THE SOUTH AFRICAN COUNCIL

FOR

NATURAL SCIENTIFIC PROFESSIONS

(The Natural Scientific Professions Act, 2003 – Act 27 of 2003)

B U S I N E S S P L A N

2008

INTRODUCTION

The South African Council for Natural Scientific Professions was established in 1982 by an Act of Parliament. The Council was instituted to register individuals as professional natural scientists, but also to protect the general public and the professions at large against any malpractice.

The legal basis has since the inception of the Council been amended regularly to accommodate new requirements and also to allow for inclusiveness of registration. The latest Act is the Natural Scientific Professions Act 2003 (Act 27 of 2003). The business form is that of a statutory Council, functioning by means of management, committees and a permanent secretariat to execute all decisions and directives. The Council is nominated, elected and appointed every 4 years by the Voluntary Associations, the election panel from the Department of Science and Technology and the Minister of Science and Technology. Council members function on a voluntary basis.

The South African Council for Natural Scientific Professions has the mission to establish, direct, sustain and ensure a high level of professionalism and ethical conduct that is internationally acceptable and in the broad interest of the community as a whole and of the natural sciences.

The objectives are to promote the practice of natural science professions in South Africa, exercise control over the standards of professional conduct of professional natural scientists, monitor the standards of education and training of natural scientists and to recognise the appropriateness of education and training, which is a pre-requisite for registration in terms of the Act. An umbrella objective is to become as visible as possible to registered natural scientists and the community the Council serves, by means of appropriate marketing strategies and campaigns.

BUSINESS OVERVIEW

Business profile

Natural science is practised in various generic fields, namely,

Agricultural Science	Animal Science
Biological Science	Botanical Science
Chemical Science	Earth Science
Ecological Science	Environmental Science
Food Science	Forensic Science
Forestry Science	Geographical Science
Geological Science	Hydrological Science
Industrial Science	Marine Science
Materials Science	Mathematical Science
Mathematical Education Science	Metallurgical Science
Microbiological Science	Natural Science Education Science
Physical Science	Radiation Science
Water Care Science	Zoological Science

The economy which supports all natural science in South Africa is strong enough to allow self sufficient specialised natural science practice. Food products come from a reasonably strong agricultural sector. The industrial sector has traditionally been based on mining. In this regard the country has considerable deposits of common minerals such as coal, but also of metals and ores which are high in demand. These include, amongst others chromium, manganese and vanadium.

Its most valuable minerals, however, are platinum, gold and diamonds, of which South Africa has long been both one of the world's leading producer and exporter. The only key mineral that South Africa lacks is oil.

Over recent years the traditional dominance of agriculture and mining has been superseded by manufacturing and service industries. The manufacturing industry has led to more intense practise of chemical science, physical science, metallurgical science, forestry science, industrial science and other similar scientific areas. Environmental science watches over all these applications. Manufacturing industry is largely concentrated in metal-based industries, mainly steel and heavy engineering, with machinery and transport equipment as principal products. Manufacturing now accounts for around 20% of total economic output. In recent years some advanced technological industries have also emerged.

The democratic government of 1994 committed itself to a general economic transition through its Reconstruction and Development Programme (RDP), whose principal aim was to deal with the gross inequalities inherited from the previous regime. The Government has since designed a scheme under which major economic assets – notably the mines – is being transferred to "black empowered entities" over a 10-year period. This would also be inclusive of the natural science practiced in these fields of application.

Our Business

In all natural science fields of practice, employees of all businesses in such practice, are obligated by law to be registered in terms of The Natural Scientific Professions Act, 2003 (Act 27 of 2003). The South African Council for Natural Scientific Professions, 280 Pretoria Road, Silverton, Gauteng (tel: 012 841-1075; fax: 012 841-1057; e-mail: sarnap@geoscience.org.za; web site: www.sacnasp.org.za; SACNASP, Private Bag X540, Silverton, 0127.

Product and Service

Our responsibility is the statutory registration in the categories:
Certificated Natural Scientist
Candidate Natural Scientist
Professional Natural Scientist

Anybody who practices or consults as a Natural Scientist has to be registered in terms of the Act. Registered Natural Scientists would therefore be the only individuals who are practicing and consulting legally in South Africa.

