

NOTICE 36 OF 2007**Safety in Mines Research Advisory Committee (SIMRAC)
on behalf of the
Mine Health and Safety Council (the Council)*****Invitation to submit project proposals***

SIMRAC, a permanent committee of the Mine Health and Safety Council, was established in terms of the Mine Health and Safety Act (29/1996) to conduct research and surveys regarding, and for the promotion of, health and safety in the South African mining industry. Suitably qualified agencies and/or persons are invited to submit proposals in response to the project specifications in this Notice. In soliciting research projects for the 2006/2007 and 2007/2008-research programmes, the Council has the following goals:

- to indicate the current research needs for research to commence in the 2006/2007 or 2007/2008 cycles;
- to invite research proposals in response to these defined priority areas of research; and
- to invite applications for postgraduate funding for research which will promote health and safety within the South African mining industry.

A consultative process has resulted in the Council formulating a co-ordinated, long-term health and safety research programme and identifying priority areas for research to commence in the 2006/2007 cycle. Researchers and agencies are invited to submit research proposals for the research projects indicated. Proposed research must be well designed with a detailed methods section, be ethical and must have the potential to add to existing knowledge, practice or technology, involve the end users and implement/transfer outputs. Research teams must have the specified skills.

Submission of Proposals

1. Proposals must be submitted in accordance with the prescribed format. Contact Cecile Gomes at telephone 011 358 9180, fax 011 403 1821, e-mail cjones@mhsc.org.za or visit the SIMRAC website www.simrac.co.za to download the submission template. PLEASE NOTE THAT THE NEW FORMAT NEEDS TO BE USED.
2. Queries regarding the aims and objectives of the thrusts listed in this notice can contact the following persons:
Engineering and Machinery: Dragan Amidzic at damidzic@mhsc.org.za (011 358 9109)
Rock Engineering: Duncan Adams at dadams@mhsc.org.za (011 358 9193)
Occupational Health: Audrey Banyini at abanyini@mhsc.org.za (011 358 9183)
SIMRAC Chairperson: Thabo Gazi at thabo.gazi@dme.gov.za (012 317 8461)
Proposal Submission: Cheryl Jones at cjones@mhsc.org.za (011 358 9182)

3. Proposers are requested to take note of past work in the different thrust areas. (Details are available on website www.simrac.co.za).
4. The closing time and date for the receipt of the proposals is **12:00 on Friday 23 February 2007**. Late entries will not be considered.
5. Two copies of each proposal, in a sealed envelope, in a form suitable for photocopying **plus** a disk **or** CD with the proposal in MS Word, should be deposited in the repository labeled **“Proposals”** at the Council's offices².
6. The Council may at its sole discretion, decide to recommend the acceptance, rejection or amendment of any proposal and to commission the team to develop the proposal on the basis of which the **contract** is awarded. The Council shall not furnish any reasons for its decisions regarding proposals.
7. Every proposal accepted by the Council would be subject to a set of Terms and Conditions, which on acceptance of the final detailed proposal will form part of the contract applicable to the project. All prospective proposers should peruse a set of the standard terms and conditions prior to submitting a proposal. A copy of the **draft standard** terms and conditions is available on the **SIMRAC** website www.simrac.co.za.
8. **Chargesut rates have to be in accordance with the rates specified by the Science Council, ECSA and SACNAPS**
9. **Preference will be given to proposals that composes of a project team with HDI's**
10. In compiling proposals. prospective proposers should provide details of methods, identifiable outputs and estimated costs as indicated.
11. The Council will endeavour to solicit the services of South African organisations to undertake projects, but will consider proposals from overseas-based organisations if expertise, cost considerations and local capacity building components compare favourably.
12. The Council requires full disclosure regarding all subcontracts included in the proposal.
13. The proposer and any of its affiliates shall be disqualified from providing other goods, works, or services under the project if, in the Council's judgment, such activities constitute **a** conflict of interest with the services provided under the **assignment/project**.
14. **Where** an output includes a device, mechanism, procedure, or system capable of being applied in the mining environment, a prospective proposer shall include in the proposal an output which suggests how the outputs in question might best be applied in practice. In drafting proposals, all prospective proposers should bear in mind the potential for technology transfer and phasing the project as indicated.
15. The period for which the proposals should be held valid is 150 days.

