-Met IV/Record Cell
Government of India
Ministry of Mines

Shastri Bhavan,
New Delhi, dated 16/11/2018

To

1. Secretary,
Deptt. of Science and Technology,
Technology Bhawan, New Mehrauli Road, New Delhi-110016

2. Director General,
Geological Survey of India
27, Jawaharlal Nehru Road,
Kolkata – 700 019.

3. The Controller General,
Indian Bureau of Mines,
Indira Bhavan, Civil Lines,
Nagpur- 440 001.

4. Advisor (Minerals)
NITI Aayog,
Govt. of India,
New Delhi.

5. Director,
IIT, Kharagpur.

6. Director,
Indian School of Mines University,
Barwa Road,
Dhanbad-826004

7. The Director,
Defence Metallurgical Research Laboratory,
P.O. Kanchan Bagh,
Hyderabad.

8. The Director (Material Group),
Bhabha Atomic Research Centre,
Trombe,
Mumbai – 450 085.

9. The Chairman & MD,
National Aluminium Company Limited,
NALCO Bhavan, P-2,
Nayapalli, Bhubaneswar 751 007.

10. The Director,
CSIR - Advanced Materials and Processes Research Institute (AMPRI)
(formerly Regional Research Laboratory (RRL) Bhopal ), Near Habibganj
Naka, Hoshangabad Road, Bhopal -462024

11. Director,
JNARDDC, Nagpur

12. Director,
National Institute of Miners’ Health
Nagpur.

13. The Director,
National Institute of Rock Mechanics,
Kolar, Karnataka.

14. Director,
Central institute of Mining & Fuel Research, Dhanbad, Jharkhand.

15. CMD,
Mineral Exploration Corporation Ltd.
Nagpur.

16. Director,
Non-Ferrous Material & Technology Development Centre,
Kanchan Bagh, Hyderabad.

17. Director,
Institute of Minerals & Materials Technology,
Bhubaneswar.

18. CMD,
Hindustan Copper Ltd.
Calcutta

Subject: Minutes of 50th meeting of the Standing Scientific Advisory Group [SSAG].

Sir,

I am directed to forward herewith a copy of the Minutes of the 50th meeting of the Standing Scientific Advisory Group [SSAG] held on 21.11.2018 under the Chairmanship of Secretary, Ministry of Mines, for information and necessary action.
Copy also to:-

(i) Sr. PPS to Secretary(M)  (ii) PPS to Addl. Secretary(M)  (iii) PS to E.A  (iv) PS to JS&FA  
(v) Director(AB) (vi) Director (T)  (vii) US(LS)

Copy to:

1. Dr. Praveen Kumar, Head and Principal Scientist (Soil Chemistry and Soil Fertility), Division of Integrated Farming System, ICAR-Central Arid Zone Research Institute, Jodhpur – 342 003, Email: praveen.kumar@icar.gov.in

2. Shri Manoj T. Nimje, Senior Principal Scientist (HoDALuminium Electrolysis), JNARDDC, Nagpur, aaagnihotri@yahoo.com

3. Dr. Shivakumar I Angadi, Scientist, IMMT, Bhubaneswar
   shivakumar_ism@yahoo.com

4. Professor T. Pradeep, Institute Professor, IIT Madras, Chennai
   Email: pradeep@iitm.ac.in

5. Dr. P.V. Sunder Raju; Principal Scientist, CSIR-NGRI, Hyderabad.
   perumala.raju@gmail.com

6. Dr. Sumit Sinha Ray, Assistant Professor, School of Engineering, Indian Institute of Technology Mandi. E-mail: sumitsinha@iitmandi.ac.in

7. (i) Dr. Sreeja Kumari S.S (PI), NIIST Scientist, E-mail: sreejakumari@niist.res.in, sreejakumariss@gmail.com

(ii) Mrs. N. Vasumathi, Sr. Scientist, CSIR-NML, Chennai
   vasumathi@csirmc.res.in

8. Dr. M. Sundararajan, Senior Scientist, NIIST.
   rajanmsundar77@yahoo.com

9. Dr Rashmi Ranjan Das (PI), Assistant Professor, IIT (ISM), Dhanbad.
   Email: drrrdas@iitism.ac.in, ramakanta.pratima@gmail.com

10. Prof. Md. Erfan Ali Mondal, Aligarh Muslim University, Aligarh,
    Erfan.mondal@gmail.com

11. Dr. Santanu Banerjee, Principal Investigator, IIT Mumbai
    santanu@iitb.ac.in
Minutes of the 50th meeting of Standing Scientific Advisory Group (SSAG) held on the 2nd November 2018 at 11.30 A.M in Khanij Kaksh, “B” Wing, Shastri Bhavan, New Delhi. The list of participants is enclosed at Annexure-A.