The Council serves as representatives of all registered Natural Scientists to the Government, especially to the Department of Science and Technology. It also serves to protect the general public at large, as users of natural science services or products.

The Council represents the legislative section as the custodian of the Act. Its current permanent staff is the secretariat consisting of a Registrar, a Registration's Official, a Secretary and a Debtors'/Registrations Clerk.

MANAGEMENT

President	Prof PJJG Marais Pr.Sci.Nat.
Vice President	Dr D Gihwala Pr.Sci.Nat.

The Executive Committee

Dr MM Dyasi	Dr D Gihwala Pr.Sci.Nat.
Prof PJJG Marais Pr.Sci.Nat.	Ms N Motaung

Prof MM Sibara Pr.Sci.Nat.
Dr RM Raseleka Pr.Sci.Nat.
Mr L Swartz
Mr D le R van Wyk Pr.Sci.Nat.

Council members

Prof NH Casey Pr.Sci.Nat.
Dr JF Eloff Pr.Sci.Nat
Prof JB Malherbe Pr.Sci.Nat.
Prof FD Dakora
Mr BS Maloka Pr.Sci.Nat.
Ms N Motaung
Mr EH Ngokha
Dr EY Reiten
Prof M.M. Sibara Pr.Sci.Nat.
Mr L Swart
Mr H van Wyk
Dr MM Dyasi
Ms PBC Forbes Pr.Sci.Nat.
Dr A Lucen
Mr OSD Garegae
Dr AM Masemola
Mr A Naidoo
Prof CL Obi Pr.Sci.Nat.
Dr RM Raseleka Pr.Sci.Nat.
Prof JH Siweya Pr.Sci.Nat.
Mr D le R van Wyk Pr.Sci.Nat.

The Registration Committee

Prof ELJ Breet Pr.Sci.Nat.	(Chemical Science)
Prof NH Casey Pr.Sci.Nat.	(Animal Science)
Dr JF Eloff Pr.Sci.Nat.	(Soil Science)
Ms PBC Forbes Pr.Sci.Nat.	(Environmental Science)
Prof JU Grobbelaar Pr.Sci.Nat.	(Botanical Science)
Ms GE Lombard Pr.Sci.Nat.	(Food Science)
Prof JB Malherbe Pr.Sci.Nat.	(Physical Science)
Ass Comm EK Ngokha	(Forensic Science)
Dr EY Reiten	(Plant Production Science)
Prof MM Sibara Pr.Sci.Nat.	(Microbiological Science)
Prof HJ Siweya Pr.Sci.Nat.	(Mathematical Science)
Mr D le R van Wyk Pr.Sci.Nat.	(Earth Science)

Professional Advisory Committees (PAC)

1. Animal Science

Chairperson:	Prof NH Casey Pr.Sci.Nat.
Members:	Prof LJ Erasmus Pr.Sci.Nat.
	Prof EC Webb Pr.Sci.Nat.
	Dr E van Marle-Köster Pr.Sci.Nat.

2. Botanical Science

Chairperson:	Prof JU Grobbelaar Pr.Sci.Nat.
Members:	Prof GF Smith
	Prof JJM Meyer

3. Chemical Science

Chairperson:	Prof ELJ Breet Pr.Sci.Nat.
Members:	Prof SB Jonnalagadda
	Dr RM Raseleka

4. Earth Science

Chairperson:	Mr D le R van Wyk Pr.Sci.Nat.
Members:	Mr R Meyer Pr.Sci.Nat.
	Mr BS Maloka Pr.Sci.Nat.

5. Environmental Science

Chairperson:	Ms PBC Forbes Pr.Sci.Nat.
Members:	Prof JU Grobbelaar Pr.Sci.Nat.
	Prof R Fuggle Pr.Sci.Nat.
	Prof JO Okonkwo

6. Food Science

Chairperson:	Ms GE Lombard Pr.Sci.Nat.

	Members:	Prof TJ Britz Pr.Sci.Nat.
		Dr KG Duodu

7. Mathematical Science

Chairperson:	Prof HJ Siweya
Members:	

8. Microbiological Science

Chairperson:	Prof MM Sibara Pr.Sci.Nat.
Members:	Dr CL Obi Pr. Sci. Nat.
	Prof MEC Rey Pr. Sci. Nat.