², 2nd Floor, Braamfontein Centre, 23 Jorissen Street, Cnr. Bertha Street, Braamfontein

16. During this period the proposal must undertake to maintain, without change, the proposed key staff, and must hold to both the rates and total price proposed; in case of extension of the proposal validity period, it is the right of the proposer not to maintain their proposal.
17. The anticipated commencement date of the projects is 1 April 2006.
18. Each proposer have to submit a TAX Clearance Certificate with the proposal
19. A BEE Questionnaire has to be completed by each proposer. The questionnaire can be obtained from Cheryl Jones at ciones@mhsc.org.za
20. Each successful proposer may, during the contract period or shortly after its completion, be required to provide:
- ❑ A competent spokesperson with appropriate materials to make not more than two separate presentations, on an annual basis for the duration of the project, and
 - ❑ A technical paper on the project for publication and/or a poster presentation, without additional remuneration or reimbursement of costs.
- These activities must be detailed and costed within the project.
14. Where relevant, proposers may obtain copies of earlier project reports and other information from the website address or from contacts listed (See paragraph 1 and 2).
15. Proposers are advised that all Council projects should be submitted to language editing and may be subjected to technical and financial audits. Funding for editing and audits should be included in the proposal budget.
16. Proposers should substantiate and cost separately, all proposed travel outside the borders of South Africa in connection with the project, and provide details of all expenses such as travelling and subsistence.
17. All proposed project costs must be expressed in South African Rands and the total price must be VAT inclusive. Fluctuations in the exchange rate and purchase of forward cover should be considered when costing the proposal.
18. The Council will take all reasonable steps to ensure that confidentiality of proposals is maintained during the adjudication process. If a proposal is not accepted within the programme, the Council may invite additional proposals on the topic.
19. No unsolicited proposals will be included in the programmes for 2006/7 or 2007/8
20. The Council does not guarantee that the proposal at the lowest cost will be accepted as the following three-stage evaluation procedure will be followed:
- a. A technical evaluation of the proposal that will consist of the following items and weight allocations:

1.	Capability and capacity of the project team	
1.1	Relevant formal qualifications	5

1.2	Knowledge of relevant OHS issues in mining industry	5
1.3	Experience in conducting research in this area	5
1.4	Balance of team composition and competencies	5
1.5	Resources and facilities available	5
1.6	Track record: quality, on-time and within budget	5
2.	Research design and methods	
2.1	Appropriate study design and proptocol	5
2.2	Representivity, sample, strategy and size	5
2.3	Technical methods (tests etc)	5
2.4	Intended analysis of results	5
2.5	Ethics, risks and limitations	5
3.	Research outputs	
3.1	Appropriate format	5
3.2	Usefulness	5
3.3	Potential impact	5
3.4	Technology transfer	5
	Total Score - Technical	75

b. A price evaluation that will be calculated as follows:

$$Ps = (P_{min}/P_t) * A_p$$

Where

P_s = % scored for price by proposal being evaluated

P_{min} = price of lowest bidder

P_t = price of proposal being evaluated

A_p = % allocated for price aspect of proposal (15%)

c. A preferential procurement purposes using the following criteria and weightings:

- The proposals will each be given a score out of 100 that will be converted to a score out of 10 for the **SIMRAC** evaluation process
- Commercial Entities will be evaluated against the following criteria and weightings:
 - Ownership - 20%
 - Management - 10%
 - Employment Equity & Skills development - 30%
 - Preferential Procurement - 30%
 - SMME Status - 10%

- National Institutions and Public Entities will be evaluated against the following criteria and weightings:
 - Ownership- 0%
 - e Management- 30%
 - e Employment Equity & Skills development – 40%
 - e Preferential Procurement – 30%

The objectives of the Council in commissioning health and safety research, for both general and commodity-based projects, are to:

- e Obtain and evaluate information to establish evidence-based risk assessment, standard setting and health and safety performance measurement;
- e Develop techniques or guidelines to prevent, reduce, control or eliminate risks;
- Develop and pilot innovative ideas and procedures, where appropriate, to eliminate, reduce or control risk;
- Obtain information on the extent of work-related ill health;
- e Identify, develop and improve sampling and measurement techniques to detect environmental hazards and assess personal exposure;
- Understand the aetiology and identify and evaluate best-practice screening, diagnostic and treatment interventions to reduce the impact of occupational disease;
- e Evaluate the effectiveness of control interventions;
- Understand risk perception, attitudes and behaviour related to health and safety and promote best practices in hazard recognition and procedural conformance;
- Empower its statutory committees to formulate policy, expedite research aimed at improving the health and safety in the South African mining industry; and
- e Collaborate with national and international initiatives and research to promote health and safety in the mining industry.

The **criteria** by which proposals will be evaluated include:

- **Added value and impact** – the Council supports research which can contribute significantly to the improvement in the health and safety of South African miners;
- **Value for money** – the Council supports cost-effective research;
- **Innovation** – the Council welcomes new approaches or new areas of focus for research leading to technologies or best practices to improve health and safety;
- **Excellence** – the Council demands excellence, particularly in the methods employed to conduct research, be it quantitative or qualitative, and hence will consider the track record of the proposer/s for expertise and delivery (quality, time and to budget);
- **Use and development of research skills** – the Council requires research teams to possess the skills relevant to the success of the project and also favours projects which assist in developing research capacity, particularly in previously disadvantaged groups;
- **Collaboration** - the Council places a high priority on collaboration between researchers and the "teams of excellence" approach. Thus, the means of soliciting research proposals is intended to stimulate collaboration between centres of excellence and individual experts in order to optimise the use of the Council funding and the research outcomes.
- **Development of key indicators** – the Council recognises the challenge in assessing performance and improvement in health, as opposed to safety, in the mining industry. There is a lack of suitable occupational health (OH) indicators and baseline data. Thus innovative and robust research to develop relevant OH indicators and baseline values will be favourably considered.

