

CHAPTER 4

SELECTION OF PRIME CONTRACTORS – ALFA & LIFT

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CHAPTER 4

SELECTION OF PRIME CONTRACTORS – ALFA & LIFT

4.1 ALFA - BACKGROUND

- 4.1.1 During the early 1990s the SAAF had a 3-tier fighter training philosophy. The three tiers consisted of the Pilatus PC7 Mk II Astra (Astra) trainer, the Impala Mk I and Mk II (Impala) fighter trainer, the Cheetah C and D (Cheetah) fighters and the Mirage F1AZ (Mirage).
- 4.1.2 The SAAF strategy for the long-term replacement of its air combat capability was proposed in the early nineties. This strategy made provision for an advanced fighter trainer (AFT) and a medium fighter to be acquired in the future. The SAAF fighter programme that was started included two programmes, namely Project Ukhozi and Project Kambro.
- 4.1.3 Project Ukhozi was established to satisfy trainer requirements and it focused on the replacement of 94 Impala aircraft with 48 aircraft. The project was aimed at acquiring the AFT. The Minister of Defence approved the AFT Staff Target (ST) No 2/94 on 18 October 1994, as first acquisition requirement, and the DCC approved the Staff Requirement (SR) on 4 October 1995. The constitution of the UCC was approved on 3 November 1995 and its main aim was to determine the overall programme strategy, to approve the evaluation process and to make major milestone decisions.
- 4.1.4 Project Kambro was established to satisfy the medium fighter requirement, and it focused on the replacement of the Mirage F 1 as well as the Cheetah C and D aircraft with a future multi-role supersonic fighter by the year 2012, which was described as a Future Medium Fighter (FMF).

4.1.5 According to the SR, the AFT aircraft had to have the capacity to carry out successfully a wide spectrum of jet conversions, advanced fighter training and combat missions. The training philosophy for the AFT aircraft assumed that the Astra trainer would be fully operational by 1997 and the Cheetah would remain in place until the fleet is replaced in approximately 2012. This implied a future SAAF fighter force design of a front line squadron, completed by the light fighter squadron and combat flying school.

4.1.6 A Request For Information (RFI) was forwarded to 30 suppliers from which 23 aircraft proposals and four service proposals were received.

4.1.7 The following responses were received for transonic aircraft:

In production	Under development
Martin F16 SAAB JAS39 Gripen British Aerospace Hawk 100 AIDC AT-3	LCA Sukhoi S54/55 CASA ATX Samsung KTX-2 MGA-T

The following responses were received for subsonic aircraft:

In production	Under development
Aermacchi AMX-T Dassault Alphajet FMA IA 63 PAMPA Aermacchi MB339FD IAR 99 Aero Vodochody L159 CATIC/PAC K-8 KIRAN MK2 Pilatus Super PC-9	Yakovlev YAK 130 Mikoyan Venga TG-10 Promavia Jet

4.1.8 The above responses were evaluated in accordance with an AFT proposed value system. Values were allocated to the following aspects: airframe performance, onboard systems; avionics systems; supportability systems; acquisition cost index and operating/support cost index. Evidence could not be found that the

relevant authority approved this value system. The results of the evaluation were as follows:

No	Aircraft	Score
1	SAAB JAS39 Gripen	0.899
2	Sukhoi S55	0.887
3	Sukhoi S54	0.884
4	Martin F-16	0.859
5	Aermacchi AMX-T	0.788
6	Dassault Alphajet	0.766
7	CASA ATX	0.763
8	MiG AT	0.703
9	Aero Vodochody L159	0.693
10	Yakovlev Yak 130	0.682
11	CATIC/PAC K-8	0.668
12	FMA IA 63 PAMPA	0.648
13	Aermacchi MB339FD	0.647
14	AIDC AT-3	0.631
15	British Aerospace Hawk 100	0.623
16	TAR 99	0.553
17	Impala	0.335

Not evaluated	Disqualified
LCA (Insufficient information)	Pilatus PC-9 (Turbo prop)
MGA-T (Insufficient information)	T-4 (no RFI reply)
Jet Squalus (Insufficient information)	I22 (no RFI reply)
Venga TG-10 (Insufficient information)	
KIRAN MK2 (Insufficient information)	
KTX-2 (Insufficient information)	

4.1.9 The proposed value system results were presented to the UCC on 13 May 1996, and the following five additional criteria for performing the first level contender short list selection were approved:

Criteria number	Criteria
1	Aircraft must be jet propelled and have a tandem cockpit to resemble a modern fighter.
2	Aircraft must have better performance than Impala MKII to fill training gap between Astra and Cheetah C.
3	Aircraft must be in advanced development or production.
4	Delivery must not be later than 2003.
5	Manufacturer must have indicated willingness to participate by having replied to the request for additional information (27 March 1996) or the reminder (6 June 1996).

