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## BRIEFING TO PRESIDENT MANDELA ON THE DEFENSIVE CHEMICAL AND BIOLOGICAL WARFARE PROGRAMME OF THE SADF AND THE RSA'S POSITION WRT THE CWC AND BWC

### BACKGROUND

1. Towards the end of the 70's it became clear to the military intelligence community that the buildup of Russian and Cuban surrogate forces in Angola (and the rest of Southern Africa) which included access to advanced weapon technology, could pose a definite conventional threat to the RSA. In particular their ability to use chemical weapons against Unita or SADF forces were seen to be of major importance as neither Unita nor the SADF had any defensive and/or offensive chemical capability.

2. Increasing rumours about the use of chemical agents against Unita as well as the capture of defensive chemical equipment eg Decontamination vehicles, Chemical agent detection apparatus, Protective clothing and masks and medical treatment regimes, gave impetus to an urgent meeting of the CSADF, a small group of the DCC and the Minister of Defence during 1980. At this meeting it was decided that a member of the SAMS with the necessary scientific and military background should be sent overseas to determine covertly what the status and capabilities of the Western allies were with reference to Chemical and Biological Warfare and their defensive measures against it. At the same time contact was to be made with

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as many Eastern Bloc countries as possible to determine what their CBW capabilities were, with special reference to doctrines and policies in the offensive use of CBW agents.

3. In April 1981 in a follow-up meeting of the Mini DCC, the findings of this mission was reported upon and a philosophy was adopted based on the following principles:

- a. The entire field of CBW, both defensive and offensive, was highly sensitive and characterized by malperceptions and deception.
- b. Most of the Western Bloc powers openly displayed only relatively old and redundant technology in the field of CBW.
- c. All Scientific Research and Development of CBW agents were carried out by Civilian front companies funded from the Defence Budgets of the various Western Powers.
- d. Any weapon systems were only developed in top secret military installations. .
- e. All key elements of a defensive capability, namely the characteristics of activated carbon and materials used in clothing and equipment, had to be in own hands to ensure that enemy forces would not be able to determine what and how effective the defensive capabilities of own forces were.
- f. Employing a defensive posture only with the use of defensive equipment and the resultant physical and psychological restriction imposed by it, would not ensure victory against a enemy prepared to use chemical or biological agents. A limited chemical offensive capability would therefore also be necessary to ensure that offensive enemy forces would likewise be forced to take up a defensive posture with the same limitations and restrictions in order to equalise battle conditions. NO
- g. A decisive victory on the battlefield could not be achieved with the use of deadly chemical weapons, but rather with the combination of equalizing battle conditions in a defensive CBW posture and effective



doctrine and tactics in conventional operations. To achieve this situation, the SADF would have to develop a plausible retaliatory ability in case of chemical attack on its forces. This ability would not necessarily have to be lethal, but would, against the background of the possibility of lethal agents being deployed, have to be realistic enough to force an opposing force to deploy defensive measures to protect their own forces.

- h. The local disease situation in Southern Africa made the use of Biological Weapons (BW) in this theatre by surrogate forces an attractive proposition because of the difficulty in timely detection and the fact that their own population would not, because of distance from the target, need to be protected. As an offensive option for the SADF, BW were considered too dangerous because of the difficulty in controlling the spread of the organisms, and in any case would be ethically and morally unacceptable. For these reasons it was decided that the SADF would only undertake extensive research into the BW threat possibilities and concentrate on countermeasures in case of the possible manipulation of local organisms by hostile parties.

4. As a result of the above the Surgeon General, the late Lt gen N.J. Nieuwoudt, was tasked to liaise with Armscor in order to launch a project for the establishment of a defensive CBW capability for the SADF. During discussions with Cmdt Marais and Mr Fred Bell in this regard it was soon realized that Armscor's intensive Armament programme, as well as an inability to select, recruit, supervise and administer the scientists required for such a programme would necessitate that such a project would have to be managed by the SADF. As head of the newly established independent fourth arm of the SADF the Surgeon General was then tasked to develop such a project under the Code name "Project Coast".

5. The SAMS would manage this project for the SADF on a top secret basis. For added security, no other organisations would be involved and Armscor would also be excluded. As systems were developed, they would be passed on to the appropriate service without revealing the source. The management of the project by the SAMS would also ensure that the appropriate moral-ethical issues would be addressed and that the principles of all conventions be adhered to. The objective of any weapon system would not be to inflict massive battlefield casualties, but to "level the playing field". A credible deterrent ability or the rumour thereof, would however still be needed to be able to achieve this aim.