9. Physical Science

Chairperson:	Prof JB Malherbe Pr.Sci.Nat.
Members:	Dr CW Louw
	Prof HL Alberts Pr.Sci.Nat.
	Prof T von Moltke

10. Plant Production Science

Chairperson:	Dr EY Reiten
Members:	Dr SG Lamprecht Pr.Sci.Nat.
	Prof PJC Stassen Pr.Sci.Nat.
	Dr GJ Thompson Pr.Sci.Nat.

11. Soil Science

Chairperson:	Dr JF Eloff Pr.Sci.Nat.
Members:	Prof RO Barnard Pr.Sci.Nat.
	Prof LD van Rensburg
	Dr JE Hoffman Pr.Sci.Nat.

12. Zoological Science

Chairperson:	Prof NH Casey Pr. Sci. Nat.
Members:	Dr AM Bastos
	Mr A Naidoo

The Education Committee

Prof PJJG Marais Pr.Sci.Nat.	Prof MM Sibara Pr.Sci.Nat.
Prof HJ Siweya	Prof NL Heideman
Mr H van Wyk	Prof A Beesham
Prof S Singh	Prof JH van Vuren Pr.Sci.Nat.
Prof RW Becker Pr.Sci.Nat.	Dr IQ Sikakana
Prof JB Malherbe Pr. Sci. Nat.	Prof CL Obi Pr.Sci.Nat.
Prof AJ Reinecke Pr.Sci.Nat.	Dr V Sankaran
Prof CA Summers	Prof DW Gammon
Prof M Jeenah	

The Disciplinary & Ethics Committee

Mrs PBC Forbes	Mr D le R van Wyk

The Secretariat

Registrar:	Mr A.J. de Klerk
Registrations Official:	Mrs MJH Wolhuter
Secretary/Admin Officer:	Mrs Y Porter
Debtors'/Registrations Clerk:	Ms MP Moleko

THE MARKET

Industry Analysis

The market area is legalised and defined in terms of section 18(2) and 20(1) of the all natural scientists practising in the fields of natural science as per Schedule I of the Natural Scientific Professions Act of 2003, or anyone else who consults, are compelled to be registered. The market area thus consists of all natural scientists who meet the requirements of the Council to register and who either practises natural science or consults in the field.

Current trends are that all major employers who employ natural scientists have issued directives to their appropriately qualified staff to register with the Council. Due to the compulsory nature of the directives, staff applications are not always in accordance with the requirements of the Council.

Large and important players in the Natural Science Industry such as the Agricultural Research Council, Eskom, Anglovaal, De Beers Group and the CSIR are following the registrations of their staff in order to be compliant.

The industry of natural science is segmented in accordance with the generic fields of practice as per Schedule I of the Act. The statistics gives a reflection of the segments as per **Annexure I**.

The problems industry experiences are that of insufficient supply of registered natural scientists to satisfy the demand. More appropriately, natural scientists from abroad are taking up positions in South Africa mainly from Europe as well as Africa itself. National and global events that have a high influence in the industry are the effects of global warming, waste management and environmental impact, the scarcity of minerals and ores and the sustainability of energy sources.
The growth forecast on national level is closely linked to that on global level with regard to demand and sustainability. Energy supply seems to be on the foreground followed closely by environmental impact studies. The scarcity of minerals always drives natural sciences to better and more comprehensive recovery methods to ensure sustainability.

The fact that the registration and the work of natural scientists are regulated by legislation in South Africa makes professional practice a compelling requirement. As a consequence items such as a code of conduct and malpractice become important. It also brings transparency into profession.

Market Analysis

The market is reflected on the latest statistics by generic fields of practice as indicated in **Annexure 1**. This does not, however, represent all possible natural scientists in the field. We are aware that many scientists, who are practising without being registered, gleaned from information received by the Council. The majority of non-registered scientists are in the fields of the Earth Sciences and the Agricultural Sciences. As agriculture and mining represents the primary pillars of the South African economy, we estimate that the current statistics for registration in these fields should be at least double the current number of registered scientists. There is therefore definite potential for growth in the amount of registrations.

To establish the current number of scientists that should be registered is to do some deep rooted study involving soliciting information national statistics, engaging key role players and setting the basis of sustainable monitoring starting with newly qualified graduates who are entering the field. This is an enormous task that the Council has not been able to execute successfully and will be regarded as a priority need.