4.1.10 Each contender on the short list of 17 was evaluated against the criteria and any contender who did not comply with any one of these criteria was recommended for elimination from the short list. The submission by the AASB in respect of contender elimination was approved by the AAC on 31 July 1996. The result of the evaluation left the following nine contenders that were further investigated by visiting each supplier:

No	Aircraft	Manufacturer	Country
1	AMX-T	Aermacchi/Alenia/Embraer	Italy/Brazil
2	AT2000	Daimler-Benz Aerospace	Germany
3	Hawk 100	British Aerospace	Britain
4	JAS39 Gripen	SAAB	Sweden
5	L159	Aero Vodochody	Czech Republic
6	MB339FD	Aermacchi	Italy
7	MiG AT	MiG/MAPO	Russia
8	S-54	SUKHOI	Russia
9	Yak/AEM-130	Yakovlev/Aermacchi	Russia

4.1.11 After visits to the suppliers, which took place during September and October 1996, an interim project study report, dated February 1997, was compiled. The objective of the report was to recommend a short list of aircraft types that can satisfy the requirement for an AFT and to obtain approval to issue Requests For Proposal (RFP) to the suppliers of these aircraft. The nine contenders were evaluated against a value system, which included the following:

- Operational value (50%).
- Logistic value (30%).
- Supplier value (20%).

A cost analysis, risk analysis and a trade-off analysis were also conducted.

4.1.12 The results were presented to the DCC in March 1997, and were then referred to the AASB. The results were as follows:

RFP contenders	
Type	Comments
AMX-T	In production, multi-role, growth path.
AT2000	Potential for wide-band performance at reasonable cost. Best opportunity for industry participation. High programme risk.
L159	Balanced performance and systems at reasonable cost. Good logistic support. SAAF might be only user outside Czech Republic.
Yak/AEM-130	Balanced all-round performance for multi-role. Re-engine option. Feasible only if acquired by Russian Federation.

Contenders removed from the short list	
Type	Comments
Hawk 100	High cost. Does not satisfy SAAF operational requirement.
JAS 39 Gripen	Unaffordable.
MB339FD	Low performance cannot satisfy user requirement.
MiG-AT	High development and production risk.
S-54	Insufficient/incomplete information provided.

4.1.13 During January 1997, the British Government tabled a package proposal for the supply of armaments to South Africa. This included, *inter alia*, the replacement of the Impala with the Hawk jet trainer or a combination of the Hawk and the Gripen fighter *via* British Aerospace (BAe).

4.1.14 In response, the chairperson of the UCC, after careful scrutiny of the proposal, indicated in July 1997, that it was evident that this advanced training system

could be acquired far more cost-effectively outside the British Package Proposal of the Hawk 100. However, the SAAF would include this requirement in the RSA/UK SDP only in the event of it being politically obliged to accept the training system on offer. The operational shortcomings of the training system on offer could be overcome at an affordable cost in terms of acquisition as well as life-cycle support. According to the chairperson, the aircraft systems on offer in the British proposal did not comply with the defined operational and logistical requirements of either the fighter or fighter trainer replacement programmes.

Neither the Hawk nor Gripen systems, as offered by BAe during its formal response to the Project Ukhozi acquisition, satisfied the full requirement specifications. In terms of quoted acquisition and life cycle support costs, both aircraft systems were by far the most expensive options in their respective classes. In order to satisfy the requirement for these two systems, the SAAF would have preferred not to participate in the stated fighter component of the SDP as there were aircraft systems that were operationally far more acceptable and available at substantially lower acquisition and operating costs. Such systems formed part of package proposals received from other countries. In this instance, the acceptance of the Hawk would have been based on the interim lease of a limited number of Hawk 100 only until an agreed number of Gripens had been delivered and the Astra training system had been adapted to address the new training gap. Before inclusion of SAAF requirements within the proposed SDP could be finalised, substantial staff work within the SANDF would have to be concluded to safeguard the interest of DoD.

4.1.15 In July 1997 the President was advised by DoD and the SANDF of the reasons why the British proposal was not acceptable.

4.1.16 At that stage the Chief of the SAAF was concerned that, although the acquisition process for Ukhozi had followed the normal path and had not taken

into account the MoD package offer made by the British Government, the wrong impression might be created if the RFP were issued without the inclusion of the Gripen aircraft. It was decided that the normal process for Ukhozi would go ahead as planned and that it would be reconsidered once greater clarity was obtained on the British MoD offer and the Defence Review completed.

