

NOTICE 1857 OF 2005**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-research programme, the Council has the following goals:

to indicate the current research needs for research to commence in the 2006/2007 cycle; 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 cgomescsimpross.co.za or visit the SIMRAC website www.simrac.co.za to download the submission template.
2. Queries regarding the aims and objectives of the thrusts listed in this notice can contact the following persons:
Occupational Safety: Duncan Adams at dadams@simpross.co.za (011 358 9184)
Occupational Health: Audrey Banyini at abanyini@simpross.co.za (011 358 9183)
SIMRAC Chairperson: Piet Botha at pieter.botha@dme.gov.za (012 317 9303)
Proposal Submission: Cecile Gomes at cgomes@simpross.co.za (011 358 9190)
3. Proposers are requested to take note of past work in the different thrust areas. (Details are available on website www.simrac.co.za)

Guidelines for the Council postgraduate research and Ethics Guidelines are obtainable from nwoods@simpross.co.za

4. The closing time and date for the receipt of the proposals is 12:00 on Monday 07 November 2005. 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 offices
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 attached to this Notice.
8. In compiling proposals, prospective proposers should provide details of methods, identifiable outputs and estimated costs as indicated.
9. 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.
10. The Council requires full disclosure regarding all subcontracts included in the proposal.
11. 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.
12. 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.
13. The period for which the proposals should be held valid is 150 days.
14. 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.
15. The anticipated commencement date of the projects is 1 April 2006.
16. Each successful proposer may, during the contract period or shortly after its completion, be required to provide:

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

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 programme for 2006/7.
20. 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:

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

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%
- Management - 10%
- Employment Equity & Skills development - 40%
- Preferential Procurement - 30%

Objectives of the Council research programme

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

- Obtain and evaluate information to establish evidence-based risk assessment, standard setting and health and safety performance measurement;
- 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;
- 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;
- 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
- 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 06 01 01**Thrust 1: Human Factors/Behavioural Safety****Project Title**

The development of practical guideline on fatigue management with specific reference to the mining industry

Motivation

Fatigue management in the South African industry as a comprehensive and coordinated entity is non-existent. Fatigue is a complex state characterised by a lack of alertness and reduced mental and physical performance, often accompanied by drowsiness. Human fatigue is multi-factorial and could be either work-related or non-work-related. Typical causes of operator fatigue include:

- Disruptions in circadian rhythms associated with phase shifting in sleep/wakefulness cycles;
- Insufficient sleep duration (< 7-8 hrs);
- Poor sleep quality (awakenings);
- Duration of daily duty periods;
- Effect of work environment e.g. sub-optimally designed shift schedules (unusual work schedules; housing; nutrition, organisational culture)
- Certain medical conditions (e.g. obstructive sleep-apnoea syndrome) and medications;
- Substance use and abuse, and
- Lifestyle.

Fatigue can pose an occupational health and safety hazard to the individual and colleagues. SIMO40901 represent the initial initiative to address fatigue management currently piloted in one mine.

Primary outputs

Phase 1: Detailed report on assessment of risk and fatigue management. This should include feasibility on elements on fatigue management program and detailed program on piloting the program

Phase 2: Pilot of the fatigue management program. Best practical handbook and guideline on feasible fatigue management program in the mining industry

Scope

Literature review of fatigue and fatigue management programs. Assess the various factors in the mining industries including current existing strategies if any. Assess different models of fatigue management and establish through this research the best applicable for different levels of operations underground or surface. The researcher must also draw lessons learnt from previous SIMRAC projects previous SIMRAC research done from 1993 to date. Consider learning points from SIMO40901. Review the feasibility of including the following aspects on fatigue management program

- Organisational culture and management commitment;
- Management-worker communication;
- Ongoing communications on fatigue management;
- Shift scheduling;
- Fatigue-specific (purpose designed) medical assessment of fitness for work;
- Education and training;
- Physiological monitoring;
- Monitoring of implementation of fatigue management program and success thereof, and
- Review and feedback to stakeholders.

Estimated Duration

Phase 1: 12 month
Phase 2: 18 months

Estimated Cost

Phase 1: R600 000
Phase 2: R600 000

Typical recipient of the report

MHSC and stakeholders

Required technology transfer

Detailed report on assessment of risk and fatigue management

Special skill and facilities required by project: Amongst others as listed but not limited to:

- Ergonomic
- Occupational medicine
- Psychologist
- Physiologist
- Behavioural scientist

SIM 06 02 01**Thrust 2: Rockfalls****Project title**

Rockfall Elimination Programme

Proposals for the project are NOT being sought at this stage. SIMRAC is seeking to appoint a lead organisation to collaborate with the Mine Health and Safety Council in managing and shaping this important programme. An invitation is extended to experienced individuals/organizations to apply for the task of scoping this long term programme and to carry out the initial programme of work indicated below. Details of the organisation, proposed leader and project team and any envisaged sub-contractors should be submitted with curriculum vitae.

Motivation

Rockfalls still remain the highest cause of fatalities in the South African mining industry, even though it is not an insurmountable technical problem and on which the MHSC has expended considerable resources. Although progress has been made in the last decade to addressing this problem, some sectors are performing better than others. The Leon commission in 1995 identified rock related issues as one of the issues that should be controlled in order to improve safety for all who work in the mining industry. There are two aspects to the rock related problem; one is rockfalls and the other is rockbursts. In 2005 the MHSC initiated a long term programme to deal with rockbursts. The issue of rockfalls now needs to be tackled in a similar manner through a long term programme of work. The programme will address the many aspects of rockfalls through shorter term projects but all contributing to the long term programme that will see rockfalls reduced on all South African mines.

The Council now seeks to appoint a lead organisation/individual to scope a long term programme to contribute to the rockfall problem, identifying root causes and providing solutions to eliminate their effect.

Some issues have already been identified as needing to be addressed. These issues are:

- Review of stope and tunnel design theory and practice
- The risk of mining layouts and support designs
- Survey and evaluation of face support systems for tabular hard rock mines
- A survey of rock related safety at shift start-up

They should be integrated into the long term programme and tackled in the first year if possible.

Primary outputs

1. Appointment of a lead organisation/project leader who will scope a long term programme in the industry to radically reduce rockfall incidents, fatalities and injuries.
2. A scope of work over the next 5 years that will measurably reduce the loss caused by rockfalls in the industry, including suggested areas of concern in the first year.
3. Outputs from the four areas
 - Review of stope and tunnel design theory and practice.
 - The risk of mining layouts and support designs
 - Survey and evaluation of face support systems for tabular hard rock mines
 - A survey of rock related safety at shift start-up.

Scope
Year 1
Phase 1

Phase I of the project will be to scope the rockfall programme in detail for the first year, including the issues raised by the industry, and in considerable detail for the remaining 4 years .

Phase 2

Address the immediate issues raised by the mining industry. These issues include but are not limited to the following:-

- Review of slope and tunnel design theory and practice

- The risk of mining layouts and support designs

- Survey and evaluation of face support systems for tabular hard rock mines

- A survey of rock related safety at shift start-up

Year 2–5

Details to be determined during the scoping exercise

The programme will cover all mining sectors, addressing the problems of rockfalls

Estimated duration and cost

Year 1:

Phase 1: 3 months R200 000

Phase 2: 9 months R2 300 000

Years 2–5

Cost to be estimated in the scope during year one and refined at the start of each year

Typical recipients of the Report

Council committees, the DME, rock engineers and mine management.

Requirement for technology transfer

Detailed long term programme for rockfall elimination

Special skills and facilities required by project team

Applications are invited of suitable candidates and/or organisations that will be capable of scoping a long term rockfall programme. The successful candidate/organisation will possess knowledge in the field of rockfalls, have experience in mining and research and have a good track record in the industry of delivery of outputs. The ability to manage different research topics related to the overall rockfall programme, sometimes in different organisations, will be a necessity.

SIM 06 05 02**Thrust 5: Machinery and Transportation Systems****Project title**

Develop a best practice guide for the design, installation, operation and maintenance of scraper winch systems

Motivation

The SAMRASS data shows that scraper systems account for 9% fatalities and 26% injuries in the transportation and machinery thrust area, which itself accounts for 25% fatalities and 22% injuries in the whole mining industry. Scraper accidents rank third highest in risk prevalence, (behind locomotives and trackless mobile equipment) within this thrust. It is generally believed that there are many varieties of practices applied to scraper winches at mines at which they are installed. SIM 03 05 01 concluded that the main causes of scraper related accidents were human factors, ranging from poor supervision, to non-compliance with standard procedures. The aim of this study is to investigate a variety of installations, with regards to design, operation and maintenance issues thereby gaining an understanding to enable the compilation of a best practice document for scraper systems used in the South African mining industry. A holistic approach to be followed to assess the whole scraper system, including mono winches.

Primary outputs

A best practice guide document on the design, installation, operation and maintenance of scraper winches systems.

Scope

This work must include a review of the SAMRASS database, to gain an understanding of the circumstances under which most scraper accidents occur. Site visits of at least 4 gold and 6 platinum mines will be undertaken to review the following aspects:

- > Design issues.
 - Rigging procedures.
 - Signalling/communication systems, including radio communications and their applicability in the underground environment.
- Any other aspects of relevance to the accomplishment of the primary output.
- Perusal of SIM 030501.

Estimated duration and cost

12 months at R 480 000

Typical recipients of the Report

MHSC stakeholders

Requirement for technology transfer

Report and two workshops, one in the Carletonville area, and the other in the Rustenburg area.

Special skills and facilities required by project team

Technical analytical skills, hands-on engineering experience on the mines and research skills.

SIM 06 05 03,**Thrust 5: Machinery and Transportation Systems****Project title^o**

Identify the reasons for electrical accidents in SA mines

Motivation

The SAMRASS database has indicated a sudden increase in fatal accidents caused by electrocution in the South African mining industry. During the period 2001 and 2004 (inclusive), electrocutions have accounted for about 4% of fatalities in the Machinery and transportation thrust area. However, the period between 2001 and 2005 showed an increase to 10%. This represents about 7 people losing their lives per annum due to electrocutions. This risk cannot be ignored. SIMRAC has not undertaken any research into this problem.

This project aims to investigate the extent to which electrocutions in the mining industry can be mitigated.

Primary outputs

A report explaining the main reasons for fatal electrocutions in the South African mining industry, and suggestions for their mitigation.

Scope

Review the SAMRASS data and any other credible source of information and establish the reasons for electrocution fatalities. Conduct interviews with the mining industry role players (including members of the CM&EE, SACEA and AMRE) to obtain a balanced view of this problem. Explore possible solutions and recommend specific areas of further research, if any. The following areas must be investigated:

- The effectiveness of training of electrical artisans.
- Compliance issues, i.e., with regulations and mine standards.
- Power failure problems.
- Review the Department of Labour electrical regulations in light of reducing fatal accidents
- Review lock-out procedures (at a high level only) prior to working on electrical equipment.

