Examination of the factors affecting the effectiveness of arms control at Armscor and its contractors

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DECLARATION BY THE CANDIDATE

I, Manelisi Shumane, declare that unless indicated, this mini-dissertation is my own work and to the best of my knowledge it has not been submitted for a degree at another university. I further declare that I understand that plagiarism is a serious offence and that should I contravene the Plagiarism Policy of the University, I may be found guilty of a serious criminal offence.

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EXECUTIVE SUMMARY

Responsible arms control is an effective tool in international efforts to make sure that arms do not reach pariah states and terrorist groups. It must be balanced against the need to have a conducive environment for the defence industry to flourish. Unfortunately arms control has been suggested to be limiting the flow of business in the defence industry by delaying the acquisition of defence matériel due to the processes of acquiring permits, reduced revenues as more resource allocation for the arms control role and loss of business due to the limited pool of customers arising from embargoes. It was therefore the aim of this study to investigate the factors that are considered to affect the effectiveness of arms control at Armscor and its contractors with a view to identifying gaps and come up with ways to address those gaps. This it is hoped will help Armscor to improve its arms control system and thus strengthen its position as the acquisition arm of the South African National Defence Force (SANDF).

The objectives of the study were to:

- review the National Conventional Arms Control Committee (NCACC) policies and regulations with a view to identifying problematic areas and ways to address them.
- determine the values of the defence matériel acquired for the SANDF through Armscor in the last three years to establish the potential loss of business if Armscor could be blacklisted due to violation of arms control regulations of supplier countries.
- determine the effectiveness of the leadership of Armscor Project managers and the arms control awareness programmes.
- establish the strengths and weaknesses of the role players in the South African arms control environment

The NCACC policies and regulation were reviewed by establishing from literature the common violations and investigate how these are addressed in the regulations. The potential loss of business at Armscor was established by obtaining data from the Directorate Conventional Arms Control (DCAC) on import permits issued to Armscor from 2007 to 2009 and their monetary value was determined and this was taken as the potential loss of business. The effectiveness of the leadership of the Armscor Program managers

and the awareness programs were determined through questionnaires and analysis of audit reports respectively. The strengths and weaknesses of the role players in arms control were determined by interviewing the senior people in the Armscor Arms Control Division (ACD), DCAC, SANDF, Armscor Business Logistics (Armscor shipping agent) and customs.

It was found from literature that the common violations are related to the procurement of non-substantial military items and Small Arms and Light Weapons (SALW). Interviews with some of the role-players revealed that industry is concerned about delays in procurement due to longer turnaround times in applications and issuing of EUC and permits. The procurement of arms is adequately addressed in the regulations under munitions list but there is a problem with classification of dual-use items. There is also lack of appropriate control of arms brokers and even though the NCACC regulations provide for the issuing of open permits which could be used to avoid delays in permit application for very urgent cases, the DCAC is reluctant to apply this clause. The total value of import permits that were issued to Armscor from 2007 to 2009 is R3.778 billion, R4.889 billion, R4.505 billion respectively and these were taken as potential loss of business to Armscor should it be blacklisted. The responses from the questionnaire indicated that Armscor Project Managers use a leadership style that is conducive to arms control implementation as they act as liaison with the external constituencies, trouble-shooters, coaches and conflict managers. Although no findings were reported from audits, there were gaps that were identified which imply that the awareness is not at the optimum level. The interviews revealed that some of the role-players do not have appropriate resources (human, funds, IT systems) and as such would adversely affect the work of other role players in the procurement chain.

It is believed that a good arms control framework must start at a higher level with effective functioning of the controlling body, DCAC, and it cascades down to industry which includes Armscor. Thus it is believed that DCAC could function better if it becomes a separate entity that has its own budget and therefore can be able to address its human resource and other problems. The role-players must work closely together and forums be initiated where there will be regular engagement on identified problems. Armscor positions itself to play a role as a knowledge base of the arms control industry as it is the only company in industry that has a well developed arms control system and has vast experience in the field.

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DEFINITIONS

Acquisition - refers to all the activities needed to satisfy the requirements for a qualified defence matériel and starts from the identification of requirements up to commissioning.

Arms control - refers to the control of activities relating to the marketing, import, export, transit, re-export, re-import or manufacturing of armaments and related technical data, technologies, equipment and services, in terms of South African defence trade legislation, international arms control and non-proliferation agreements to which South Africa has committed itself, relevant legislation of trade partner countries, and bilateral defence trade agreements between Armscor and external entities

Conventional arms - refers to weapons, munitions, explosives, bombs, armaments, vessels, vehicles, aircraft designed or manufactured for use in war, and any other articles of war and also any component, equipment, system, processes and technology of whatever nature capable of being used in the design, development, manufacture, upgrading of items mentioned earlier and dual-use goods.

Defence matériel - refers to armaments and related technical data, technologies, equipment, services and dual use goods.

Dual-use items - refers to goods and technologies which have civilian applications but could also be used for the production of arms or other military purposes.

End-User Certificate – is a written undertaking provided by the end-user that the conventional arms will neither be transferred/re-exported, nor allowed to be transferred/re-exported to any other foreign party or country without the prior written consent of the Supplier or its Government.

K225 - Inspection or Acceptance Release Certificate which confirms that the output complies with the applicable order requirements.

Procurement - is the process whereby a mutually beneficial contract is brought about, carried out and completed. It is a narrower concept that acquisition. Procurement supports acquisition.

Regulations - refers to the regulations to the National Conventional Arms Control Act, Act 41 of 2002 as contained in the Government Gazette of South Africa Volume 467 No 7969 published in Pretoria on 28 May 2004.

Supplier Country - refers to country or countries of manufacture of controlled defence matériel and or country from which such controlled defence material is exported to South Africa.

ABBREVIATIONS

ACD	-	Armscor Arms Control Division
AOG	-	Aircraft on the ground
APM	-	Armscor Project Manager
Armscor	-	Armaments Corporation of South Africa
COCOM	-	Coordinating Committee for Multilateral Strategic Export Controls
DACO	-	Designated Arms Control Official
DOD	-	Department of Defence
DTI	-	Department of Trade and Industry
DCAC	-	Directorate Conventional Arms Control Committee
ECO	-	Export Control Organisation (UK)
EUC	-	End-user certificate
EUU	-	End-User Undertaking
EIPA	-	Export and Import Permits Act (Canada)
GDP	-	Gross Domestic Product
HMRC	-	Her Majesty's Revenue and Customs (UK)
ITAR	-	International Traffic in Arms Regulations
MTCR	-	Missile Technology Control Regime
NCACC	-	National Conventional Arms Control Committee
NPC	-	Non-Proliferation Council (The South African Council for the Non-Proliferation of Weapons of Mass Destruction)
NSG	-	Nuclear Suppliers Group
NTP	-	Nuclear Non-Proliferation Treaty
SANDF	-	South African National Defence Force
UN	-	United Nations
WA	-	Wassenaar Arrangement

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CHAPTER 1

PROBLEM IN CONTEXT, PROBLEM STATEMENT AND OBJECTIVES

1.1 Introduction

The establishment of a democratic government in South Africa opened the world markets for defence equipment, when the United Nations arms embargo was lifted in 1994. However, a prerequisite for South Africa to be recognised as a trustworthy defence trade partner was to subscribe to and participate in international arms control and non-proliferation activities aimed at the promotion of international peace and stability. South Africa thus became member of a number of international treaties, agreements and arrangements which demanded implementation of a national arms control and non-proliferation system. After the termination of its nuclear weapons programme and its space programme, South Africa acceded to the Nuclear Non-Proliferation Treaty (NTP), and was invited to join international initiatives like the Missile Technology Control Regime (MTCR), and the Nuclear Suppliers Group (NSG) working towards the non-proliferation of nuclear weapons as well as delivery systems for such weapons. South Africa is also signatory to the Biological Weapons Convention and the Chemical Weapons Convention. These international commitments led to the implementation of the Non-Proliferation of Weapons of Mass Destruction Act, Act No 83 of 1993 and national authorities administering this Act.

In terms of the *Armaments Development and Production Act, Act No 57 of 1968*, the Minister of Defence was responsible for the control of the import and export of arms, a responsibility he delegated to Armscor. Up to 1992 Armscor was responsible both for the acquisition and manufacture of armaments for the then South African Defence Force. In 1992 Denel was formed, taking over the manufacturing function, while Armaments Corporation of South Africa (Armscor) concentrated on the acquisition function, as well as the disposal of redundant SANDF equipment. This function was under severe pressure to generate income for the government, which led to questionable transactions, which resulted in an enquiry by the Cameron Commission in 1994. One of the findings of the Cameron Commission was that Armscor could not be responsible for the issuing of export permits while it was also a player in the field of arms trade. It was decided that the control function should be transferred to the Defence Secretariat. This move gradually led to the formation of the conventional arms control structure, the National Conventional Arms

Control Committee (NCACC), as described in the National Conventional Arms Control Act, Act No 41 of 2002.

In order to pave the way to also become a member of the dominant international conventional arms control organisation, the Wassenaar Agreement (WA), the control lists of the WA were published as Regulations under the National Conventional Arms Control Act in 2004. In May 2005 South Africa was allowed to become a Participating State of the WA.

1.2 Problem in Context

Armscor is the designated acquisition agency of the Department of Defence (DOD) and is responsible for professional programme management and the drafting of tender documentation for the contracting of industry on behalf of the DOD during the execution of armament acquisition programmes. It ensures that the technical, financial and legal integrity in contract management is in accordance with DOD requirements.

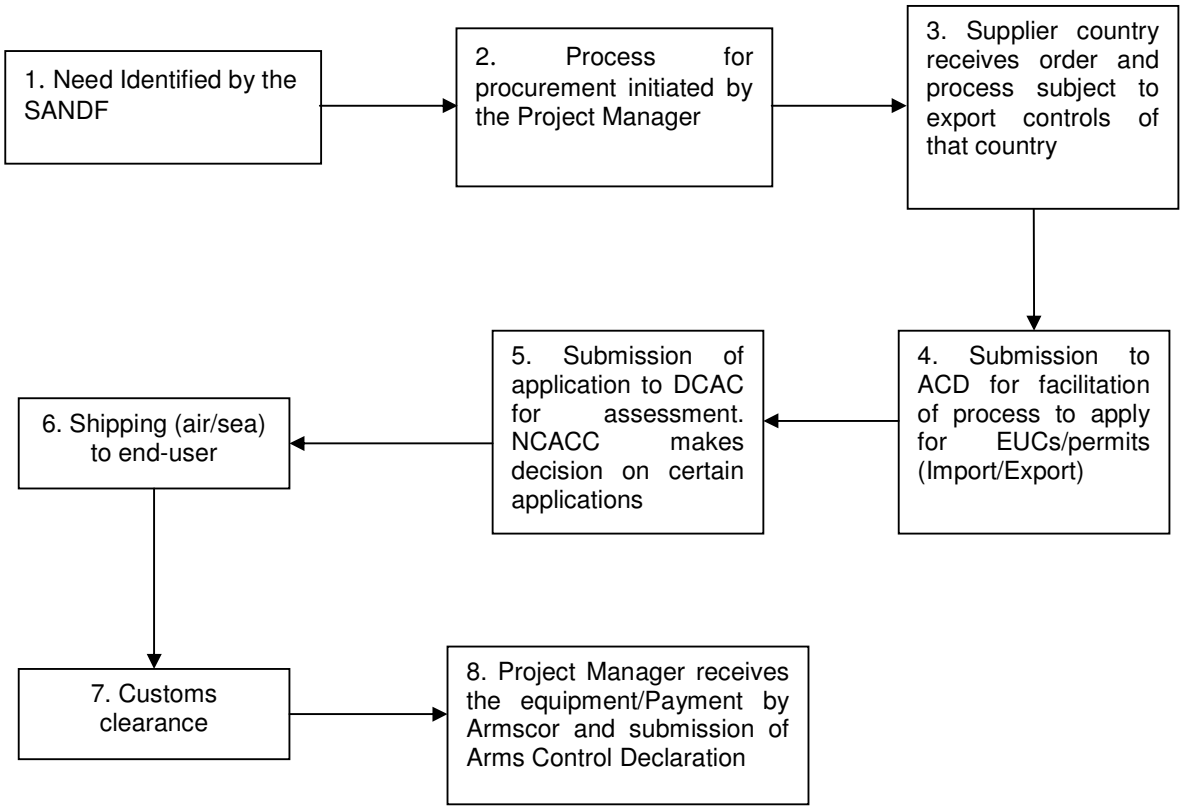
In fulfilling its function, Armscor is involved in the import and export of defence matériel subject to control measures prescribed by the South African arms control and non-proliferation system described above. Although one should bear in mind that the non-proliferation control system forms an intricate part of the South African arms control and non-proliferation system, this project will concentrate only on the arms control part, as Armscor is only involved in the transfer of conventional arms. The national policy, as formulated in the Non-Proliferation Act prohibits any involvement in the development or use of weapons of mass destruction.

Due to the nature of these Armscor's activities there are tight delivery dates that must be adhered to with possible penalties for non-adherence. It is important that these must be executed in compliance with arms control requirements so that Armscor continues to be internationally recognized as a responsible and trustworthy trade partner and thus be able to optimally satisfy the needs of the SANDF and other clients regarding defence equipment.

The *Armaments Development and Production Act, Act No 57 of 1968* referred to earlier was repealed and replaced by the *Armaments Corporation of South Africa, Limited Act, Act No. 51 of 2003*.

In terms of this Act, Armscor is responsible to establish a compliance system ensuring that the DOD complies with relevant arms control and non-proliferation legislation. In practice this means that Armscor is responsible for arms control compliance during the acquisition and disposal phases of defence equipment, and will assist the DOD to implement the necessary control measures during the operational phase.

The process for the procurement of controlled items can be generally represented as follows:



The process of procurement of non-controlled items would not require import/export permits or end-user certificates (EUCs) and hence will not go through ACD, the DCAC and may not be subjected to arms export controls of the supplier and hence delivery times are drastically reduced. It must be mentioned that the national arms control systems of supplier countries differ from each other and from South Africa. For example in Germany all items are controlled, whether controlled in terms of the WA control lists or not, in cases where it is

intended for military use. This may cause problems, for example, if South Africa is forced to issue an EUC signed by the SA government for unlisted items as the South African authorities will have to issue import permits contrary to its legislation for uncontrolled items.

The Armscor Project Manager (APM) is the starting point in a successful procurement of defence matèriel for the SANDF and careful and responsible consideration of arms control requirements in the early project planning stages is crucial. There is evidence that arms control practice has not been fully embraced by the project managers and is sometimes viewed as just an unnecessary add-on to the huge paper work that is involved in project management. Recently the General Manager of Quality and IT, the department under which the ACD falls, was dismayed at the *attitude* displayed by the project manager of one of the cardinal programmes with regard to the control of *non-substantial military* like nuts and bolts. “The attitude of the Project Managers needs to be changed” he remarked. The fact that there was eagerness to ignore the arms control requirements rather than finding a responsible way around the problem of work overload due to the control of these small items highlighted a deeper problem. Probably the project managers may not be aware of the possibility of huge *penalties* for non-adherence or the ultimate penalty of being denied trade in arms with that country which would render Armscor redundant. For some Project Managers they do not see adherence to arms control practice in their projects as their responsibility, they will not be held *accountable* for any non-adherence even though the arms control practice emphasizes so. This could highlight the need for regular *arms control audits* at Armscor and its contractors to monitor arms control compliance.

The necessary documentation for the application of EUCs or export/import permits must be submitted well in advance to allow for the verification process by ACD and submission to DCAC and approval by NCACC where necessary. The approval is necessary only for contracting permits and other permit applications being subjected to the government departments participating in the permit application review process. In many cases the applications are submitted late and may be referred back to the project manager due to lack of sufficient information to make a decision. Due to grey areas in WA *control lists* (conventional arms and dual-use items) this sometimes delays decision making regarding whether the item is controlled or not. It is usually recommended that under such circumstances the item is assumed to be controlled and necessary documentation is applied for so that there are no further delays at a later stage. Should it turn out that the

item was non-controlled, this is seen as a vindication of the belief that arms control is not necessary as it just brings confusion. The DCAC, as the secretariat for the NCACC, receives the application and is supposed to give expert advice with regard to control lists and due to the fact that it is generally understaffed and therefore does not play this role effectively as it is supposed to. Armscor ACD finds itself sometimes playing this role which brings confusion into the South African arms control environment which signals dysfunction in the *arms control structure***.** An example is the confusion on who is responsible for signing the EUCs with some contractors under the impression that it is Armscor when it is from DOD.

The factors to be considered when evaluating permit applications, as reflected in the policy for the control of trade in conventional arms in terms of the National Conventional Arms Control Act (Act 41 of 2002), are:

- South Africa's national interest and its international obligations and commitments, particularly as these relate to arms control, non-proliferation, disarmament and the implementation of international humanitarian law.
- National policy not to trade in conventional arms and military equipment and/or material, equipment or technologies that could be used for the development or production of weapons of mass destruction, with countries of proliferation concern, countries involved in the systematic violation or suppression of humanitarian rights and fundamental freedoms, countries, individuals, groups, undertakings and entities involved in crime and countries, individuals, groups undertakings and entities involved in international crime
- National policy to avoid trade in conventional arms with countries involved in armed conflict.

In many countries this implies denial of exports to "pariah" states or regions of concern like Iran, Iraq, Syria, Venezuela and North Korea and each country must have a clear foreign policy on which country to enter into arms business with. In South Africa this is the responsibility of the NCACC, which is a committee comprised of ministers and deputy ministers, and its policy is not clear in this regard. Its *transparency* of the arms export decision-making processes is questionable (Lamb, 2009). This is problematic in the sense

that the project managers need to know this information so as to identify the possible suppliers of arms and which countries may be considered for tenders.