4.1.17 However, before the submission was made to the AASB, the Executive Council of the UCC considered the following facts:

- There were insufficient funds on the approved Force Design Steering Committee (FDSC) plan to initiate Project Ukhozi before the year 2000, at the earliest.
- To issue requests for proposal (RFP) to the international aerospace industry without being able to place the contract in the feasible future for a number of years.
- The British SDP offer could affect the course of the project.

In view of the above, a decision was made by the UCC on 17 March 1997, to recommend to the AASB that the project be delayed by 12 months. A submission was made accordingly on 20 March 1997, to the AASB that approved the recommendation.

4.2 ALFA - PLANNING

4.2.1 Due to budget cuts in 1997, the acquisition process of Project Ukhozi could not continue within the proposed timescales. SAAF Operations Council considered the budgetary implications of both Projects Ukhozi and Kambro. These implications were R5,2 billion for Project Ukhozi and R8 billion for Project Kambro. This was considered to be unaffordable. It was considered that a

mid-range light fighter could satisfy both of the projects' requirements at a lower cost. The SAAF Command Council therefore decided on 7 July 1997, that Project Ukhozi had to redefine its SR to that of an advanced light fighter aircraft (ALFA) concept that would meet the requirements of both Project Ukhozi and Project Kambro. This effectively meant a change from a 3-tier to a 2-tier fighter strategy. The 2-tier fighter strategy would include the Astra that would be used for basic fighter orientation training. This would be followed by jet conversion, operational conversion and operations on the ALFA. The ALFA would therefore take over the operational roles of the Impala, Mirage and the Cheetah as the only front line fighter with precision air defence and ground attack capabilities. The SAAF was therefore forced to redesign in terms of costs and not according to its requirements.

- 4.2.2 During a meeting held on 5 August 1997, the UCC approved that the DCC and the Military Command Council should be informed of the new 2-tier strategy and that the project team should change their URS accordingly.
- 4.2.3 On 19 September 1997, CoD approved a proposal to continue with the SDP and decided to include the ALFA in the SDP. At the UCC meeting of 7 October 1997, the revised URS for the ALFA within the 2-tier system was presented. According to the minutes *"the URS is in it's final stages of completion, and that it should be finalised by the end of October 1997. In parallel to the update of the URS to reflect the new requirement, the Staff Target as well as the Staff Requirement are also updated and should be finished together with the URS."* The fact that the URS, the ST and the SR were updated to reflect the new requirement, was indicative of the fact that CoD accepted the ALFA as part of the 2-tier fighter strategy in the SDP.

4.3 ALFA – ACQUISITION PHASE

4.3.1 ALFA – Request for Information

4.3.1.1 On 23 September 1997, a RFI for 48 aircraft were sent to eight Governments, i.e. the United Kingdom, France, Germany, Italy, Brazil, Sweden, Canada and Spain. The following responses to the RFIs were received:

Country	Aircraft
Germany	AT 2000
France	Dassault Mirage 2000
Canada	CF 5
United Kingdom	SAAB Gripen
Italy	Yak/AEM 130; MB339FD
Russia	MiG 29
Czech Republic	L159

4.3.1.2 The RFI technical value system presented to, and approved by, the UCC at a meeting held on 7 October 1997, was used as a weeding-out process and five contenders were eliminated. The RFI responses were received on 31 October 1997.

4.3.1.3 During a meeting of the SAAF Command Council on 17 November 1997, the ALFA project team presented the results of the RFI evaluation process. According to the minutes, it was decided to reduce the number of aircraft for the ALFA project from 48 to 38. The results were presented for the procurement of 38 aircraft (eight dual-seat and 30 single-seat aircraft) and three aircraft were shortlisted, namely the Gripen, AT2000 and Mirage 2000.

4.3.1.4 The RFIs were issued to the respective governments with the envisaged SAAF Force Design in mind. The project team experienced the dilemma that it subsequently became clear that another type of aircraft would be required as an interim trainer between the Astra and the ALFA. The minutes of the meeting of 17 November 1997 indicate that a strategic planning workshop was held, prior to the meeting, to address this matter. Documentation of the

strategic planning workshop attached to the minutes of the meeting indicates that the 2-tier system was not acceptable to the Minister of Defence. The SAAF Command Council then concluded that a 3-tier system, incorporating both the ALFA and a lead in fighter trainer (LIFT), was essential to satisfy the requirements of the SAAF in relation to fighter training and fighter consolidation in a cost-effective manner. This presentation was very important in the sense that it marked a turning point in the SAAF strategy. As a result of this presentation four significant decisions were taken:

- *"The SAAF required both a LIFT and an ALFA, i.e. a 3-tier system."*
- *"Both had to be satisfied through the government-to-government SDPs."*
- *"The LIFT constituted an additional requirement to the SDP and had to be registered as such."*
- *"The LIFT was the more urgent requirement that had to be satisfied first."*

4.3.1.5 On 19 and 20 November 1997, a Steering Committee Meeting was held where the results of the RFI evaluations were discussed. The purpose of the meeting was to prepare the information for presentation to the AAC and Cabinet for decision-making purposes. Documentation attached to the minutes indicate that all the suppliers, except those for the Mirage 2000, confirmed that pilots could convert to the proposed aircraft directly from the Astra.

4.3.1.6 On 24 and 28 November 1997, presentations were made by the UCC to the AAC and during these meetings the following short list for Request For Offers (RFOs) was approved:

Aircraft type	Supplier	Normalised Military Value (RFI results)	Motivation
AT 2000	DASA	1,0	Best cost-effectiveness. Also best operational capability. Development programme with very high risk – unless DASA and German Government commit to programme. Also option that can satisfy the SAAF requirement. Financial commitment during development (next three years) low.
Mirage 2000	Dassault	0,83	Lowest technical and programme risk with high operational capability. Cost provisional estimate that has to be verified.
Gripen	BAe/SAAB	0,81	Capable modern fighter with low development risk but high cost.

All three the above aircraft were considered acceptable to satisfy the SAAF's requirement for an ALFA, subject to the risks being covered contractually and by government-to-government agreement.

4.3.1.7 On 2 December 1997, Project Ukhozi was redefined to satisfy the requirements for the ALFA as part of a 3-tier system. At a meeting of the UCC it was reported that the URS of Project Ukhozi for the ALFA was completed and signed by the Director: Projects. The revised ST and SR for Project Ukhozi were forwarded to the SAAF Command Council for review and approval by the AAC. They were approved by the AAC on 16 March 1998.

4.3.2 ALFA – Request For Offer

4.3.2.1 A RFO was issued on 14 February 1998, to BAe/SAAB, Dassault and Daimler-Benz Aerospace with 14 May 1998 as the final date for submission of offers. The issuing was authorised by the former Minister of Defence at the AAC on 28 February 1998. The combined ST/SR and the SAAF URS served as the technical basis for the RFO. On 26 February 1998, a proposal was presented to visit the final contenders for Project Ukhozi.

4.3.2.2 On 20 February 1998, the revised ST No 2/94 for 38 aircraft and SR No 2/95 for Project Ukhozi were submitted for approval. It was approved on 16 March 1998, by the chairperson of the AAC. The total acquisition cost required for 38 ALFA aircraft was expected to be in the order of R11,0 billion (1998 rand value, i.e. US\$1=R5.10), i.e. including initial logistic package for two years, taxes, mission equipment, mission simulator and programme management cost. The ST and SR were therefore approved after the RFOs were issued.

4.3.2.3 The final offers for the ALFA were received from all three contenders on 14 May 1998. Thereafter a detailed evaluation of the value systems commenced.

4.3.3 ALFA – Technical value system and evaluation

4.3.3.1 Each proposal had to be measured against a set of mandatory requirements. These mandatory requirements were evaluated in the RFI phase. This was a measure to ensure that the proposals still comply with the minimum requirements. These proposals were measured against a set of discriminatory criteria, which formed part of the final value system. A score had to be determined for each proposal and this score was the military value. The life-cycle cost was calculated for each proposal and a life-cycle cost index determined. The military value then had to be divided by the life-cycle cost to provide the cost-effectiveness for each contender. The cost-effectiveness values were ranked from highest to lowest and the most cost-effective contender recommended to SOFCOM.

4.3.3.2 The ALFA technical evaluation report was compiled by the Programme Manager of Armscor. The results of the evaluation of the ALFA final offers were presented to SOFCOM on 1 July 1998. The presentation to SOFCOM was based on the recommendation on the military value. The technical scores presented to SOFCOM were the following:

Characteristic/Weightings	Gripen	Mirage 2000	AT 2000
Total score (Rounded off)	76	60	58
Programme cost (US\$ mil)	2,234	2,314	2,157
Cost-effectiveness	34.02	25.93	26.89
Rating (Normalised)	100	76.22	79.04

Although the value system required that the military value be divided by the lifecycle cost in order to get the Military Cost-Effectiveness Index, the programme cost was used instead. However, this had no effect on the final ranking of the bidders.