6. A Co-ordinating Management Committee (CMC) was established in 1981 to formulate strategy, establish policies and to oversee the management and administration of the project. The CMC was chaired by the CSADF (or in his absence the Surgeon General) and included the Chiefs of Defence Staff for Intelligence and Finance as well as the Chief of the Army. Other members were co-opted as and when necessary.

7. The course of the project can be summarised for ease of reference into four phases. These phases were:

- a. Implementation Phase.
- b. Commercialisation Phase.
- c. Privatisation Phase.
- d. Winding Down Phase.

#### THE IMPLEMENTATION PHASE

8. This phase started in the beginning of 1982 with the appointment of suitable scientists and the occupation of temporary laboratory facilities while the appropriate chemical and biological facilities were being designed and built. The following areas of CBW were studied:

#### Defensive Equipment Research

9. The urgent need for state of the art defensive equipment and the development of a defensive doctrine for the SADF was a first priority for the project. Initially the concept of a defensive doctrine was approached from a number of angles, viz:

- a. Threat chemicals.
- b. Dispersion techniques.
- c. Penetration enhancement techniques.
- d. Protective materials research and aggressor testing (including physiology).
- e. Systems research (including physiology and psychology).
- f. Tactical research.
- g. Medical treatment research.



10. Physical research (b to d) was done at a private company called Protechnik, while the physiological and psychological research was undertaken at a private company called Lifestyle Management in conjunction with 7 Med Bn Gp. (A special unit of the SAMS). 7 Med Bn Gp also conducted all tactical research in conjunction with the SA Army.

#### Verification Procedure Research

11. 7 Medical Bn Gp was responsible for collating all the above research and producing realistic procedures, doctrines and tactics. Unrealistic NATO and Allied Force procedures were modified or replaced.

12. A multidisciplinary team from 7 Med Bn Gp, Protechnik and Lifestyle Management was established to develop the expertise needed for the wide spectrum of activities involved in verification missions in cases of alleged CBW attacks. (A total of 21 verification missions have been completed to date, a number of which have already been presented to various authorities in Europe, amongst these the UN.) These exercises also were handy proving grounds for equipment that had been developed.

13. The result of the defensive chemical research programme was that the SADF became self-sufficient in its chemical defence needs and a very high level of technological expertise was developed.

14. This expertise has had a number of important spinoffs for the RSA - both locally and abroad. Locally this was mostly in the form of assistance given to the various government bodies involved in the management of industrial chemical accidents (Hazmat committees) and pollution. 7 Med Bn Group and its consultants are actively involved at local government and provincial government level in the training of, and logistical and operational assistance to, the chemical disaster teams of various authorities.

15. At an international level, the expertise gained has been recognised by the UN team on Disarmament and the SAMS has been requested by the bodies governing the Chemical and Biological Conventions, to render expert assistance to a number of constitution and policy forming bodies in this field.

Chemical Weapons Research

16. The Chemical Research and Development and production facility (Delta G. Scientific) was finally commissioned in 1985. This facility was operated as a private company and it was fully integrated into the chemical community of South Africa, where it operated under cover successfully till the programme was stopped in 1992.

17. After establishing a suitable definition for chemical weapons, an approach was developed for the study of these substances. Chemical agents were categorized as:

- a. Lethal agents.
- b. Incapacitating agents.
- c. Irritating agents. (C.B.)

18. Lethal agents. These agents were considered to be those that had been developed exclusively for use as lethal chemical agents in weapons of war. It was apparent at a very early stage of our research that there was no sense in trying to develop and study molecules that were more toxic than those already known in the field. Those molecules were an adequate deterrent even though they had been around for many years. What was important is that new delivery and penetration enhancement techniques had made protection against these agents vastly more difficult. The following philosophy regarding these agents was developed and implemented:

- a. All known molecules in this group would be synthesised on lab scale.
- b. This would be followed by confirmatory investigation of the chemical and toxicological properties of these molecules.
- c. Further research would be done on the various penetration enhancement techniques applied to these molecules.
- d. All substances and the above findings would be made available to the defensive equipment research programme.
- e. No weaponisation would be implemented for any of these agents.