In many cases it turns out that the defence matériel of interest comes as a system of systems where other components are sourced from different countries, but then assembled by the country that won the tender. Then Armscor would be subjected to the arms export controls of each involved country. It must be mentioned that for orders on foreign contractors it is a requirement that the supplier must make known all countries that will supply controlled defence matériel in terms of the contract to the APM in advance. Then the Programme Manager must consult with ACD in order to determine whether all supplier countries are acceptable to South African authorities, and inform the contractor. In reality it happens in some cases that other supplier countries would only be known once the procurement process has been started which results in EUCs being applied for late which then delays the process. In addition it might only be realised when applying for the EUC for that subsystem that the country that the components are sourced from is not considered a responsible trade partner by NCACC and hence no arms trade can be done with that country. This relates back to the issue of transparency which adds to the frustration of the project managers.

The *shipping* of arms or defence matériel both by sea and air is problematic. Some of the airlines are reluctant to consider transporting arms due to the delays involved in declaring and requesting permission to use the airspace when the cargo includes arms. Many countries have a system of supporting their arms exports business whereby their national airlines would willingly transport the arms cargo from their arms manufacturers to their end-user countries. An example is the British airlines which support the UK defence exports by being readily available to transport military equipment. This is not the case in South Africa as there is no policy to support the arms export trade by the South African national airline, South African Airways (SAA). Shipping by sea is also problematic especially with the growing threat of pirates in sea routes passing through the shores of countries like Somalia. The insurance of the arms is becoming extremely exorbitant and in some cases the insurers simply refuse as they consider the business too risky and/or immoral. It is difficult therefore to plan and execute the shipping of arms within tight project timeframes and delays are in most cases inevitable. Although Armscor has its own in-house Travel/Logistics units which have vast experience in shipping of controlled items but it

happens that due to the desire by some of Armscor subsidiaries to cut costs, they will contract external shipping agencies (at lower prices) with little experience in shipping of controlled items. This in many cases ends in a disaster because the correct shipping procedures were not followed and ends up in the hands of the Armscor Travelling agency (AB Logistics) with no cost saving realised.

Once the shipment has arrived at customs, it must be cleared and this requires that all the necessary documentation is available. It happens in some cases that due to delays in shipping some of the permits/temporary permits might have expired and hence a need arises to amend the permits. This is another process that may take time (necessary approvals) with the shipment incurring storage costs while at customs. The lack of an *integrated electronic system* between the various agencies (Armscor, DCAC, customs) to track or verify EUCs or permits is also a problem which may result in some of this documentation being lost. The lack of *alignment of control requirements at customs with those of the arms control* often result in controlled items entering the country without the necessary documentation. These loopholes are incentives for those less committed to arms controls to try to by-pass the system.

Once the item has been received by the APM, an arms control declaration forms part of the delivery documentation from the contractor to be submitted for payment. The contractor must provide for each consignment to the Armscor Finance Department, in duplicate, the following:

- A list of all items for which the EUCs/EUUs were required by the governments of supplier countries, together with copies of the relevant EUCs and/EUUs ; or
- If the consignment contains no EUC/EUU controlled matériel, a statement to this effect.

There are also quality control checks culminating in the issuing of the K225 signalling that it is in good condition and it meets the specifications of the client and is then handed over to the SANDF. This is an area that is often clouded with confusion to the detriment of a good service to our client where the K225 would be issued when the equipment was not in a working condition.

1.3 Problem Review

Further mind-mapping the issues mentioned in the brainstorming session and opened up in the Problem In Context (PIC) the challenges facing the implementation of the arms control system revolve around *people management (leadership, change of attitude etc),* alignment and co-ordination of the activities of the *role-players* (ACD, DCAC and NCACC, shipping/travel agents, customs, industry), *policies* with regard to implementation of arms control and *implementation tools or procedures.* From these, five themes which include issue of procurement of certain defence matériel (non-substantial items and Small Arms and Light Weapons (SALW) and their control, alignment and co-ordination of the activities of the role-players, grey areas in conventional arms and dual use control lists, lack of monitoring of compliance and leadership emerge.

The SALW are particularly of interest given their widespread proliferation and use in human right violations in countries ravaged by civil wars. Thus it is of interest to review National NCACC policies and regulations and investigate how these issues are handled. The NCACC Act is based on the WA arrangement control list but as mentioned earlier the WA is not prescriptive on how countries must implement the arrangement which gives room for manipulation to responsibly promote arms trade for the economic well-being of our country.

The structure of an organisation is considered as one of the important factors that determine success of any strategy and in our context one may be looking at the structure of the Armscor and its ability to respond to environmental changes like legislation and be supportive of the arms control strategy and the arms control structure in South Africa i.e. how the role-players link up and interact with each other, their alignment and coordination in the acquisition cycle. It is important that all the role players should base their strategy on the balance between responsible arms control system and the desire to promote arms trade for the economic well being of our country. This is particularly important for DCAC and NCACC as they issue the EUCs and permits and hence if they have not optimally tuned their system they could limit arms trade to the detriment of the defence industry. This alignment of arms control strategy is a challenge as these organisations may differ with regard to their own structures (hierarchical structures/flat structures, bureaucratic structure) and size hence their response times to the changes in the external environment.

Some of the contractors of Armscor are small companies with no expertise on arms control and rely on shipping agents to take care of shipment of defence matériel and adherence to associated regulations. Another element of structure concerns the NCACC where it is argued that the decision level may be high and hence it stifles processing of permits. It is often argued that if the foreign policy is more mature, clear guidelines could be formulated, decisions taken on a lower level, as in the US system, which results in a transparent system and shorter processing times. The chemical and biological warfare agents are controlled by the NPF which is under the Department of Trade and Industry (DTI) and it seems to be well structured and developed. Another possibility could be to merge the NCACC and Non-Proliferation Council (NPC) structures to provide a single point of application for permits from both.

The attitude displayed by the project managers could be linked to the lack of knowledge about arms control issues which could emphasize the role of awareness programs, poor leadership or could be linked to a deeper problem, resistance to change which could emanate from the deeply embedded strong cultures characteristic of huge organisations like Armscor. As leaders in organisations are expected to be agents of change, any efforts to bring about change in the organisation must start with them and equip them not to only be able deal with change but should then influence their subordinates in the direction of change. The internal environment (culture of the organisation) must be also be conducive to change (implement arms control).

1.4 Problem Statement and Objectives

This research will examine at the factors that affect the effectiveness of arms control policies and regulations at Armscor and its contractors. These include the NCACC policies and regulations, effectiveness of leadership of APMs and those of contractors, monitoring systems and the South African arms control structure.

The objectives of this research are:

- Review the arms control legislation specifically regulations with a view to identifying grey areas or areas that may have broad interpretations such that these can be used to create loopholes
- Analyze the annual expenditure on controlled defence matèriel procured by Armscor and its contractors for the SANDF with a view to establishing the potential risk associated with non-compliance. This could be realised as loss of business to Armscor due to blacklisting
- Establish the level of arms control awareness and the effectiveness of leadership with regard to arms control issues at Armscor and its contractors
- Examine the South African arms control structure and identify possible synergies in key role players that could be exploited in the best possible alliance structure

1.5 Importance of the study

The NCAC Act demands that organisations/companies that are involved in arms trade must comply with the Act that promotes responsible arms trade in line with the WA and other treaties which the South African government is signatory to. The implementation of the arms control practice at Armscor faces a number of challenges that are related to the arms control regulations which seems to be linked to the interpretation of the items. Non-compliance to arms control has serious implications for Armscor, which is an acquisition agent of the SANDF, as it has a potential to render the para-statal redundant. This is a possibility as non-compliance with export controls of countries like the US carries a penalty to the extent of trade embargo and since the US is one of the largest exporters of defence matèriel to South Africa and such a penalty can render Armscor redundant. In fact Armscor was blacklisted by the US in 1994 due to the illegal transfer of defence technology during the 1980's and that was resolved in 1997 following a government-to-government agreement in which Armscor and Denel agreed to implement internal arms control compliance programmes to the satisfaction of the US government.

Thus in this study the NCACC policy and regulations will be reviewed with the aim of closing any identified gaps, examine the effectiveness of leadership with regard to arms control issues and the South African arms control structure and hence limit the possibility of

non-compliance of Armscor and its contractors to export controls of supplier countries. That is hoped to strengthen the position of Armscor as an acquisition agent of the SANDF.

1.6 Road Ahead

Having reflected on the issues (in Problem Review) opened up in the Problem in Context there is a need to look deeper into these issues to attempt to understand. This is done in the following chapter, Problem Analysis, where theory and management models are interrogated and exploited in pursuit of a better understanding of these issues rather than simply presenting the models.

CHAPTER 2

FOUNDATION OF STUDY

2.1 Problem Analysis

The success of the implementation of a strategy (arms control) of any organisation depends on the structure, systems and culture. The main issues that have emerged from the problem review fit into the three main pillars (structure, systems and culture) that support the strategy and theories and models on how these three pillars align with each other for the success of the strategy will be used to understand better issues underlying arms control at Armscor. Particular attention will be given to the theories and models that relate to the objectives of the project that have been proposed earlier.

In the context of this study it will be of interest to consider the structure of Armscor on its own and the structure of the arms control environment i.e. how all the different role-players are linked with each other. The structure of an organisation is also acknowledged to be critical to the success of the strategy in that, for example hierarchical structures are perceived to be rigid and bureaucratic and are slow to respond to challenges in very dynamic environments. Hence for organisations that operate under turbulent environments there is a move towards dynamic and responsive structures like adhocracies. Mintzberg's (Segal-Horn, 2006) model of the structure of organisations highlights two elements that determine the structure. These are the six basic parts (strategic apex, technostructure, middle line, support staff, ideology and operating core) and the six coordinating mechanisms (mutual adjustment, direct supervision, standardisation of work processes, outputs, skills and norms) that link the basic parts together and describe the way in which the organisation co-ordinate the work.

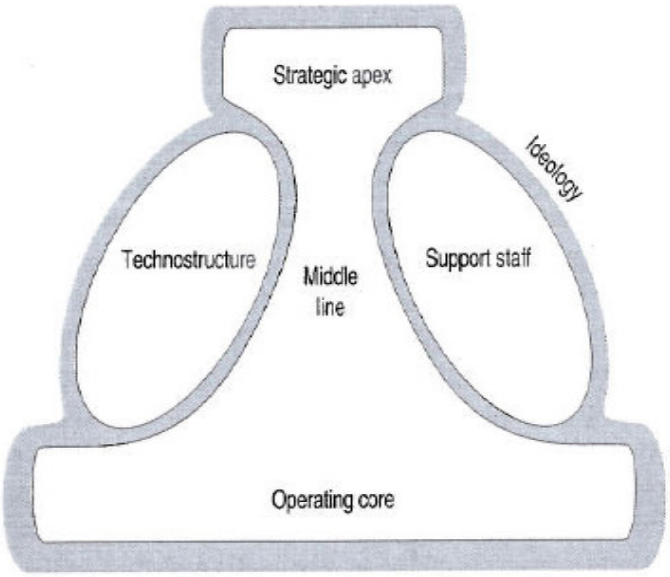


Figure 2.1: The six basic parts of the organisation

The strategic apex is the top management; the operating core is where the basic work of producing the organization's products and services gets done; the middle line are those managers who are the link between the strategic apex and the operating core; the techno-structure is the staff that design and maintain the systems for work processes; support staff are those who support the organisation outside of its operating flow; ideology are the beliefs and traditions within the organization. The structure of Armscor could be described as dominantly machine bureaucracy with elements of professional bureaucracy. The machine bureaucracy is characterized by an elaborate administration, a large technostructure to design and maintain its systems of standardisation, a large hierarchy of middle line managers to control the highly specialized work of the operating core. The effectiveness of an arms control system depends partly on an integrated electronic system that must link the various role-players and this is lacking in the South African arms control environment. This is important for tracking the progress of application of permits and EUCs and verification of these by agencies like customs. With Armscor playing the dominant role in this environment, one can question the strength of its technostructure to support the arms control in terms of designing and maintaining on-line IT systems for the application and tracking of permits and EUCs. This approach has been adopted by countries like the UK (Parish, 2009) and has proved to be very effective in avoiding delays in the acquisition process due to verification process and related documentation loss. It is also important to look at the role of the strategic apex as this is considered to be critical in encouraging and

enforcing arms control compliance as was realised by a German firm, Leybold AG, in their radical transformation of their internal compliance system (Albright, 2002). In that system a senior export-responsible executive who is held personally accountable for any illegal actions by the firm is nominated. Armscor, in its structure, has a similar role (DACO) although it is not explicitly pronounced that he will be personally accountable for any illegal actions by the firm and he is not involved in the day-to-day management of the ACD as was the case in Leybold AG. Although the model of Leybold AG worked well in implementing a very stricter internal compliance system it could be argued that such a high level involvement could stifle the processing of application due to high level approvals.

It is also of interest to look at the structural alignment and coordination of the various role-players as they are supposed to share the arms control strategy. Albright *et al* (2002) acknowledges that effective export controls must be a combined effort between governments and companies. They emphasize the government's role in developing policies to better regulate export controls and create an environment supportive of non-proliferation efforts, industry's role in developing internal compliance systems to ensure strict adherence to governments' policy and the need for companies and governments to work together to enforce those policies. The models on network structures and strategic alliances can be used to reveal the underlying complexities with regard to alignment and coordination of the organisations. The network structure is a flexible, non-hierarchical organisational form that groups together a series of independent organisations or Strategic Business Units to design, produce and market a given product. It is common in dynamic and complex environments where creativity, innovation and speed of response are key sources of advantage and fundamental to the effectiveness of the organisation. The organisation concentrates on its distinctive areas of competencies while integrating efficiencies from other firms, each concentrating on their distinct areas of expertise (Boojihawon, 2006). With this background the different organisations/agencies, being involved at different stages of the acquisition process, could be pictured as resembling the modular organisational design of the network structure.

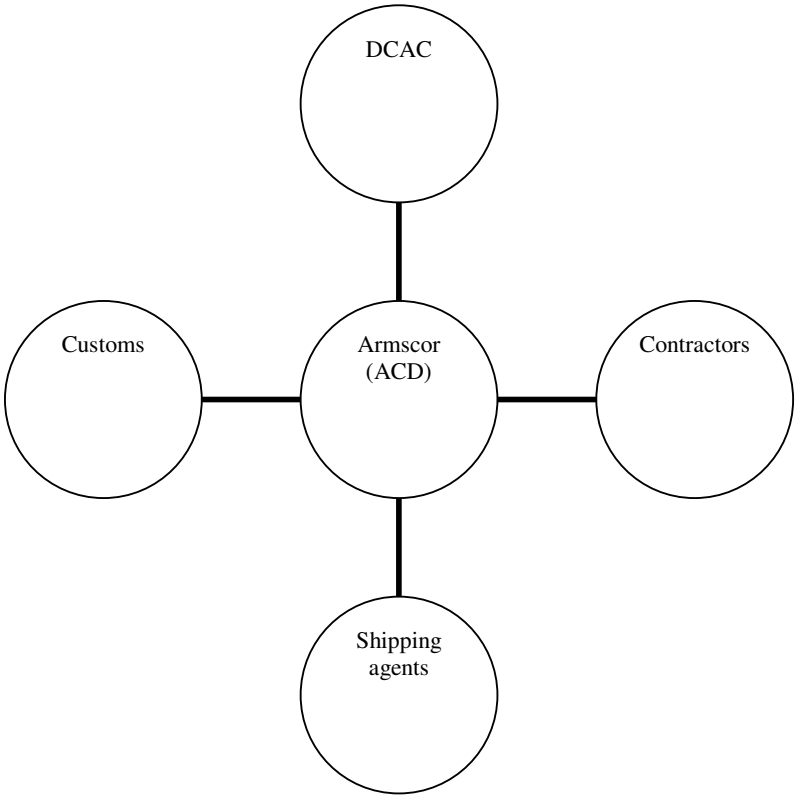


Figure 2.2: Modular structure depicting the various partners in the Armscor arms control environment

Although this module is most common in product markets it could be used to understand the service market as in the context of this study. The success of the modular organisational design depends on the level of mutual co-operation and agreement about the division of tasks and responsibilities between the organisation of interest (the role-players). One may then move to ask the following questions:

- Is there a mutual co-operation between the partners? If any to what extent does it promote arms control?
- To what extent do the partners integrate efficiencies from other firms or are they exploiting any synergies between them? An example may be: To what extent is DCAC exploiting the knowledge base available at Armscor? Do the contractors for Armscor use the AB logistics facilities as a shipping agent with vast experience on arms control?

While highlighting the benefits of network structures it must be mentioned that if the relationships have not handled properly such modular structures may be adversely affected by tensions between the partners and collaborators which may result in its collapse.

A less distinct structure is strategic alliances which is just a cooperative arrangement between two or more firms used to improve their competitive position and performance by sharing resources (Segal-Horn, 2004, 355). The relationship between the role-players could be viewed as strategic alliance and these can be developed and managed as a critical capability by defining the alliance scope, selecting the right alliance partner and configuring, optimizing and exploiting alliance resource. The issue in our context could be alliance scope and configuring, optimizing and exploiting alliance resource as the partner selection is not a matter of choice. The issues around the alliance scope definition could involve concentrating on solving immediate problems that are affecting the arms control, technologies to be employed and developed in the alliance. On resource configuration the alliance may look at how they can exchange, absorb and utilize the tacit knowledge within their alliance environment. One may also look at building social capital in the form of information sharing, trust, norms of reciprocity and the value created from the alliance through enhancing resources and capabilities, facilitate learning. This raises the question whether the problems associated with lack of alignment and coordination between the role-players could be related to lack of alliance scope definition, trust, norms of reciprocity, building of resources and capabilities and facilitation of learning particularly between ACD and DCAC. The issue of trust could be a problem with ACD sometimes playing an advisory role when it is viewed as part of industry, norms of reciprocity particularly from DCAC for the role of ACD; Is there value created with regard to building resources and capabilities from the ACD-DCAC interactions?