4.3.4 ALFA – DIP value system and evaluation

4.3.4.1 In 1997 the DTI imposed a specific policy of counter trade for all contracts in excess of US\$10 million. These contracts had to have a minimum of 30% industrial participation (IP) based on the contract price. Defence contracts had to have a minimum defence industrial participation (DIP) of 50%. Normal tendering procedures require a 50-50 split between DIP and NIP (Refer chapter 12). A decision was taken that if 100% IP was committed, the bidder would not be penalised. This decision was noted in an urgent notice in respect of final recommendations for DIP and NIP, dated 16 April 1998.

4.3.4.2 The DIP evaluation team compiled a value system that was used to evaluate the bidders' offers. SOFCOM approved this value system programme on 5 May 1998.

4.3.4.3 The normalised scores regarding the final DIP recommendation presented to SOFCOM were the following:

Bidder	Normalised rating
DASA – Germany – AT2000	100
BAE/SAAB – UK/Sweden – JAS Gripen	88
Dassault – France – Mirage	40

4.3.5 ALFA – NIP value system and evaluation

4.3.5.1 A bidder submitted its project proposals to the DTI. The NIP evaluation team consisted of officials of the department. The evaluation was performed in two parts. Part one was to obtain NIP credits for the value of items, such as export sales, domestic sales and investments. This was more of a quantitative phase. It involved looking at the items in the business plans and multiplying them by the weighting as per the approved value system.

4.3.5.2 Part two was more qualitative and it was made up of five sections for which points were allocated. Each section had a maximum score of 5, therefore the maximum possible score for phase two was 25.

4.3.5.3 The scoring in part two was by consensus. An objective approach was used to obtain a reasonable score. The score in part one was multiplied by the score in part two and the total was the final score. The NIP team leaders communicated the scores to SOFCOM.

4.3.5.4 The normalised scores regarding the final NIP recommendation presented to SOFCOM were the following:

Bidder	Normalised Rating
BAe/SAAB – UK/Sweden – JAS Gripen	100
DASA – Germany – AT2000	11
Dassault – France – Mirage	7

4.3.6 ALFA – Finance value system and evaluation

4.3.6.1 The critical criteria used to evaluate the RFOs in this regard were as follows:

- A grace period of four years.
- A repayment period of 15 and 20 years, the grace period included.
- The bidder must have quoted for both periods.
- It must have been an all costs included proposal.
- Currency denominations must have been expressed in US\$.
- All conversion rates used in their calculations had to be indicated clearly.
- All the information requested had to be supplied.

4.3.6.2 The discriminating criteria with their respective weights, were as follows:

- Cost of finance 30%.
- Cash flow 30%.
- Hidden cost 30%.
- Financial soundness 10%.

The financial evaluation results, which were also as such presented to SOFCOM were as follows:

Bidder	Programme cost (US\$m)	Finance Cost (US\$m)	Cash flow (US\$m)	Years	Finance cost (%)	NPV (%)	IRR (%)	Rating	Rank
UK SAAB Gripen	2217,0	1252,1	3469,1	20	56	2129,1	5,8	100	1
Germany DASA AT 2000	2139,0	-	-	-	-	-	-	-	-
France Dassault Mirage	2257,0	-	-	-	-	-	-	-	-

Legend:

- Programme cost – The contract price as determined by each project team, excluding programme management cost and financing cost.
- Finance cost (US\$m) – Value of the total financing cost payable over the financing period.
- Cash flow – The total programme cost and financing cost.
- Period – Period/duration of the loan.
- Finance cost (%) – Finance cost expressed as a percentage of programme cost.
- NPV – Net present value of the discounted cash flows.
- IRR – The internal rate of return calculates the expected cost of capital of a project.

The following comments were made by the Finance Evaluation Team on slides presented to SOFCOM:

(a) UK – SAAB

- No hedging strategy.
- 85% of contract value financed over 20 years, the balance over seven years.
- Fees in grace period.

(b) Germany – DASA

- Was not ready to submit a proposal.
- No evaluation was possible.

(c) France – Dassault

- Offer only financing for the definition phase (0,4% of contract value).

- Only letter of intent from financier for the balance.
- No proper evaluation possible.

4.3.6.3 It is clear from the above that there was no competitive financial evaluation. The aforementioned lack of a competitive financial evaluation played an important role during the overall evaluation process, as the financial evaluation score comprised 33,3% of the total evaluation.

4.3.7 ALFA - SOFCOM combined results

4.3.7.1 SOFCOM consolidated the normalised evaluation scores for technical, IP and finance (all normalised to 100) and was responsible for presenting the combined results (out of 300) to AASB and AAC for approval.