Estimated duration and cost

8 months at R 450 000

Typical recipients of the Report

MHSC stake holders

Requirement for technology transfer

Report carrying a list of potential problem areas and solutions.

Special skills and facilities required by project team^m

Research and electrical skills.

SIN! 06 06 01

Thrust 6: Physical hazards

Project Title

Project on the status (base lining) of silica dust and noise exposure in the mining industry

Motivation

The 2002 Mine Health and Safety Council summit, calls for certain targets on noise and silica dust to be achieved by 2008 and 2013. There is currently no industry baselines on dust and noise that can be referred to as well as inform on progress direction towards the milestones. This project will amongst other address these noise and dust issues. The project will also serve as an independent verification on statutory returns by industry and analysis data and feedback by state. This project must not duplicate the outputs SIM 030603 Silicosis Track B which are:

- Risk assessment to identify the priority dust sources and the applicable control technologies
- Assess the filtration efficiency for respirable dust of the current filter media used for dust control.
- Compile internationally-accepted Best Practice procedures and manuals, for dust control
- A set of Best Practice manuals, procedures and new equipment to assist in identifying and quantifying dust sources and designing appropriate measures to control the occupational health stressor.

The project must also not duplicate the output of Track A which are

- Evaluate the techniques used in South African mines for determination of exposure to respirable crystalline silica. This includes the sampling instrumentation; sampling strategies, sample analysis, quality assurance/control and reporting which will be compared with best practice.
- Review and assess techniques used in South African laboratories for respirable silica analysis on filter samples and the implementation of an international quality control check with standard samples on the laboratory analysis performance
- Develop standard samples for instrument calibration for quartz analysis
- Develop a manual of best practice for the assessment of exposure to respirable crystalline silica. Will include but not be limited to appropriate air sampling equipment, air sampling equipment preparation, field survey procedures including filter handling, sampling strategies, gravimetric determination, analytical methodologies for crystalline silica, laboratory quality assurance and reporting
- Develop a manual of best practice to assess the engineering and other control measures in place to minimise exposure to crystalline silica
- Review inspection/enforcement around the world with regard to silicosis prevention
- Develop a manual of best practice for the Inspectorate to assess worker exposure to respirable crystalline silica and the verification of mine data

Primary outputs

- Report on current baselines on elements of the milestones targets in 9 months time
- Biannual report until 2013 or until 2 subsequent reports indicate improvements and sustenance

Scope

Current Baseline status on dust and noise

Progress status on noise and dust at 9 months, June 2007, June 2009, June 2011 and June 2013

- *Noise*

The project will conduct amongst others survey on the availability and effectiveness of engineering noise controls sampled across small to large mines as defined by DME. Evaluate noise exposures

in high risk workplaces. Conduct worker audiometric evaluations, assess worker use of hearing loss protective devices and evaluate hearing loss preventative policies and standards. Evaluate noise data submitted to DME and analysis, feedback and motoring. Survey workers medical information .

Dust

The project will conduct amongst others survey on the availability and effectiveness of engineering dust controls sampled across small to large mines as defined by DME. Evaluate dust exposures in high risk workplaces. Conduct worker silicosis evaluations, assess worker use of respiratory protective devices in high risk workplaces and evaluate silicosis preventative policies and standards. Evaluate dust data submitted to OME and analysis, feedback and motoring. Survey workers medical information .

Estimated Duration

The project is in 5 phases each lasting 9 months, repeated every 2 years until 2013. Each phase will look at all elements identified in the scope. Provide key elements that may have worsen from the baseline

Estimated cost

R750 000 phase I linked to inflation rate on a yearly basis

Typical recipients of the report

MHSC stakeholders

Requirements for technology transfer

- Report on industry (small, medium and large) milestones baselines
- Annual subsequent reports

Special skill and facilities required by project includes but not limited to

- Occupational medicine^e
- Occupational hygiene
- Epidemiologist/statistician
- Data capture
- Engineer

SIM 06 08 01

Thrust 8: Occupational diseases

Project title

Dermatitis in the SA mining industry

Motivation

The SIMRAC Handbook on Occupational Health Practice chapter on occupational skin disorders in the mining industry reviewed all the available information regarding the SA mining industry. The review indicated that occupational skin disorders have been largely unrecognised and underreported, much less researched. The little available evidence indicates that dermatitis is the commonest occupational skin disease in SA miners, accounting for over 60% of skin conditions referred to a dermatologist and that gold, platinum and coal mining (underground and surface) are represented. The diversity of mining and processing operations and exposures to known skin irritants and allergens make occupational dermatitis a priority area for SIMRAC research.

Primary output: Practical guide on occupational skin disease control program for the mining industry

Scopes

Phase I

- Review of dermatitis in mining and processing, priority exposures, assessment and management programmes and tools, and cases submitted for compensation;
- Survey of occupational health practitioners in the mining industry to identify current practice in dermatology;
- Incidence and prevalence studies of dermatitis in a representative sample of mines;
- Analysis of tasks of symptomatic individuals and to identify and prioritise exposures;
- Occupational engineering assessment of potential exposures to create a task/ exposure matrix;
- Health and engineering guidelines and tools to prevent, assess and manage occupational dermatitis; and
- Report on Phase 1 and detailed proposal for Phase 2.

Phase 2

- Development of CD based occupational skin disease control programme for the mining industry; Development of a clinical performance review programme for occupational skin diseases;
- Regional seminars to launch the training products and programme .
- Establish an on line CPD submission, consultant advisory service and accreditation for participating mine occupational health practitioners and an advisory service for engineers; and
- Report on Phase 2 process, problems and planned solutions-
- In a selected sample of research mines, evaluate the post-intervention identification and reporting of occupational dermatitis;
- Evaluate the health and engineering case problem submissions and the training products produced in Phase 2 and update with feedback from clinical review programme and engineering participants; and
- Report on the evaluation of the intervention and recommendations to ensure sustainability.

Phase 1: This phase must include review of submission rates to RMA and COID commissioner. The surveys must be conducted to represent all major commodities, geographical position and underground! surface operations (10 mines). Surveys should be conducted at the time of routine medical examination! screening of miners .

Phase 2: The CD programme must include clinical and engineering components ;

Estimated duration

Phase 1: 12 months

Phase 2: 12 months

Estimated Cost

R600 000 over 24 months

Typical recipients of the report

MHSC stakeholders, Occupational practitioners,

Requirement for technology transfer

- Report Health and engineering guidelines and tools to prevent, assess and manage occupational dermatitis
- Booklet/CD program on clinical and engineering components of the **report**

Special skills and facilities required by project team

- Occupational dermatology,
- Occupational /environmental engineering

SIM 03 09 01(c)

Thrust: 9 Special Projects

Project Title

Development of criteria and evaluation tools applicable to different models for provision of comprehensive medical services in the mining industry

Motivation

SIMRAC Health 801 undertook an audit of the medical care facilities in the South African mining industry. The outcomes of the project were recommendations on the provision of emergency care on the coordination of emergency medical response, medical equipment, transport and information systems, monitoring and evaluation. This comprehensive system has financial implications and thus the research to look into the needs of individual mines. Health 801 also proposed the possibility of collaboration amongst mines, provincial public and private sectors

SIM 030901 proposed to define models of emergency care, positive outcome indicators and a risk assessment guideline.

Primary outputs

Risk assessment guideline and positive outcome indicators for different models of emergency care report

Scope

Review of literature including SIMRAC research completed to date on emergency systems, current existing models of emergency care systems locally and internationally. Review current forms used by paramedics, medical and safety personnel. Conduct a workshop with key stakeholders including mining industry, and experts to collect the necessary data.

Estimated Duration and cost

12 month at R278 000.00

Potential impact on health and safety risks

Reduced morbidity and mortality as a result of mine accidents

Required technology transfer

MHSC and stakeholders. Emergency care personnel, health practitioners and safety managers

Special skill and facilities required by project

- Occupational medicine
- Emergency care medicine
- Medicine

SIM 04 09 05**Thrust 9: Special Projects****Project title^e**

A reference database of significant risks and suggested controls

Motivation

Accidents that have occurred at one mine still occur at other mines. It is not possible to make all mines aware of all accidents, and their circumstances, that surrounded that accident and then what types of accidents reoccur. This is viewed as a major gap in the dissemination of information that could make a difference in the industry, with regards to safety. This study aims to compile a database (or "tool box") of commonly occurring incidents and accidents, stating the event, possibly causes and recommended control tools that could be put in place to ameliorate the risk. The database would be available to all mines and would particularly benefit small mines, as they would not have the resources to generate their own information bases.

Primary outputs

A database that identifies common accidents and control measures that may be put in place to reduce the risk.

Scope

Identify repeat accidents and list the activities associated with them.

Conduct an activity based risk assessment for each.

Identify the controls that can be put in place .

Estimated duration and cost

12 Months at R 450 000

Typical recipients of the Report
MHSC stakeholders**Requirement for technology transfer^f**

CD

Special skills and facilities required by project team^m

Safety on the mines experience and research and writing skills. An engineering qualification will be an advantage.

SIM 06 09 01**Thrust 9: Special projects****Project Title**

Searchable SIMRAC and other research

Motivation

SIMRAC has over the years produced excellent research materials that can be found in a number of CD's, handbooks and documents posted on its website using PFD files. Some documents are only in hard copies as specified contractually then. The website has also evolved over the years, however, lacks the current search technology engine links and bookmarks. An easy access/search of SIMRAC data is also necessary.

Primary outputs

- Electronic reports with bookmarks and links
- DVD

Scope

Copy, update, bookmark and all research done and completed by SIMRAC to date

Estimated Duration and cost

12 months at R500 000

Typical recipients of the report

MHSC stakeholders

Special skill and facilities required by project includes but not limited

IT

Data capture

Proof reader

SIM 06 09 04**Thrust 9: Special Projects****Programme title**

Integration of leading indicators with modern technology transfer tools

Separate proposals should be submitted for the two tracks :

TRACK A - Safety

Project Title**Leading indicators for mining safety****Motivation**

A considerable amount of data is available through the DME SAMRASS database to evaluate the past performance of the mines. These are referred to as lagging indicators of performance. However, in seeking to affect change in the mining industry, tracking the lagging indicators will mean that the approach taken to improving safety is reactive, or after the fact. By being proactive by putting in place interventions and tracking their implementation, the success or otherwise of these can be monitored and refinements made if necessary. However, it is important to identify the important leading indicators and decide how these are implemented, monitored and measured. Leading measures need to be identified for the mining industry and if necessary specifically for different mineral or mining sectors. With the advent of computers and modern training tools it should now be possible to convey clearly and effectively the leading indicators for improved mining safety. There should also be a means of monitoring and measuring the leading indicators so that a database can be established to allow tracking of the indicators on a particular mining operation. This data should be in a standard format that is retrievable so a general data base for all mines in South Africa can be built. Modern technology and/or communication techniques should be used to convey new knowledge to a wide range of production personnel on an on-going basis-

Primary outputs**Phase 1:**

Identify leading indicators – consolidate work done nationally and internationally on mine safety leading indicators

Phase 2:

Techniques that will assist with monitoring and measuring the leading indicators that will contribute to safety on mines.