Sales and Marketing

Over the years it has become obvious that if the key issue of ensuring the registration of all practising scientists in South Africa is to be done, then appropriate marketing will have to a key activity. A possible process to follow is outlined below:

- It would be important for Council activities to become more visible to all students, be it at secondary or tertiary education institutions. In this regard a campaign needs to be formulated.
- It would be appropriate that the Council demonstrate to all its members and potential new members concrete beneficial advantages of registration.
- Proper advertising of the role of Council needs to take place in the public media so that the population in general is aware of the statutory role of Council, particularly the protection of public interests.
- Notification of all news in natural science newsletters to be issued bi-annually. In addition we need to have greater visibility at seminars and conferences. There is also a need to develop an interactive web page.

Source of marketing income

Since its inception the Council has been operating with a minimum permanent staff complement in its offices whose time has fundamentally been taken up to deal with registration matters. It needs to be borne in mind that all other Council activities are conducted on a voluntary basis largely by professional natural scientists who are occupied elsewhere. This has allowed very little time to deal with fundamental issues of marketing and promoting the activities of the Council, particularly when there are may be thousands of practising natural scientists who are not registered and in that sense may be violating the regulation of practice. It has now become imperative that leadership is provided in the office of the Council and extra capacity be built into the operations of the Council. This has been the single most important factor that we have not been able to meaningfully executing our mandate. With that in mind, the Council request the Department of Science and Technology to grant the amount of R1,146 million for the purposes set-out herein. Such a grant will be dealt with in terms of the financial reporting requirements as agreed on between the Department of Science and Technology and the Council for Natural Scientific Professions. This is inclusive of the requirements in accordance to the Public Finance Management Act (PFMA). A budget programme will be set with a regular expenditure progress, as well as a value-added meaning review by the Council and its auditors. The execution of the budgeted programme will be directed through high quality qualified operators with a past history of successful achievement.

Furthermore, it is recommended that a joint committee comprising of members nominated by the Department of Science and Technology and members nominated by the Council for Natural Scientific Professions meet on pre-arranged dates and times to review the goal achievement in accordance with the marketing plan put forward and approved. It is recommended that unbiased, third-party marketing evaluators be utilized to obtain objective results apart from audited check lists to be distributed to all recipients of the marketing objectives. The said committee is to pursue more methods in obtaining the required information on which to base their evaluation. The committee must, after each meeting, issue a joint report on the results and their evaluation thereof as well as some recommendations as how to increase the impact of the marketing objectives.

Marketing visibility should always be the primary objective to any service organization. The marketing strategy and execution must be scientifically managed to assure meaningful results. Results intended, must be reasonable and progressively serve as benchmarks for future performance. The South African Council for Natural Scientific The Natural Scientific

Professions justifies a marketing prop-up and visibility of new level and value to all users of services. Protection is the highest priority – both of the public in general and the professions specifically.

SWOT ANALYSIS AND RISK/REWARD ASSESSMENT:

The SWOT analysis results are as follows:

Strengths:

- Pool of professional registered Council members of which the majority function in the academic area.
- Web page with international coverage.
- International recognition
- Current pool of registered Natural Scientists:

Number of persons registered	Professional Natural Scientist	Candidate Natural Scientist	Certificated Natural Scientist	**Total**
	3410	**157**	**100**	**3667**

- Positive Annual report as a public document.
- Post nominal titles as status and professional designation indicators.
- Low overheads.

Weaknesses:

- Lack of an official newsletter.
- Lack of a general marketing programme in the media.
- Lack of commitment from employers.
- Lack of visibility of the Council and its activities.
- Lack of financial benefits to registered persons.
- Lack of remunerative incentives.

Opportunities:

- High number of unregistered graduates.
- Further development of the Natural Scientific Professions Act, 2003 (Act 27 of 2003).
- Marketing financial grant from DST.
- Requirement of professionalism.

Threats:

- Unregistered practitioners.
- Non-prosecution of transgressors of the Act.
- Invisibility of the Council and registered Natural Scientists.
- Underdevelopment of the Act.
- Underdevelopment of the Secretariat.
- Non-representation of different natural science fields of practice on Council level.
- Implementation of Council policies and applications.
- Unattractiveness of voluntarism.
- Non-payment of Council members.