

HEALTH 806 - HEARING CONSERVATION PROJECTS

- **Developing, piloting, implementing and assessing a hearing conservation programme (HCP)**

Project Leader: Mr Mike Franz
Email: mfranz@csir.co.za

Summary

The aim of this project is to implement and evaluate an HCP. Existing HCP guidelines and materials will be evaluated and revised, and the HCP will be piloted on two mines. The programme will be modified where necessary and, at the end of the project, best practice guidelines will be made available to the mining industry. A colliery has been selected as the first mine in which the HCP will be piloted (scheduled for January 2003). Discussions are underway to pilot the HCP in a gold mine in July 2003.

- **Update of the COMRO Users Guide 11, concerned with hearing conservation**

Project Leader: Dr Johann Kielblock

Summary

COMRO User Guide No. 11: Guidelines for the implementation and control of a hearing conservation programme in the South African mining industry, was published in 1988. This will be updated to include new information, technology and results from research that have become available over the last 15 years. The planned delivery date for the final report is mid-2004.

- **Compiling of information on noise for CD**

Project Leader: Dr DW Stanton
Email: davidws@asosh.org

Summary

Information concerning noise and vibration will be consolidated from a range of sources, and will be made available on an interactive CD. The planned delivery date for the final report is mid-2004.

For more information contact Gill Nelson National Centre for Occupational Health ☎ Tel: 011 712 6520 Cell: 082 338 9576 ➡ email: NelsonG@health.gov.za

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IMPORTANT INFORMATION

The newest SIMRAC CD, VOLUME 4 is now available free of charge.

ONLINE: <http://www.SIMRAC.co.za>
click on Reports and on the animated bar View reports in Thrust areas

ORDER: Phone Noleen 27 011 358 9188 or email nwoods@simpross.co.za

CALENDAR OF EVENTS

MEETINGS

MHSC: 28 March 2003

SIMRAC: 27 May 2003

Simpross:

15 - 16 April 2003 New Projects Start-up
Presentations

8 May 2003 Meeting

EXPERT WORKSHOP on Rock Falls and Rock Bursts

13 March 2003 at 9:00 in the SIMPROSS
Offices in Braamfontein. Please RSVP
cgomes@simpross.co.za by 7 Mar. 2003

FINAL SIMRAC REPORTS RECENTLY LOADED <http://www.SIMRAC.co.za>

- GEN 702 - Criteria for the safe use of commercial personnel transportation underground
- HEALTH 703 - Hand arm vibration syndrome and whole body vibration in gold miners
- HEALTH 711 - Nervous system effects: Environmental manganese exposure
- HEALTH 801 - Analysis of emergency care provided for injured miners in SA Mines
- HEALTH 805 - Develop percentile charts: Semi-quantitative tracking of lung functions
- HEALTH 808 - Develop tech. transfer prog. enhance clinical performance in TB man.
- HEALTH 817 - Pilot study to assess heat tolerance in female miners

PROJECT LAUNCHES

Contact Noeleen Woods to RSVP
Phone 011 358 9180 Fax 011 4031821
nwoods@simpross.co.za

When: 19 March 2003

Project: SIM 02-06-01 Measurement of ultra-fine silica exposure in fume

Where: Devonshire Hotel, Braamfontein,
Johannesburg

When: Tuesday, 25 March 2003

Project: GAP 633 A textbook on rock mechanics for tabular hard rock mines and GAP 607 Survey and assessment of support for anomalous stope

Where: Museum of Military History, Upper Park Drive, Saxonwold, Johannesburg

When: 9 & 10 May 2003 at the MMOA Congress

NOTE: Those interested in attending the full congress, please contact Maureen Mason mmason@bullion.org.za If you are attending the SIMRAC launches only, you will not be entitled to attend other presentations at the congress.

Where: Sparking Waters Hotel, Rustenburg

Projects:

- Health 817 A pilot study to assess the heat tolerance of female miners
 - GEN 524 A randomized controlled study of the effectiveness of annual and 6 monthly screening with MMR for the active case-finding of cardiopulmonary tuberculosis
 - Health 606 Silicosis prevalence and risk factors in black gold miners
 - Health 705 The use of sputum screening as active case detection for tuberculosis
 - Health 804 Identification of health hazards in mineral processing plants relating to chronic exposure to multiple chemicals
- 10 May 2003
- Health 802 Feasibility of using oto-acoustic emission (OAE) methods for screening early hearing impairment in South African mineworkers.

Contact Noeleen Woods to RSVP
Phone 011 358 9180 or Fax 011 403 1821

SIMRAC Project 02 07 03: Seat transmissibility of vibration

The project is a SIMRAC post-graduate bursary for an MSc in Mechanical Engineering.