Phase 3:

Booklets, comics or any other means for conveying safety messages, including leading indicators, to mining personnel at all levels on an on-going basis-

Scope

Phase 1: Identify the main leading indicators that should be monitored and measured that will contribute to safety performance in the mines.

Phase 2: Capture identified leading indicators and analyse their usefulness and contribution to safety. This will involve extensive field work on various mines in all sectors.

Phase 3: Investigate means for building a database of leading indicators that will be useful for a mine and the industry in contributing to safety performance.

Pilot the idea/s in a cross section of the mining industry

Investigate modern ways of transferring safety knowledge in meaningful ways to all production personnel.

Estimated duration and cost

Phase 1 year 1: 6 months R200 000

Phase 2 year 1: 6 months R400 000

Phase 2 year 2: 6 months R300 000

Phase 3 year 2: 6 months R400 000

Typical recipients of the Report

Safety Representative, rock engineers, mine managers, DME

Requirement for technology transfer

Robust software and hardware, reasonably priced equipment

Special skills and facilities *required by project team*

IT capability, communication skills

Track B - Health

Project Title

Best practice on improved diagnostic tools for early diagnosis of occupational disease^S

Motivation

The unchanged prevalence of silicosis especially in gold and coal sectors over a decade, as well as tuberculosis and noise induced hearing loss remain an occupational health challenge for the mining industry. There have been several SIMRAC research projects on occupational respiratory diseases and noise induced hearing loss, however no research has been done on best practice on improved early diagnostic tools. As health performance lack clear lead indicators and has always been measured in lag indicators, the development of the best practice document will help identify the pointers. In this instance of medical diagnosis, the diagnostic tools are 'early lagging' indicators, i.e. lead indicators.

Primary outputs

Phase 1:

Detailed guidelines report on early lagging indicators diagnostic tools of occupational diseases

Phase 2:

Techniques that will assist with monitoring and measuring the early lagging indicators that will contribute to early diagnosis of occupational diseases.

Phase 3:

Booklets, comics or any other means for conveying early diagnosis of occupational diseases, including early lagging indicators, to mining personnel at all levels on an on-going basis-

Scope

Phase 1:

Literature review of research done locally and internationally on focussed practical diagnostic tools ('lead indicators'), that can be used in early diagnosis of occupational diseases focussing on but not limited to silicosis, pulmonary tuberculosis and noise induced hearing loss.

Phase 2:

Capture identified early lagging indicators and analyse their usefulness and contribution to early diagnosis of occupational diseases. This will involve extensive field work on various mines in all sectors. Conduct stakeholder workshops to discuss results prior to final product.

Phase 3:

Investigate means for building a database of early lagging indicators that will be useful for a mine and the industry in contributing to health performance.

Pilot the ideals in a cross section of the mining industry.

Investigate modern ways of transferring early diagnosis of occupational diseases knowledge in meaningful ways to all production personnel.

Estimated duration and cost

Phase 1 year 1: 6 months R200 000

Phase 2 year 1: 6 months R400 000

Phase 2 year 2: 6 months R300 000

Phase 3 year 2: 6 months R400 000

Typical recipients of the report

MHSC stakeholders

Requirement for technology transfer

Guideline report on medical leading indicators' (early lag indicators)

Special skill and facilities required by project among others but not limited to :

- Occupational medicine
- Audiologist
- Radiologist
- Pulmonologist

AGREEMENT

between

THE CHIEF INSPECTOR OF MINES
("the Chief Inspector")

and

(INSERT]
("the Contractor")

TABLE OF CONTENTS

	Page No-
1. Introduction	3
2. Definitions	3
3. Engagement	6
4. Duration	6
5. Obligations of the Contractor	7
5.1 General	7
5.2 The Project Schedule, the Progress Reports, Financial Status Report, Invoices and the Final Project Report	7
5.3 Project Asset	9
5.4 Equipment for Test, Evaluation and Discard Purposes	9
5.5 Inspections	10
5.6 Research presentations	10
5.7 Delays and Extensions	10
5.8 Sub-Contractors	12
6. Total Project Price	12
7. Payment	15
8. Confidentiality	16
9. Intellectual Property	18
10. Breach	19
11. Miscellaneous matters	20
11.1 Addresses	20
11.2 Entire contract	21
11.3 Variation, cancellation and waiver	21
11.4 Indulgences	21
11.5 Cession	21
11.6 Governing law	21
11.7 Counterparts	21
11.8 Warrant of authority	22
11.9 Costs	22

1. Introduction

1.1 The Chief Inspector, acting through the Committee, wishes to engage the Contractor to carry out the Project in accordance with the Proposal and the Contractor wishes to accept such engagement.

1.2 The Parties wish to record their agreement in writing .

2. Definitions

2.1 In this Agreement, unless inconsistent with the context, words referring to:

2.1.1 gender include a reference to the other gender;

2.1.2 the singular includes the plural and vice versa;

2.1.3 natural persons include artificial persons and vice versa .

2.2 Clause headings are inserted for convenience only and shall not be used to interpret this Agreement .

2.3 If there is any conflict between the terms of the body of this Agreement and the terms of the Proposal or any other schedule hereto, the terms of the body of this Agreement shall prevail .

2.4 Phrases and words defined in a clause shall bear the meaning assigned to them in such clause only and the following terms bear the meanings assigned to them:

2.4.1 'the Act' means the Mine Health and Safety Act 29 of 1996, as amended;

2.4.2 "the Agreement" means this agreement, the Proposal and any schedules attached hereto;

2.4.3 "Certificate of Completion" means the certificate issued by the Committee after the submission of the Final Project Report which certificate certifies the Committee's satisfaction that the Project is complete according to the final project deliverables;

2.4.4 'the Chief Inspector' means the Chief Inspector of Mines appointed by the Minister of Minerals and

Energy in terms of section 48(1) of the Act or her authorised nominee;

2.4.5 "the Committee" means the Safety in Mines Research Advisory Committee established as a permanent committee in terms of section 41(2)(c) of the Act;

2.4.6 "the Contractor" means (insert);

2.4.7 "the Equipment for Test, Evaluation and Discard Purposes " means any equipment with an initial value of RiO 000,00 or more purchased by the Contractor on behalf of the Chief Inspector which equipment includes, amongst others, any machines, motors, instrumentation, computer hardware and software, patents and designs, with an estimated useful life of less than one year, or that will be discarded of during the period of the project;

2.4.8 the Financial Status Report" means the financial information submitted to the Committee by the Contractor as contemplated in clause 5.2.4.2;

2.4.9 "the Invoices" means the invoices submitted to the Committee by the Contractor in terms of clause 7.1.1;

2.4.10 Intellectual Property means any new or useful process, machine, composition of matter, life form, article of manufacture, software, copyrighted work, know-how and information associated with these. It includes but is not limited to improved devices, circuit layouts, chemical

- 2.4.18 "the Project Leader" means the team leader overseeing the Project as identified in the Proposal;
- 2.4.19 "the Project Schedule" means the timetable of the Project submitted to the Committee contemplated in clause 5.2.2;
- 2.4.20 "the Proposal" means the proposal submitted by the Contractor to the Committee outlining the manner in which the Contractor proposes conducting the Project, specifying the deliverables of the Project and detailing dates on which Progress Reports, Financial Status Reports and Invoices shall be submitted to the Committee which Proposal is attached hereto as Schedule A;
- 2.4.21 "Signature Date" means the date of signature of this Agreement by the Party last signing; and
- 2.4.22 "the Total Project Price" means the amount paid to the Contractor by the Chief Inspector in terms of clause 6 (Total Project Price including VAT) -

3. Engagement

The Chief Inspector hereby engages the Contractor, which engagement the Contractor accepts, to carry out the Project in accordance with the Proposal .

4. Duration

This Agreement shall commence on the project commencement date and shall remain in full force and effect until each Party has performed its respective obligations in terms hereof unless terminated earlier either by mutual written agreement between the Parties or in terms of clause 10 (breach). In the case of multi-year projects continuation of the project from one year to the next will be subject to satisfactory progress and levy funds being available.

5. Obligations of the Contractor

5.1 General

The Contractor shall:

- 5.1.1 conduct and execute the Project in a professional manner;
- 5.1.2 ensure that all strategic and key personnel and experts as named in the Proposal remain, as far as possible, committed to the Project. In the event that the Contractor determines that it requires the replacement of strategic and key personnel and experts at any time during the currency of the Project, it must consult with the Committee in this regard and must obtain the Committee's written approval as to the identity of such replacements prior to their appointment;
- 5.1.3 strictly comply with all relevant provisions of legislation, regulations and ordinances with special regard to the provisions of the Employment Equity Act 55 of 1998, where applicable; and
- 5.1.4 endeavour to promote, to the best of its ability, the employment and sponsoring of previously disadvantaged persons.

5.2 The Project Schedule, the Progress Reports, Financial Status Reports, Invoices and the Final Project Report

- 5.2.1 In the event of the Project involving human subjects, the Contractor must submit to the Committee a clearance certificate from an accredited ethics committee prior to such human subjects becoming involved or being utilised in the Project.
- 5.2.2 The Contractor shall include in his/her Proposal a timetable giving estimated Project completion levels to be attained during the currency of the Project, which shall be submitted to the Committee as part of the approved proposal attached to the Agreement prior to any work being commenced on the Project. The Contractor may amend the original timetable in the Project Schedule but only with the express written agreement of the Committee. The Project Schedule shall confirm:
 - 5.2.2.1 the Project Commencement Date;
 - 5.2.2.2 Expected milestone deadline dates; and

- 5.2.2.3 the Project End Date.
- 5.2.3 The Contractor shall submit quarterly progress reports in the prescribed format indicating the estimated per cent completion of the total project to date. Each Progress Report shall record the work completed on the Project up to and including the date of submission and shall provide sufficient details so as to allow a quantitative assessment by the Committee of the actual progress made by the Contractor on the Project.
- 5.2.4 Each Progress Report shall be accompanied by :
- 5.2.4.1 A confidential statement that lists the essence of the intellectual property that has been developed during the period in question .
- 5.2.4.2 a Financial Status Report detailing all expenditures and costs incurred by the Contractor in connection with the carrying out of the Project ;
- 5.2.4.3 a Gantt chart reflecting progress made to date versus the contractual time schedule; and
- 5.2.4.4 an updated copy of the project Asset Register .
- 5.2.5 Within six weeks of the Project End Date, the Contractor shall submit to the Committee:
- 5.2.5.1 a Draft Final Project Report detailing an overall review of the Project ;
- 5.2.5.2 a comprehensive and detailed Financial Status Report in respect of the entire duration of the Project including a project asset register
- 5.2.6 The Progress Reports, Financial Status Reports, Invoices, Interim Reports, Final Project Report, Gantt charts, Intellectual Property Statements and the Project Asset Register submitted to the Committee by the Contractor in terms of this Agreement shall comply with any format which the Committee may, from time to time, specify to the Contractor .
- 5.2.7 The Contractor shall, at all times, maintain a complete set of accounts relating to the Project which shall include, amongst others, full details of all disbursements made by the Contractor in connection with the Project. Such information shall be summarised by the Contractor in the Financial Status Report.