19. Incapacitating Agents. The greatest part of our time and resources was spent on the research into these more flexible and humane weapon systems. The following philosophy was adopted here:



- a. All known molecules in this group would be synthesized on a lab scale.
- b. A selection would be made of possible substances which could be further developed for use in the SANDF with the following provisions:
  - i. All compounds should be dispersable by means of a particulate aerosol (pyrotechnically generated or otherwise).
  - ii. No lethality or permanent incapacitation in case of overdosage could be accepted.

20. Various categories of substances were synthesized on lab scale and chemically and pharmacotoxicologically characterised. Pyrotechnical mixtures were developed for each group of substances. Once again the most ideal compound in each group was chosen and scaling up synthetic procedures were developed. For each one of these substances delivery systems up to prototype development model stage were developed but no weaponisation of any of these agents was implemented.

21. Irritating Agents. These were the agents with which all the research and development was initiated. The scientists used these substances to develop their techniques and design "bonded" production plants. The first two years of R&D were spent synthesizing and characterising these agents. Mistakes were rapidly detected with relatively minor, albeit uncomfortable consequences.

22. All the known irritating agents were synthesized and scaling-up production processes were developed for all - CS, CN, DM etc.

23. In the course of this programme a new irritating agent was developed codenamed NGT. This agent was approximately fifty times more effective than the standard teargas used worldwide (CS) and was substantially less toxic (by a factor of approximately 10 times). This agent is now available to the SANDF in smoke as well as in a water solution for more controlled dispersion and more effective riot control and area denial.

#### Biological Weapons Research

24. The Biological research facility, Roodeplaat Research Laboratories, (like the chemical facility) was also run as a private company fully integrated into the South African Scientific Community.---Work was started there in 1987.

25. As has been stated in a Confidence Building Measure (CBM) declaration to the BWC (1993) (Annexure A) the programme concentrated on developing techniques to assess the threat posed by the genetic alteration of micro-organisms by hostile parties and on ways to detect and treat these disease producing micro-organisms. Countermeasures were successfully developed against all the organisms identified as posing a threat to the population of the RSA.

#### THE COMMERCIALISATION PHASE

26. In 1988 the new Surgeon General, Lt gen D.P. Knobel realized that the project had achieved its major objectives, that the perceived threat had diminished considerably, and that funding for the project could be reduced. This posed a dilemma as to what to do with the facilities created and run as front-companies when funding was cut. The facilities were custom-designed and expensive to keep running.

27. In conjunction with the Ministers of Finance and of Defence, the Auditor-General and the State Attorney, a system was developed whereby the facilities could, in a phased manner, be sold to the scientists and management of the company. The initial stages included:

- a. Balance-sheet restructuring of the front companies to create commercially manageable units - completed in September 1988.
- b. Signing of contracts for research to be done by these organisations for the SADF.
- c. Granting permission to the potential owners to enter into contracts with private organisations and companies, both locally and overseas.

These steps would enable the potential owners to establish a firm commercial base before full ownership was transferred to them.

28. The above system would put the SADF in the fortunate position of still being able to conduct research and development projects while it managed to "distance" itself from the facilities (i.e. with regard to ownership and responsibility). At the same time it could, by virtue of the sales and loan agreements entered into with the companies, maintain full control of the situation as needs may dictate.



PRIVATISATION PHASE

29. In January 1989 a conference on chemical disarmament was held in Paris. This signalled the start of intensive lobbying by the US for an agreement/convention that would effectively control the proliferation of Chemical (and later of Biological) weapons throughout the world. (This process later manifested itself in the CWC which was signed by the RSA in 1992.)

30. On 26 March 1990 the SP Mr de Klerk was fully briefed on the state of the project and the process of commercialisation, privatisation and normalisation which had already been initiated. He directed that further research should be confined to irritating and incapacitating agents only and that a special cabinet committee on sensitive projects should be briefed on the CBW programme (this briefing took place on 20 September 1990).

31. In July 1991, the project management was informed by the CSADF and the Minister of Defence that all research activities, barring the development of certain irritating and incapacitating agents for the SADF, were to be stopped before the 31st August 1991. This decision meant that:

- a. All research contracts with the abovementioned companies were to be cancelled.
- b. Cancellation fees for these contracts were to be offset against loans still outstanding from management of the abovementioned companies.
- c. All the abovementioned processes had to be completed within a time frame of 6 weeks.

32. As part of the cancellation of the contracts with these companies, ownership was provisionally transferred to the management and scientists of Delta G and Rooddeplaat Research Laboratories in September 1991. This was however subject to the following conditions:

- a. That all projects be finally wound-down.
- b. That all traces of previous work done be removed so as not to be transparent to any foreign inspecting body.
- c. That all project documentation be centralised at the project office of the SAMS.

