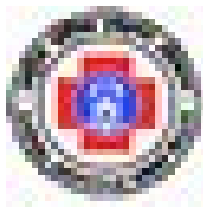


REPORT

वार्षिक प्रतिवेदन 2007 - 08



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National Institute of Miners' Health, Nagpur

Safe Mines and Healthy Miners

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DIRECTOR'S REPORT

Dear Members,

We have great pleasure in presenting 18th Annual Report of the National Institute of MinersqHealth for the period from 1.4.2007 to 31.3.2008.

As members are aware, National Institute of MinersqHealth was established as a society on 21st February 1990 under Karnataka Societies Registration Act, 1960 having registered office at Kolar Gold Field. In the month of April . 2007, former Director, Dr. S K Dave established camp office at Nagpur and completed procurement of equipments.

Dr. A. K. Srivastava relinquished the charge of Director NIMH on 25th April 2007 and I was assigned the additional charge of Director, National Institute of Minersq Health, w.e.f. 25th April, 2007.

During the year under review, S & T Project on Coal, Bauxite and Zinc was taken up in Coal Mines of Western Coalfields Limited in the first phase. As a base line study medical records of 1552 employees were examined including their sickness history and chest x-ray. After analysis of the data base, a group of 280 employees were selected from different categories for detailed re-examination with Audiometry, Spirometry, studies of hematological and bio-chemical variables. The study has resulted into an evaluation of health status of coal mine workers. Similarly, in environmental field, studies on respirable dust concentration in mine air, free silica content, noise level and vibration exposure were assessed in WCL coal mines. The results not only describe the environmental condition in the mines but also provide information to us to consider all factors and parameters to be taken up in the next phase of the S&T project with a view to establish cause-effect relationship. I sincerely thank WCL Management for extending all cooperation in all phases of the study carried out in their mines.

In the same period, the Institute also conducted similar studies of environmental parameters, sponsored by clientele organizations viz. NMDC, NALCO, NLC and ACC, for assessment of health hazards due to exposure from Noise, Dust and Vibration. I express my gratitude towards all clientele organizations and expect the same cooperation from them in future.

I thank the chairperson and members of Governing Body, General Body for their consistent support and guidance in the development of the Institute. The Institute strives to achieve excellence in the field of minersqhealth.

Dr. J Mukhopadhyay
Director

S AND SPONSORED STUDIES

National Institute of Miners' Health conducts applied research in the field of occupational health and hygiene for subjects employed in mining and mineral based Industry. Pursuing its vision of “**Safe Mines and Healthy Miners**”, the Institute has carried out following work in the year 2007-08 with total staff strength of 16 (including 2 administrative staff):

I Environmental Monitoring studies in Mines

During the year 2007-08, NIMH has conducted Environmental Monitoring studies in 1 mine of National Mineral Development Corporation Limited (NMDC), 1 mine of National Aluminium Company Limited (NALCO), 1 mine of NLC and 2 mines of ACC Limited. The Institute has collected and analyzed 53 samples of dust, noise and whole body vibration from an opencast coal mine for environmental risk assessment under S & T project sponsored by the Ministry of Mines.

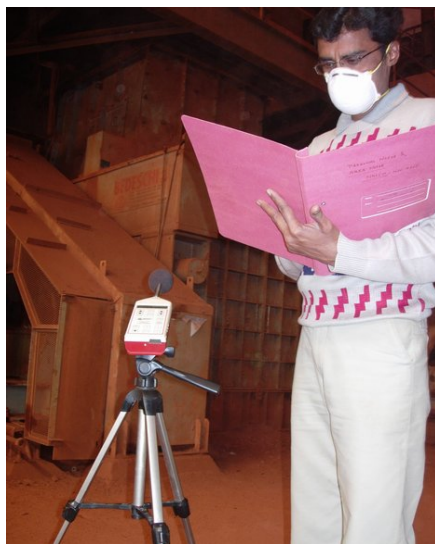


Personal dust sampling

, NIMH had collected and studied 105 samples for concentration and free silica analysis, 78 samples for Area Noise survey and Personal Noise Dozimetry and 57 samples for Whole Body Vibration. The total number of samples collected and analyzed was 240.