5.3 Project Assets

- 5.3.1 Procurement of Assets vests with the Contractor. The Contractor shall at all times ensure that the most competitive prices are obtained for such equipment .
- 5.3.2 The Contractor shall properly and descriptively record all Project Assets in the Project Asset Register and shall, at all times, keep such Register up to date.
- 5.3.3 Ownership of the Project Assets shall, at all times, vest in the Chief Inspector of Mines. Nothing in this clause 5.3 shall preclude the Council at any time during the currency of this Agreement or at any time thereafter, from selling or otherwise disposing of the Project Assets, or any part thereof, to the Contractor on any terms agreeable to both Parties.
- 5.3.4 Risk of loss or damage of the Project Assets shall vest with the Contractor and the Contractor shall maintain and keep the Project Assets in good working order.
- 5.3.5 The Contractor shall ensure that the Chief Inspector's interests in the Project Assets are noted on any insurance policy.
- 5.3.6 The Contractor shall, on the written request by the Committee, provide the Committee with copies of the relevant insurance policies and/or documentary evidence that all premiums have been fully paid up.

5.4 Equipment for Test, Evaluation and Discard Purposes

- 5.4.1 It is acknowledged by both Parties that Project specific equipment may be acquired by the Contractor and that it may be wholly or partially destroyed or rendered worthless during the conducting of the Project. The Contractor shall identify such equipment, where possible, in the Project Proposal and subsequently in a separate schedule in the Project Asset Register and note the date on which each of them was destroyed or rendered worthless .
- 5.4.2 The Equipment for Test, Evaluation and Discard Purposes will not be regarded as assets, but will merely be recorded in a schedule of Consumable Project Equipment that will be attached to the asset register
- 5.4.3 The Contractor shall ensure that the Project specific equipment is, at all relevant times, adequately insured.

5.4.4 The Contractor shall ensure that the Chief Inspectors interests in the Project Assets are noted on any insurance policy .

5.4.5 The Contractor shall, on the written request by the Committee, provide the Committee with copies of the relevant insurance policies and/or documentary evidence that all premiums have been fully paid and are up to date.

5.5 Inspections

5.5.1 At any time during the undertaking of the Project, authorised Committee representatives shall be entitled, by prior arrangement with the Contractor, to inspect work in progress on the Project and to request current, interim reports on the Project or any aspects thereof .

5.5.2 On the prior written request of the Committee and during ordinary business hours, the Contractor shall make available for inspection by authorised Committee representatives, any accounting documentation referred to in clause 5.2.7 above, the Project Asset Register and any other documentation pertaining to the Project.

5.6 Research presentations

5.6.1 At any time during the Project or within a reasonable period of time after the Project End Date, the Contractor shall, on the written request of the Committee, prepare a formal written paper on the subject matter of the Project and provide a knowledgeable and competent speaker to present the paper to an invited audience of persons within South Africa .

5.6.2 The Contractor acknowledges that it will receive no payment for such service from the Chief Inspector .

5.6.3 Where the Contractor fails to comply with the request of the Committee as provided for in clause 5.5.1 and where final payment of the Total Project Price has not been made to the Contractor in accordance with clause 6 (Total Project Price), the Committee may, in its sole and absolute discretion, impose a penalty on the Contractor up to a maximum of 5% of the Total Project Price.

5.7 Delays and Extensions

5.7.1 At any time during the currency of the Project, the Contractor may, by way of written application timeously submitted, request of the Committee any

extension it may reasonably require in respect of the Project End Date or an y amendment to the Project Schedule .

5.7.2 The Committee shall consider each application and, at its discretion, may grant the application for any extension by notifying the Contractor in writing of the amended Project Schedule .

5.7.3 In the event of unsubstantiated delays in the Project or partial completion of the Project, the Committee may, at its sole and absolute discretion, undertake an audit of the Project in order to determine the degree of its completion and may revise the payment schedule outlined in clause 6 (Total Project Price). To this end, the Contractor shall give authorised Committee representatives full access to the Project, the Project sites and all documentation pertaining thereto.

5.7.4 Where the Committee decides, at its sole and absolute discretion, that it shall not grant any extension to the Contractor :

5.7.4.1 the Committee shall forward a notice by registered post to the Project Leader demanding that a comprehensive Progress Report be submitted to the Committee within 30 days of receipt of the notice ;

5.7.4.2 the Project Leader shall have an opportunity at any time during the 30 day period, to make representations to the Committee, either verbally or in writing;

5.7.4.3 should the Project Leader fail to respond to the notice within 30 days, the Committee shall issue a final demand allowing the Project Leader a further 30 days to submit the Progress Report. Failure on the part of the Project Leader to do so shall result in the Committee, exercising the following options:

5.7.4.3.1 summarily cancelling the Agreement; and/or

5.7.4.3.2 instituting legal proceedings against the Contractor; or

5.7.4.3.3 imposing on the Contractor a penalty for **late delivery of any part** of the Project in accordance with the following scale:

5.7.4.3.3.1 in the event of a 3 to 6 months delay, up to 5%; or

5.7.4.3.3.2 in the event of a 6 to 12 months delay, up to 15%; or

5.7.4.3.3.3 in the event of more than a 12 month delay, up to 25% ,
of that portion of the Total Project Price that would have been payable
for that part of the Project had such part been delivered timeously .

5.7.5 All decisions, actions and discussions concerning late delivery will be fully
documented by the Committee and forwarded to the Project Leader .

5.7.6 Where a Contractor and/or a Project Leader has fallen foul of the provisions of
clause 5.7.4 above, the Committee may, in its sole discretion, refuse to accept
any future proposals or award any future projects to the Contractor or in
respect of such a Project Leader.

5.8 **Sub-Contractors**

5.8.1 The Contractor may utilise the services of sub -contractors as identified in the
Proposal and the Contractor shall ensure that each sub -contractor maintains,
makes available and submits to the Contractor detailed financial information for
inclusion in the Progress Reports, Financial Status Reports and the Final
Project Report.

5.8.2 The Contractor may only replace a sub-contractor after it has consulted with
and obtained the written approval of the Committee in respect of the proposed
replacement sub-contractor that has been identified .

6. **Total Project Price**

6.1 Subject to any adjustments which may be made to the Total Project Price or
payment schedule of the Project in terms of clause 5.7.3, the Total Project Price
payable to the Contractor by the Chief Inspector in respect of the Project shall be as
provided for in the Proposal and which has hereby been accepted by the Chief
Inspector.

6.2 The Chief Inspector shall be liable for the Total Project Price only and, in the event
of the actual costs of the Project exceeding the Total Contract Price, such additional
costs must be borne by the Contractor.

6.3 **Less than a 90 day Project**

In the event of the Project extending for a period of no more than 90 days, the
following payment terms shall apply:

- 6.3.1 25% of the Total Project Price(excluding project asset payments) shall be paid to the Contractor on the Project Commencement Date ;
- 6.3.2 thereafter and subject to the terms of clause 7 (payment), within six weeks of the Project End Date, the Contractor shall submit its Final Project Report to the Committee in the form specified by and acceptable to the Committee and the Chief Inspector shall pay the Contractor 60% of the Total Project Price, excluding project asset payments;
- 6.3.3 as soon as reasonably possible but within 60 days of submission of the Final Project Report, and subject to it being approved by the Committee, the Committee shall notify both the Chief Inspector and the Contractor of such approval. Provided that there are no residual requirements that need to be satisfied, the notice to the Contractor will be accompanied by the Certificate of Completion. Payment of the final 15% of the Total Project Price (excluding project asset payments) shall then be made.
- 6.4 **Between 90 days and one year Project**

In the event of the Project extending for between 90 days and one year, the following payment terms shall apply :

- 6.4.1 10% of the Total Project Price(excluding project asset payments) shall be paid to the Contractor on the Project Commencement Date;
- 6.4.2 thereafter and subject to the terms of clause 7 (payment), the Chief Inspector shall pay the Contractor the amount reflected in each Invoice submitted to the Committee which Invoices cumulatively shall constitute 60% of the Total Project Price, excluding project asset payments ;
- 6.4.3 thereafter and subject to the terms of clause 7 (payment), within six weeks of the Project End Date, the Contractor shall submit its Final Project Report to the Committee in the form specified by and acceptable to the Committee and the Chief Inspector shall pay the Contractor 15% of the Total Project Price (excluding project asset payments)
- 6.4.4 as soon as reasonably possible but within 60 days of submission of the Final Project Report, and subject to it being approved by the Committee, the Committee shall notify both the Chief Inspector and the Contractor of such approval. Provided that there are no residual requirements that need to be

satisfied, the notice to the Contractor will be accompanied by the Certificate of Completion. Payment of the final 15% of the Total Project Price (excluding project asset payments) shall then be made.

6.5 More than one year Project

6.5.1 In the event of the Project extending for more than one year, the Total Project Price shall be apportioned between the years ("**the annual Total Project Price**"). Prior to each anniversary of the Project Commencement Date, the Committee shall review the Progress Reports of the previous year in order to satisfy itself that sufficient progress is being made in respect of the Project in accordance with the Proposal and shall notify the Contractor, in writing, as to whether it shall continue funding the Project. Should the Committee, at its sole and absolute discretion, determine that insufficient or no progress has been made on the Project during the preceding year, the Committee shall exercise its right to terminate this Agreement in terms of clause 10 (breach) and the Contractor shall have no claim for damages in respect thereof .

6.5.2 Subject to the limitation of clause 4, the following payment terms shall apply to the first and subsequent years (excluding the final year) of the Project:

6.5.2.1 10% of the annual Total Project Price (excluding project asset payments) shall be paid to the Contractor on the Project Commencement Date or on the anniversary of the Project Commencement Date subject to the Committee approving of the continuation of the Project in writing ;

6.5.2.2 subject to the terms of clause 7 (payment), the remaining 90% of the annual Total Project Price (excluding project asset payments) shall be paid by the Chief Inspector to the Contractor as reflected in each quarterly Invoice for that year, excluding project Asset payments.