Ms Jessica Gunaselvam is reviewing international literature to establish a set of international best practices and survey on seating systems available worldwide. Data sheets and specifications of available systems used in South African mines will be obtained.

During the research phase, Ms Gunaselvam will develop reliable methods to measure seat transmissibility for suspension and other seats. The potential impact is reduced levels of vibration exposure for drivers and operators of vibrating machinery.

The research will result in a report on the use of suspension seats and the testing of seat transmissibility and thus design guidance and best practices for the use of suspension seats in the mining industry.

The research is being conducted under the supervision of Professor Wikus van Niekerk of Stellenbosch University which has invested R 700, 000 in experimental equipment to test the dynamic properties of seating systems.

The results of this thesis will be included in the CD of the SIMRAC technology transfer project, Health 806, on best practices for noise and vibration.

For more information contact Dr Mary Ross
mross@simpross.co.za

OTHER PROJECTS ON VIBRATION RISK

- Compilation of a manuscript for best practice for engineers to reduce noise and vibration in mines

Project Leader: Dr JL (Wikus) van Niekerk
Email: vanniek@mweb.co.za

Summary:

A practical guide for engineers will be produced in the form of an illustrated booklet, giving practical guidance in the reduction of noise and vibration of machinery used in the mining industry. A first draft is expected in 2003.

▪ Best practice for whole body vibration

Project Leader: Dr Jim Phillips
Email: PhilJ@health.gov.za

Summary:

A document on best practice guidelines will be produced for the industry. Delivery date for the final report is mid-2004.

▪ Literature survey of anti-vibration gloves

Project Leader: Dr JL (Wikus) van Niekerk
Email: vanniek@mweb.co.za

Summary:

A thorough review of the literature on anti-vibration gloves and their use in the mining industry will be conducted. The planned delivery date for the final report is mid-2004.

Seat vibration-testing apparatus



ADDITIONAL NOISE REGULATIONS GAZETTED

Chapter 11 of the Mine Health and Safety Act Regulations has had a section on Noise added. This was gazetted on 14 June 2002 in Government Gazette 23498.

The following regulations apply:

System and Medical surveillance

1) The employer must establish and maintain a system of medical surveillance, as contemplated in section 13, of all employees in any working place, where the equivalent, continuous A weighted sound pressure level, normalised to an eight hour working day or a forty hour working week, is equal to or exceeds 85 dB(A)

Types of Audiograms

2) The system of medical surveillance contemplated in regulation 11.4(1) must consist of a baseline audiogram, periodic audiograms and exit audiogram. 3) A competent person must perform all audiograms.

Baseline Audiogram

4) A baseline audiogram must be recorded before an employee commences employment or within 30 days of commencement of employment in any working place contemplated in regulation 11.4(1)

5) Testing for the baseline audiogram must not be done within 16 hours from when an employee has been exposed to an environment in which the noise level was equal to or exceeded 85 dB(A). The use of hearing protection devices to effect this attenuation will not be acceptable.

6) The baseline audiogram is the better of the employee's two audiograms performed on the same day and that do not differ from each other by more than 10 dB for any of the following measured test frequencies i.e. 0.5, 1, 2, 3 and 4 kilohertz (kHz).

7) If it is impossible to obtain two audiograms that comply with the requirements of regulation 11.4(6), the employees must be referred to a competent person to establish baseline-hearing levels in accordance with regulation 11.4(6)

8) If it is impossible for the competent person to establish baseline-hearing levels as contemplated in 11.4(7) the competent person may establish baseline-hearing levels by using other techniques, such as speech reception thresholds.

Periodic Audiograms

9) The employer must ensure that a periodic audiogram is obtained at least annually for all employees subject to medical surveillance in terms of regulation 11.4(1).

10) The periodic audiogram contemplated in regulation 11.4(9) must be performed at least 16 hours after any exposure of the employees to a noise level equal to or exceeding 85 dB(A). Use of appropriate hearing protection devices to reduce exposure will be acceptable.

Exit Audiogram

11) In addition to the exit medical examination for the purposes of section 17, the employer must arrange an audiogram for every employee subject to medical surveillance in terms of regulation 11.4(1) and who is permanently transferred to a working place in respect of which medical surveillance is not required under regulation 11.4(1)

12) An audiogram conducted within the preceding six months may be used as an exit audiogram for purposes of section 17 or regulation 11.4(11)

See <http://www.acts.co.za/> for online Acts.

Elsie Zinsser produces the SIMRAC Newsletter four times per year. Contributions are very welcome. Please contact her by email ezinsser@simpross.co.za telephone 011 358 9188 © No part of this newsletter may be reproduced without full acknowledgement of the source.