It was observed that all the area dust samples (100%) had TWA within permissible exposure limit (PEL) i.e.3 mg/m³. 26 personal dust samples (92.86%) were within PEL whereas 2 samples (7.14%) were above PEL. 25% of the area noise levels were less than 85dB(A) and rest (75%) exceeded 90 dB(A). 56.25 % of personal Noise samples were less than 85 dB(A), 25% were less than 90 dB(A) and 18.75% samples exceeded 90 dB(A) i.e. danger limit as prescribed by DGMS.

For vibration hazard analysis, it was found that 75 % exposure did not indicate any health hazard, whereas 10% indicated health hazard. In 15% cases, health hazards are likely with higher probability among the exposed population according to ISO 2631-1:1997.



Area Noise Survey

The Institute carried out a study on the noise hazard of chain firecrackers used extensively during festivals. The study was sponsored by Citizen Forum of Nagpur.

Findings of the all the above studies sponsored by the clientele organization have been submitted to the respective organizations. Preparation of the report of S & T Project is in progress.

Phase I

The project on coal started at Western Coal Fields Limited (WCL). Baseline data of 1553 employees working in Nagpur area of WCL was collected and compiled. The epidemiological study



Study of equipment vibration hazards

among 1552 subjects showed that most of the

workers were in the age group of 41-50 years. 35 % employees were found to be overweight which warrants the necessity of intense health education for this workforce involved in this study. Similarly there were 2.6 % employees having Diabetes mellitus and 5.5% employees having hypertension and 1.1% was having both. Comparative study shows that Face workers are having more sickness history. Muscular Skeletal Disorder (MSD) was seen only in Face, Maintenance and other workers but not in Transport workers and Supervisory staff. Similarly Eye diseases were found in each category of employees except in Transport workers. Chest X-ray showed 2.2 % of workers had COPD (chronic obstructive pulmonary diseases).

On the basis of the baseline studies, detailed medical examination of a sub-sample of 280 employees for audiometric, spirometry, hematology and biochemical variables has been completed.



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Interpretation of respirable dust survey, area noise
noise dose monitoring and human whole body
vibration samples collected from Kamptee opencast mine of WCL has
been completed.

The remaining phase of the project will focus on the environmental and
health aspects in Aluminium and Zinc Mines.

5 HUMAN RESOURCE DEVELOPMENT AND CONSULTANCY SERVICES

1. NIMH provided consultancy services including training to the staff of M/S Startech Laboratories, Hyderabad in observing statutory regulations while monitoring environmental parameters in mines.
2. B.B. Mandal, Senior Research Officer of NIMH delivered lecture on invitation at the Visvesvaraya National Institute of Technology (VNIT), Nagpur on %Human response to mechanical vibration+in March 2007
3. Dr. Anand Kamavisdar participated in G8 UNESCO World Forum on %Education, research and Innovation: New partnership for sustainable development in Trieste, Italy from 10th to 12th May 2007.
4. During the year, NIMH staff participated in training workshops, seminars, symposia on ILO Classification 2000 of chest radiographs, Biomedical Communication, Ion Chromatography, & Environmental Health and Safety.

PUBLICATION

1. Anand Kamavisdar, Rajmani Patel and Shitkanth R. Khanwalkar, Physico-chemical characteristics of water samples from iron ore mining belt of Central India, 41st IUPAC Congress Torino (Italy) August 5-10, 2007.
2. Mandal B.B. and Thote N.R. Environmental health risk due to vibration exposure in mining and analytical tools for assessment of its severity. Proceedings of National Seminar on Future of coal - Integrated approach. CIROWA, Nagpur. April 2007.
3. Mandal B.B. and Thote N.R., 2007 (September). Health impact assessment of vibration exposure in the context of technology up gradation in mining industry. Proceedings of the National seminar on emerging trends in mining technology, Department of Mining Engineering, VNIT, Nagpur.
4. Zade P.D. and Dharmadhikari D.M. Structural and electrical properties of mercury ferrite (in detail). Proceedings of International Conference on Material Science and Technology, MS & T 2007, Cobo Centre, Michigan, USA. May-2007.
5. Zade P.D. and Dharmadhikari D.M. and Kulkarni D.K. Structural and electrical properties of mercuric ferrite. Proceedings of National conference on Material Research and Advanced Technology, (NCMRAT-2007), Dept. of Physics, Aurangabab University, Aurangabad, MS, India. January-2007