6.5.3 The following payment terms shall apply to the final year of the Project :

6.5.3.1 10% of the annual Total Project Price shall be paid to the Contractor on the anniversary of the Project Commencement Date (excluding project asset payments) subject to the Committee approving of the continuation of the Project, in writing ;

6.5.3.2 thereafter and subject to the terms of clause 7 (payment), the Chief Inspector shall pay the Contractor the amount reflected in each quarterly

Invoice submitted that year to the Committee which Invoices shall cumulatively constitute 60% of the annual Total Project Price (excluding project asset payments);

6.5.4 thereafter and subject to the terms of clause 7 (payment), within six weeks of the Project End Date, the Contractor shall submit its Final Project Report to the Committee in the form specified by and acceptable to the Committee and the Chief Inspector shall pay the Contractor 15% of the Total Project Price (excluding project asset payments)

6.5.5 as soon as reasonably possible but within 60 days of submission of the Final Project Report, and subject to it being approved by the Committee, the Committee shall notify both the Chief Inspector and the Contractor of such approval. Provided that there are no residual requirements that need to be satisfied, the notice to the Contractor will be accompanied by the Certificate of Completion. Payment of the final 15% of the Total Project Price (excluding project asset payments) shall then be made;

6.6 Payments will only be made by the Chief Inspector on receipt by the Committee of the Progress Reports as provided for in the Project Schedule or any other report which the Committee may reasonably require, in acceptable written form, which in the opinion of the Committee provide evidence of sufficient progress of the Project.

6.7 The Chief Inspector shall pay the Contractor for equipment/assets listed in the proposal that are purchased, on the presentation of a 3rd party invoice detailing the description of equipment and its cost, as well as an updated copy of the project Asset Register

7. Payment

7.1 The Committee shall, within 60 days of receipt by the Contractor of each Progress Report, Financial Status Report, Gantt chart and Asset Register inform the Contractor in writing, either:

7.1.1 that the Progress Report and Financial Status Report are acceptable to and approved by the Committee in which case, the Chief Inspector shall request an Invoice from the Contractor by way of a "Order for Invoice" **and then pay the Invoice in full, as soon as reasonably possible but within 60 days; or**

- 7.1.2 that the Progress Report and/or the Financial Status Report are not approved, giving full reasons therefore, in which case the Committee shall grant the Contractor a reasonable extension in order to amend and re-submit the Progress Report and Financial Status Report to the Committee .
- 7.2 No Invoice shall be paid by the Chief Inspector until such time as he/she has received written confirmation by the Committee that the relevant Progress Report and Financial Status Report have been approved .
- 7.3 Where the Contractor is a person, agency or entity domiciled outside the Southern African Common Monetary Area, all amounts recorded in the Financial Status Reports and Progress Reports must be expressed in both the foreign currency and its equivalent in South African Rands converted in terms of the South African Statement of Generally Accepted Accounting Practice ACI 12 or, alternatively, the International Accounting Standard IAS21. The Chief Inspector shall not be responsible for changes in costs of the Project to the Contractor attributable to any changes in exchange rates .
- 7.4 No payment of project assets will be made, unless the original 3rd party invoice and the updated project Asset Register have been submitted
- 7.5 All payments made to the Contractor in terms of this clause 7 shall be made in South African Rands .

8. Confidentiality

- 8.1 For the purposes of this clause 8, the term "**confidential information**" shall include, but not be limited to, all secret knowledge, trade secrets, information including any and all technical, financial and marketing information, written instructions, drawings, notes, memoranda, samples, devices, demonstrations, know-how, manufacturing specifications or techniques, research and development work together with results, analysis, interpretation, conclusions and the applicability thereof that may be conducted by or on behalf of the Chief Inspector, and any other materials of whatever description, in which the Chief Inspector has a proprietary, pecuniary or other interest in such information remaining confidential, but shall exclude any information which:
- 8.1.1 is or falls within the public domain or is, or otherwise becomes public knowledge by any means other than by breach by the Contractor or its representatives of any obligation contained herein;

- 8.1.2 was previously, or is at any time hereafter, disclosed to the Contractor by any third party having the right to disclose same;
- 8.1.3 is released from the provisions of this clause 8 by written consent given by the Chief Inspector or the Committee to the Contractor;
- 8.1.4 is or may in the future be lawfully in the Contractor's or its associates' possession and was not acquired directly or indirectly from the Chief Inspector or the Committee .
- 8.2 The publication or other disclosure in any other way of any confidential information that constitutes intellectual property shall be subject to the provisions related to intellectual property under clause 9 .
- 8.3 The Chief Inspector is willing to disclose its confidential information to the Contractor for the purposes of the Project .
- 8.4 The Contractor agrees that it will, at all times during the currency of this Agreement and at all times thereafter:
- 8.4.1 keep and safeguard the confidential information as private and confidential ;
- 8.4.2 not make any use of the confidential information, nor at any time permit any other person to whom the confidential information may be disclosed in terms of this clause 8, to use the confidential information except for the purposes indicated in clause 8.3;
- 8.4.3 only disclose or reveal the confidential information to those persons who need to know the confidential information for the purpose indicated in clause 8.3;
- 8.4.4 inform every person to whom disclosure of any of the confidential information is permitted in terms of clause 8.4.3 prior to making such disclosure, of the confidential nature of the information and of the terms imposed by this clause 8 and require them to abide by the same -
- 8.5 The Chief Inspector makes no representations or, warranties, expressed or implied, as to the accuracy, reliability, reasonableness, suitability or completeness of the confidential information. Accordingly, the Contractor must conduct its own independent analysis of the confidential information and shall rely solely on those investigations and analyses in relation to the purpose contemplated in clause 8.

8.6 The Contractor is precluded from making any copies of documents containing confidential information released under clause 8.2 unless it has obtained the prior written consent of the Chief Inspector or the Committee.

8.7 Any documentation furnished to the Contractor by the Chief Inspector and/or the Committee containing confidential information shall remain the property of the Chief Inspector and shall, on termination of this Agreement for any reason whatsoever or as soon as reasonably possible after the Project End Date or on the written demand by the Chief Inspector or the Committee, be returned, with all copies thereof, to the Committee.

9. Intellectual Property

9.1 In the event of the Chief Inspector providing all the funding for the Project in terms of this Agreement, all intellectual property rights arising out thereof or derived therefrom shall vest in the Chief Inspector. Should both the Chief Inspector and the Contractor provide the funding for the Project, the intellectual property rights shall be owned jointly by them in proportion to their respective funding contributions.

9.2 Insofar as may be necessary in law, the Contractor hereby assigns and transfers to the Chief Inspector all such intellectual property rights or part thereof as the case may be.

9.3 The Contractor undertakes to sign all documents and to do all things that may be necessary to record and perfect the transfer of the intellectual property rights, or part thereof as the case may be, to the Chief Inspector and if it fails to do so the Chief Inspector, acting as agent of the Contractor, may do so.

9.4 The Chief Inspector may, upon written application by the Contractor and acting on the advice of the Committee, grant permission, in writing, authorising the Contractor, its nominee or any third party to publish, utilise or commercially exploit the intellectual property, subject to such terms and conditions as the Chief Inspector, as the owner or joint owner, as the case may be, may specify.

9.5 The Contractor shall, on the written request of the Committee make available to the Committee, all information, including but not limited to, **raw data, statistical analyses, formulae, plans, photographs, internal and external reports, and the like obtained, devised or developed by the Contractor or a sub-contractor of the Contractor in the course of performing the Project and shall, furthermore, assist the Chief Inspector, to the best of its ability, where the Chief Inspector, in its sole**

discretion, applies for the registration of a patent or design based on studies undertaken in terms of this Agreement. Such registration shall be at the expense of the Chief Inspector.

- 9.6 To the extent that the intellectual property rights arising out of or derived from the Project do not vest with either the Chief Inspector or jointly with the Contractor and the Chief Inspector but with some other third party, (for example, where the Chief Inspector funds or partly funds a bursary, in which case the intellectual property rights vest in the relevant university or institution of tertiary education) the Contractor shall use its reasonable endeavours in order to ensure that the intellectual property rights are commercially exploited by such third party .

10. **Breach**

- 10.1 Subject to the Committee's right to summarily cancel this Agreement as provided for in clause 5.7 (delays and extensions), should either Party commit a material breach of this Agreement and fail to remedy the breach within 14 days of receipt from the other Party of written notice calling upon it to do so, **then the Party aggrieved by that breach shall be entitled, in addition to and without prejudice to any right it may have as a result of the breach, either to:**

10.1.1 enforce the performance of the terms hereof; or

10.1.2 cancel this Agreement and recover such damages as it may have sustained -

- 10.2 Notwithstanding the provisions of clause 10.1. above, the Chief Inspector may cancel this Agreement if the Contractor:

10.2.1 is liquidated, placed under judicial management or is sequestered;

10.2.2 effects a general compromise or any other arrangement with its creditors; or

10.2.3 suffers any judgement to be granted against it and fails to meet the judgment or take steps to set it aside or rescind it, within 30 days of it having been granted.

- 10.3 The Parties' remedy set out under this clause 10 shall not be exhaustive and shall be in addition to and without prejudice to any other **remedies they may have**, whether for damages or otherwise.

11. **Miscellaneous matters**

11.1 **Addresses**

11.1.1 The Parties choose the following addresses to which notices may be given, and at which documents in legal proceedings may be served (ie their *domicilia citandi et executandi*), in connection with this Agreement -

11.1.1.1 in the case of the Chief Inspector -

physical address : Floor, Braamfontein Centre
23 Jorissen Street
Braamfontein

Postal address : Private Bag X63
Braamfontein
2017

current fax number : (011) 403-1821

current telephone number : (011) 358-9180

e-mail address : ccomescsimpress.co.za

11.1.1.2 in the case of the Contractor:

physical address

current fax no

current telephone number

e-mail

11.1.2 Notices given to the above addresses shall be deemed to have been duly given:

11.1.2.1 14 days after posting, if posted by registered post to the Party's postal address;

11.1.2.2 on delivery, if delivered to the Party's physical address;

11.1.2.3 on despatch, if sent to the Party's then fax number; and

11.1.2.4 on the date on which a "confirmation of delivery" e-mail is sent to the sender by the e-mail service provider, if sent to the Party's e-mail address.

11.1.3 A Party may change that Party's addresses by notice in writing to the other Party, provided that the new addresses include a physical address in the Republic of South Africa.

11.2 **Entire contract**

This Agreement contains all the express provisions agreed on by the Parties with regard to the subject matter of the Agreement and the Parties waive the right to rely on any alleged express provision not contained in this Agreement .

11.3 **Variation, cancellation and waiver**

No contract varying, adding to, deleting from or cancelling this Agreement, and no waiver of any right under this Agreement, shall be effective unless reduced to writing and signed by or on behalf of the Parties.

11.4 **Indulgences**

The grant of any indulgence by a Party under this Agreement shall not constitute a waiver of any right by the grantor or prevent or adversely affect the exercise by the grantor of any existing or future right of the grantor .