The systems, which are considered as management systems to provide the mechanism for communication, decision making and control at operational and strategic level to allow the organisation to operate and develop, will undoubtedly determine the success of the strategy. These systems can be operational (working practices and routines) and control (mechanisms to monitor the achievement of strategic goals). The implementation tools or procedures that were mentioned in Problem Review would fall under the systems. In the context of this study interest would be on decision-making and control tools and these could be done through policies (legislation and regulations), arms control practice, EUC,

permits and compliance audits. Effective implementation of a strategy requires integration of many types of knowledge embodied in people and practices across the organisation (Booijihawon, 2006, 41). Operational systems can contribute to making this process more efficient and also enable the organisation to use its knowledge to adapt to its changing circumstances. It is acknowledged that in dynamic environments the key challenge is to enable this integration in ways that preserve the operational efficiencies of the organisation. It is suggested that this could be achieved through organisational learning which may be unique to each organisation. In organisations with flatter structures like an adhocracy, which support and encourage close and frequent face to face contacts between professionals and thus encourage organisational learning, operational systems tend to preserve operational efficiencies. However in larger organisations with complex structures there is a danger that its operational systems may be the sources of inefficiencies and overtime the organisation becomes slow and unresponsive to change. One may then be interested to know if the operational systems at Armscor may have contributed to making the process of integrating knowledge and practices in the organisation in a way that preserve operational efficiencies or they have become sources of inefficiencies. The interpretation of the arms control legislation and the associated regulations has in many instances proved to be cumbersome and some may have broad interpretation such that they can be sources of loopholes to beat the system. Although the ACD has conducted a number of arms control awareness programmes this does not seem to be reflected in behaviour and knowledge displayed by project officers as they interact with ACD. Could these signal problems with organisational learning generally within the organisation? Could the machine bureaucratic structure of the organisation indicated earlier be unsupportive to operational systems such that they become sources of inefficiencies?

Simon (Booijihawon, 2006, 48) proposed four basic dynamic control levers that when used collectively can reconcile the conflict between flexibility and control in an organisation.

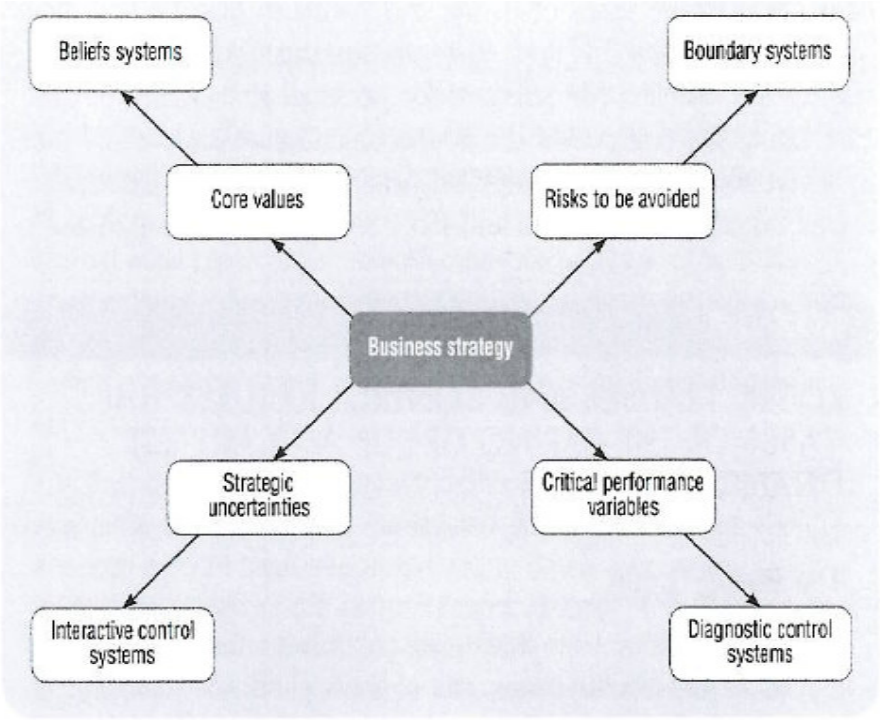


Figure 2.3: Simons four basic control levers (Booijihawon,2006)

Armscor, which has been in existence for more than 30 years has well established beliefs and boundary systems to promote the commitment of employees to the core values of the organisation in pursuing its strategic goals and to indicate the boundaries of acceptable domain of activity. The effectiveness of the belief and boundary systems may be questioned as it is expected to guide the project managers whereas their attitude indicates otherwise. The interactive control systems stimulate search and learning permitting new strategies to develop throughout the organisation as individuals respond to perceived opportunities and threats. An effective interactive system normally includes four distinct features: it keeps strategic information up to date for management, the information is organised and accessible to managers at all levels in the organisation, it encourages strategic decision making in a process of dialogue between superiors, subordinates and peers and it serves as catalyst for ongoing debate and critical thinking about underlying data, assumptions, and action plans (Booijihawon, 2006, 47). There is evidence for interactive control systems at Armscor in that there is constant review of arms control practice in the light of changes in the arms control legislation and from day-to-day

experiences of running the arms control system and these would, after scrutiny by relevant committees, be posted on the intranet for access by all members of the organisation. However there is not much evidence of a process of dialogue between superiors, subordinates and peers for strategic decision making and ongoing debate and critical thinking about underlying data, assumptions and action plans. It is not clear whether this could be linked to the attitude displayed by the project managers perhaps as they are not involved in debates to challenge the underlying data, assumptions and action plans on arms control issues. More critical though may be the diagnostic control systems where managers track the progress of individuals and divisions towards achieving strategically important goals. ACD conducts audits on the projects and contractors to check arms control compliance and ACD may also be audited by NCACC Inspectorate. Feedback would always be given to the auditee so that they may attend to any problems that may have been identified. As there are many contractors and projects that ACD oversees, audits have not taken place as regularly as it is expected and therefore arms control compliance generally at Armscor and its contractors has not been fully assessed.

For an organisation to be successful it is expected that its culture must facilitate and drive the strategy and some authors would refer to this as alignment of culture with strategy. Such cultures share common principles (Venter, 2006, 433):

- They create a shared identity for employees
- They serve as a guide “on how things are done” through shaping work processes, work environments, employee behaviour and customer orientation.
- Ethical business practices and strong values should infuse the organisational culture
- There is fit between new employees and organisational culture
- It focuses on high performance, output, quality and superior service
- It should legitimize the role of management in organizing through folklore, heroes and others.

These principles seem to be related to the Simons belief control system and emphasize shaping employee behaviour to work towards strategic objectives of the organisation. The alignment of strategy and culture is acknowledged to be problematic particularly with strong or deeply embedded established cultures which have a tendency to resist any attempt at

strategic change. It tends to preserve those values, beliefs, relationships and patterns of behaviour that have been the very reason for the success of the organisation in the first place. At Armscor the role of culture to support the arms control strategy may be questioned. Could the culture of the organisation be contributing to resistance to change by the project managers i.e. implement and comply with arms control?

The cultural web can be used to look at the challenges of attitude and resistance to change by project managers which could reflect a leadership. The cultural web is normally used to discover the nature of the organisation in cultural terms, how it impacts on the strategy they are following and the difficulties of changing it (Segal-Horn, 2004, 282). It is used to identify the key levers for implementing strategic change in the organisation.

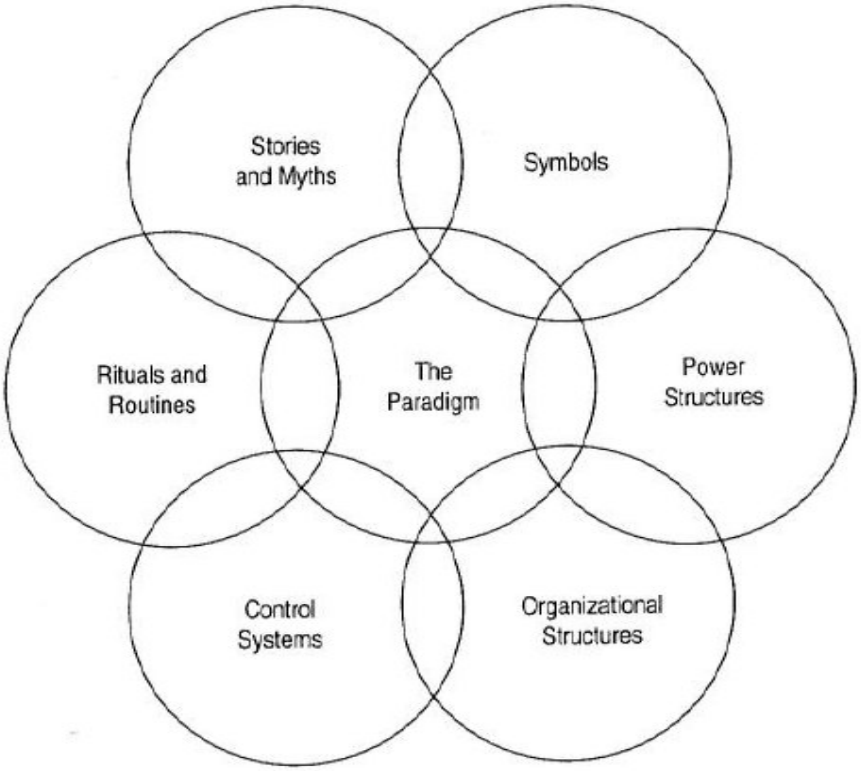


Figure 2.4 The cultural web of Armscor

The paradigm, which is a core set of beliefs and assumptions common to the organisation, can cause significant resistance to change and this can be seen clearly when one looks at the wider context in which it is embedded. This paradigm at Armscor could be regarded as

“delivery on project on time and on budget” which may be interpreted by other employees as “ delivery on project on time and budget regardless” where proper procedures like arms control may not be followed all in pursuit of delivering on time. The project managers are part of the power structure who have powers to make decisions with regard to the project and thus to some extent define the cultural paradigm. The financial control system to deliver on project within budget puts pressure on project managers to deliver on time to avoid penalties as the latter will reflect negatively on the project manager on his balanced scored performance system. This is a tricky situation as one has to balance client satisfaction (delivery project on time and within budget) against following proper procedures like the arms control.

2.2 Road Ahead

Having applied theory and business models to unravel the complexities of the issues it is very appropriate to find out how the researchers worldwide have approached these issues and what did they find out. It is further important to compare and contrast the different approaches employed and if there are any agreements or disagreements in the findings with the idea of equipping extracting any relevant information that may be useful designing an appropriate research design and methodology so as to reach conclusions with confidence. This is done in next chapter, the Literature Review.

Chapter 3
Literature Review

3.1 Introduction

The approach to the literature will be to bring forward evidence that highlights the potential impact of arms control on the business goals of companies involved in defence material trade and thus to the economy of those countries. This will be followed by a brief look at arms control systems of various countries in relation to the South African arms control system and to highlight any unique challenges that South African arms control system faces. Then the literature on the use of theories and models introduced in Problem analysis on the implementation of corporate strategies is discussed as it is believed even though they are not particularly focused on the implementation of arms control strategy it is hoped that these could be applicable to the latter.

3.2 Impact of Arms Control

The impact of a responsible arms control on defence exports and hence economy of a particular country is a reality and has been assessed by countries like the UK (Dunne and Freeman, 2003; Sharp, 2005; Martin *et. al*., 1999; Martins, 2001). For UK the possible causes of a fall in defence exports and consequential net losses to British national income are a contraction in foreign demand (worldwide or UK defence equipment only) and a greater impact of British governmental controls on defence exports (Sharp, 2005). However the weaker market for UK defence matériel or voluntary curtailing the supply of specialised goods or services for which it has developed a comparative advantage was suggested to be the likely cause of net losses to UK national income rather the UK controls of defence exports. Martin (2001) found that adoption of a significantly more ethical arms control export policy or participation in an international agreement to reduce arms exports, would have considerable economic implications for the British economy. These findings are not limited to UK as found by Porteous and Verbeke (1989) where they found out that the Canadian export control system has a number of unnecessary constraints in the form of unnecessary direct costs or lost and discouraged sales for firms. Although this work was done in the vey early days of export controls (about 1989) through Coordinating Committee

for Multilateral Strategic Export Controls (COCOM), these issues are still applicable to the current situation. COCOM was replaced by Wassenaar Arrangement (WA) and operates using similar control lists but slightly different policies but the burden from administration and enforcement of the export laws exists. There are calls for more restrictive arms export control policy in the UK (Dunne and Freeman, 2003) and in the US (Kovac, 2009) which further put pressure on effectiveness of arms control systems of organisations to comply while not limiting the responsible arms trade business.

3.3 Arms Control Systems of Various Countries

Although South Africa increased its defence exports between 1990 and 1995 it is still regarded as a very minor player in the international armament market (less that 0.5% of the world trade in conventional arms) (Beri, 2001), which makes it a big importer of defence material and hence subject to the export controls of the supplier countries like the UK, US, Sweden and Germany. South Africa does significant arms trade business with the US and UK and it would be worthwhile to look at how their arms control is approached and also to look at systems of countries that that may have similar defence exports outputs with South Africa like Australia and Canada (*Information supplied here has been obtained from links of participating countries from the Wassenaar arrangement website www.wassenaar.org)*. The US has a very complex arms control set-up that is mainly through the Directorate of Defence Trade Controls within the Department of State that issues permits and EUC and it spans a number of other departments that include Defence, Justice and Intelligence Community. This reflects the efforts to find balance between the enforcement of the arms control by the Department of State, Justice and Intelligence community and the promotion of arms trade for the economy of the country which is spearheaded by the Department of Commerce. There are enforcement challenges mainly due to lack of clarity on what should be controlled, and how, and overlapping jurisdiction particularly between the Departments of State and Commerce.

In the UK the Export Control Organisation (ECO) is the UK's strategic export licensing authority and it forms part of the Department for Business, Innovation and Skills (BIS) and uses the UK Strategic Export Control Lists made up primarily of the UK National Military list and the EU Dual-use list. ECO operates in close conjunction with the Foreign Office, Ministry of Defence, Department of International Development and Her Majesty's Revenue

and Customs (HMRC). Each department plays a key in licence decisions as guided by the Consolidated EU and National Arms Export Licensing Criteria and the HMRC is the enforcement arm, responsible for verifying licences at ports and airports, for imposing penalties and prosecuting exporters for breaches of export control legislation. In Australia the Department of Defence is responsible for administering controls on the export of defence and dual-use goods and the granting of authorisation to export, in the form of permits and licences and with it this role is done by Defence Export Control Office (DECO). All items (including non-military items) are subject to control are listed in the Defence and Strategic Goods list.

In Canada the Export and Import Controls Bureau (TPI) is responsible for administering the Export and Import Permits Act (EIPA) through the use of Import Control List, the Export Control List and Area Control List. The EIPA delegates to the Minister of Foreign Affairs wide discretionary powers to control the flow of goods contained in specified lists under the Act and the Minister of International Trade provides policy direction in most areas involving market access and trade policy. Investigators from Canada Border Services Agency and the Royal Canadian Mounted Police enforce the EIPA. It is evident from this expose that countries that have a high defence export output (US and UK) tend to have more complex systems involving a number of departments to support each other. Although these systems seem to be effective they face a challenge of overlap of roles that often leads to confusion and tensions. However countries with relatively lower defence export output tend to have simple systems with a one distinct export control agency that does not focus only on defence exports but encompass controls on agricultural products, textiles and clothing. The South African arms control agency is the NCACC with DCAC as its directorate and is within the Department of Defence. However the South African system seems to be unique due to the presence of Armscor as an acquisition agency of the SANDF and is housed in the same building with the DCAC. Although this arrangement seems to have its merits it also faces challenges of strategy alignment and exploitation of synergies.

3.4 Role of Leadership

It is widely acknowledged that organizational success in obtaining its goals and objectives depends on managers and their leadership styles (Rad and Yarmohammadian, 2006). The ability of the leaders to influence subordinates to performing at their highest capability and towards a certain direction is important. The subject of leadership has been researched by

many researchers and they seem to be focused basically on two levels, strategic leadership and team leadership. Although the thrust in the context of this study is more on team leadership, it will be of interest to also look briefly on strategic leadership as it is also important especially for developing policies as may be the case for the NCACC. Strategic leadership is about leading the entire organization (Venter, 2006, 355) to create strategic change through other people so as to position organizations in the environment for both short-term stability and long-term viability. Denton (2003) suggested that there are gaps in leadership competence in South Africa to deal with new challenges like experienced international competitors, increased labor demands and implementation of affirmative action. These challenges are further exacerbated low levels of productivity, a lack of international business experience, a poor product and service quality record. Some of these issues are relevant if the interest in on leadership at Armscor and implementation of arms control strategy. Many authors consider leadership as one of the dimensions of culture (Ginevicius and Vaitkunaite, 2006) and coupled together can facilitate or hinder a firm's strategic actions. This is due to the fact culture influences the behaviour of employees, directed at achieving organisational objectives (Struwig and Smith, 2002). Other authors (Robinson and Harvey, 2008) emphasize the need of leaders to adapt their leadership thinking to be effective in culturally diverse situations. In a culturally divers world, leaders need to be sensitive to the differing needs among followers and become skilful at assessing at assessing which values are most appropriate and and to adapt their leadership practices accordingly. There is also evidence to link the effectiveness of leaders on culture where in organizations with strong cultures the directiveness and strength of the leader can stifle the expression of diverse views (Jaskyte, 2004). In those situations individuals choose not to express differing views out of fear of ridicule and rejection. This could have implication for project teams at Armscor with regard to diverse views on arms control compliance. This emphasizes the role of the project manager as the change agent in this regard. The influence of leaders on employees behaviour to innovate has been highlighted by other authors (Jong and Hartog, 2007). Block (2003) examined the nature of the relationship between leadership and organisational culture and found out that leadership styles of immediate supervisors were significantly related to employee perceptions of organisational culture. This associated proactive leadership behaviours to positive cultural perceptions among employees.