- Chikari D.M. Removal of arsenic as arsenite from
as stable metal ferrite. Accepted in Journal of
Environmental Science and Health- Part A, USA. June-2007.
6. Narwadiya S.C, Saoji S.V, Dhumne U. L, Sahare K.N, Meshram V.G,
Tumane P.M. Activity against Mycobacterium tuberculosis of plants
extracts from Indian habitat to treat tuberculosis. Diamond jubilee
celebrations and National Conference on Current Trends in Biochemistry,
Nagpur University, Nagpur. (27-29 Dec. 2007)
 7. Narwadiya S.C, Dhumne U. L, Meshram V.G, Tumane P.M. Occurrence of
Enzyme level changes in Tuberculosis patient after Chemotherapy.
Diamond jubilee celebrations and National Conference on Current Trends
in Biochemistry, Nagpur University. Nagpur (27-29 Dec. 2007).

IMPORTANT EVENTS



Visit of Hon'ble Secretary, Ministry of Mines

- Shri J. P. Singh, Hon'ble Secretary, Ministry of Mines, New Delhi, made official visit to NIMH on 8th June 2007. He addressed the staff members of NIMH followed by visit to NIMH labs.

- Dr. A. K. Srivastava relinquished the charge of Director NIMH on 25th April 2007 to re-join his parent organization ITRC, Lucknow.
- Dr. J. Mukhopadhyay Director, JNARDDC has taken over as Director, NIMH (additional charge) Nagpur on 25th April 2007.
- The post of Director and Administrative Officer for NIMH was advertised in the press and website

CTION PLAN – 2008-09

- 1) Respirable dust survey with free silica analysis - Work Order for second season received from Donimalai Iron-ore Mines of NMDC
- 2) Respirable dust survey with free silica analysis - Work Order for second season received from Rajanka Limestone Mines of NMDC
- 3) Respirable dust survey with free silica analysis - NIMH has received project offers from
 - Wadi Limestone Mines,
 - Lakheri Cement works
 - Madhukarai lime stone mines and
 - Keymore Cement Works of ACC Limited.
- 4) Institute has received offers for conducting occupational health studies in Lakheri cement works of ACC Limited.

Governing Body members for the year 2007-08

1	1	Secretary to the Govt. of India, Ministry of Mines, Department of Mines, Shastri Bhavan, New Delhi – 110 001.	Chairman
2	2	Additional Secretary to GOI, Ministry of Mines, Department of Mines, Shastri Bhavan, New Delhi – 110 001.	Member
	3	The Controller General, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur – 440 001.	Member
	4	Chief Labour Commissioner (Central) Ministry of Labour, Shram Shakti Bhavan, Rafi Marg, New Delhi – 110 001.	Member
	5	Joint Secretary, Ministry of Health & Family Welfare, New Delhi – 110 003.	Member
	6	Joint Secretary, Ministry of Environment and Forest, Paryavaran Bhavan, C.G.O Complex, Lodhi Road, New Delhi – 110 003.	Member
	7	Director (Finance) Ministry of Mines, Department of Mines, Shastri Bhavan, New Delhi – 110 001.	Member
	8	Director (Technical), Ministry of Mines, Department of Mines, Shastri Bhavan, New Delhi – 110 001.	Member
	9	Director General of Mines Safety, Directorate-General of Mines Safety, Ministry of Labour, Govt. of India, Dhanbad – 826 001.	Member

10	Secretary General FIMI House, B-311, Okhla Industrial Area, Phase-I, New Delhi-110 020	Member
11	Director Jawaharlal Nehru Aluminium Research Design and Development Centre Amravati Road, Wadi, Nagpur – 440 023	Member
12	The Chairman-cum-Managing Director, National Mineral Development Corpn. Ltd., Khanij Bhavan, 10-3-311/A, Castle Hills, Masab Tank, Hyderabad – 500 028.	Member
13	Director, National Institute of Miners' Health, JNARDDC Campus, Opp. Wadi Police Station, Wadi, Nagpur – 440 023.	Member
14	Chairman-cum-Managing Director, National Aluminium Company Limited, NALCO Bhavan, Nayapalli P/1, Bhubaneshwar – 751 013	Member
15	Chairman-cum-Managing Director, Manganese Ore India Limited, Katol Road, Nagpur.	Member
16	Chairman-cum-Managing Director, Western Coal Fields Limited Nagpur.	Member
17	Managing Director, Rajasthan State Mines & Minerals Limited, (A Government of Rajasthan Enterprise), 4 Meera Marg, Udaipur (Rajasthan)	Member
18	Secretary, Dept. of Mines & Geology, Govt. of Jharkhand, Nepal House, Doranda, Ranchi – 834 002.	Co-opted Member
19	Director Department of Geology & Mining P.O. Kahilipara Guwahati – 781 019	Co-opted Member