11.5 **Cession**

11.5.1 The Contractor may not cede or assign any of its rights or obligations under this Agreement without the prior written consent of the Chief Inspector;

11.5.2 It is hereby agreed that the Chief Inspector may, subject to the Act or any regulation in operation for the purposes of the Act, cede or assign to the Mine Health and Safety Council established under Section 41 of the Act, any right or obligation of the Chief Inspector under this Agreement .

11.6 **Governing la^w**

This Agreement is governed in accordance with the laws of the Republic of South Africa, in its entirety ignoring any question of conflict of laws-

11.7 **Counterparts**

This Agreement may be executed by facsimile and in counterparts, each of which will constitute one and the same document.

11.8 **Warrant of authority**

The person signing the Proposal on behalf of the Contractor warrants that he is duly authorised to do so.

11.9 **Costs**

Each Party shall bear its own costs of and incidental to the negotiation, preparation, settling, signing and implementation of this Agreement.

Signed at _____ on this the _____ day of _____ 2005.

for the CHIEF INSPECTOR
Duly authorised

Witness 1:

Witness 2:

Signed at _____ on this the _____ day of _____ 2005.

for the CONTRACTOR
Duly authorised

Witness 1:

Witness 2:

Schedule A
Project Proposal

AGREEMENT

between

THE CHIEF INSPECTOR OF MINES
("the Chief Inspector")

and

[INSERT]
("the Contractor")

TABLE OF CONTENTS

	Page No-
1. Introduction	3
2. Definitions	3
3. Engagement	6
4. Duration	6
5. Obligations of the Contractor	7
5.1 General	7
5.2 The Project Schedule, the Progress Reports, Financial Status Report, Invoices and the Final Project Report	7
5.3 Project Asset	9
5.4 Equipment for Test, Evaluation and Discard Purposes	9
5.5 Inspections	10
5.6 Research presentations	10
5.7 Delays and Extensions	10
5.8 Sub-Contractors	12
6. Total Project Price	12
7. Payment	15
8. Confidentiality	16
9. Intellectual Property	18
10. Breach	19
11. Miscellaneous matters	20
11.1 Addresses	20
11.2 Entire contract	21
11.3 Variation, cancellation and waiver	21
11.4 Indulgences	21
11.5 Cession	21
11.6 Governing law	21
11.7 Counterparts	21
11.8 Warrant of authority	22
11.9 Costs	22

1, Introduction

- 1.1 The Chief Inspector, acting through the Committee, wishes to engage the Contractor to carry out the Project in accordance with the Proposal and the Contractor wishes to accept such engagement.
- 1.2 The Parties wish to record their agreement in writing .

2. Definitions

- 2.1 In this Agreement, unless inconsistent with the context, words referring to:
 - 2.1.1 gender include a reference to the other gender;
 - 2.1.2 the singular includes the plural and vice versa;
 - 2.1.3 natural persons include artificial persons and vice versa.
- 2.2 Clause headings are inserted for convenience only and shall not be used to interpret this Agreement .
- 2.3 If there is any conflict between the terms of the body of this Agreement and the terms of the Proposal or any other schedule hereto, the terms of the body of this Agreement shall prevail.
- 2.4 Phrases and words defined in a clause shall bear the meaning assigned to them in such clause only and the following terms bear the meanings assigned to them:
 - 2.4.1 "the Act" means the Mine Health and Safety Act 29 of 1996, as amended ;
 - 2.4.2 "the Agreement" means this agreement, the Proposal and any schedules attached hereto;
 - 2.4.3 "**Certificate of Completion**" means the certificate issued by the Committee after the submission of the Final Project Report which certificate certifies the Committee's satisfaction that the Project is complete according to the final project deliverables;
 - 2.4.4 "**the Chief Inspector**" / means the Chief Inspector of Mines appointed by the Minister of Minerals and

Energy in terms of section 48(1) of the Act or her authorised nominee;

- 2.4.5 "the Committee" - means the Safety in Mines Research Advisory Committee established as a permanent committee in terms of section 41(2)(c) of the Act;
- 2.4.6 the Contractor' - means

[insert];
- 24.7 "the Equipment for Test, Evaluation and Discard Purposes "

- means any equipment with an initial value of R10 000,00 or more purchased by the Contractor on behalf of the Chief Inspector which equipment includes, amongst others, any machines, motors, instrumentation, computer hardware and software, patents and designs, with an estimated useful life of less than one year, or that will be discarded of during the period of the project;
- 2.4.8 **"the Financial Status Report"** - means the financial information submitted to the Committee by the Contractor as contemplated in clause 5.2.4.2;
- 2.4.9 "the Invoices" - means the invoices submitted to the Committee by the Contractor in terms of clause 7.1.1;
- 2.4.10 Intellectual Property - means any new or useful process, machine, composition of matter, life form, article of manufacture, software, copyrighted work, know-how and information associated with these. It includes but is not limited to improved devices, circuit layouts, chemical

compounds, data sets, databases, or unique and innovative new uses of existing solutions.

- 2.4.11 "Party" - means the Contractor on the one hand and the Chief Inspector on the other and 'Parties' shall mean both of them;
- 2.4.12 "the Progress Reports" - means the reports prepared by the Contractor and submitted to the Committee as contemplated in clause 5.2.4;
- 2.4.13 "the Project" - means research into health and safety at mines conducted by the Contractor in accordance with this Agreement and within the parameters of the Proposal;
- 2.4.14 "the Project Assets" - means all assets with an initial value of RIO 000,00 or more purchased by the Contractor on behalf of the Chief Inspector which assets include, amongst others, any equipment, instrumentation, computer programmes and software, patents and designs, with an estimated useful life of longer than one year;
- 2.4.15 "the Project Asset Register" - means the record of the Project Assets prepared by the Contractor in accordance with clause 5.3;
- 2.4.16 "the Project Commencement Date" - means the date upon which the Contractor commences work on the Project as provided in the Project Schedule and agreed on by the Committee;
- 2.4.17 "the Project End Date" - means the date on which the Contractor finalises the Project as provided in the Project Schedule and agreed on by the Committee;

- 2.4.18 the Project Leader" · means the team leader overseeing the Project as identified in the Proposal;
- 2.4.19 'the Project Schedule" · means the timetable of the Project submitted to the Committee as contemplated in clause 5.2.2;
- 2.4.20 "the Proposal" · means the proposal submitted by the Contractor to the Committee outlining the manner in which the Contractor proposes conducting the Project, specifying the deliverables of the Project and detailing dates on which Progress Reports, Financial Status Reports and Invoices shall be submitted to the Committee which Proposal is attached hereto as Schedule A;
- 2.4.21 "Signature Date" · means the date of signature of this Agreement by the Party last signing; and
- 2.4.22 "the Total Project Price" · means the amount paid to the Contractor by the Chief Inspector in terms of clause 6 (Total Project Price including VAT) -

3. Engagement

The Chief Inspector hereby engages the Contractor, which engagement the Contractor accepts, to carry out the Project in accordance with, the Proposal .

4. Duration

This Agreement shall commence on the project commencement date and shall remain in full force and effect until each Party has performed its respective obligations in terms hereof unless terminated earlier either by mutual written agreement between the Parties or in terms of clause 10 (breach). In the case of multi-year projects continuation of the project from one year to the next will be subject to satisfactory progress and levy funds being available.

5. Obligations of the Contractor

5.1 General

The Contractor shall:

- 5.1.1 conduct and execute the Project in a professional manner;
- 5.1.2 ensure that all strategic and key personnel and experts as named in the Proposal remain, as far as possible, committed to the Project. In the event that the Contractor determines that it requires the replacement of strategic and key personnel and experts at any time during the currency of the Project, it must consult with the Committee in this regard and must obtain the Committee's written approval as to the identity of such replacements prior to their appointment;
- 5.1.3 strictly comply with all relevant provisions of legislation, regulations and ordinances with special regard to the provisions of the Employment Equity Act 55 of 1998, where applicable; and
- 5.1.4 endeavour to promote, to the best of its ability, the employment and sponsoring of previously disadvantaged persons.

5.2 The Project Schedule, the Progress Reports, Financial Status Reports, Invoices and the Final Project Report

- 5.2.1 In the event of the Project involving human subjects, the Contractor must submit to the Committee a clearance certificate from an accredited ethics committee prior to such human subjects becoming involved or being utilised in the Project
- 5.2.2 The Contractor shall include in his/her Proposal a timetable giving estimated Project completion levels to be attained during the currency of the Project, which shall be submitted to the Committee as part of the approved proposal attached to the Agreement prior to any work being commenced on the Project. The Contractor may amend the original timetable in the *Project Schedule* but only with the express written agreement of the Committee. The Project Schedule shall confirm:
 - 5.2.2.1 the Project Commencement Date;
 - 5.2.2.2 Expected milestone deadline dates; and

7

- 5.2.2.3 the Project End Date .
- 5.2.3 The Contractor shall submit quarterly progress reports in the prescribed format indicating the estimated per cent completion of the total project to date. Each Progress Report shall record the work completed on the Project up to and including the date of submission and shall provide sufficient details so as to allow a quantitative assessment by the Committee of the actual progress made by the Contractor on the Project.
- 5.2.4 Each Progress Report shall be accompanied by :
- 5.2.4.1 A confidential statement that lists the essence of the intellectual property that has been developed during the period in question .
- 5.2.4.2 a Financial Status Report detailing all expenditures and costs incurred by the Contractor in connection with the carrying out of the Project ;
- 5.2.4.3 a Gantt chart reflecting progress made to date versus the contractual time schedule; and
- 5.2.4.4 an updated copy of the project Asset Register .
- 5.2.5 Within six weeks of the Project End Date, the Contractor shall submit to the Committee:
- 5.2.5.1 a Draft Final Project Report detailing an overall review of the Project ;
- 5.2.5.2 a comprehensive and detailed Financial Status Report in respect of the entire duration of the Project including a project asset register
- 5.2.6 The Progress Reports, Financial Status Reports, Invoices, Interim Reports, Final Project Report, Gantt charts, Intellectual Property Statements and the Project Asset Register submitted to the Committee by the Contractor in terms of this Agreement shall comply with any format which the Committee may, from time to time, specify to the Contractor .
- 5.2.7 The Contractor shall, at all times, maintain a complete set of accounts relating to the Project which shall include, amongst others, full details of all disbursements made by the Contractor in connection with the Project. Such information shall be summarised by the Contractor in the Financial Status Report.