4.3.7.2 The minutes of a special meeting on 10 June 1998 attended by, *inter alia*, all team leaders responsible for the value determination of strategic programmes, indicated the following:

Formulas to be used:

$$BV = \frac{MV + IV}{\text{Financing Index}}$$

Where: BV = Best Value
MV = Military Value
IV = Industrial Value

4.3.7.3 According to the confirmation notes of the SOFCOM work session, held on 1 and 2 July 1998, the chairperson addressed the top level value system and advised that the formula should be as follows:

$$BV = MV + IV + \text{Financing Index}$$

4.3.7.4 This change in the formula was tested and the different results based on the two formulas mentioned above are as follows:

(a) $BV = \frac{MV + IV}{\text{Financing Index}}$

Aircraft	Military value	Industrial value	Financing Index	Best value	Ranking
AT2000	79	59	0	-	-
Mirage 2000	76	25	0	-	-
Gripen	100	100	100	2	1

(b) $BV = MV + IV + \text{Financing Index}$

Aircraft	Military value	Industrial value	Financing Index	Best value	Ranking
AT2000	79	59	0	138	2
Mirage 2000	76	25	0	101	3
Gripen	100	100	100	300	1

As can be seen from the above tables, the change in the formula did not have an effect on the ranking in the case of the ALFA.

4.3.7.5 The combined results for ALFA were presented to the AASB on 8 July 1998.

4.4 LIFT - PLANNING

4.4.1 During a meeting of the SAAF Command Council on 17 November 1997, (after the ALFA RFI replies were received) it was decided that the SAAF required both a LIFT and an ALFA, and therefore Project Winchester was registered. Project Winchester involves the acquisition of a fleet of 24 dual-seat LIFT aircraft including 1 Flight Test Aircraft (FTA). During initial stages, Project Winchester and Project Ukhozi ran parallel as a single SDP programme and all the technical aspects for both projects were managed by the UCC.

4.4.2 On 20 February 1998, the combined ST No 1/98 for 24 LIFT Aircraft and SR No 1/98 for Project Winchester were submitted for approval.

4.4.3 On 16 March 1998, the chairperson of the AAC approved the revised ST and SR for Project Winchester. The total acquisition cost required for 24 LIFT aircraft was expected to be in the order of R2,2 billion ('98 Rand value, i.e. US\$1=R5.10). The operating cost for 24 aircraft flying 4 000 hours per year at an estimated R15 000 per flying hour was estimated to be approximately R70 million per year. The chairperson of the AAC also made the following remarks: *"the project team/SAAF must consider the leasing of the above mentioned aircraft as an option before any final recommendation is forwarded to the AAC for approval. Project Winchester must be brought in line, together with Project UKHOZI, with the SDP time scales"*. The total acquisition cost for both ALFA and LIFT at this stage amounted to R13,2 billion. Eight months prior to this, projects Ukhozi and Kambro amounting to R13,2 billion were cancelled due to unaffordability.

4.5 LIFT – ACQUISITION PHASE

4.5.1 LIFT – Request for Information

4.5.1.1 On 3 February 1998, the UCC approved that RFIs be issued. To ensure that the LIFT process was synchronised with the other programmes under the SDP process, the RFI was issued to 20 suppliers on 9 March 1998. The RFI was therefore issued before the ST and SR were approved by the AAC on 16 March 1998. Responses were received from all 20 suppliers on 6 April 1998.

4.5.1.2 From the minutes of the UCC, dated 7 and 8 April 1998, it was noted that the value system for the evaluation of the replies to the LIFT RFI was approved. It should be mentioned that this approval was given after the replies were received on 6 April 1998. Although it was noted that a decision was also taken at the meeting of 7 April 1998, that proposals would only be opened after approval of the final value system, the risk existed that manipulation of either

the value system or the RFI could take place. No evidence of such manipulation of the value system on the RFI was found.

4.5.1.3 From Project Winchester: Interim Study Report dated November 1998, it was noted that the proposals were evaluated against mandatory requirements and a discriminatory value system.

4.5.1.4 Although the military value for all 20 contenders was determined, the following contenders were eliminated, as all the mandatory requirements have not been met. This was presented as such to the *ad hoc* Project Ukhozi/Winchester Control Council meeting held on 30 April 1998:

Aircraft	Country	Mandatories not achieved	Notes
ALPHA JET	France	No information provided	Second-hand ex-French A/F
F7 MG	China	Single seat only. Only 16 aircraft offered	M2 Fighter
CF-5	Canada	Service life. Mix of 18 dual and 8 single seat aircraft	Second-hand ex-Canadian A/F
MONITOR	Canada	Insufficient information provided	New development. Little known manufacturer (Canadian Aero) JPATS Class
RANGER	Germany	Insufficient equipment, e.g. No cannon, missiles not integrated	Prototype Flying JPATS Class
SK 60	Sweden	Service life (upgrade), questionable support beyond 2015	Second-hand ex-Swedish A/F Side-by-side