3.5 Strategic Alliances

For an organization to be successful strategic leadership must be complemented by team leadership to direct operations. Robbins and Decenzo, 2004, 327) outlines the team leadership role as being played through acting as a liaison with external constituencies, trouble-shooter, coach and conflict manager. In that context Thite (1999) attempted to identify the key characteristics of leadership in technical project team environment. In this study they recognized that the personality and professional profiles of technical professionals are quite different from those of other occupational groups which may help to explain why technical professionals are perceived to lack leadership skills. It was shown that managers of more successful projects exhibited transformational and technical leadership behaviours to a greater extent than their counterparts of less successful projects. In this scenario transformational leadership in which the leaders identify themselves as change agents and have an interesting and matching self-concept is promoted. It is also important to be aware of different leadership practices in different countries (McCarthy, 2005) in organisations that have increased exposure to international business practices, collaborative projects or supply chains like Armscor.

Strategic alliances are fast and flexible ways to access complementary resources and skills that reside in other companies. There are many collaborative advantages in strategic alliances and one can mention cost reduction or efficiency increase which may be achieved through coordination of activities and complementary capabilities (Gomez *et. al*., 2006). This is of particular interest to this study due to the need to align and coordinate the activities of various role-players in arms control. The role that IT plays as a supportive tool in alliances is often suggested as a reason for the fast growth of networks as it reduces the loss of information resources in the network, knowledge integration and it also contributes to leverage the value created in alliances through the joint use by partners of design, engineering or computer assistance in control systems. It has been observed that for companies that have dedicated alliance function (Hewlett-Packard, Oracle, Eli Lilly and company and Parke-Davies) have been capable of generating more alliance value than others without (Dyer *et. al*, 2001). In that study they suggested that there are five stages of the life cycle of an alliance and each with relevant tools to use:

- Alliance business case (value chain analysis, needs analysis checklist)

- Partner assessment and selection (cultural fit evaluation, due diligence)
- Alliance negotiation and governance (alliance structure guidelines, alliance metrics framework)
- Alliance management (problem tracking template, trust building, alliance communication infrastructure)
- Assessment and termination (relationship evaluation form, termination checklist)

Thus there is an organised way in which organisations can engage in strategic alliances that are effective although there may be challenges relating to mutual distrust between partners, technological and knowledge diversity, alliance organizational form or governance structure.

In general the idea of collaboration between law enforcements agencies has been promoted by many countries but it would seem to be riddled by problems. Schneider and Hurst (2008) investigated the obstacles to an integrated, joint forces approach to organized crime in Canada and the results could relevant if one considers the interaction between ACD, DCAC and customs with regard to arms control issues. Some of the obstacles reported include technical obstacles (incompatible databases among agencies), resource shortages, secretive nature of their investigations (protection of information/information sharing), different mandates, and a law enforcing culture. These obstacles are so serious that minimal intelligence sharing between CIA and FBI has been cited as on of the reasons why American authorities did not detect, anticipate, and prevent the terrorist attacks of September 11, 2001. Trafford and Proctor (2006) in the study of successful join ventures in public-private partnerships cited five helpful characteristics that are usually present in successful partnership ventures and these include communication, openness, planning ((alliance strategies), ethos and direction. The role of leadership was emphasized in setting the direction of the venture.

3.6 Road Ahead

All the earlier discussions have successively contributed to a better understanding of the main issues in this study and the information gathered will be used to develop a method

appropriate to achieve the objectives of the study and this will be discussed in the next chapter.

CHAPTER 4

RESEARCH DESIGN AND THE METHOD

4.1 Introduction

Business research is defined as the planning, collection and analysis of data relevant to business decision-making and the communication of the results of this analysis to management (Coldwell and Herbst, 2004, 2). It is systematic and objective in that it must not be haphazard and must avoid distorting effects of personal bias. It can be basis or pure research where it is used to test and build specific theories and concepts or it can be applied research where it is used to facilitate managerial decision-making as it is the case in this study. The method maps the research process and the kind of tools and procedures that will be employed to achieve the objectives of the study.

The goal of this study was to examine the factors affecting the effectiveness of the arms control at Armscor and its contractors with a view to come up with ideas to achieve an effective and responsible arms control system while not limiting the role of Armscor as an acquisition agent of the SANDF. To achieve that a number of objectives were proposed and data was collected and analysed so that these objectives were achieved. An effective and responsible arms control system is based on the government legislation on arms control and the associated regulations and translation of those into an arms control practice of Armscor. Thus it was of interest to examine the regulations for areas that are source of problems in implementing an arms control system. This relates to the first objective in our study and documentation review (arms control policy and regulations) and questionnaires to arms control compliance officers from DCAC, project managers and contractors were used to collect data to assess the leadership of the Armscor Program managers. It was of interest to also look at the component of the controlled defence matériel that has been procured by Armscor on behalf of the DOD over a number of years to give an indication of the impact of the potential loss of business due to the inability to procure controlled defence matériel in the event that Armscor was blacklisted. For that purpose records of import permits issued to Armscor by DCAC were analyzed. One of the requirements of an effective arms control system is the arms control awareness generally among project officers and contractors and leadership from project managers with regard to arms control. There is a need to assess the level of arms control awareness and effectiveness of

leadership with regard to arms control by project managers and information was obtained through questionnaires. An optimum structure between Armscor and other arms control role-players would facilitate compliance to arms control while also reducing delays throughout the acquisition process of the controlled defence matériel. One was interested here in the issues of alignment and exploitation of synergies between the role-players. This includes establishing strengths and weaknesses of the stakeholders and this information was obtained through interviews of senior people from the role-players.

More elaborate discussion on these data collection will be given below in the form of the research design detailing the overall approach to achieve the objectives and the research methodology detailing how the data collection methods will be adapted and applied.

4.2 Research Design

As briefly mentioned in the previous section documentation reviews, interviews and questionnaires will be used to collect data. It is thus important to be aware of the strengths and weaknesses of these data collection methods as they relate to this study.

4.2.1 Documentation review

Documentary secondary data, which may include written documents (policies and regulations, administrative and public records) and non-written documents (films and television programs) may be used to provide qualitative and quantitative data when an in-depth understanding of the document is required (Hofstee, 2006, 125; Saunders *et al*, 2003, 190). In this study the following documents were reviewed:

- the arms control legislation and the associated regulations with the goal of establishing how common violations are addressed.
- compliance audit reports to establish the awareness of arms control by project officers and personnel of the contractors
- records of import permits issued to Armscor by DCAC to determine the value of the defence matériel procured by Armscor for the SANDF.

The common problem with type of data collection method is the accessibility of the documents especially if these are external documents, this is the company project and the documents are not highly classified (top secret) hence these documents were easily accessible. Generally researchers are warned of the sufficiency of the sources (documents) with regard to quality and quantity (Hofstee, 2006, 129). Armscor has well established record-keeping procedures and all the compliance audit reports were obtained. With regard to arms control legislation and associated regulation the documents were of good quality with regard to their eligibility and these were obtained from the Armscor Arms Control Division and the quality with regard to conciseness (lack of ambiguity) on arms control was partly what the project was attempting to establish. With regard to the arms control compliance audit reports the concern was the ability of the audit to meet its objectives which is related to its reliability and suitability. The ability of the auditor to conduct the audit that is free of errors is very important in audit effectiveness (Karapetrovic and Willborn, 2000).

4.2.2 Interviews

The interviews were used to obtain information about strengths and weaknesses of the role-players in the South African arms control environment in view of the fact that an integrated arms control system that exploited synergies between the role-players was expected to impact positively on compliance to arms control at Armscor. Interviews were also used in support of document review of arms control legislation and regulations with regard to problems experienced by project managers as they apply for EUCs and permits.

There are three types of interviews (Saunders *et al*, 2003, 246):

- structured - uses questionnaire based on a predetermined and standardised or identical set of questions
- semi-structured - non-standardised in that the researcher would have a list of themes and questions to be covered and these may vary from interview to interview

- unstructured - informal and no predetermined list of questions is used although the researcher needs to have a clear idea about the aspects that they want to explore.

Semi-structured interviews were used as it was aimed at different organisations that are involved in different stages of the acquisition of defence matériel in the South African arms control environment and that few people will be interviewed. The questions were adapted and varied to obtain information that is relevant to that organisation. This allowed a full range and depth of the information to be obtained and also of further importance was the relationship that was established with the interviewee. The latter was very important as the author was very keen to establish a cordial relationship with the role players in arms control so that it could in future forums be established where arms control issues would be discussed. Interviews however suffer from the drawback of interviewer and interviewee bias. The interviewer bias is where the comments, tone or non-verbal behaviour of the interviewer create bias in the way that interviewees respond to the questions. It could also results in the way in which the interviewer interprets the responses. The interviewee or response bias, which is common in semi-structured interviews where the interviewee may choose not to reveal and discuss an aspect of the topic you wish to explore perhaps due to the sensitive nature of the information. This was very relevant in this study as it was aimed at probing more about the strengths and weaknesses of the role players where interviewees may be unwilling to divulge information that damage the image of their organisation. There are key measures that a researcher may take to overcome bias and these may include:

- Preparation and readiness for the interview
- Level of information supplied to the interview
- Nature of the opening comments to be made when the interview commences
- Approach to questioning
- Impact of the behaviour during the course of the interview
- Ability to demonstrate attentive skills
- Approach to recording information

Face-to face interviews were conducted although if telephone interviews could have been considered if circumstances (distance, prohibitive costs, time) dictated. Face-to-face

interviews are advantageous as they help to establish a relationship with the interviewee and trust, which is very important particularly in exploring sensitive issues and they generally more effective than telephone interviews. Telephone interviews present practical challenges in that they may be difficult to control the pace of the interview and to record the data that is forthcoming and interviewer loses the opportunity to witness the non-verbal behaviour of the interviewee which may adversely affect the interpretation of how far to pursue a particular line of questioning.

4.2.2 Questionnaires

The questionnaires were used to determine the effectiveness of leadership of project managers and compliance officers in contractors in influencing project officers and procurement staff respectively in complying with arms control. There are many activities that project managers and compliance officers in contractors can do to provide leadership within their teams and environments and these include (Jong and Hartog, 2007):

- Role modelling in compliance issues
- Provide resources like relevant information
- Monitoring compliance within their teams i.e. record keeping like of EUC, keeping track of controlled defence matériel

The questionnaires were designed to establish the role of project managers and compliance officers at contractors to the mentioned roles with regard to arms control.

Therre are basically two types of questionnaires:

- Interviewer administered - telephone and structured interviews (refer to 4.2.2 on interviews)
- Self-administered - on-line, postal and delivery and collection questionnaires

Self-administered questionnaires were used and these were sent by email to the respondents. The on-line questionnaires offer some advantages with regard to prompt delivery at very low cost and it also offers greater control with regard to the identity of the actual person that responded as most users read and respond to their own mail at their personal computer. The major drawback of self-administered questionnaires is usually a low response rate from the participants as was the case with Struwig and Smith (2002)

when they used questionnaires in their survey in South Africa and achieved 6.27% response rate despite having taken measures to avoid this problem and seems to be related to whether the participant or their organization have vested interests in the outcomes of the study and also the survey has minimal disruption to the participant organisation with regard to time spent. Block (2003) investigated the connection between leadership and culture of a certain company that was eager to participate in the research project because of an expressed interest in exploring new ways to remain competitive and hence the researcher was provided with a project assistant who agreed to visit each branch location to distribute and collect the completed surveys and 91% response rate was achieved. This seems to have been the reason that Rad and Yarmohammadian (2006) obtained a response rate of 85.68% when they studied the relationship between the manager's leadership style and employees' job satisfaction in Iranian hospitals.

The general Interview guide approach was used where the same general areas of information were collected from each interview (Coldwell and Herbst, 2004, 55). This allowed the degree of freedom and adaptability in getting the information from the interview. Open ended questions were used in line with the semi-structured type of interview.

4.3 Methodology

4.3.1 Research instruments

A research instrument is any tool that the researcher has used to obtain the data and these may be questionnaires, psychological tests and laboratory tests (Hofstee, 2006, 115). A summary of the data collection method, research instrument used and the purpose of their applications are given in Table 4.1

Table 4.1: Data collection methods, research instruments and their applications

Data Collection Method	Research Instrument	Application
Document Interview		1. Arms control legislation and regulations 2. Audit reports 3. Import permits issued to Armscor
Interview	Semi-structured interview focused on personnel, IT systems, productivity measurement	Collect data on strengths and weaknesses of role-players: capacity, technical skills, appropriate IT system
Questionnaire	Team Leadership questionnaire (Robbins and Decenzo, 2004, 326)	Team leadership effectiveness of Armscor Project managers, at contractors

4.3.1.1 Semi-structured interviews

The aim of the interviews was to obtain information on the ability of the main role-players in the arms control value chain to fulfil their obligations and to identify factors that may be limiting them in fulfilling those obligations. In particular the interest was on human resources and capability/capacity to serve their clients, appropriate IT systems to support arms control any other factors that may limit them (refer to the questions used in Appendix D). This interest was driven by the fact that effective implementation of arms control demands human resources to process the huge load of permits, appropriate IT systems to track and verify permits at any stage of the arms procurement value chain:

SANDF ⟶ ACD ⟶ DCAC ⟶ ABL ⟶ customs and technical capabilities to interpret arms control regulations. Very senior people were interviewed in each of the role players so that they could be able to answer all the questions.

Appointments were made with the interviewees by telephone and they were conducted in the offices.

4.3.1.2 Questionnaires

The questionnaires were used to determine team leadership effectiveness of the leaders in the arms control environment. This was based on the idea that team leaders have four team roles to play and these are Robbins and Decenzo, 2004, 326):

- Liaisons with external constituencies
- Troubleshooters
- Conflict managers and
- Coach.

The questionnaire consisted of 10 questions in each category (refer to Appendix E) for the questionnaire) with a five-point Likert scale scoring. The higher the score the more the team leaders play their team leadership roles. For example effective leaders would "Provide relevant information to their teams" which is very critical to arms control and therefore would score high on this statement. The questions from different roles were mixed and some of the questions were reversed to check if there was consistency with the responses of the respondents. Most of the questionnaires were e-mailed to the respondents although a few of them were hand-delivered for people that did not have emails.

4.3.2 Data

4.3.2.1 Document Review

The common issues with review of secondary data are suitability and related issues of reliability and validity (Saunders *et al*, 2003, 205). The suitability relates to the question whether the data provides one with the information that he needs. Is it in the correct format? This is irrelevant with regard to the arms control regulations. With regard to the compliance audit report and records of export and permits issued to Armscor by DCAC, these needed to be reorganized into a suitable format for analysis.

The reliability and validity are functions of the method by which data were collected and sourced. The reputation of the source is very important and the researchers may have trust in the method due to the reputation of the source. With regard to the compliance audit reports, these were done and compiled by ACD by a trained manager. It is acknowledged that the success of the audit and hence the worthiness of the audit reports depends on the skills of the auditor and the available information (ref). Thus these audit reports are considered to be reliable and valid. The export/import records from ACD are also considered to be reliable and valid as these are generated from an IT database developed by SITA and it is also used for reporting to parliament on the export and import activities of defence matériel by South African industry.

4.3.2.2 Semi-structured interviews

The data quality issues related to semi-structured interviews are:

- Reliability
- Forms of bias
- Validity and generalisability (Saunders *et al.*, 2003, 252)

The reliability in this case concerns whether alternative researchers would reveal similar information. It is considered, as in other studies (Saunders *et al.*, 2003, 253), that an attempt to ensure that qualitative, non-standardised research could be replicated could be replicated could be replicated by other researchers would not be realistic or feasible without undermining the strength of the semi-structured interview. It is thus not the intention of the semi-structured interview to necessarily be repeatable as they reflect the reality at the time they were collected, which may be subject to change.

The forms of bias that can be problematic here may be interviewer and interviewee bias. Although the author does not wish to judge himself on interviewer bias, it can be mentioned that attempts were made to limit this by avoiding comments, tone or non-verbal behaviour that would have influenced the interviewee to respond in a particular way. The data was obtained by interviewing senior people in their organisations. Although it can be trusted that due to their seniority in their organisations and their inherent integrity, the interview gave the true picture of their organisation, it is acknowledged that in some cases the

interviewees may choose not to reveal and discuss an aspect of the topic that one would wish to explore as this would lead to probing questions that would intrude on sensitive information that they do not wish or are not empowered to discuss with the interviewer (Saunders *et al*, 2003, 253). The outcome would be that the interviewee gives a partial picture of the situation that casts himself or herself in a socially desirable role or the organisation for which they work for in a positive or negative fashion. It is noted that in the interviews conducted, the interviewees did not hesitate to highlight the shortfalls in their departments. The interviews were not recorded with a tape recorder but notes were taken throughout the interview and a full report was written immediately after the interview so that no important information was lost (Hofstee, 2006, 136). Given the fact that there were many unfavourable newspaper reports about how arms control has been handled by certain organisations, some of the interviewees seemed to be uncomfortable with being interviewed in the first place and through persuasion were willing for a more informal interviewee. As the interview was not using closed questions, the lack of recording did not affect the capturing of the responses of the interviewees.

As the interviews involved different organizations involved at different stages of the arms procurement, it is not the intention to make generalisations from the data.
In addition to what has been discussed above the following were noted from the interview:

- As the interviewees were senior people in the organisations it was difficult to secure interviews with them. In certain cases the interviews were conducted in awkward times, close to knock off time and therefore not in enough time to explore the topic.
- Some of the interviewees were very enthusiastic about arms control and it was difficult to control the interview and limiting it to the asked questions.

4.3.2.3 Questionnaires

The questionnaires were primarily aimed at assessing the leadership of project managers at Armscor and all those project managers that had dealings with ACD with regard to permits were sent the questionnaires and all those project managers returned their questionnaires. Thus it is considered that the sample was representative of the population.

The questionnaires were also sent to project managers in external contractors and although a few did not return their questionnaire the response rate was good.

Due to time constraints the questionnaire was piloted using staff members in the division and family at home. The questionnaire was discussed with my internal promoter and it was sent to one of the respondents in the Arms Control Division for comments. They were requested to comment on whether the email introducing the questionnaire was simple and easy to understand, due dates and the instructions on the questionnaire were clear and easy to follow. The email was improved with regard to the phrasing of certain questions and due dates that the questionnaires have to be returned.