5.3 Project Assets

- 5.3.1 Procurement of Assets vests with the Contractor. The Contractor shall at all times ensure that the most competitive prices are obtained for such equipment .
- 5.3.2 The Contractor shall properly and descriptively record all Project Assets in the Project Asset Register and shall, at all times, keep such Register up to date .
- 5.3.3 Ownership of the Project Assets shall, at all times, vest in the Chief Inspector of Mines. Nothing in this clause 5.3 shall preclude the Council at any time during the currency of this Agreement or at any time thereafter, from selling or otherwise disposing of the Project Assets, or any part thereof, to the Contractor on any terms agreeable to both Parties.
- 5.3.4 Risk of loss or damage of the Project Assets shall vest with the Contractor and the Contractor shall maintain and keep the Project Assets in good working order.
- 5.3.5 The Contractor shall ensure that the Chief Inspector's interests in the Project Assets are noted on any insurance policy .
- 5.3.6 The Contractor shall, on the written request by the Committee, provide the Committee with copies of the relevant insurance policies and/or documentary evidence that all premiums have been fully paid up.

5.4 Equipment for Test, Evaluation and Discard Purposes

- 5.4.1 It is acknowledged by both Parties that Project specific equipment may be acquired by the Contractor and that it may be wholly or partially destroyed or rendered worthless during the conducting of the Project. The Contractor shall identify such equipment, where possible, in the Project Proposal and subsequently in a separate schedule in the Project Asset Register and note the date on which each of them was destroyed or rendered worthless .
- 5.4.2 The Equipment for Test, Evaluation and Discard Purposes will not be regarded as assets, but will merely be recorded in a schedule of Consumable Project Equipment that will be attached to the asset register.
- 5.4.3 The Contractor shall ensure that the Project specific equipment is, at all relevant times, adequately insured.

5.4.4 The Contractor shall ensure that the Chief Inspector's interests in the Project Assets are noted on any insurance policy .

5.4.5 The Contractor shall, on the written request by the Committee, provide the Committee with copies of the relevant insurance policies and/or documentary evidence that all premiums have been fully paid and are up to date.

5.5 Inspections

5.5.1 At any time during the undertaking of the Project, authorised Committee representatives shall be entitled, by prior arrangement with the Contractor, to inspect work in progress on the Project and to request current, interim reports on the Project or any aspects thereof .

5.5.2 On the prior written request of the Committee and during ordinary business hours, the Contractor shall make available for inspection by authorised Committee representatives, any accounting documentation referred to in clause 5.2.7 above, the Project Asset Register and any other documentation pertaining to the Project.

5.6 Research presentations

5.6.1 At any time during the Project or within a reasonable period of time after the Project End Date, the Contractor shall, on the written request of the Committee, prepare a formal written paper on the subject matter of the Project and provide a knowledgeable and competent speaker to present the paper to an invited audience of persons within South Africa.

5.6.2 The Contractor acknowledges that it will receive no payment for such service from the Chief Inspector.

5.6.3 Where the Contractor fails to comply with the request of the Committee as provided for in clause 5.5.1 and where final payment of the Total Project Price has not been made to the Contractor in accordance with clause 6 (Total Project Price), the Committee may, in its sole and absolute discretion, impose a penalty on the Contractor up to a maximum of 5% of the Total Project Price.

5.7 Delays and Extensions

5.7.1 At any time during the currency of the Project, the Contractor may, by way of written application timeously submitted, request of the Committee any

extension it may reasonably require in respect of the Project End Date or any amendment to the Project Schedule.

5.7.2 The Committee shall consider each application and, at its discretion, may grant the application for any extension by notifying the Contractor in writing of the amended Project Schedule.

5.7.3 In the event of unsubstantiated delays in the Project or partial completion of the Project, the Committee may, at its sole and absolute discretion, undertake an audit of the Project in order to determine the degree of its completion and may revise the payment schedule outlined in clause 6 (Total Project Price). To this end, the Contractor shall give authorised Committee representatives full access to the Project, the Project sites and all documentation pertaining thereto.

5.7.4 Where the Committee decides, at its sole and absolute discretion, that it shall not grant any extension to the Contractor:

5.7.4.1 the Committee shall forward a notice by registered post to the Project Leader demanding that a comprehensive Progress Report be submitted to the Committee within 30 days of receipt of the notice;

5.7.4.2 the Project Leader shall have an opportunity at any time during the 30 day period, to make representations to the Committee, either verbally or in writing;

5.7.4.3 should the Project Leader fail to respond to the notice within 30 days, the Committee shall issue a final demand allowing the Project Leader a further 30 days to submit the Progress Report. Failure on the part of the Project Leader to do so shall result in the Committee, exercising the following options:

5.7.4.3.1 summarily cancelling the Agreement; and/or

5.7.4.3.2 instituting legal proceedings against the Contractor; or

5.7.4.3.3 imposing on the Contractor a penalty for late delivery of any part of the Project in accordance with the following scale:

5.7.4.3.3.1 in the event of a 3 to 6 months delay, up to 5%; or

5.7.4.3.3.2 in the event of a 6 to 12 months delay, up to 15%; or

5.7.4.3.3 in the event of more than a 12 month delay, up to 25% ,
of that portion of the Total Project Price that would have been payable
for that part of the Project had such part been delivered timeously.

5.7.5 All decisions, actions and discussions concerning late delivery will be fully
documented by the Committee and forwarded to the Project Leader.

5.7.6 Where a Contractor and/or a Project Leader has fallen foul of the provisions of
clause 5.7.4 above, the Committee may, in its sole discretion, refuse to accept
any future proposals or award any future projects to the Contractor or in
respect of such a Project Leader.

5.8 Sub-Contractors

5.8.1 The Contractor may utilise the services of sub-contractors as identified in the
Proposal and the Contractor shall ensure that each sub-contractor maintains,
makes available and submits to the Contractor detailed financial information for
inclusion in the Progress Reports, Financial Status Reports and the Final
Project Report.

5.8.2 The Contractor may only replace a sub-contractor after it has consulted with
and obtained the written approval of the Committee in respect of the proposed
replacement sub-contractor that has been identified.

6. Total Project Price

6.1 Subject to any adjustments which may be made to the Total Project Price or
payment schedule of the Project in terms of clause 5.7.3, the Total Project Price
payable to the Contractor by the Chief Inspector in respect of the Project shall be as
provided for in the Proposal and which has hereby been accepted by the Chief
Inspector.

6.2 The Chief Inspector shall be liable for the Total Project Price only and, in the event
of the actual costs of the Project exceeding the Total Contract Price, such additional
costs must be borne by the Contractor.

6.3 Less than a 90 day Project

In the event of the Project extending for a period of no more than 90 days, the
following payment terms shall apply:

- 6.3.1 25% of the Total Project Price(excluding project asset payments) shall be paid to the Contractor on the Project Commencement Date ;
- 6.3.2 thereafter and subject to the terms of clause 7 (payment), within six weeks of the Project End Date, the Contractor shall submit its Final Project Report to the Committee in the form specified by and acceptable to the Committee and the Chief Inspector shall pay the Contractor 60% of the Total Project Price, excluding project asset payments;
- 6.3.3 as soon as reasonably possible but within 60 days of submission of the Final Project Report, and subject to it being approved by the Committee, the Committee shall notify both the Chief Inspector and the Contractor of such approval. Provided that there are no residual requirements that need to be satisfied, the notice to the Contractor will be accompanied by the Certificate of Completion. Payment of the final 15% of the Total Project Price (excluding project asset payments) shall then be made.

6.4 Between 90 days and one year Project

In the event of the Project extending for between 90 days and one year, the following payment terms shall apply:

- 6.4.1 10% of the Total Project Price(excluding project asset payments) shall be paid to the Contractor on the Project Commencement Date;
- 6.4.2 thereafter and subject to the terms of clause 7 (payment), the Chief Inspector shall pay the Contractor the amount reflected in each Invoice submitted to the Committee which Invoices cumulatively shall constitute 60% of the Total Project Price, excluding project asset payments ;
- 6.4.3 thereafter and subject to the terms of clause 7 (payment), within six weeks of the Project End Date, the Contractor shall submit its Final Project Report to the Committee in the form specified by and acceptable to the Committee and the Chief Inspector shall pay the Contractor 15% of the Total Project Price (excluding project asset payments)
- 6.4.4 as soon as reasonably possible but within 60 days of submission of the Final Project Report, and subject to it being approved by the Committee, the Committee shall notify both the Chief Inspector and the Contractor of such approval. Provided that there are no residual requirements that need to be

satisfied, the notice to the Contractor will be accompanied by the Certificate of Completion. Payment of the final 15% of the Total Project Price (excluding project asset payments) shall then be made.

6.5 More than one year Project

6.5.1 In the event of the Project extending for more than one year, the Total Project Price shall be apportioned between the years ("**the annual Total Project Price**"). Prior to each anniversary of the Project Commencement Date, the Committee shall review the Progress Reports of the previous year in order to satisfy itself that sufficient progress is being made in respect of the Project in accordance with the Proposal and shall notify the Contractor, in writing, as to whether it shall continue funding the Project. Should the Committee, at its sole and absolute discretion, determine that insufficient or no progress has been made on the Project during the preceding year, the Committee shall exercise its right to terminate this Agreement in terms of clause 10 (breach) and the Contractor shall have no claim for damages in respect thereof -

6.5.2 Subject to the limitation of clause 4, the following payment terms shall apply to the first and subsequent years (excluding the final year) of the Project :

6.5.2.1 10% of the annual Total Project Price (excluding project asset payments) shall be paid to the Contractor on the Project Commencement Date or on the anniversary of the Project Commencement Date subject to the Committee approving of the continuation of the Project in writing ;

6.5.2.2 subject to the terms of clause 7 (payment), the remaining 90% of the annual Total Project Price (excluding project asset payments) shall be paid by the Chief Inspector to the Contractor as reflected in each quarterly Invoice for that year, excluding project Asset payments.

6.5.3 The following payment terms shall apply to the final year of the Project :

6.5.3.1 10% of the annual Total Project Price shall be paid to the Contractor on the anniversary of the Project Commencement Date (excluding project asset payments) subject to the Committee approving of the continuation of the Project, in writing;

6.5.3.2 thereafter and subject to the terms of clause 7 (payment), the Chief Inspector shall pay the Contractor the amount reflected in each quarterly

Invoice submitted that year to the Committee which Invoices shall cumulatively constitute 60% of the annual Total Project Price (excluding project asset payments) ;

6.5.4 thereafter and subject to the terms of clause 7 (payment), within six weeks of the Project End Date, the Contractor shall submit its Final Project Report to the Committee in the form specified by and acceptable to the Committee and the Chief Inspector shall pay the Contractor 15% of the Total Project Price (excluding project asset payments)

6.5.5 as soon as reasonably possible but within 60 days of submission of the Final Project Report, and subject to it being approved by the Committee, the Committee shall notify both the Chief Inspector and the Contractor of such approval. Provided that there are no residual requirements that need to be satisfied, the notice to the Contractor will be accompanied by the Certificate of Completion. Payment of the final 15% of the Total Project Price (excluding project asset payments) shall then be made;

6.6 Payments will only be made by the Chief Inspector on receipt by the Committee of the Progress Reports as provided for in the Project Schedule or any other report which the Committee may reasonably require, in acceptable written form, which in the opinion of the Committee provide evidence of sufficient progress of the Project .