- d. That no personnel be dismissed or retrenched for a period of two years after transfer of ownership.

The management was given a period of 18 months to complete the above. Ownership was finally transferred to the managers in December 1992. At this stage the companies were forced to concentrate their major efforts in the private sector in order to ensure commercial viability.

#### WINDING UP PHASE

33. On the 7th Jan 93 the Minister of Defence authorized that:

- a. All research and development in the fields of Chemical and Biological Research should be stopped.
- b. That all remaining chemicals and biological substances be destroyed, together with all ancilliary delivery prototypes.
- c. That research and development could carry on in the field of more effective dispersion techniques of NGT.
- d. That all technical project documentation be centralised at the SAMS project office and converted to an easily controllable form - access to which should be limited and available only for reference purposes.

34. All chemicals and biologicals produced were therefore destroyed in January 1993 under supervision of personnel of Military Counter-Intelligence.

35. The technical documentation of the project was scanned onto CD-ROM discs and these were handed over to the Surgeon General for safekeeping. This documentation represented years of research and technology development and, being of extremely sensitive nature, precautions were developed to ensure that this asset could not be lost to the country unless a decision to the contrary was taken by the GNU.

#### THE RSA'S POSITION WRT THE BWC AND CWC

36. The RSA is a signatory of both the BWC (Apr 72) and the CWC (Jan 93):



a. The BWC

- i. In terms of the BWC which was ratified in 1975 the RSA has been taking part in the activities of the VEREX meetings since 1993. (The VEREX meetings consisted of an ad hoc group of Governmental experts identifying and investigating potential verification measures to enhance the stipulations of the BWC.) The Department of Foreign Affairs is assisted at these meetings by an expert of the SAMS who is also the consultant to the Surgeon General on BW and the BWC.
- ii. As a result of recommendations by the Third Review Conference of the BWC (1991) it is expected from all signatory countries ( $\pm 150$ ) to make voluntary Confidence Building Measure (CBM) declarations on a yearly basis on the 15th April or as soon as possible thereafter.
- iii. The Department of Foreign Affairs released such a first CBM declaration from the RSA during August 93 in which reference was made to the SADF Defensive BW programme. (Annexure A)

b. The CWC

- i. In terms of the CWC which still had to be ratified by at least 65 of the signatory countries ( $\pm 150$ ) before July 94 in order to be implemented during 1995, the RSA has been taking part in the activities of the PREPCOM meetings since 1993. (It is important to note that at present only eight signatory states have ratified the CWC.) The Department of Foreign Affairs is assisted at these meetings by an expert of the SAMS who is also a consultant to the Surgeon General on CW and the CWC.

RSA LEGISLATION WRT NON PROLIFERATION OF WEAPONS OF MASS DESTRUCTION (OCT 93)

37. In terms of the above act which is administered by the Department of Trade and Industry a National Authority has been appointed in which the Department of Defence is represented by the

Chairman of Armscor and the Chief of Staff Logistics of the SANDF. The Surgeon General has been tasked to establish two provisional expert committees on Chemical and Biological activities in the RSA to act as advisory bodies to both the National Authority (Department of Trade and Industry) and the Department of Foreign Affairs until a permanent advisory committee is appointed. These committees have been functioning since 1993 and were fully involved in the RSA's participation at the VEREX meetings as well as in the drawing up of the CBM declaration into the BWC and participation in the PREPCOM into the CWC.

ENQUIRY BY AMBASSADORS OF THE USA AND UK

38. On 11 April 94 the SP and the Minister of Defence were advised by the Ambassadors of the USA and the UK of their government's position with regard to the above programme as well as the CBM declaration submitted by the RSA in 1993. They stated that they were fully aware of the contents and extent of the SADF CBW programme and that they had certain reservations about the RSA's CBM declaration as well as the implications for non proliferation. They further requested that:

- a. Their experts be fully briefed on the details of the SADF-programme.
- b. Confirmation be given that the programme has been terminated and that no biological weapon systems are in existence.
- c. A public declaration to this effect be made.
- d. All cases of alleged abuse of the programme and its products be fully investigated and the results of this investigation be made available to them.
- e. That Mr Mandela should be fully informed about the programme.

39. They further indicated that their respective governments would wish to enter into discussions with a future South African Government of National Unity (GNU) with respect to the issue of non-proliferation of data and materials or weapons of mass destruction.