The reliability of the questionnaire was measured through internal consistency by correlating the responses of certain questions in the questionnaire with those to other questions in the questionnaire (Saunders *et al.*, 2003, 310). Few check questions (to limit the length of the questionnaire) were used whereby alternative forms of the same question were compared. In addition for some of the respondents they were also rated by the colleagues or subordinates.

4.3.3 Analysis

4.3.3.1 NCAC policy and regulations

The approach was to investigate from literature the most common violations of arms control and evaluate how these have been addressed in the regulations. This was done against the background of balancing between a responsible arms control system and flow of arms trade in the industry this involved looking at Wassenaar arrangement first and then the NCAC regulations.

4.3.3.2 Arms control compliance audits

The idea was to identify any deficiencies or findings as reported in the audit reports and this would indicate level of awareness of the project managers/compliance officers of the arms control. The fewer the findings the better is the awareness.

4.3.3.3 Export/Import permit records

A list of all import permits issued to Armscor for the years 2007/2008/2009 was compiled and this was related to the value of the defence matériel imported through those permits. This would give the value of the potential loss of business to Armscor if it were to be blacklisted by supplier countries.

4.3.3.4 Interviews

The data collected from the interviews was categorised and tabulated to clearly indicate the findings with regard to personnel required to service the clients, availability of appropriate IT system to support arms control, technical expertise to interpret the arms control regulations and any other strengths that may benefit other role-players. In that way it was easy to pick weakness and strengths and how the role-players can complement each other.

4.3.3.5 Questionnaires

The response rate was calculated as percentage of the completed questionnaires returned to the total questionnaires that were sent to the respondents. The completed questionnaires from the respondents were scored and the total percentage score was calculated. In addition the percentage score of each role was also calculated. For reverse questions the score were also reversed. For example for the statement" I do not have time to deal with conflict", the respondent scored as 4 this was then scored as 0 and if the respondent scored as 3 it was then scored as 1 as it is believed that for good team leadership the leader should find time to deal with conflict. For cases where the leader was also rated by the subordinates or colleagues, the scores compared. It was also of interest to look at how the respondents scored on some of the statements that are considered to be particularly relevant to flow of information of arms control. These are: "I provide relevant information to my team:, "I organize forums where issues/problems are discussed with customers". The responses were represented in bar charts.

4.3.4 Limitations

The major limitation of this study emanates from the time constraints as effectively only five months was allocated to complete all the work in this project. Although the project was aimed at establishing the impact of arms control at Armscor and its contractors, it is acknowledged that not much attention was given to contractors. Proper attention to this would have required that all contractors that are contracted by our cardinal programs be identified and suitable respondents be identified for our questionnaire. Only those contractors that already interact with ACD were sent the questionnaires and therefore the results of this study may not generalised as depicting the true picture of leadership at contractors.

It was initially envisaged that a leadership questionnaire (Bass *et al*., 1994) that has been proven to be reliable and effective in measuring the leadership was to be used but the cost proved to be prohibitive. Thus a questionnaire was designed but its effectiveness has not been proven and could affect the validity of the results.

The literature on arms control available is mostly not from peer reviewed journals and therefore should be used with caution. Some was obtained from Institute for Science and International Security (ISIS) which is a credible organisation but some was obtained from internet which must be treated with care.

Chapter 5
RESULTS AND DISCUSSION

5.1 Review of arms control legislation and regulations

Due to limited time-frame of this project the arms control legislation and the associated regulations will be reviewed by identifying areas in the policy and regulations where most violations have occurred and examine how these areas are addressed in South African arms control regulations. In addition information gathered from the interviews with the role players (that include the defence industry) will be used to look at how the issues raised are addressed in the arms control laws and regulations. Firstly it is necessary to briefly describe the basis of South African arms control laws and regulations as described in National Conventional Arms Control regulations.

The regulations are derived from the Wassenaar Arrangement and the objectives of the latter are described below.

5.1.1 Wassenaar Arrangement

The Wassenaar Arrangement (WA) is aimed at fostering multilateral cooperation to promote regional and international security and stability, by promoting transparency and greater responsibility in transfers of conventional arms and dual-use goods and technologies, thus preventing destabilising accumulations. The participating states, through their national policies, must ensure that transfers of these items do not contribute to the development or enhancement of military capabilities which undermine these goals, and are not diverted to support such capabilities. The decision to transfer or deny transfer of any item is the sole responsibility of each participating state but they must notify other participants of these transfers and denials.

The controls are guided by agreed Best Practices, Guidelines or Elements. Participating states identify and agree on the items that should be the subject of national controls and maintain effective controls for items on these agreed lists. These items are included in two lists: a Munitions List and a List of Dual-Use Goods and Technology. The Munitions List, which has 22 different categories starting with the small arms and light weapons, moving to

ammunition, bombs, naval vessels, up to software and technology, defines the conventional arms which should be subject to national controls (Danielson, 2005). It covers about 300 different items. The Dual-Use list covers the goods and technologies which have civilian applications but could also be used for the production of arms or other military purposes. It has 9 different categories and covers about 1 000 items.
In South Africa the WA is translated into the Policy for the Control of Trade in Conventional Arms which is then implemented through the NCAC regulations.

5.1.2 Common violations and other problematic areas

Literature indicates that most violations are related to the issues of Small Arms and Light Weapons (SALW) (Stemmet, 2001;Sabala, 2004) and these are achieved through procuring without necessary permits, misleading end-user declarations, loose regulations of brokers (Mepham, 2004;Schroeder and Lamb, 2006), lack of delivery verification and post-shipment controls. What is also problematic regards the control of dual-use items and it seems there is also a lot of indecisiveness with regards to what items are controlled and which ones are not. At national level there seem to be a complaint that the control regulations are impractical in that they do not accommodate the operational needs of the industry. This refers particularly to the reluctance to issue open permits and then reporting on that permit after a certain period of about 6 months. This would facilitate procurement of defence matériel in that it would avoid the delays that are experienced on emergency cases while waiting for permits.

5.1.2.1 Small Arms and Light Weapons

There seems to be evidence that even in countries that have robust an transparent systems of laws and regulations governing national holdings, manufacture and international movement of SALW, like the US, there were cases where it is unclear whether these have been supplied and processes followed to provide reassurances about end-use and retransfer (Waltz, 2007). It has been reported that arms brokers that operated from South Africa were involved in the shipment of SALW that were used in the Rwandan genocide (Ref). The WA recognizes the seriousness of control with regard to SALW and thus has “Best practices Guidelines for Exports of SALW” and affirms that participating countries will apply strict national controls on the export of SALW as well as on transfers of technology

related to their design, production, testing and upgrading. In the Southern Africa region these efforts are supported by a regional programme (The SADC Firearms Protocol) on SALW and illicit trafficking endorsed by SADC and European Union foreign ministers in 1998 (Sabala, 2004).

In NCACC regulations the SALW are clearly controlled under the munitions list (ML1, ML2 and ML3) and the issues may relate to permits and verification of end-users. The Policy for the Control of Trade in Conventional Arms describes the control process with regard to the application for the End-Use certificates and authentication, permits (Armaments Development and Manufacturing, marketing, contracting, conveyance, import, export and advanced marketing) and delivery verification and these have been sufficiently dealt with to control SALW. However, not much attention has been given to the control of arms brokers. While arms brokers may have a legitimate role to play in the legal arms trade, it has been reported that uncontrolled arms brokering activities often played a key role in facilitating arms transfers to embargoed states, conflict zones and rebel groups (Lunde, 2004). The NCACC regulations require traders to obtain armaments development and manufacturing permit s and contracting permits to render specified brokering activities related to conventional arms. In NCAC policy, brokering is only mentioned with regard to the contracting permit but there is no process to control it. The WA recommends that for activities of negotiating or arranging contracts, selling, trading or arranging the transfer of arms and related military equipment controlled WA Participating states from one third country to another third country, a licence or written approval should be obtained from the competent authorities of the Participating state where these activities take place whether the broker is a citizen, resident or otherwise subject to the jurisdiction of the Participating State. Similarly, a licence may also be required regardless of where the brokering activities take place. The participating States may also limit the number of brokers and establish a register of brokers.

5.1.2.2 Dual-use Goods and Technology

The major challenges facing the control of dual-use goods and technology are identification and controllability. The difficulty lies in identifying which items are controlled and because some of these have legitimate civilian use, the controls may be less restrictive. These

challenges are even greater in intangible transfers (via non-physical means like electronic transfers, oral conversations) of dual-use goods than the tangible transfers.

The list of dual-use goods and technologies has 9 categories which include Advanced Materials (1), Material Processing (2), Electronics (3), Computers (4), Telecommunications and Information Security (5), Sensors and Lasers (6), Navigation and Avionics (7), Marine (8) and Propulsion (9). In addition there is Annex 1 for Sensitive items and Annex 2 for Very Sensitive items. The sensitive items are those items in the dual-use list which are key elements directly related to the indigenous development, production, use or enhancement of advanced conventional military capabilities whose proliferation would significantly undermine the objectives of the WA as compared to Sensitive list where those items are essential to the indigenous development, production, use or enhancement of advanced conventional military capabilities. These classifications have implications with regard to the level of control of these dual-use items. The problems that are common in administering the NCACC regulations are whether certain items are controlled or not and which category (sensitive or very sensitive item). An example is the turbine engines which are commercially available and commonly used in industry but these have been used in frigates and the implication was that they are now controlled. The interpretation of certain clauses demands highly technical people who are specialists in their fields which the DCAC is lacking. In Sweden, they have a Technical and Scientific Council, which consists of representatives of several institutions with expertise in technological applications for both civilian and military uses to assist the ISP in connection with decisions concerning the classification of military equipment.

5.1.2.3 Open permits

The NCACC regulations require that for each consignment of conventional arms and designated dual-use goods to be exported or imported, a permit is required. In addition, under special circumstances a single export/import permit may be issued to cover several consignments. The latter is quite critical for the arms industry where delays due to process of obtaining the necessary permits may be very costly. An example may be the procurement of warranty spares from overseas suppliers to support the running of military aircraft by South African Air Force (SAAF). It is necessary to obtain these spares as a matter of urgency to avoid the time the aircraft is on the ground because it cannot fly.

Although the supplier may be able to supply the spares through air freight, this will be delayed by the application for the import permit. Although DCAC has mechanisms to accommodate emergency situation, project managers believe that an open permit for that particular aircraft may be obtained and spares be obtained using that open permit and report after a certain period of time. The DCAC seems to be reluctant to accommodate and it seems the trust between DCAC and industry is not at a level where this could be accommodated.

This seems to be the approach with countries like Sweden, where companies with a manufacturing or supply licences are required by law to regularly report the details of defence matériel delivered and invoiced both in Sweden and abroad to the National Inspectorate of Strategic Products (ISP). In addition no marketing licence is required but companies are required to provide quarterly reports on their marketing of military equipment in other countries (Annual Report 2009)

5.1.3 Summary

It was found that the NCACC regulations do not give sufficient attention to the control of arms brokers in South Africa, there is not enough supporting technical skills to deal with control of dual-use goods and Technologies and the requirement of a import or export permit for each shipment limits the flow of business in the arms industry.

5.2 Analysis of annual expenditure

5.2.1 Introduction

The aim of this section is to analyze the annual expenditure on controlled defence material procured by Armscor for the SANDF with the view to establishing the potential risk associated with breaching arms control measures which could result in loss of business due to blacklisting by supplier countries. The value of the controlled items procured, including repairs and spares, can be obtained by examining the values of the import permits issued by DCAC to Armscor in that particular year. This analysis could also reveal countries that have higher trade with Armscor which would imply that violating the arms control regulations of those countries could have catastrophic consequences to Armscor. It

must also be remembered though that most defence equipment come as systems and any system will in most cases be composed of components manufactured by different countries and assembled by one company that won the tender. In fact most major defence companies have moved away from being manufacturing companies over a range of products to putting the products of contractors together, commonly referred to as systems integrators (Dunne and Haines, 2002). In that scenario the contractors must also verify the end-user and make a decision whether to accept or deny the request for their product. The inability to source a component from another country is problematic in that the complete system cannot be obtained. Although this may be viewed as an extreme in that it may be possible to obtain that specific component from another country, there is evidence that shows that the reporting of trade denials by a certain country makes other countries reluctant to trade with the denied country hence it may be difficult to obtain that item elsewhere (reference). In that case loss of business is the loss of the complete project.

The approach in this section will be to give a brief picture of the South African military expenditure first so as to reflect on the imports of defence matériel to Armscor against this background. It will also be worthwhile to consider the most likely violations that can lead to blacklisting and the likelihood that the violation could happen in South African or Armscor environment. To summarize we will look at this problem by:

- Examining the South African military expenditure
- Analysis of import permits issued to Armscor by DCAC
- Likely violations

5.2.2 South African military expenditure

Although South Africa is considered a very minor player in the international armaments markets (Beri, 2001), its defence industry has developed advanced technological capabilities to meet the requirements of the SANDF. The space industry is the only industry requiring more advanced technology and South Africa has abandoned its efforts in this area (Hatty, 1996). This will be evident also in the analysis of the import permits issued by DCAC to Armscor with bulk of the permits being due mainly to aircraft related defence matériel. This suggests that South Africa cannot completely rely on its industry to support its military needs hence it is important to have cordial arms control relationships with major

defence exporters particularly with leaders in the aircraft industry. For example in 2008 the DCAC issued 2 895 export permits for shipment to various countries worth R5.898 billion and these were mainly for evaluations, tests, demonstrations, repairs and R2.685 billion of this was to the USA. The total value of import permits in the same year was R6.361 billion and this ranged from complete systems, components and spare parts.

South Africa, like most countries, has experienced severe defence budget cuts due to demilitarisation in the post-apartheid era and also general international trends. For example in 1996 (post-apartheid era) the budget had reduced to R5.99 billion compared to R11.89 billion in 1989 (apartheid era). The ratio of the procurement contribution (in relation to the personnel and operating costs) to the total defence budget had reduced from 58.5% to 18.1% which reflected the cancellation and postponement of a number of armaments projects (Batchelor and Dunne, 1998). This has affected the military expenditure of the country which although it is seen to be increasing from previous years but in real terms it is shrinking if it is compared to the Gross Domestic Product (GDP) as shown in Table 1. In 1988 the percentage of military expenditure to the GDP was 4.3 compared to 2007 when it has reduced to 1.4. The huge gap can be attributed mostly to the difference between the apartheid era and post-apartheid era.

Table 5.1: Defence budgets of South Africa and its contribution to GDP for various years.

Year	Defence Budget x million	% Procurement	% GDP
1989[1]	11 435	58.5	4.1
1996[1]	5 9895	18.1	1.9
2006[2]	23 830	32.8	1.4
2007[2]	25 180	30.6	1.4
2008[3]	27 801		1.5

[1]Sourced from African Security Review 1998, vol 7 (6)

[2]Sourced from the National Treasury website and percentage procurement has been calculated using the Special Defence Account which is for special defence and purchases after subtracting the transfer payment to Armscor.

[3]The Special Defence Account was not reflected in the budget.

The bulk of the procurement for the SANDF for the controlled military equipment is through Armscor except for the off-the shelf or commercially available items which are done by the SANDF procurement division.

5.2.3 Analysis of import permits issued to Armscor

The total value of import permits that were issued to Armscor from 2007 to 2009 are R3.778 billion, R4.889 billion, R4.505 billion respectively. The total number of import permits from 2007 to 2009 increased from 297, 431 and 505 respectively. The imports are mainly from UK, Sweden, Germany, France, Italy and Switzerland. These countries are all members of the Wassenaar Agreement and they report denials to any country to their member states and blacklisting by any of the member states implies that it is unlikely that it can be procured from other countries. Surprisingly the import permits do not reflect much importing from the US though it is considered one of the powerful exporters of defence matériel.

Table 5.2: Import permits issued to Armscor and the value of defence matériel procured through those permits from 2007 to 2009.

Import Permits issued per country 01 March 2007 to 28 February 2008				
Country	**No of permits**	**Products**	**Category**	**Total Rand value**
Australia	4	Parts and components	C	3 793 750.00
Belgium	1	Component of a system	A	29 953 800.00
France	7	Equipment, components	C & A	25 703 837.00
Germany	4	Equipment, Spares	B, C, A	1 921 337 384.00
Italy	64	Components , Parts, spares	A, C, G	165 735 619.00
Sweden	5	System, components, parts	A, C	711 105 448.00
Ukraine	1	Components	A	42 000.00
United Kingdom	207	Components, parts, spares	A, B, C, D	914 205 104.00
USA	4	Parts, Components	C	6 851 111.00
	297			
Total				**3 778 728 053.00**
Belgium	2	Parts and Components	C	2 877 426.00
France	20	Parts, components,	A, C	71 583 610.00
Germany	9	Weapon, components, parts	B, C	51 912 019.00
Italy	98	Weapons, Parts and Components	A, C	74 735 505.00
Sweden	97	Parts and Components	A, C	4 532 378 747.00
United Kingdom	202	Weapons, Parts and Components	A,B, C, D	154 927 939.00
USA	3	Parts	B, C G	873 072.00
	431			**4 889 288 318.00**
Import permits issued per country 01 March 2009 to 28 February 2010				
Canada	3	Hardware, software	A, C, G	1 160 890.00
France	29	Components, parts, spares	A, C, D	105 685 390.00
Germany	21	System, components, parts	A, C, G	201 990 108.00
Italy	89	Parts, components	A, C	34 430 083.00
Sweden	187	System, components, parts	A, C, G	3 934 153 825.00
Switzerland	24	Components, parts,	A, C	74 679 306.00
United Kingdom	151	Components, spares, parts	B, C, D, G	153 369 226.00
USA	1	Equipment	D	31 518.00
	505			

Total	**4 505 500 346.00**

It can then be claimed that serious violations of the arms control systems of any of the countries highlighted earlier have a potential to deny Armscor defence matériel to the amount of R3 778 728 053 in 2006 which is about 48% of the Special Defence Budget. This would certainly have a crippling effect on the ability of Armscor to be acquisition agency of the SANDF.