6.7 The Chief Inspector shall pay the Contractor for equipment/assets listed in the proposal that are purchased, on the presentation of a ³ party invoice detailing the description of equipment and its cost, as well as an updated copy of the project Asset Register

7. Payment

7.1 The Committee shall, within 60 days of receipt by the Contractor of each Progress Report, Financial Status Report, Gantt chart and Asset Register inform the Contractor in writing, either:

7.1.1 that the Progress Report and Financial Status Report are acceptable to and approved by the Committee in which case, the Chief Inspector shall request an Invoice from the Contractor by way of a "Order for Invoice" and then pay the Invoice in full, as soon as reasonably possible but within 60 days; or

- 71.2 that the Progress Report and/or the Financial Status Report are not approved, giving full reasons therefore, in which case the Committee shall grant the Contractor a reasonable extension in order to amend and re-submit the Progress Report and Financial Status Report to the Committee .
- 7.2 No Invoice shall be paid by the Chief Inspector until such time as he/she has received written confirmation by the Committee that the relevant Progress Report and Financial Status Report have been approved .
- 7.3 Where the Contractor is a person, agency or entity domiciled outside the Southern African Common Monetary Area, all amounts recorded in the Financial Status Reports and Progress Reports must be expressed in both the foreign currency and its equivalent in South African Rands converted in terms of the South African Statement of Generally Accepted Accounting Practice ACII2 or, alternatively, the International Accounting Standard IAS21. The Chief Inspector shall not be responsible for changes in costs of the Project to the Contractor attributable to any changes in exchange rates .
- 7.4 No payment of project assets will be made, unless the original 3rd party invoice and the updated project Asset Register have been submitted
- 7.5 All payments made to the Contractor in terms of this clause 7 shall be made in South African Rands .

8. Confidentiality

- 8.1 For the purposes of this clause 8, the term **'confidential information'** shall include, but not be limited to, all secret knowledge, trade secrets, information including any and all technical, financial and marketing information, written instructions, drawings, notes, memoranda, samples, devices, demonstrations , know-how, manufacturing specifications or techniques, research and development work together with results, analysis, interpretation, conclusions and the applicability thereof that may be conducted by or on behalf of the Chief Inspector, and any other materials of whatever description, in which the Chief Inspector has a proprietary , pecuniary or other interest in such information remaining confidential, but shall exclude any information which:
 - 8.1.1 is or falls within the public domain or is, or otherwise becomes public knowledge by any means other than by breach by the Contractor or its representatives of any obligation contained herein;

- 8.1.2 was previously, or is at any time hereafter, disclosed to the Contractor by any third party having the right to disclose same ;
- 8.1.3 is released from the provisions of this clause 8 by written consent given by the Chief Inspector or the Committee to the Contractor ;
- 8.1.4 is or may in the future be lawfully in the Contractor's or its associates' possession and was not acquired directly or indirectly from the Chief Inspector or the Committee .
- 8.2 The publication or other disclosure in any other way of any confidential information that constitutes intellectual property shall be subject to the provisions related to intellectual property under clause 9 .
- 8.3 The Chief Inspector is willing to disclose its confidential information to the Contractor for the purposes of the Project.
- 8.4 The Contractor agrees that it will, at all times during the currency of this Agreement and at all times thereafter:
- 8.4.1 keep and safeguard the confidential information as private and confidential ;
- 8.4.2 not make any use of the confidential information, nor at any time permit any other person to whom the confidential information may be disclosed in terms of this clause 8, to use the confidential information except for the purposes indicated in clause 8.3;
- 8.4.3 only disclose or reveal the confidential information to those persons who need to know the confidential information for the purpose indicated in clause 8.3;
- 8.4.4 inform every person to whom disclosure of any of the confidential information is permitted in terms of clause 8.4.3 prior to making such disclosure, of the confidential nature of the information and of the terms imposed by this clause 8 and require them to abide by the same .
- 8.5 The Chief Inspector makes no representations or warranties, expressed or implied, as to the accuracy, reliability, reasonableness, suitability or completeness of the confidential information. Accordingly, the Contractor must conduct its own independent analysis of the confidential information and shall rely solely on those investigations and analyses in relation to the purpose contemplated in clause 8.

- 8.6 The Contractor is precluded from making any copies of documents containing confidential information released under clause 8.2 unless it has obtained the prior written consent of the Chief Inspector or the Committee.
- 8.7 Any documentation furnished to the Contractor by the Chief Inspector and/or the Committee containing confidential information shall remain the property of the Chief Inspector and shall, on termination of this Agreement for any reason whatsoever or as soon as reasonably possible after the Project End Date or on the written demand by the Chief Inspector or the Committee, be returned, with all copies thereof, to the Committee.

9. Intellectual Property

- 9.1 In the event of the Chief Inspector providing all the funding for the Project in terms of this Agreement, all intellectual property rights arising out thereof or derived therefrom shall vest in the Chief Inspector. Should both the Chief Inspector and the Contractor provide the funding for the Project, the intellectual property rights shall be owned jointly by them in proportion to their respective funding contributions .
- 9.2 Insofar as may be necessary in law, the Contractor hereby assigns and transfers to the Chief Inspector all such intellectual property rights or part thereof as the case may be.

to do all things that may be necessary to record and perfect the transfer of the intellectual property rights, or part thereof as the case may be, to the Chief Inspector and if it fails to do so the Chief Inspector, acting as agent of the Contractor, may do so.

by the Contractor and acting on the advice of the Committee, grant permission, in writing, authorising the Contractor, its nominee or any third party to publish, utilise or commercially exploit the intellectual property, subject to such terms and conditions as the Chief Inspector, as the owner or joint owner, as the case may be, may specify.

- 9.5 The Contractor shall, on the written request of the Committee make available to the Committee, all information, including but not limited to, raw data, statistical analyses, formulae, plans, photographs, internal and external reports, and the like obtained, devised or developed by the Contractor or a sub-contractor of the Contractor in the course of performing the Project and shall, furthermore, assist the Chief Inspector, to the best of its ability, where the Chief Inspector, in its sole

discretion, applies for the registration of a patent or design based on studies undertaken in terms of this Agreement. Such registration shall be at the expense of the Chief Inspector.

- 9.6 To the extent that the intellectual property rights arising out of or derived from the Project do not vest with either the Chief Inspector or jointly with the Contractor and the Chief Inspector but with some other third party, (for example, where the Chief Inspector funds or partly funds a bursary, in which case the intellectual property rights vest in the relevant university or institution of tertiary education) the Contractor shall use its reasonable endeavours in order to ensure that the intellectual property rights are commercially exploited by such third party .

10. Breach

- 10.1 Subject to the Committee's right to summarily cancel this Agreement as provided for in clause 5.7 (delays and extensions), should either Party commit a material breach of this Agreement and fail to remedy the breach within 14 days of receipt from the other Party of written notice calling upon it to do so, then the Party aggrieved by that breach shall be entitled, in addition to and without prejudice to any right it may have as a result of the breach, either to:

10.1.1 enforce the performance of the terms hereof; or

10.1.2 cancel this Agreement and recover such damages as it may have sustained .

10.2 Notwithstanding the provisions of clause 10.1. above, the Chief Inspector may cancel this Agreement if the Contractor:

10.2.1 is liquidated, placed under judicial management or is sequestrated;

10.2.2 effects a general compromise or any other arrangement with its creditors; or

10.2.3 suffers any judgement to be granted against it and fails to meet the judgment or take steps to set it aside or rescind it, within 30 days of it having been granted.

10.3 The Parties' remedy set out under this clause 10 shall not be exhaustive and shall be in addition to and without prejudice to any other remedies they may have , whether for damages or otherwise.

11. Miscellaneous matters**11.1 Addresses**

11.1.1 The Parties choose the following **addresses to which notices may be given**, and at which documents in legal proceedings may be served (ie their *domicilia citandi et executand.*), in connection with this Agreement :

11.1.1.1 in the case of the Chief Inspector :

physical address : 2nd Floor, Braamfontein Centre
23 Jorissen Street
Braamfontein

Postal address : Private Bag X63
Braamfontein
2017

current fax number : (011) 403-1821

current telephone number : (011) 358-9180

e-mail address : cqomessimpross.co.za

11 A.1.2 in the case of the Contractor:

physical address^S

current fax no

current telephone number

e-mail

11.1.2 Notices given to the above addresses shall be deemed to have been duly given

11.1.2.1 14 days after posting, if posted by registered post to the Party's postal address;

11.1.2.2 on delivery, if delivered to the Party's physical address;

11.1.2.3 on despatch, if sent to the Party's then fax number; and

11.1.2.4 on the date on which a 'confirmation of delivery' e-mail is sent to the sender by the e-mail service provider, if sent to the Party's e-mail address.

11.1.3 A Party may change that Party's addresses by notice in writing to the other Party, provided that the new addresses include a physical address in the Republic of South Africa .

11.2 **Entire contract**

This Agreement contains all the express provisions agreed on by the Parties with regard to the subject matter of the Agreement and the Parties waive the right to rely on any alleged express provision not contained in this Agreement .

11.3 **Variation, cancellation and waiver**

No contract varying, adding to, deleting from or cancelling this Agreement, and no waiver of any right under this Agreement, shall be effective unless reduced to writing and signed by or on behalf of the Parties .

11.4 **Indulgences**

The grant of any indulgence by a Party under this Agreement shall not constitute a waiver of any right by the grantor or prevent or adversely affect the exercise by the grantor of any existing or future right of the grantor .

11.5 **Cession**

11.5.1 The Contractor may not cede or assign any of its rights or obligations under this Agreement without the prior written consent of the Chief Inspector ;

11.5.2 It is hereby agreed that the Chief Inspector may, subject to the Act or any regulation in operation for the purposes of the Act, cede or assign to the Mine Health and Safety Council established under Section 41 of the Act, any right or obligation of the Chief Inspector under this Agreement .

11.6 **Governing law**

This Agreement is governed in accordance with the laws of the Republic of South Africa, in its entirety ignoring any question of conflict of laws .

11.7 **Counterparts**

This Agreement may be executed by facsimile and in counterparts, each of which will constitute one and the same document.

11.8 **Warrant of authority**

The person signing the Proposal on behalf of the Contractor warrants that he is duly authorised to do so.

11.9 **Costs**

Each Party shall bear its own costs of and incidental to the negotiation, preparation, settling, signing and implementation of this Agreement.

Signed at _____ on this the _____ day of _____ 2005.

for the CHIEF INSPECTOR
Duly **authorised**

Witness 1:

Witness 2:

Signed at _____ on this the _____ day of _____ 2005.

for the CONTRACTOR
Duly authorised

Witness 1:

Witness 2:

Schedule A

Project Proposal