General Body members for the year 2007-08

1	1	Secretary to the Govt. of India, Ministry of Mines, Department of Mines, Shastri Bhavan, New Delhi . 110 001.	Chairman
2	2	Additional Secretary to GOI, Ministry of Mines, Department of Mines, Shastri Bhavan, New Delhi . 110 001.	Member
	3	The Controller General, Indian Bureau of Mines, Indira Bhavan, Civil Lines, Nagpur . 440 001.	Member
	4	Chief Labour Commissioner (Central) Ministry of Labour, Shram Shakti Bhavan, Rafi Marg, New Delhi . 110 001.	Member
	5	Joint Secretary, Ministry of Health & Family Welfare, New Delhi . 110 003.	Member
	6	Joint Secretary, Ministry of Environment and Forest, Paryavaran Bhavan, C.G.O Complex, Lodhi Road, New Delhi . 110 003.	Member
	7	Director (Finance) Ministry of Mines, Department of Mines, Shastri Bhavan, New Delhi . 110 001.	Member
	8	Director (Technical), Ministry of Mines, Department of Mines, Shastri Bhavan, New Delhi . 110 001.	Member
	9	Director General of Mines Safety, Directorate-General of Mines Safety, Ministry of Labour, Govt. of India, Dhanbad . 826 001.	Member
	10	Secretary General FIMI House, B-311, Okhla Industrial Area, Phase-I, New Delhi-110 020	Member

	Managing Director, Development Corpn. Ltd., 311/A, Castle Hills,	Member
	Masab Tank, Hyderabad . 500 028.	
12	Director, National Institute of Miners & Health, JNARDDC Campus, Opp. Wadi Police Station, Wadi, Nagpur . 440 023.	Member
13	Chairman-cum-Managing Director, National Aluminium Company Limited, NALCO Bhavan, Nayapalli P/1, Bhubaneswar . 751 013	Member
14	Chairman-cum-Managing Director, Manganese Ore India Limited, Katol Road, Nagpur.	Member
15	Chairman-cum-Managing Director, Western Coal Fields Limited Nagpur.	Member
16	Chairman-cum-Managing Director, ACC Limited Cement House, 21, Maharishi Karve Road, Mumbai . 400 020	Member
17	Secretary Department of Mines & Geology No. 49, Khanija Bhavan Race Course Road Bangalore . 560 002	Member
18	Director, Department of Mines & Geology, Government of Jharkhand, Nepal House, Doranda, Ranchi . 834 002	Member
19.	The Director National Environmental Engineering Research Institute (NEERI) Nehru Marg Nagpur . 440 012	Member
20	The Director, Industrial Toxicology Research Centre (ITRC) Mahatma Gandhi Marg, Lucknow . 226 001 (UP)	Member
21	The Director National Institute of Occupational Health (NIOH) Meghani Nagar, Ahmedabad - 380 016	Member

Staff of NIMH in 2007-08

1	Dr. J Mukhopadhyay, Director in charge
2	Mr. Bibhuti B. Mandal, Senior Research Officer
3	Dr. Sarang V. Dhatrak, Research Officer
4	Dr. S. S. Nandi, Research Officer
5	Mr. Debasis Chatterjee, Research Officer
6	Dr. Anand Kamavisdar, Research Officer
7	Dr. (Mrs.) Shubhangi Pingle, Research Officer
8	Mr. Nikhil P. Kulkarni, Senior Scientific Assistant
9	Mr. Prashant D. Zade, Senior Scientific Assistant
10	Mr. Umesh Dhumne, Senior Scientific Assistant
11	Mrs. Aruna Jawade, Senior Scientific Assistant
12	Mrs. Shilpa V. Ingole, Sr. Scientific Assistant
13	Dr. Atul P. Vanerkar, Scientific Assistant
14	Mr. S.C. Narwadiya, Scientific Assistant
15	Miss. Rajani Tumhane, Scientific Assistant
16	Mr. Milind Dixit, Personal Assistant to Director
17	Mr. K. Ramachandran, Upper Division Clerk