

## **PRESENTATION TO THE PORTFOLIO COMMITTEE ON MINING PUBLIC HEARINGS ON THE GEOSCIENCE AMMENDMENT BILL**

We thank the honourable chairman Mr MF(Fred) Gona and the Portfolio committee on mining for the opportunity to address this forum on our comments on the Geoscience Amendment Bill.

Who we represent.

SAIEG is a voluntary organisation representing the profession of engineering and environmental geology. Members are required to be registered natural scientists as prescribed in The Natural Scientific Profession Act (Act 27 of 2003). SAIEG represents a profession of approximately 200 engineering and environmental geologists.

What we do.

“Engineering geology is the application of the geological sciences to engineering practice for the purpose of assuring that the geologic factors affecting the location, design, construction, operation and maintenance of engineering works are recognized and adequately provided for. Engineering geologists investigate and provide geologic and geotechnical recommendations, analysis, and design associated with human development.” So we are primarily geological geoscientists.

The geotechnical industry is a large industry allied to the urban planning, civil engineering and mining sectors of our economy. It is served by both scientists (as previously described) and engineers who are registered with the the Engineering Council of South Africa (ECSA) and are represented by the Geotechnical Division of the South African Institution of Civil Engineering. The Geotechnical Division represents approximately an additional 350 geotechnical specialists.

A geotechnical investigation is a precursor to every infrastructure development project in South Africa (inter alia, urban township development, roads, railways, water and sanitation, waste management, power stations, pipelines, mine infrastructure and facilities, industrial sites to name but a few of the major types.) As can be seen from this the industry is a massive one and is responsible for ensuring the safe, responsible and sustainable infrastructure development for our citizens and therefore the economic growth of our country very much hinges on this fundamental industry.

The Council for Geoscience has over the years performed and continues to perform a vital support role to this industry in the provision of primary information in the form of map information, data archives and data products that are indispensable for performing our role to the above mentioned economic sectors.

Our comments and concerns on the Geoscience Amendment Bill are as follows:

- Geohazards definition – definition added is acknowledged.
- Objects of Bill In the preamble titled 1. Objects of Bill, the Council for Geoscience is defined as being a mandatory advisory authority. Later on in the Bill the Objects of the Council are described in.... 3. (c) act as a national advisory authority etc. Apparently not mandatory in this instance. The definition of the Council as “mandatory” may clash with the role of others as advisors in certain instances, leading to conflict, particularly when the Council does not have high-level expertise in certain specialised fields.
- Section 1 (f) (c)  
Possible Conflict of Professional Responsibility  
We note that landslides and slope failure may be described as a geohazard. Although

geological investigations for input into the slope stability analyses are carried out by suitably trained and experienced geoscientists, the design of remedial measures and the analytical responsibilities pertaining to slope stability falls directly under the responsibility of professionally registered geotechnical engineers.

A potential conflict between the investigation and design professions is highly likely if geoscience professionals become regulators in this field of expertise and failures result without the necessary professional indemnities.

- Section 3 Management Board  
Given that the Council for Geoscience wishes to mandate a more direct role in the management and control of geohazards it would seem pragmatic that the board also have representation from the geotechnical industry. For the board to exercise its responsibilities in the control over the performance of this, now, core function of the Council, as is required in Section 4 of the bill, a representative from the geotechnical fraternity is surely required to guide the relevance of the geotechnical responsibilities of the Council and align them with the geotechnical industry in the country.
- Section 4 (c)  
Confidentiality of Information  
While we applaud the creation of a national databank of geotechnical information we remain concerned that breaches in confidentiality may occur. In most databanks the owners of information are allowed to define the extent to which information is made available. For example it may be made known that a geotechnical investigation has been carried out over an area but the owner of the data may not wish to release the results for which he has paid (often large sums) into the public domain.  
The confidentiality of information needs to be addressed and possible conflict with the copyright act addressed.
- Section 4 (eA)  
'Review and evaluate all geotechnical reports in respect of geohazards that may affect infrastructure and development at prescribed tariffs'.

In my introduction I discussed the scope of engineering geological and geotechnical investigations and it can be appreciated from this that mountains of reports are produced annually dealing with engineering geological investigations, not to mention geotechnical engineering investigations for infrastructure and development. Geotechnical engineering reports are further subject to the control of ECSA Codes of Practice and are engineering in nature and not geoscientific and cannot be adequately evaluated by geoscientists alone.

We operate closely with the Council for Geoscience in many areas and thus have a fair understanding of the level of expertise and staffing levels within the Council. With all due respect, we are of the opinion that the Council in its current state will not be able to effectively carry out the mandate as envisaged in the Bill. The volume of work entailed in review and evaluating all these reports could delay approval of development by months if not eventually years and cause development and growth to grind to a halt. The effective evaluation of related geotechnical engineering reports with complex engineering design inputs could, in the majority of cases, not be carried out by the majority of CGS staff or in most cases by any person with only a geological background.

It is appreciated that certain geohazards require a degree of closer regulation. Where public safety is at stake from unscrupulous, opportunistic developers some regulatory intervention

is required, and these should be identified and acted upon. But it is considered unnecessary to burden the Council for Geoscience with a blanket mandate to evaluate even 'run-of-the-mill' investigations that are already well defined in guidelines and codes of practice published by the professional and statutory societies such as SACNAP, SAIEG, ECSA, SANS and SAICE as well as certain client bodies (eg, SANRAL).

A bibliography of relevant documents is given below:

Guidelines for Urban Engineering Geological Investigation – SAIEG/SAICE

Code of Practice for Site Investigations – SAICE Code of Practice on Geotechnical Engineering – ECSA

SANS 633 – Soil profiling and borehole logging

SANS 634 – Geotechnical investigations for township development

SANS 10400-H – Application of National Building Regulations – foundations

SANS 1936-1 – Development of dolomitic land – general principles and requirements

SANS 1936-2 – Development of dolomitic land – geotechnical investigations and determinations

SANS 1936-3 – Development of dolomitic land – design and construction of buildings, services and infrastructure

SANS 1936-4 – Development of dolomitic land – risk management

SANS 2001-BE3 – Repair of sinkholes and dolines

- Section 4 (g) 'Conduct investigation and render specialised services to public and private institutions.'

Unfair Competition

It is apparent from the wording of this clause that the Council for Geoscience will be mandated to carry out geotechnical investigations that place it in competition with an established industry. The result will be unfair competition by a state institution against the private sector using state subsidised resources.

We believe that the resources of the Council would be better used in research, rendering of specialised services not available from the geotechnical sector and co-operating in the education of all who operate in or are dependant on the geotechnical professions and that this mandate will detract the Council from its vital responsibilities in this regard.

Furthermore, under the current wording of the Bill, the Council will be entitled to use data taken from professionals operating in the private sector at no charge and use it to compete with the same professionals.

A further concern is that there is a conflict of interest in that the Council for Geoscience is able to operate as providers of services in areas which they themselves regulate, making them both 'player' and 'referee'. SAIEG finds this totally unacceptable in any context.

John S .Stiff Pr. Sci. Nat.

Vice President

SAIEG