4.5.1.5 The military value results of the 14 remaining contenders are indicated in the following table:

Aircraft	Military value	Rating
Hawk 100	82	1
L159	72	2
AMX-ATA	71	3
Yak 130	71	4
MB339FD	69	5
MiG-AT	69	6
L59	63	7
S211A	61	8
PC-TT	57	9
T6-A	57	10
L139	54	11
TAW TRAINER	52	12
C101	31	13
K8	27	14

4.5.1.6 The cost-effectiveness of the aircraft on offer was also calculated by dividing the military value by the life-cycle cost. The results of the cost-effectiveness evaluation were as follows:

Aircraft	Military value	Life-cycle cost (US\$m)	Cost-effectiveness
S211A	61	474,6	12,9
MB339FD	69	544,1	12,7
PC-TT	57	448,8	12,7
T6-A	57	471,4	12,1
L59	63	599,7	10,5
L139	54	526,1	10,3
Hawk 100	82	979,0	8,3
L159	72	902,1	8,0
Yak 130	71	969,3	7,3
AMX	71	985,8	7,2
MiG AT	69	1009,2	6,8
K8	27	430,2	6,3
CASA 101	31	636,6	4,9

4.5.1.7 During a work session of the project team, held on 24 April 1998, it was decided to recommend to the UCC not to use acquisition cost as a limiting factor, as no firm acquisition budget allocation existed, but rather to base the short list on a military value of 60 and higher and life-cycle cost-effectiveness of above 8,0. The resulting short list to the UCC included the following aircraft:



- L159 / L59 (Aero Vodochody to present only one option).
- MB339FD.
- S211A.
- Hawk 100.

4.5.1.8 On 30 April 1998, a special UCC meeting was held to present the evaluation results of the replies to the LIFT RFI. The meeting decided that the short list should be determined on the military value only and that the cost impact be deferred for discussion at the AAC. The UCC approved a recommendation to be tabled to the AAC for the following manufacturers/aircraft to receive a request for best and final offer, based on a military value result of more than 68:

Country	Supplier	Aircraft
Czech Republic	Aero Vodochody	L159
Italy	Aermacchi	MB339FD
Italy	Aermacchi	Yak 130
United Kingdom	British Aerospace	Hawk 100
Russia	MiG-MAPO/Kulkoni	MiG-AT

4.5.1.9 After the technical evaluations, the project team presented a short list of contenders to a combined AASB and AAC on 30 April 1998. The project team short-listed six aircraft for consideration and further recommendation. The AAC supported their recommendations that both the MiG AT and AMX-TT be removed from the formal RFO stage. This was due to the AMX being designed and developed as a multi-role ground attack operational aircraft. Although the AMX complied with the training requirements of the LIFT programme, it was due to the collateral training capability inherent in the operational design philosophy. The MiG AT was excluded as it was the highest cost for the lowest military value contender. This left four aircraft on the RFO list, i.e. the HAWK, Yak 130, L159 and MB339FD. These aircraft all complied with the minimum functional capabilities for a LIFT.



4.5.1.10 Minutes of the Joint AASB/AAC forum of 30 April 1998 indicate, in paragraphs 8 and 9 thereof, that the project team presented the meeting with an affordability analysis of LIFT contenders. Without cost considerations the selection process was biased towards the higher performance category aircraft. These aircraft are, however, also significantly more expensive to acquire, operate and maintain. Therefore, unless additional funding could be found to support the acquisition of a more superior aircraft, the SAAF would have to take cognisance of budgetary constraints in the selection process. The Minister of Defence cautioned the meeting that a visionary approach should not be excluded, as the decision on the acquisition of a new fighter trainer aircraft would impact on the South African defence industry's chances to be part of the global defence market through partnership with major international defence companies, in this case European companies. In terms of this vision, the most inexpensive option might not necessarily be the best option. The Minister requested the DoD acquisition staff to bear this vision in mind during the selection process.

According to the combined minutes the following decisions were taken:

- The Minister instructed the project team to issue the approved short list of contenders with RFOs and thus bring the LIFT programme in line with the other offers received under the SDP process.
- The Minister further instructed the project team to include the option of a lease in the RFOs.
- The meeting approved the list of contenders to receive RFOs as:

Contender	Aircraft
Aermacchi	MB339FD
Aermacchi	Yak 130
Aero Vodochody	L159
British Aerospace	Hawk 100

4.5.1.11 On 5 May 1998, the approval of the combined AASB/AAC on 30 April 1998, of the recommended short list was presented to the UCC. At this meeting it was minuted that the reason why the recommendation to the combined AASB/AAC was not based on cost-effectiveness was because it was thought that the cost constraint for the inclusion of the LIFT into the SDP should be determined by the AAC.