The Council's research and implementation programme consists of occupational health and safety, addresses occupational medicine and hygiene, rock engineering, engineering and machinery, behavioural issues and technology transfer processes.

Each proposal must:

- Address only the research topic advertised and this must be specified;
- Be in the format indicated and the template specified using Word format; and
- Be phased as indicated in the project scope.

SIM 07 05 01**Thrust**

Thrust 5, Machinery and Transportation

Problem Statement/ Research Question

Rail related fatal accidents shows an increase in the short term (last 5 years), and stayed on the same level for the last 15 years.

GAP Analysis (Statistics/ Previous Research/Best Practice/ Benchmarking)

GAP 520, SIM 020503, GAP 703, SIMGAP 635, SIM 030504

Expected Impact on OHS/ Value Added

- Improved safety records
- Understanding of main causes of the accidents

Project title

Rail bounded transport safety (Phase 1)

Motivation

An analysis of the past five years SAMRASS data into rail system accidents on SA Mines shows that these accounts for approximately 10% of all fatal accidents. That is almost in total agreement with the findings of the previous MHSC project, GAP 520, which is finalized in 1999. Other important findings were:

- Rail equipment design has not changed much for the last 20 years
- Local rail system accident rates are higher than those of the selected other countries
- Worker discipline and safety awareness are generally of a low standard
- Major causes of accidents are walking on or next to the track, derailments and collisions.

Current legislation for rail bound transport didn't have an impact on safety stats.

Primary outputs

Best practice document to improve safety of underground transport

Scope

1. critically review all previous reports/research documents and compare it with current situation
2. Most importantly do an in-depth investigation of the stats and enquiry reports in order to find the real causes / conditions behind accidents (also technical vs. human factors)
3. Identify gaps within current codes of practice - investigate the implementation of current legislation to improve knowledge sharing between groups and over-all coordination to share learning points
4. draft document with suggestion for further actions.

Estimated duration

12 months

Typical recipients of the Report/Main Outputs

MHSC stakeholders, mining industry

Requirement for technology transfer

Phase 1 project, only knowledge/info transfer.

Special skills and facilities required by project team

Experience in rail-bound transportation, accident and statistical investigations, mining.

SIM 05 08 03

Thrust

Thrust 8, Occupational Deceases

Project title

Post traumatic stress disorders in the South African mining industry

Motivation

- Problem statement

The mental health problems associated with disasters are varied from transient responses to minimal stressors to a more chronic and significant impairment following such an event. The significant impairment are chronic mental disorders that have tremendous **impact on the individuals** often affecting their social, occupational and interpersonal functioning. Following major disasters and trauma, a number of chronic mental disorders have been **identified** in the **survivors** and **their** family and social networks. . Some of the more significant impairments and **disorders** are **acute stress** disorder beginning within **2days** of the event and lasting up to 4 weeks and Posttraumatic Stress disorder (PTSD) persisting for more than 30 days after exposure or occurring after a delay of months to years.

- Additional information

South African Mining industry is diverse, vast in its operations and occurs at great depths. In spite the advanced technology in engineering and processes, mine accidents are still **common** and disasters still occur from time to time. Accidents still remains a major challenge despite **much reduction** in the past years.

Mine accidents are major trauma that has the potential to cause **severe** mental health problems like posttraumatic stress disorder (PTSD) long after attention had been paid to the **serious effect** of physical injuries of the employees.

The MHSC commissioned this a post graduate exploratory project in 2003. **Due to lack of interest from** students, this was converted into a full project in September 2005

- Gap analysis

Health 712 and SIM 03 02 01 found that 21% of miners use alcohol and **cannabis** to **cope** with stress of working underground. Despite these 2 studies, no MHSC studies **have been** done on PTSD.

- Impact and **or** added value

Primary outputs

1. Identify and describe the existence and prevalence of PTSD as part of mental health problems in the South African Mining Industry.
2. Describe and Identify risk factors , determinants and manifestations of PTSD in the mining Industry
3. Review the systems of managing mental health disorders and interventions following disastrous incidents in the mining industry.
4. Recommend key issues to be addressed on improving the diagnosis and management of PTSD in the mining industry

Scope

The project should involve the identification of critical parameters that pertain to **PTSD**. This should include an initial desk top review of local and international literature on **PTSD** in the mining industry. Review new and old technology on diagnosis of PTSD relation to the industry, locally and internationally. Review past related SIMRAC research.

Estimated duration

18 months estimated

Typical recipients of the Report/Main Outputs

Industry occupational health services (occupational health and Safety, medical practitioners), **EAP** service practitioners, MHSC and structures, HR and mine managers

Requirement for technology transfer

A report on hard copy as well as **CD**

Special skills and facilities required by project team

A team comprising of occupational medicine/ health; mental health and Psychiatry