40. After discussions between the Surgeon General and National Intelligence with members of their delegation a further meeting with the SP, Mr de Klerk was held. He indicated that:



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- a. It was the intention to fully inform Mr Mandela about the extent of the SADF Defensive CBW-programme as well as other priority issues during the period immediately after the election.
  - b. The 1994 CBM-declaration by the RSA Government would not be submitted before the GNU was in place.
  - c. The records of all scientific research pertaining to the SADF defensive CBW-programme, which is at present under strict centralized control and which was indeed a national asset, would not be destroyed without discussions in this regard with the GNU.
  - d. No public announcement in this regard would be considered before the above had taken place.

41. With regard to the reference of the abovementioned ambassadors to their knowledge of the contents of the programme, the following must be noted:

- a. Their scientists and intelligence community did not have any real information on the content of the programme.
- b. An overview of the programme was given to them over a period of 3 days by the project officer.
- c. During this period they were allowed to visit the biological facility, which company was now in voluntary liquidation due to the lack of commercial research and development opportunities in this field.
- d. Certain information regarding the Russian and Iraqi programmes was passed on to them (including the identity of the newly prevalent "flesh eating bacteria" which originated from the Russian programme).
- e. They could not give details of any incidents of cases of alleged abuse of the programme or its products, except for alleged cases already referred to in the lay press.

#### ALLEGED ABUSES OF THE PROGRAMME OR ITS PRODUCTS

42. During December 1992, the project officer received notice from the CSADF that his services were to be terminated and that he was

to be pensioned out of the SADF after handing over the project to a successor. This step was apparently taken by the SP Mr de Klerk on the strength of the Steyn Report. This decision was taken without consulting the project leader (Surgeon General). No formal charges were laid against the project officer, but a number of so called allegations of abuse were reported to various authorities for further investigation. These were:

- a. Offensive use of Chemical Agents. A number of allegations were investigated by the SAPS. Not a single case of anyone dying by chemical means as a result of substances produced by this programme was proved.
- b. Drug abuse. These allegations were investigated by the Narcotics Bureau of the SAPS and found to be groundless. The project officer was responsible for the importation and transport of sensitive chemicals - an activity for which he was fully authorized.
- c. Third force activities. It was alleged that the project officer was responsible for arranging a chemical attack in support of Renamo on Mozambican government troops. After intensive investigations, a UN study group came to the conclusion that no such chemical attack had in fact taken place.
- d. Financial Irregularities. The project was audited on a yearly basis by an external auditor from the private sector who was appointed by the Auditor General to oversee the project finances. Unspecified allegations of irregularities were made by as yet unidentified third parties. These allegations have for the last year and a half been the subject of an intensive investigation by the Office for Serious Economic Offences. The entire project has been re-audited by an external auditor to the satisfaction of the Auditor General and to date no evidence of any irregularity has been established.

#### RECOMMENDATIONS

43. It is recommended that:

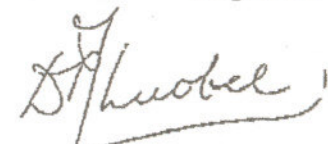
- a. The SAMS of the SANDF continues to maintain the defensive capability as developed during the CBW programme and the responsibility of deploying members of 7 Med Bn Gp during disasters with a distinct Chemical or Biological threat to protect the public at large.



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- b. The Surgeon General continues to advise and support the National Authority (Department of Trade and Industry) and the Department of Foreign Affairs into the requirements of the non-proliferation act (93) and the meetings of the BWC and CWC.
- c. The records of all scientific research pertaining to the SANDF defensive CBW programme be kept as a national asset under strict centralised control as at present.
- d. A CBM declaration for 1994 be released by the Department of Foreign Affairs as suggested in Annexure B.
- e. NGT as developed during the CBW programme be retained by the Army of the SANDF for utilization in riot control situations under pre-determined critical conditions. (It is important to note that the NGT will have to be declared as soon as the CWC is ratified and becomes effective).
- f. A follow-up meeting between yourself and the Ambassadors of the USA and the UK be arranged for further consultation and consideration of the issues raised by them. The Surgeon General would be available to assist in this regard if required.
- g. No public announcement be made in the light of the fact that the defensive capability of the SANDF (SAMS) is a matter of public knowledge through the CBM declaration of 1993 and numerous briefings and publications in this regard.



(D.P. KNOBEL)  
SURGEON GENERAL: LIEUTENANT GENERAL

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