Secretary, Ministry of Mines and Chairperson, SSAG welcomed the members to the 50th SSAG meeting. The SSAG considered projects which were reviewed and recommended by the Project Evaluation and Review Committee (PERC).

2. Shri Alok Chandra, Economic Adviser (Mines) and chairman, PERC briefed the SSAG regarding the review process of the project proposals conducted by PERC before recommending these to the SSAG. A total of 48 project proposals were received under Science and Technology Programme Scheme of Ministry of Mines for the second phase in the year 2018-19. The new project proposals and 4 proposals recommended by the 17th PERC for resubmission were considered and evaluated in the 18th PERC meeting held on 19-20th July 2018 at JNARDDC, Nagpur. The PERC recommended 9 (nine) Project proposals, 1 ongoing project for extension of duration, acceptance of final reports of 1 completed project for consideration and approval of SSAG.

3. Dr. Joyesh Bagchi, Director (Technical), Ministry of Mines, Member Secretary, SSAG presented the proposals recommended by PERC before the SSAG.

4. After detailed deliberations SSAG approved following proposals:

4.1. Assessment of Udaipur rock phosphate, low grade potassium feldspar and lignite mine waste for the development of organo-mineral fertilizer formulations, ICAR-Central Arid Zone Research Institute, Jodhpur, Rajasthan.

<table>
<thead>
<tr>
<th></th>
<th>2nd Year</th>
<th>Total</th>
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<tbody>
<tr>
<td>Rs.13.7925 lakh (Capital: Rs.3 lakh, Recurring: Rs.10.7925 lakh)</td>
<td>Rs.11.13 lakh (Recurring)</td>
<td>Rs.24.9225 lakh</td>
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Total cost: Rs.24.9225 lakh (Capital: Rs.3 lakh, Recurring: Rs.21.9225 lakh) Duration: 2 years

4.2. Bench scale study on extraction of pure Silica and smelter grade Aluminium Fluoride from Coal Fly Ash (CFA), JNARDDC, Nagpur

Total cost: Rs.63.026 lakh (Capital: Rs.16.5 lakh, Recurring: Rs.46.526 lakh) Duration: 18 months

4.3. Characterization and Beneficiation of Lithium Bearing Minerals from Indian Deposits, CSIR-Institute of Minerals & Materials Technology, Bhubaneswar.
Total cost: Rs. 15 lakhs (Capital: Nil, Recurring: Rs.15 lakh)
Duration: 1 year

4.4. Development of capacitive deionization technology for the extraction of germanium and selenium: Two elements of strategic relevance, Indian Institute of Technology Madras, Chennai.

Total Cost: Rs.29.61 lakh (Capital: Nil, Recurring: Rs.29.61 lakh)
Duration: 1 year (Phase-1)

4.5. Integrated Geological, Geochemical and Geophysical studies for the delineation of Chromitite extensions in Nuggihalli Schist Belt and implications for Ni-Cu ± PGE mineralization, CSIR-National Geophysical Research Institute, Hyderabad & Indian Institute of Science, Bangalore.

Total Cost: Rs. 60 lakh (NGRI – Rs.30 lakh, Capital: Nil, Recurring: Rs.30 lakh; IISc – Rs.30 lakh, Capital: Nil, Recurring: Rs.30 lakh)
Duration: 2 years

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<th>1st Year</th>
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<tr>
<td>Rs.16.5 lakh (Capital: Nil, Recurring: Rs. 16.5 lakh)</td>
<td>Rs.13.5 lakh (Recurring)</td>
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<td>Rs.30 lakh</td>
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4.6. Treatment of Acid Mine Drainage for Heavy Metal Removal, Indian Institute of Technology Mandi, Kamand.

Total cost: Rs.19.8397 lakh (Phase-I) (Capital: Rs.12.47 lakh, Recurring: Rs.7.3697 lakh)
Duration: 1 year

4.7. Development of graphene based membranes from graphite ore for desalination, CSIR-National Institute for Interdisciplinary Science and Technology, Thiruvananthapuram & CSIR – NML, Madras Centre, Chennai

Total cost: Rs. 60 Lakhs (NIIST – Rs.42.27 lakh, Capital: Rs.15 lakh, Recurring: Rs.27.27 lakh; NML – Rs.17.73 lakh, Capital: Nil, Recurring: Rs.17.73 lakh)
Duration: 2 years
NIIST

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<th>Total</th>
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<tr>
<td>Rs. 33.787 lakh</td>
<td>Rs. 8.483 lakh</td>
<td>Rs. 42.27 lakh</td>
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<tr>
<td>(Capital: Rs.15 lakh, Recurring: Rs. 18.787 lakh)</td>
<td>(Recurring)</td>
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NML