5.2.4 Likely violations

One of the violations that are considered to be serious by countries that are party to agreements like the Wassenaar is related to honesty with regard to end-use which is also related to the retransfer of defence equipment to another country without prior approval of the supplier country. This is so due to the fact that this is one of the ways of channelling defence equipment to the embargoed countries. This is in fact the reason why Armscor together with Denel and Fuchs were blacklisted by the US as they illegally transferred defence technology during the 1980's. Armscor was required to implement an internal arms control compliance programme to the satisfaction of the US so as to prevent diversion of defence technology to end-users not authorized by the US. Another example is the trial of the German-Iranian trader Molsen Vanaki who was arrested by German authorities for allegedly illegally brokered the transfer of dual-use equipment to Iran with application to nuclear weapons program (Albright and Walron, 2009). He had arranged the sale of dual-use nuclear and military equipment from Russian, European, and American manufacturers to Iranian front companies located in the United Arab Emirates. The possibility of this violation occurring deliberately at Armscor is highly unlikely. In the disposal stage of redundant defence equipment there is still uncertainty with regard to guidelines for destruction (from the NCACC), but that is under attention.

5.2.5 Summary

The defence matériel for the SANDF is imported mainly from the UK, Sweden, France, Italy and Switzerland. Many of these systems would have US content and consequently it is important that Armscor respects its export controls. The value of the defence matériel that has been imported for the SANDF by Armscor from 2007 to 2009 was R3.778 billion,

R4.889 billion and R4.505 billion and it is therefore important that Armscor conducts its acquisition in a manner that respect the arms control of these countries.

5.3 Assessment of arms control awareness

An assessment of arms control awareness at Armscor was assessed by analyzing the audit reports that came from the auditing of a number of acquisition projects. An audit is defined as the systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine which agreed criteria are fulfilled (Karapetrovic and Willborn, 2002). The Policy for the Control of Trade Conventional Arms, issued by the National Conventional Arms Control Committee in terms of the National Conventional Arms Control Act (Act 41 of 2002), states that entities trading in conventional arms should implement self-regulatory compliance programmes to comply with national legislation, policy, processes and procedures. The requirement is that the holders of a valid ADM permit shall on request from a Competent Authority present to that authority, for inspection and assessment the entities' policies and procedures implemented to ensure compliance with the requirements of the Act in the following categories:

- The company policy
- Internal processes and procedures
- Individual responsibility
- Education and training.

Although ACD will be the focal point is such an audit especially with regard to company policy, it is important that all the other audit categories are complied with at project level, where the responsibility with regard to the involved defence material lie and if the approach of arms control from cradle to grave is applied. Thus the ACD ensures that in all projects that have controlled arms content have proper record keeping to ensure that basic information on all trade in conventional arms is retained and to provide proof of compliance with the Act, regulations and conditions of permits. The relevant documents particularly at Armscor would be end-user certificates, delivery verification, import and export permits. Thus the arms control compliance questionnaire (audit form) at Armscor focuses on the company arms control compliance profile (specifically to capture the profile of contractors of Armscor), EUCs, export permits and import permits (refer to Appendix D). Each of the above categories has probing questions which indicate the knowledge of the auditee about

handling of controlled defence matériel. The audit reports span about 16 audits that were conducted to Armscor project Mangers mainly from the Armscor cardinal projects from the 23 March 2006 to January 2009 and these are summarised in Table 5.3.

Audits are conducted by Arms Control Division to check if proper arms control procedures and regulations are adhered to. The division uses an arms control compliance questionnaire (refer Appendix C) to check if:

- systems are in place to support arms control compliance requirements
- proper procedures are followed with regard to end-user certificates, import and export permits
- records are kept and can be provided when needed

Thus audit reports should to a very large extent reflect the arms control awareness of the auditees. The ACD has a responsibility that arms control regulations are adhered to by project managers/project officers in their acquisition projects and also by the contractors and audits should cover all those who are involved.

5.3.1 Audit reports

Audits have only been conducted since 2006 and have been on few selected cardinal programs (refer to Table 5.3) which are considered to highly sensitive to arms control issues. Most of these have a substantial foreign content and therefore arms control will have a major impact on them. Only 16 projects have been audited while no contractors have been audited thus far.

Table 5.3: List of arms control audits conducted by ACD from 2006 to 2010

Date of Audit	Project/Contractor	Nature of business	Audit Findings/comments
23/3 2006	Weapons system		No findings
29/3/ 2006	Weapons System	Procurement of weapons systems for SAN, SA Air Force and special forces	No proper system for the storing of Arms Control Compliance records. Problem with attendance of courses. Overall impression good. No non-conformances were found.
29/3/2006	Weapons system		No proper system for the storing of Arms Control Compliance Records. No refresher courses or training Must still submit proof that all controlled items have been delivered. Must make receiving personnel aware that the items are controlled. Overall impression was good. No non-conformances were found.
20/3/2008	Alkantpan	Ballistic evaluation	Could not supply proof that the original EUC has been handed to the client. Alkantpan requested training on arms control issues.
3/3/2008	Naval systems/ Sitron program	Corvette program has substantial foreign content	Armscor does not have a mandate to audit the Navy
10/3/2008	Alkantpan		No findings with respect to the ballistic evaluation, establishing of disposal methods of high explosives and related materials.
3/11/ 2008	Augusta		Processes are in place to handle Aircraft on the Ground (AOGs) and urgent situations. No findings were made with respect to the handling of EUCs or Permits
3/11/2008	Gripen	Gripen is imported from Sweden and has substantial foreign content and therefore legislation has a major impact on the program	Audit forms (EUC and Import permit) not filled completely. Close cooperation between JAPO and ACD recommended for better communication and understanding if mutual and specific problems arise. Improved electronic monitoring and control of documents. No findings on EUCs and Permits.
3/11/2008	Hawk		There must be further audits during 2009/2010 for physical inspection.
16/3/2009	Assegai program		
14/9/2009	Aeronotics and Naval Logistics	Armscor responsible for the handling of	No end-use certificates have been handled by ACD to date of audit. Execujet needs to be audited.

		the contractual and financial management of contracts. All procurement actions are done by the SA Air Force to Execujet	Personnel at Aeronotcs and Naval Logistics must undergo training.
14/9/2009	Gripen	Chief Contracts Officer will be responsible for the handling of the Gripen repair orders for the DoD from the relevant OEM and suppliers.	Arms control issues will be handled the same as the HAWK which efficient systems.
14/9/2009	HAWK	Chief contract Officer will be responsible for the handling of the Kawk repair orders for the DoD from the relevant OEM and suppliers	No findings were made.
15/9/2009	LYNX		No findings with respect to EUCs and permits
18/11/2009	Alkantpan	Ballistic evaluation and establishing of disposal of 1000 kg bombs and related materials	No findings although recommended that when specific sensitive goods e.g. cluster ammunition be audited when handled by Alkantpan.
22/1/2010	Landward systems		Personnel need to attend training. Proof could not be provided that the EUC has been forwarded to the OEM. Administration and tracking control must be optimized.

In 2006 three audits were done on three different projects in the Weapons divisions. Some shortcomings were noted and these include lack of proper storing of arms control compliance records, lack of attendance of refresher courses and failure to provide proof that all controlled items were received. There seems to be an expectation from project managers that they do not have to keep records as these are kept by ACD and various other divisions like Armscor Business Logistics (ABL) and this will lead to just duplication of paper work. Proving that the controlled items is one of the tools that is used by most countries to ensure that the items imported from them are not diverted to embargoed

countries hence it is very important element of an arms control. Although the final assessment of the audit was “no findings” the report reflects serious shortcomings.

No audits were done in 2007.

In 2008 and 2009 a number of projects and divisions were audited. Most of these audits were on acquisition projects of aircrafts and processes were found to be in place to handle the aircraft on the ground (AOG) other urgent applications. In addition it was found that in some of the projects the electronic monitoring and control of documents have improved. However it was note that in some of the projects no proof was supplied that the original end-user certificate was handed over to the client. Suppliers are very serious with regard to end-user certificates as it verifies the end-user and what the item will be used for. Although the suppliers do not send the shipment without the end-user certificate it is important that the project managers provide evidence that the supplier received it. It was also noted that some of the questions in the questionnaire were not completed.

One audit was conducted in Jan 2010 and the following were noted:

- proof could not be provided that the EUC has been forwarded to the Original Equipment Manufacturer (OEM). The serious of this issue is as described earlier.
- administration and tracking of documents must be optimized
- personnel need training

Although the audit reports showed improvement from in 2008/2009 compared to 2006 it was noted in the 2010 audit that the project managers are still not aware of their responsibilities with regard to end-user certificates, providing evidence that indeed the supplier received the end-user certificate. It can be concluded that for those projects that were audited there is generally a sound awareness of arms control issues but it is not at a desired level such that we can be confident that Armscor is respecting the arms control requirements of our foreign suppliers. Moreover the audits have covered only few projects (there are about forty cardinal projects) and the contractors have not been audited and these audits cannot be assumed to give a true picture of arm control awareness at Armscor and its contractors. The ACD has been conducting training twice a year and since the contractors are scattered over the country it is difficult to make sure that they attend training

regularly. A holistic plan is being developed by ACD to look at all projects and contractors and prioritize them according to their sensitivity to arms control and determine the frequency of audits.

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While we have based our discussion on these audit reports it is important to note that audits do fail, implying that it does not do what it is supposed to (Karapetrovic and Willborn, 2000). This could be due to, at individual level, on:

- Errors in the audit planning stages
- Use of unqualified or incompetent auditors to conduct the audits
- Absence of opening and closing meetings
- Inadequate and improper use of sampling methods and other audit methodologies when collecting evidence
- Lack of sufficient amount of audit evidence
- Deficient or missing verification evidence/biased evaluation of audit evidence against audit criteria
- Inconsistencies in audit findings
- Acceptance of non-compliant or ineffective management system in registration audits
- Subjective, biased or undue-influenced audit report.

And at the program level:

- Audit objectives do not reflect the underlying policy
- Audit errors are undetected
- Audits are declared feasible when actually they are not.

Many of the problems that can be operational at an individual are not considered to be problematic as arms control auditors at Armscor have been formerly trained and therefore follow the necessary procedures when conducting audits and will be able avoid bias. The audit questionnaires also reflect the requirements of the Policy for the Control of Trade Conventional Arms, issued by the National Conventional Arms Control Committee. It is also important to note one of the drawbacks of audits is the problem of alleviating the problem of external imposition of judgement and consequent lack of auditee motivation to follow-up on

it (Karapetrovic and Willborn, 2002). This is not expected to play a bigger role as the auditor is also from Armscor.

5.3.2 Summary

No serious findings were reported from the audits although there were gaps identified with regard to keeping of records and making sure that EUCs reach the suppliers. This suggests the awareness is not at a required level or there is lack of commitment from the project managers.

5.4 Leadership

5.4.1 Analysis of results

Out of 20 questionnaires that were sent through to the respondents, 17 were returned (85% response rate).

The respondents included project managers from cardinal programs, management of ACD, DCAC, ABL and some contractors. The respondents rated themselves with only two cases where the manager was rated by personnel that report to him/her. The internal consistency of the respondents was checked by comparing the scores for the questions 2 and 6, 1 and 33, 11 and 15 and finally 24 and 32 as this questions can be referred to as alternative forms of each other (Saunders *et al.*, 2003; 310). The scores compared well for most of the respondents but there were few that compared poorly and these included the scores of the raters (Appendix F). Although the correlation factor were calculated for the scores this statistical approach did not prove to be appropriate as in one of the calculations it was not possible to get the correlation factor due to division by zero and some had low correlation factors though it seems there scores were very close to each other.

Table 5.4: Scores of questionnaires from the respondents

Res. No	Gender	Liaison Role	Troubleshooter	Conflict Manager	Coach	Total Score	% Score
1	M	27	29	32	28	116	73
2	F	32	32	31	29	124	78
3	F	32	29	28	30	119	74
4	M	32	30	28	26	116	73
5	M	33	29	31	29	122	76
6	F	20	12	12	28	72	45
7	F	37	33	30	36	136	85
8	M	33	28	30	27	118	74
9	M	30	31	34	30	125	78
10	M	35	29	30	28	122	76
11	M	40	37	35	28	140	88
12	M	31	32	28	31	122	76
13	M	33	34	33	34	134	84
14	M	30	25	30	23	108	68
15	F	36	36	28	29	129	81
16	M	33	24	27	27	111	69
17	M	28	35	33	30	126	79
		80	74	74	73	120	75

The respondents generally scored well in all the specific roles of leadership and that was also supported by the scores of the subordinates (rater) except in one case where the rater seemed to be unsure as shown by the total score of 45. This seems to suggest that there is a leadership behaviour in the arms control environment that facilitate the awareness and implementation of arms control issues. The interest in leadership in this study is mainly on the leader as a liaison with external constituencies particularly with Armscor Project Managers. Leaders must provide relevant information to their teams and organise forums where arms control issues are discussed. It is pleasing that the respondents scored the best marks in this role as reflected by the average percentage score of 80. It is also thought that the role of leaders as trouble-shooters is also very important particularly with DCAC, ACD and AB Logistics as they have to frequently try to solve arms control problems particularly from industry, contractors and Armscor Project managers that relate to delays and issuing of permits. The scores ranged from 29 to 37 from DCAC and ACD which suggest a positive attitude to troubleshooting.

These results must be treated with caution though as the questionnaire did not cover all the departments/divisions/ that are considered to be role players in arms control i.e. customs

and AB Logistics. There is also the possibility that the respondents may have rated themselves highly.

5.4.2 Summary

The results suggest that leadership at ACD, DCAC, Armscor Project Managers, contractors and DOD act as liaison with external constituencies so that they can provide relevant information to their teams, and also organise forums where issues are discussed with clients or their customers. Although the questionnaire did not refer explicitly to arms control, it is argued that arms control is one of the issues that the leaders would seek information for the benefit of their teams.

5.5 Alignment of role-players

The role-players in the acquisition of controlled defence matériel are considered to be Armscor Arms Control Division (ACD), Armscor Business Logistics (ABL), Directorate Conventional Arms Control (DCAC), Customs and the End-User. Thus interviews were held with senior personnel of all the role players.

Table 5.5: List of the interviewees and their organisation/department /division.

Department/Division	Interviewee
ACD	Manager: Arms Control Compliance
DCAC	Acting Director of DCAC
ABL	Senior Manger: ABL
Customs	Branch Manager SARS Customs Kempton Park
SANDF (End-user)	Deputy Director: Arms Control Policy

Without giving detail of each interview, the results are summarized below and have been grouped to establish if there are well defined turnaround times with regard to the service to the customers, appropriate human resources, proper IT system to support arms control, information sharing /exchange, speciality skills that could benefit other role- players and any barriers to the effective running of the arms control system.

5.5.1 Service to customers

Generally all the role-players have well defined turnaround pledges although this can be affected by circumstances beyond their control. For example the applications that are submitted to ACD are guaranteed to be processed and forwarded to DCAC within 24 hours only if it is complete and correct otherwise it is sent back to the applicant. DCAC promises to process the temporary permits within 5 working days but it can be less or more depending on volumes and capacity. Other permits like contracting permits take about three weeks as they have to undergo review process that involves departments like DTI, SAPS, NIA etc. Customs promises to process the declaration within 2 hours if it from the accredited client like ABL. They rate their clients and the accredited clients are considered trustworthy and have accounts with customs.

5.5.2 Human resources/capacity

All the role-players indicated that they have sufficient personnel to deal with their workload except DCAC where there are serious capacity problems. Customs indicated they had capacity problems but when they adopted a partially paperless electronic system they are coping well with volumes of declarations. DCAC is still operating with same capacity of 1995 when there were about 120-150 applications as compared to now when they have to process about 1000 applications. Proposals have submitted to the NCACC to address capacity but this has not been addressed for a very long time. DCAC reports to the NCACC but it is supported by DOD with office space and salaries. There is a belief that if the NCACC could be separate entity with its own budget and personnel then it could be in a better position to address capacity problems.

5.5.3 Information sharing/exchange

Information sharing seems to be mainly between role-players that have an interface with regard to the acquisition process which is mainly to make sure there is flow of necessary documents between those role players. There is mutual exchange of information between the end-user (DOD:Arms Control Policy), the ACD and DCAC more on technical issues regarding the interpretation of regulations. As these role-players are housed in the same building, there are regular discussions/consultations which are to their benefit. Information

sharing from DOD is limited by security concerns especially with accessing certain databases. Recently a discussion session was held between ACD, ABL and certain Armscor project Managers where issues relating to shipping discussed. There is also a strong interaction between customs and ABL (accredited client of customs). Notably there seems to be no interaction and information sharing between ACD and customs probably due to the fact that they do not directly feed to each other with regard to acquisition. Cooperation between the two parties could benefit them especially with requirements of proof of delivery of controlled defence matériel and fine-tuning of issues regarding the pink forms.

In addition some of the role-players regularly share information in their specific environment. For example ACD interacts with AMD (industry support organisation), Denel, ATE and overseas partners like the US Department of State and Department of Commerce. DCAC used to have workshops where industry (including Armscor) were invited to share ideas and problems and would also visit companies. That is no longer taking place due to capacity problems but they regularly discuss problems with customs.

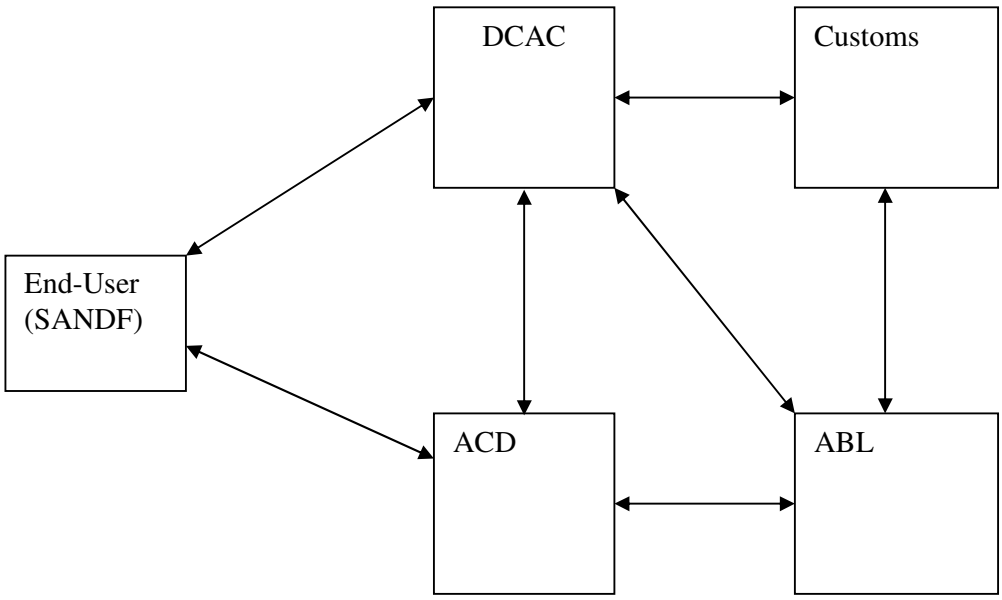

Figure 5.1: Interactions between the various role-players for procurement of defence materiel at Armscor.

Although there is interaction between ACD and DCAC as they are both located in the same building ACD also interacts with other defence entities like Denel, AMD, ATE and overseas partners like the US Department of State and the Department of Commerce.

5.5.4 IT support system

IT plays a critical role as a supportive tool in alliances especially with regard transmission and storage of information and in monitoring activities. At ACD there is currently a gap with regard to the monitoring and tracking of applications for permits so that warning signals can be triggered when applications are delayed or if there are outstanding documents. Such a system is currently under development with the assistance of Armscor IT division and an outside contractor and it is expected to be up and running by July 2010. DCAC has a system that was developed by SITA some years back and the strategy is to enhance the current system through SITA and that normally takes time. Personnel do not have internet and emails in their offices and have a centralised internet terminal where they can download their email. This is suggested to be due to security reasons. The internet terminal is supported but the DOD has not been working for a very long time. It can be suggested that DCAC does not have a very supportive IT division.

Customs has a partially paperless electronic system that is use for declaration with their accredited clients. These clients would submit their declaration and it is processed within two hours but they still have to submit hard copies of their supporting documentation thereafter. Customs encourages their clients to contact their IT department so that they could be linked with their systems and be able to access certain relevant information.

Ideally it is desirable to have an integrated IT system that will involve all the role players so that they could track progress of permit application and can verify the permits issued whenever a shipment is imported or exported. This could help avoid delays that are common when some of the permits are lost and if there was an electronic system one would be able to check or verify that the permit was issued. That system could be driven by DCAC but due to the fact that NCACC does not have its own budget and does have its

dedicated IT support division this probability that this could be implemented is very much remote.

5.5.5 Specialty skills

It came out from the interviews that some of the items in munitions list and dual-use are very complex and require people with high technical knowledge to interpret them correctly. An example is "..

ACD and the end-user (DOD Arms Control Policy) have technical expertise (or have access to individuals that have specialist knowledge) that is required to interpret the regulations and can contribute to international forums that look at reviewing some the treaties like the Wassenaar Agreement. Some of the interviewees believe that individuals with specialist knowledge must be identified from academic institutions, research institutes like CSIR and industry who would be consulted for specific inputs and may be required to participate in discussion I high level forums as in the Wassenaar agreement. It is noted that this is the approach of countries like the US as the try to influence discussions so that their defence industries are not disadvantaged by the resolutions taken. It is noted that some of the transgressors of arms control regulations use the complexities of certain clauses to circumvent controls as was the case with Dr Guenter Welzien, a consultant who helped various firms in Germany to navigate export controls process in many creative ways (Albright et al, 2002). People with specialist technical knowledge will be able to identify such problems.

5.5.6 Barriers to arms control

Issues mentioned include lack of capacity, unclear guidelines on how decisions are made by some role players, ambiguous interpretations of the regulations, other enforcers of the relevant legislations are not effective and lack of technical expertise. The issue of ambiguous interpretations of regulations and lack of technical expertise are related in that the improving the latter can help in limiting the former. The issue of certain enforcers of relevant legislations surface not only from the interviews but also from some of the discussion between ACD and ABL. It came out that there would be instances when the shipment will be detained because of lack of proper permits but the client would come back within few days with the required permit when the normal process of acquiring that permit

would have been longer. This came up in the discussion between ACD and ABL when certain clients would approach ABL to arrange shipment without the necessary permits but when the request is denied they would approach other shipping agents and with goods finally delivered.

The chain is as strong as its weakest link. Capacity problems at DCAC will always affect delivery at ACD

5.5.7 Summary

It has been established that there is a lack of alignment and systematic coordination of the activities of the role players. There are formal forums where strategic issues are discussed with regard to arms control. Although some of the role players were found to be effective in fulfilling their obligations in the procurement value chain, there were serious gaps in some of them that may be limiting their capabilities to serve their customers. Critical in the acquisition chain is the issuing of permits by DCAC and the lack of capacity in that organisation to issue these within minimum turnaround times seems to be central in many problems around arm control. The lack of an integrated IT system to monitor EUCs and permits is limiting to all the role players.

CHAPTER 6
CONCLUSION AND RECOMMENDATIONS

The review of the NCACC policy and regulations has shown these to be reflective of the WA mandate but there were areas that were not sufficiently addressed. No much attention was given to the control of arms control brokers given their reported implications in proliferation of Small Arms and Light Weapons which are commonly used in Africa to violate human rights. The dual-use goods and technology control lists is not very clear in classification of sensitive and very sensitive items. Some of the clauses may be very complex to be understood by compliance officers that without specialist or technical expertise. Although the arms control policy provides for the issuing of open permits, the DCAC is reluctant to issue these and this affects the capability of industry to attend to very urgent orders.

The value of the defence matériel that has been imported for the SANDF by Armscor from 2007 to 2009 was R3.778 billion, R4.889 billion and R4.505 billion and these were mainly from the UK, Sweden, France, Italy and Switzerland. This is considered to be quite substantial procurement and thus it is important that Armscor respect the export controls of these countries and avoid being blacklisted by anyone of them.

Although audit reports from 2006 to 2009 show that considerable progress has been made in improving arms control awareness at Armscor, it is clear that it is not yet at an optimum level or there is a lack of commitment from the project managers to comply with arms control regulations. To some extent both these factors play a role.

The responses from the questionnaires indicate that leadership at ACD, DCAC, APM, contractors and DOD play their role as team leaders in their environments. Particularly they provide relevant information to their teams for them to perform their duties and organise forums where issues /problems are discussed with clients/customers and other stakeholders.

Although some of the role players were found to be effective in fulfilling their obligations in the procurement value chain, there were serious gaps in some of them that may be limiting their capabilities to serve their customers. Critical in the acquisition chain is the issuing of

permits by DCAC and the lack of capacity in that organisation to issue these within minimum turnaround times seems to be central in many problems around arm control. The lack of an integrated IT system to monitor EUCs and permits is limiting to all the role players.

Thus it is concluded that arms control system needs attention with regard to improving the NCACC policies and regulations to close all loopholes with regard to SALW and allow faster trade for the defence industry, and equip the role players with resources to perform.

Although some of the issues highlighted above are beyond control of Armscor, it is believed that through their involvement in many of the review committees for WA, DOD and DCAC it is in better position to articulate and pronounce on many of these issues steering the arms control towards the right direction. Thus the following are recommended:

- Investigate the possibility and impact of issuing open permits. This must not be done haphazardly but the defence industry could be segmented into accredited and non-accredited companies and open permits be issued to accredited companies only. Then the accredited companies will be required to report on activities perhaps after ix months done under those open permits. The accreditation may be based trust developed between that company and DCAC which may be related to having a proper compliance office or arms control compliance officer and elaborate compliance and many other requirements that may be relevant. More intense review be done on classification of dual-list items to avoid confusion on whether items are controlled or not.
- More arms control compliance audits should be done for each year so that all the cardinal programs and the contractors are audited at least once in two years. This would ensure that projects are kept aware of arms control issues and problems are detected earlier rather.
- NCACC/DCAC should operate as a complete separate entity with its own budget so that it can address its needs. The possibility of integrating the NPC and NCACC be investigated so as to rationalize resources and technical expertise. An integrated IT system for ACD, DCAC, Customs, ABL should be implemented so that permit could be monitored and verified any time.

Chapter 7
LEARNING AND REFLECTION

Embarking on this research was a really rewarding exercise both academically and career-wise. The research module for the MBA at UNISA SBL spans the three years and it has been a journey that has been characterized by excitement of discovering new tools to solve management problems, meeting different people with fascinating characters, disappointment in some of cases of not living up to the expectations of the course and at sometimes at SBL administration and pressure from the workload.

A number of things were learnt while conducting the interviews for the project. This was an opportunity to experience some of the problem that are cited in literature when conducting interview. The challenge of controlling the interview particularly when the interviewee is very passionate about the subject was problematic. This is challenging especially when you deal with senior people that you would not like to offend by cutting the interview short.

As I have joined the arms control division last year, I chose the project particularly on arms control to help me to understand the environment faster. I believe this was a good decision as I was forced to read extensively on the subject and established a good relationship with my colleagues. . The interviews that I conducted helped me to understand the roles of the different agencies and establish contacts with a number of people in arms control who will be of help in the future as one actually tries to solve problems in my work environment. .

References

Akshintsev, S. 1995. 'Russian Arms Exports: Problems and Ways to Resolve Them'. *Problems of Economic Transition*. 54-70.

Albright, D. and Walrond, C. 2009. The Trials of the German-Iranian Trader Mohsen Vanaki: The German Federal Intelligence Service Assesses that Iran Likely Has a Nuclear Weapons Program'. *Institute for Science and International Security, ISIS Report*.

Albright, D. 2002. 'Creation of Leybold's Internal Compliance System. Institute for Science and International Security. Accessed in http://www..exportscontrols.org/leybold.html. Date Accessed 15 January 2010.

Albright, D., Bueller, K. and Hinderstein, C. 'Key Elements of an Effective Export Control System'. Institute for Science and International Security. Accessed from http://www.exportcontrols.org/key_elements.htm.

Batchelor, P. Conversion: The Case of Denel. http://www.idrc.ca/fr/ev-68072-201-1-DO_TOPIC.html Date Accessed 13 November 2009.

Batchelor, P. and Dunne, P. 1998. The Restructuring of South Africa's defence industry. *African Security Review*. 7(6). Accessed from http://www.iss.co.za/pubs/ASR/7No6/TheRestructuring.html. date Accessed 13 November 2009.

Beckmerhagen, I. A., Berg, H. P., Karapetrovic, S. V. and Willborn. W. O. 2004. 'On the Effectiveness of Quality Management System Audits'. *The TQM Magazine*. 16(1), 14-25.
http://www.polity.org.za/article/the-enigma-of-south-africas-arms-trade-2009-08-13. Date accessed: 18 November 2009.

Beri, R. 2001. South Africa: An overview of the defence industry'. *Strategic analysis*. 25(4), 1-10.

Block, L. 2003. 'The leadership-culture connection: An exploratory investigation.' *Leadership and Organization Development Journal*. 24(6), 318-334.

Boojihawon, D. K. 2006. *Unit 6 Strategy Implementation: Structure, Systems, Culture and Change*. The Open University Milton Keynes MK76 6AA.
Conventional Arms Control Theory and practice: Where should United States Policy Go in the Post-Cold War and Post-9/11 era.

De Jong, J. P. J. and Hartog, D. N. D. 2007. 'How leaders influence employees' innovative behaviour'. *European Journal of Innovation Management*. 10(1), 41-64.

Denton, M. 2003.'Leadership challenges for organisations in the new South Africa' *Leadership and Organization Development Journal.* 24(2), 84-95.

Dunne, P and Freeman, S. P. 2003. 'The impact of a responsible arms control policy on the UK economy'. Oxfam report. University of the West of England.

Dunne, P and Haines, R. 2002. 'Defence Industrial Restructuring and Economic Growth in South Africa' Trade and Industrial Policy Secretariat Working Paper 3

Dyer, H. J., Kale, P. and Singh, H. 2001. 'How to make Strategic Alliances work'. *MIT Sloan Management Review*. 42(4), 37-43.

Gates, E. 2004. 'The Defence firm of the future' *Defence and Peace Economics*. 15(6), 509-517.

Georgiades, D. and Kleiner, B. H. 1997. 'What defence companies have done to be more commercially successful'. *Aircraft Engineering and Aerospace Technology*. 69(3), 282-286.

Gomez, F. G., Manzanares, M. J. D. , de Pablo, J. D. S and del Campo, G. . 'Sharing knowledge in Strategic Alliances to build collaborative advantage, http://www.ide-group.com accessed 30 November 2009.
http://www.exportcontrols.org/key_elemets.htm Date Accessed 13 January 2010.

http:/www.defence.gov.au/strategy/deco/ Date Accessed 08 December 2009.

Http:/www.international.gc.ca/controls-controlles/about-a_propos/index.aspx Date Accessed 8 December 2009.

http://www.berr.gov.uk/whatwedo/europeandtrade/strategic-export-control/about-eco... date Accessed 8 December 2009.

http:/www.polity.org.za/article/the-enigma-of-south-africas-arms-trade-2009-08-13. Accessed 18 September 2009. The enigma of South Africa's arms trade.

Hatty, P. 2996.'Defence Industry Overview – today and the Future" *African Security Review*, 5(3), Accessed from http:www.issafrica.org/pubs/ASR/5No3/DefenceIndustry.html.

Jaskyte, K. 2004.'Transformational Leadership, Organisational culture, and Innovativeness in non-profit organizations. *Nonprofit Management and Leadership*, 15(2), 153-168.

Karapetrovic, S. and Willborn, W. 2000. 'Quality assurance and effectiveness of audit systems'. *Quality Assurance and Audit Systems*. 17(6), 679-703.

Karapetrovic, S. and Willborn, W. 2002.'Self-audit of process performance'. International *Journal of Quality & Reliability Management*. 19(1), 24-45).

Lamb, G., Coetzee, B and Stott, N. 2006.'Presentation to the Parliamentary Portfolio Committee on Safety and Security on the Firearms Control Amendment Bill.

Lipson, M. 1999. 'The Reincarnation of COCOM: Explaining Post-Cold War Export Controls.' *The Non-Proliferation Review/Winter*. 33-51.

Martin, S. 2001. 'The implications for the UK Exchequer of an ethical arms export policy'. *Applied Economics.* 33, 195-199.

Martins, S., Harley, K., and Stafford, B. 1999. 'The economic impacts of restricting UK arms exports' *International Journal of Social Economics.* 26(56), 779-801.
McCarthy, G. 2004. 'Leadership practices in German and UK organisations'. *Journal of European Industrial Training*. 29(3), 217-234.

Mepham, D and McLean, A. 2004. 'Arms and Conflict in Africa: The Agenda for the UK'. *New Economy.* 148-152.

Mohamed, R., Hui, W. S., Rahman, I. K. A. and Aziz, R. A., 2008. Strategic Performance Measurement System and Organisation Capabilities: Using Levers of Control framework. *International Review of Business Research Papers*. 4(3), 151-166.

Peijhan, D. 2007. 'The role of management control systems in strategy implementation: The case of a Slovenian company. *Economic and Business Review*. 9(3), 257-280.
Policy for the Control of Trade in Conventional Arms, 2004. issued by the National Conventional Arms Control Committee in terms of the National Conventional Arms Control Act, (Act 41 of 2002)

Porteous, S. D. and Verbeke, A. C. 1989. 'Implementation of Strategic Export Controls in Canada. *Canadian Public Policy*. XV(1)12-24.

Rad, A. M. M. and Yarmohammadian, M. H. 2006. 'A study of relationship between managers' leadership style and employees' job satisfaction. *Leadership in Health Services*, 19(2), xi-xxviii.

Robinson, D. A. and Harvey, M. 2008. 'Global Leadership in a Culturally Diverse World'. *Management Decision*. 46(3), 466-480.

Rosenkranz, S. and Weitzel, U. 2007. 'Strategic Positioning of Alliances'. *Int. J. of the Economics of Business*. 14(1), 135-149.

Schell, J. 2000. 'The Folly of Arms Control'. *Foreign Affairs*. 79(5), 22-46.

Schneider, S. and Hurst, C. 2008.'Obstacles to an integrated, joint forces approach to organized crime enforcement: A Canadian case study', *Policing: An International Journal of Police Strategies and Management.* 31(3), 359-379.
Segal-Horn, S. 2004. The Strategy Reader. The Open University, Blackwell Publishing, 2nd Edition.

Sharp, G. 2005.'The economic costs and benefits of UK defence exports: A comment'. *Defence and Peace Econmics*. 16(1), 59-66.

Schroeder, M. and Lamb, G. 2006. 'The Illicit Arms Trade in Africa: A Global Enterprise' African Analyst. 3rd Quarter. 69-78.

Teare, R. E., Costa, J. and Eccles, G. 1998. 'Relating strategy, structure and performance'. *Journal of Workplace Learning*. 10(2), 58-75.

Thite, M. 1999. 'Identifying key characteristics of technical project leadership'. *Leadership and Organization Development Journal*, 20(5), 253-261.

Trafford, S and Proctor, T. 2006.'Successful joint venture partnerships:public-private partnerships' *International Journal of Public Sector.* 19(2), 117-129.

The Strengths and Weaknesses of National Export Control Regulations and Laws. Published by Institute for Science and International Security. Accessed from http://www,exportcontrols.org/strengths.html date accessed 13 January 2010.

Venter, P. 2006. *Strategic Management: Winning in the South African workplace*, Oxford Universty Press Southern Africa. .

Waltz, S. 2007. 'U.S. Small Arms Policy: Having it Both Ways. *World Policy Institute*. Summer Issue. 67-80.