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<th>2nd Year</th>
<th>Total</th>
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<tr>
<td>Rs. 10.7 lakh</td>
<td>Rs. 7.03 lakh</td>
<td>Rs. 17.73 lakh</td>
</tr>
<tr>
<td>(Capital: Nil, Recurring: Rs. 10.7 lakh)</td>
<td>(Recurring)</td>
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4.8. Recovery of scandium metal from acid leach liquor from titanium mineral industries, CSIR-National Institute for Interdisciplinary Science and Technology (NIIST), Thiruvananthapuram

Total cost: Rs.32.92 lakh (Capital: Nil, Recurring: Rs.32.92 lakh)
Duration: 2 years

4.9. Improving fracture resistance of rocks through adhesive bonding for underground mining application, India Institute of Technology (ISM) Dhanbad.

Total cost: Rs.14.73467 Lakhs (Capital: Rs.13.7571 lakh, Recurring: Rs.0.97757 lakh)
Duration: 15 months
5. **Review of the On-going Projects for considering extension of tenure.**

The following project was considered by the SSAG for review and extension of time. PERC had already recommended the extensions of the project without any cost overruns. After detailed deliberation, the SSAG approved the proposed time extension to the following project:

5.1. Mineralogical and geochemical characterization of Indian glauconites for alternative potassium fertilizers, Indian institute of Technology, Bombay and CSIR-National Geophysical Research Institute, Hyderabad.

Extension up to 31st Dec 2019 without any cost escalation.

6. **Acceptance of the final report and closure of completed projects.**

The final report of the following project was considered by the SSAG. After deliberation, the SSAG accepted the final report of the following project and approved closure of project:

6.1. Purification of commercial rare earth oxides, e.g. Ceria, by molten salt fusion and recrystallization, Non Ferrous Materials Technology Development Centre Kanchanbagh, Hyderabad.

7. During discussions, Shri Rakesh Moza, Deputy Secretary (Mines) mentioned that the institutes having unspent balances lying with different projects may be asked to refund the unutilized funds. On this, Shri Alok Chandra, EA (Mines) informed that in one project of 2015-16, there is unspent balance for which PI has been asked to return the balance after taking into consideration committed expenditure.

8. Dr. Bhoop Singh, Head (NRDMS), DST advised that a summary of the completed projects may be uploaded on the portal of the Ministry of Mines, which was accepted by the committee. JNARDDC would compile summary for such projects.

The meeting ended with vote of thanks to the Chair.

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<tr>
<th>S no</th>
<th>Name</th>
<th>Portfolio</th>
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<tbody>
<tr>
<td>1</td>
<td>Shri Anil Gopishankar Mukim</td>
<td>Secretary (Mines)</td>
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<tr>
<td>2</td>
<td>Shri Alok Chandra</td>
<td>Economic Adviser (Mines)</td>
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<td>3</td>
<td>Ms. Athira S. Babu</td>
<td>Director (Mines)</td>
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<tr>
<td>4</td>
<td>Dr. J. Bagchi</td>
<td>Director (Technical), Mines</td>
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<tr>
<td>5</td>
<td>Shri Rakesh Moza</td>
<td>Deputy Secretary (Mines)</td>
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<tr>
<td>6</td>
<td>Dr. A. Agnihotri</td>
<td>Director, JNARDDC and Director (Addl. Charge), NIMH</td>
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<tr>
<td>7</td>
<td>Dr. H. S. Venkatesh</td>
<td>Director, NIRM</td>
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<tr>
<td>8</td>
<td>Dr. K.C. Sahoo</td>
<td>DDG, GSI</td>
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<td>9</td>
<td>Shri S.K. Roy</td>
<td>Director (P&amp;T), NALCO</td>
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<td>10</td>
<td>Shri J.K. Rajora</td>
<td>AGM (Chemical), HCL</td>
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<td>11</td>
<td>Shri C. K. Thoolkar</td>
<td>GM, MECL</td>
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<td>12</td>
<td>Dr. A.K. Srivastava</td>
<td>Director, CSIR-AMPRI, Bhopal</td>
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<tr>
<td>13</td>
<td>Dr. T. Sreenivas</td>
<td>Scientist H, BARC, Hyd.</td>
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<td>14</td>
<td>Dr. Bhoop Singh</td>
<td>Head (NRDMS), DST</td>
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<td>15</td>
<td>Dr. Ch. R.V.S. Nagesh</td>
<td>Scientist G, DMRL DRDO</td>
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<td>16</td>
<td>Shri Pushpendra Gaur</td>
<td>DCOM, IBM</td>
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<tr>
<td>17</td>
<td>Ms. Lakshmi Subramanian</td>
<td>Under Secretary (Mines)</td>
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Leave of absence was granted to other members.