Appendix A

Brainstorming

Attitude, treaties/agreements, grey areas in control list, staffing problems at DCAC, turnaround times for permits, unclear foreign policy in NCAC, terrorism, transparency, accountability, resources, ignorance, politics, time, personnel, funds, end-user certificate requirement, shipping problems, customs, government policy, Armscor contractors, amendment of end-user certificates, integrated licence system, transfer of military equipment, job losses, deadlines for projects at Armscor, leadership, small military items (nuts and bolts), arms control awareness, repair of military equipment, illegal arms trade, penalties, Armscor/Department of Defence/ Industry arms control structure (alignment), ITAR list, resistance to change, integrated systems (military equipment), exports, government subsidies on exports, Wassenaar Arrangement, different import requirements, UN embargoes, recession, alignment and co-ordination, disposal of military equipment, shipping agencies (AB logistics and industry), culture, lack of monitoring, registration with DCAC, risk.

Appendix B

Mind-mapping of brainstorming

APPENDIX C

ARMSCOR ARMS CONTROL DIVISION

ARMS CONTROL COMPLIANCE QUESTIONNAIRE

AUDIT INFORMATION			
Evaluation Date		Date Of Next Visit	
Purpose of next Visit	Follow-up ACC Audit	Investigations	ACC Training

COMPANY INFORMATION							
Company Name							
Physical Address							
Postal Address							
Nature of Bussiness							
Telephone Code		Telephone No.		Fax Code		Fax number	

AUDITEE PROFILE				
Contact person	Surname		Initials	
	Designation			
	Tel Code		Tel Number	
	Cell			
	Fax Code		Fax Number	
	E-mail			
	Web			
	Division			

Security clearance	TS		S	X	Con		Restr	

Classification of this project, order/s and subcontractor/s	Projects/Orders	Subcontractors	Classification of contracts

Foreign Involvement	Company	Country

ARMS Control Compliance Company Profile	YES	NO
Is an Arms Control Compliance Policy in place from Management down to lower levels?		
Do you have a compliance program regarding Arms Control?		
Do you have a compliance officer responsible for compliance matters?		
Have all staff members involved in the transfer of armament related products been trained in all aspects of regulatory processes of Arms Control Compliance?		
Do employees involved with armaments related products regularly attend refresher courses?		
Do you have a process for applying for EUCs?		
Do you have a process for applying for Import Permits?		
Do you have a process for applying for Export Permits?		
Do you have a process for storing and retrieving of the relevant records?		

Type of involvement with this audit:

EUCs			
Company / Division :			
Contact Person:			
Telephone Number :	**Date:**	**EUC No.:**	
	ITEMS AUDITED	**Yes**	**No**
1	**Provide proof of requirement for items on EUC**		
2	**Can copy of EUCs and all other relevant documentation be fully retrieved?**		
3	**Has EUC been forwarded to OEM? Provide proof.**		
4	**Are policies and procedures in place in order to handle controlled items?**		
5	**Are items handled as controlled items in accordance with policies and procedures?**		
6	**Can items be physically inspected?**		
7	**Provide proof of delivery of items (if already delivered)**		
8	**List of items delivered in 7 to be supplied.** (*To be compared with EUC list*)		
General remarks:			

EXPORT PERMITS			
Company / Division :		Date:	
Contact Person :			
Telephone Number :			
Permit Number:		Permit Date:	
	ITEMS AUDITED	**YES**	**NO**
1	**Can a copy of the Export Permit and other relevant documentation be fully retrieved?**		
2	**Provide proof that items arrived at the delivery address**		
3	**Are procedures in place at recipient in order to handle controlled items?**		
4	**Has the End User been informed that these items are Arms Control related?**		
5	**Has the necessary Arms Control related documentation been delivered to the recipient?**		
6	**Are the items handled as controlled items in accordance with procedures?**		
7	**Items exported for demonstrations, evaluations, testing, repair, loan, shows, exhibitions,**		
8	**How do you link it with Import Permit when it is being returned?**		
General Remarks:			

IMPORT PERMITS			
Company / Division :			
Armaments, Development, Manufacturing and or Services Permit No.		Date:	
Contracting Permit No.		Date:	
Contact Person :			
Telephone Number :		Date:	

	ITEMS AUDITED	YES	NO
1	Can copy of Import Permit and other relevant documentation be fully retrieved?		
2	Can proof be provided that goods arrived at delivery address?		
3	Can items be traced?		
4	Are procedures in place in order to handle controlled items?		
5	Are items handled as controlled items in accordance with procedures?		
6	Records i.r.o. return of items exported for demonstration, evaluations, testing, repair, loan,		

General Remarks:

AUDIT REPORT

Company Name									
Physical Address									
Postal Address									
Nature of Bussiness									
Telephone Code		Telephone No.		Fax Code		Fax number			
Security clearance		TS		S		Con		Restr	
Classification of this project, order/s and subcontractor/s	Projects/Orders			Subcontractors				Classification of contracts	
Foreign Involvement	Company					Country			

General Remarks:

APPENDIX D

Arms control structure - Alignment

The value chain for the acquisition of controlled defence matériel is considered to include ACD, DCAC, AB Logistics, Supplier, Customs and the end-user. Thus the success (deliver within time and budget) acquisition depends on the alignment and co-ordination of the processes in the elements of the chain. The rationale is to look at the strengths and weaknesses of each stakeholder in the chain with a view of synergizing the strengths and mitigating the weaknesses.

Armscor Arms Control Division

ACD is responsible for checking of EUC and permit applications before submission to DCAC. It also plays an advisory role to project managers and is involved in troubleshooting with regard to arms control matters. Relevant questions are:

1. Is there any value added to the applications for EUCs and permits that are submitted to ACD rather than directly to DCAC?
2. What is the transit period for applications of permit and EUCs en route to DCAC?
3. Is there enough capacity (personnel, resources) to deal effectively with the roles and responsibilities of ACD (application for EUC, advisory role, troubleshooting)?
4. How effective is the troubleshooting? What are the challenges? Are there clear policies and procedures? What is the success rate?
5. Are there IT systems in place for record keeping and tracking of applications?
6. Is there organizational support with regard to design and implementation of effective IT systems?
7. Is the mutual exchange of information and ideas with stakeholders with regard to ways to improve service to customers?
8. What are the possibilities of having an integrated IT system that could link up all stakeholders such that they are able to retrieve EUC/permit information any time i.e. check progress of EUCs, verify permits for shipment etc.
9. Who would be responsible for implementing and maintaining such a system?
10. What do you think are the strongest barriers to the effective running of the arms compliance system?

11. Does your company/department /division possess any unique capabilities that could benefit other stakeholders involved in arms control?

Directorate Conventional Arms Control (DCAC)

DCAC processes the applications for EUC and permits, gives guidance with regard to blacklisted countries and applicable embargoes. Relevant questions are:

1. What are the turnaround times for the EUC and permits?
2. Do the applications submitted have the necessary information required to process?
3. Are the special ways of handling urgent applications?
4. Are there enough personnel for handling of applications?
5. Are there effective IT systems for handling the applications and tracing of progress?
6. Is there organizational support with regard to design and implementation of effective IT systems?
7. Is the mutual exchange of information and ideas with stakeholders with regard to ways to improve service to customers?
8. What are the possibilities of having an integrated IT system that could link up all stakeholders such that they are able to retrieve EUC/permit information any time i.e. check progress of EUCs, verify permits for shipment etc.
9. Who would be responsible for implementing and maintaining such a system?
10. What do you think are the strongest barriers to the effective running of the arms compliance system?
11. Does your company/department/division possess any unique capabilities that could benefit other stakeholders involved in arms control?

Armscor Business Logistics (ABL)

ABL does the arrangements for shipping of defence equipment and interacts with project managers and customs and also suppliers.

1. How long does it take to process requests?
2. Is the necessary documentation required to process the application always attached to the requests?

3. Are there enough personnel to handle and process requests timeously?
4. How available is shipping (air, ground and sea)? What are the challenges with transport routes?
5. Are there effective IT systems for handling and tracking of the deliveries?
6. Is there organizational support with regard to design and implementation of effective IT systems?
7. Is the mutual exchange of information and ideas with stakeholders with regard to ways to improve service to customers especially with customs?
8. What are the possibilities of having an integrated IT system that could link up all stakeholders such that they are able to retrieve EUC/permit information any time i.e. check progress of EUCs, verify permits for shipment etc.
9. Who would be responsible for implementing and maintaining such a system?
10. What do you think are the strongest barriers to the effective running of the arms compliance system?
11. Does your company/department /division possess any unique capabilities that could benefit other stakeholders involved in arms control?

Customs

Gateway to the country for orders

1. What is the transit period from customs to the end-user?
2. Is there a special way to handle controlled defence matériel?
3. Is there enough personnel to receive and dispatch the items to the end-user?
4. Is there enough and safe storage for controlled items?
5. Are there IT systems in place to trace end-user certificates and verify permits?
6. Is there organizational support with regard to design and implementation of effective IT systems?
7. Is there mutual exchange of information and ideas with stakeholders with regard to ways to improve service to customers especially with customs?
8. What are the possibilities of having an integrated IT system that could link up all stakeholders such that they are able to retrieve EUC/permit information any time i.e. check progress of EUCs, verify permits for shipment etc.

9. Who would be responsible for implementing and maintaining such a system?
10. What do you think are the strongest barriers to the effective running of the arms compliance system?
11. Does your company/department /division possess any unique capabilities that could benefit other stakeholders involved in arms control?

End-user (The SANDF)

1. Is there a system to track the location of controlled items in the SANDF?
2. Is there any procurement of controlled items for the SANDF that is not done through Armscor?
3. Is there organizational support with regard to design and implementation of effective IT systems?
4. Is there mutual exchange of information and ideas with other stakeholders with regard to ways to improve service to customers especially with customs?
5. What are the possibilities of having an integrated IT system that could link up all stakeholders such that they are able to retrieve EUC/permit information any time i.e. check progress of EUCs, verify permits for shipment etc.
6. Who would be responsible for implementing and maintaining such a system?
7. What do you think are the strongest barriers to the effective running of the arms compliance system?
8. Does your company/department /division possess any unique capabilities that could benefit other stakeholders involved in arms control?
9. (International) Partcipation of DoD in international committees of any of the international agreements like WA.

APPENDIX E

Team Leadership Questionnaire

Leader Form

Name……....Date ……..

Organisation……Department/Division…….

Position ……...Sex…….

This questionnaire will be used to rate your team leadership. It consists of forty descriptive statements of leadership roles as a coach, troubleshooter, conflict manager and liaison with external constituencies. Please answer all questions by ticking the appropriate score and if the question is inapplicable to you or you are unable to answer it, please skip it.

Please use the following rating scale

Frequently, if not always = 4; Fairly often = 3; Sometimes = 2; Once in a while = 1; Not at all = 0

1.	I take interests of my team to higher authorities.....	4	3	2	1	0
2.	I do not attend to problems until they become serious.....	4	3	2	1	0
3.	I encourage them to talk freely about their problems.....	4	3	2	1	0
4.	I clarify expectations and roles to my team members.....	4	3	2	1	0
5.	I secure the needed resources for my team.....	4	3	2	1	0
6.	I try to solve problems immediately.....	4	3	2	1	0
7.	I do not have time to deal with conflict.....	4	3	2	1	0
8.	I indicate clearly who is responsible for performing tasks.....	4	3	2	1	0
9.	I provide relevant information to my team.....	4	3	2	1	0
10.	I believe there is one best solution for a problem.....	4	3	2	1	0
11.	I regard conflict as normal in a workplace.....	4	3	2	1	0
12.	I leave it to my team members to distribute and share tasks.....	4	3	2	1	0
13.	I instil customer satisfaction to my team members.....	4	3	2	1	0
14.	I do not solve problems for my team members but I facilitate the process.....	4	3	2	1	0
15.	I tolerate conflict and assist members to go through it.....	4	3	2	1	0
16.	I acknowledge good work to my team members.....	4	3	2	1	0
17.	I organise forums where issues/problems are discussed with customers.....	4	3	2	1	0
18.	When solving problems, I ask penetrating questions.....	4	3	2	1	0
19.	I am likely to take disciplinary action for involvement in conflict.....	4	3	2	1	0
20.	I talk optimally about the future.....	4	3	2	1	0

21.	The customers sometimes irritate me.....	4	3	2	1	0
22.	I look for differing perspectives when solving problems.....	4	3	2	1	0
23.	I try to find the best solution even though there will be disagreements.....	4	3	2	1	0
24.	I spend time teaching and coaching.....	4	3	2	1	0
25.	I involve my team members when interacting with customers.....	4	3	2	1	0
26.	I immediately take action on complaints and failures.....	4	3	2	1	0
27.	I avoid resolving conflicts if they are too complex.....	4	3	2	1	0
28.	I encourage team members to learn by themselves.....	4	3	2	1	0
29.	I wait for the customers to complain rather than looking for potential problems.....	4	3	2	1	0
30.	I encourage team members to look at problems from different perspectives.....	4	3	2	1	0
31.	I try to find the source of conflict whenever it arises.....	4	3	2	1	0
32.	I am too busy to give support to my team members.....	4	3	2	1	0
33.	I am effective in representing my team members to higher authority.....	4	3	2	1	0
34.	I encourage members to solve their problems.....	4	3	2	1	0
35.	I consider the moral and ethical consequences of a decision.....	4	3	2	1	0
36.	I help my team members to develop their strengths.....	4	3	2	1	0
37.	I sometimes feel the time I spend to customers is not worth it.....	4	3	2	1	0
38.	I wait for problems to surface before taking actions.....	4	3	2	1	0
39.	I emphasize the importance of collective sense of mission.....	4	3	2	1	0
40.	I encourage members to do just what is enough to meet the expectations.....	4	3	2	1	0

Team Leadership Questionnaire

Rater Form

Name……....Date …….

Organisation…….Department/Division……..

Position ……....Sex…….

Name of Team Leader…….....

This questionnaire will be used to measure team leadership of your leader/peer. It consist of forty descriptive statements of leadership roles as a coach, troubleshooter, conflict manager and liaison with external constituencies. Please answer all questions by ticking the appropriate score and if the question is inapplicable to you or you are unab to answer it, please skip it.

Please use the following rating scale

Frequently, if not always = 4; Fairly often = 3; Sometimes = 2; Once in a while = 1; Not at all = 0

My team leader that I am rating…….

1.	Take interests of our team to higher authorities.....	4	3	2	1	0
2.	Does not attend to problems until they become serious.....	4	3	2	1	0
3.	Encourages us to talk freely about our problems.....	4	3	2	1	0
4.	Clarifies expectations and roles of the team members.....	4	3	2	1	0
5.	Secures the needed resources for our team.....	4	3	2	1	0
6.	Attempts to solve problems immediately.....	4	3	2	1	0
7.	Does not have time to deal with conflict.....	4	3	2	1	0
8.	Indicates clearly who is responsible for performing certain tasks.....	4	3	2	1	0
9.	Provides relevant information to my team.....	4	3	2	1	0
10.	Believes there is one best solution for a problem.....	4	3	2	1	0
11.	Regards conflict as normal in a workplace.....	4	3	2	1	0
12.	Leaves it to us to distribute and share tasks.....	4	3	2	1	0
13.	Instils customer satisfaction to the team members.....	4	3	2	1	0
14.	Does not solve problems for us but facilitates the process.....	4	3	2	1	0
15.	Tolerates conflict and assist members to go through problem.....	4	3	2	1	0
16.	Acknowledges good work to the team members.....	4	3	2	1	0
17.	Organises forums where issues/problems are discussed with customers.....	4	3	2	1	0

18.	Asks penetrating questions when solving problems.....	4	3	2	1	0
19.	Is likely to take disciplinary action for involvement in conflict.....	4	3	2	1	0
20.	Talks optimally about the future.....	4	3	2	1	0
21.	Sometimes gets irritated by customers.....	4	3	2	1	0
22.	Looks for differing perspectives when solving problems.....	4	3	2	1	0
23.	Attempts to find the best solution even though there are disagreements.....	4	3	2	1	0
24.	Spends time teaching and coaching.....	4	3	2	1	0
25.	Involves the team members when interacting with customers.....	4	3	2	1	0
26.	Immediately takes action on complaints and failures.....	4	3	2	1	0
27.	Avoids resolving conflicts if they are too complex.....	4	3	2	1	0
28.	Encourages team members to learn by themselves.....	4	3	2	1	0
29.	Waits for the customers to complain rather than looking for potential problems	4	3	2	1	0
30.	Encourages team members to look at problems from different perspectives...	4	3	2	1	0
31.	Tries to find the source of conflict whenever it arises.....	4	3	2	1	0
32.	Is too busy to give support to the team members.....	4	3	2	1	0
33.	Is effective in representing us to higher authority.....	4	3	2	1	0
34.	Encourages team members to solve their problems.....	4	3	2	1	0
35.	Considers the moral and ethical consequences of a decision.....	4	3	2	1	0
36.	Helps team members to develop their strengths.....	4	3	2	1	0
37.	Sometimes feels the time he/she spends to customers is not worth it.....	4	3	2	1	0
38.	Waits for problems to surface before taking actions.....	4	3	2	1	0
39.	Emphasizes the importance of collective sense of mission.....	4	3	2	1	0
40.	Encourages members to do just what is enough to meet the expectations.....	4	3	2	1	0

APPENDIX F

No 1		No 2		No 3		No 4		No 5	
2	4	4	4	0	3	4	3	1	3
3	3	1	4	4	4	4	3	4	3
4	4	3	3	3	3	2	2	4	4
2	2	3	4	3	4	2	2	4	3
	0.454545		-0.13245		0.666667		1		0.333333

No 6		No 7		No 8		No 9		No 10	
2	2	0	4	3	2	4	4	3	4
4	0	4	3	4	4	3	4	4	3
4	0	4	2	3	2	3	3	3	3
3	2	4	0	2	4	3	4	2	3
	-0.90453		-0.68313		0		0.333333		0

No 11		No 12		No 13		No 14		No 15	
4	4	1	4	4	4	0	4	2	4
4	4	4	4	2		3	4	4	1
3	4	2	2	3	1	1	0		
4	4	3	3	4	4	4	4	4	4
	#DIV/0!		0.13484				0.365148		

No 16		No 17	
1	4	4	4
4	4	3	2
2	2	3	3
3	3	3	2
	0.13484		0.870388