4.5.1.12 At a special SAAF Command Council meeting held on 29 June 1998, the LIFT recommendation to be presented to SOFCOM was formulated and approved. With regard to preparing two recommendations, the following two decisions were minuted:

"Paragraph 3.3

A separate recommendation is required where cost is not taken into account as per the request from the Minister of Defence.

Paragraph 3.6

The final recommendation gives two alternatives; the first alternative (A) is the most cost-effective solution based on achieved military value for the aircraft taken into account the associated risk and the cost of the aircraft system. The second alternative (B) does not take the cost of the aircraft system into account and is therefore the recommended aircraft based on the achieved military value with its associated risk."

The Director: Air Force Acquisitions, testified that when the then Chief of the SAAF was presented with a single finding of a costed option at the meeting, he said that there was a request by the AAC to consider a non-costed option. This led to paragraph 3.3 of the minutes as quoted above.

4.5.1.13 The minutes of a SOFCOM meeting held on 6 May 1998, mentioned the following regarding the LIFT timescales:

"The Chairman briefed the SOFCOM on the Lead In Lighter (sic) Trainer (LIFT) contender evaluation, and resulting short list that will be solicited for proposals on 11 May 98. The new timescales for the LIFT evaluation have been compressed to permit consideration of the LIFT recommendation in parallel with the overall SDP recommendation. The leasing option requested by the Minister must be developed as well. Clearly the direct industrial participation falls away in this case; but the remaining IP needs to be addressed as well."

4.5.2 LIFT – Request for Offer

4.5.2.1 The RFO for the LIFT was issued to BAe (Hawk 100), Aero Vodochody (L159) and to Aermacchi (Yak 130, MB339FD) on 12 May 1998. The final offers for the LIFT closed on 15 June 1998, and the evaluation started thereafter.

4.5.2.2 From the internal audit report the following was noted:

"Par. 2.10 Value systems used during the evaluation process had all been finalised, formally approved and registered prior to the start of evaluation of the best and final offers. Extensive input from the SANDF user community had been incorporated in the value systems. However, in at least some cases the content of the value system, and specifically the value of the relative weights, were known to the evaluators. This is undesirable as evaluators may be influenced by knowledge of the relative importance of parameters, or could manipulate the results through knowledge of relative weights."

No evidence was found that manipulation had taken place.

4.5.3 LIFT – Technical value system and evaluation

4.5.3.1 Each proposal was measured against a set of mandatory requirements in order to ensure that the proposals still complied with the minimum requirements. The proposals were also evaluated by using a value system which consisted of

a military value index, which was broken down into programme management, engineering management, training aircraft functionality and logistic support.

- 4.5.3.2 The minutes of a special meeting relating to value determination of strategic programmes on 10 June 1998 indicated the formulas to be used (Refer paragraph 4.3.7.2).
- 4.5.3.3 The Project Study Report for LIFT indicated that a risk analysis was also carried out. As a subset to the final selection value system, a risk assessment *pro forma* was prepared to perform a risk analysis on each of the contenders. The *pro forma* consisted of 33 pre-determined risk factors, a description of the impact of each on the LIFT should the risk realise and a severity score where a mark of 1 indicates a very low programme impact and 5 an extremely severe impact. The risk assessment *pro forma* was approved by the Ukhozi/Winchester Control Council and the Chief of Acquisitions with the final selection value system.
- 4.5.3.4 All mandatory requirements that were not met were presented to a special SAAF Command Council meeting 24c/98 held on 29 June 1998, as part of the LIFT evaluation results presentation. The delivery schedule for the Yak 130 did not meet the mandatory requirements by at least three years. As this was unacceptable, the Yak 130 was excluded from any further consideration. The remaining three aircraft, Hawk 100, MB339FD and the L159 all had a number of mandatory requirements that had not been met, but were considered as acceptable to the SAAF. It was also decided that these aircraft would all adequately breach the training gap between the Astra and the anticipated ALFA.
- 4.5.3.5 According to the Project Study Report the project teams were requested by SOFCOM to present their recommendations based on risk moderated cost-effectiveness index. The report indicated that note was also taken during the

evaluation of the Minister of Defence's request not to make cost the only consideration when recommending a LIFT contender for final selection.

4.5.3.6 According to the minutes of a special SAAF Command Council meeting, held on 29 June 1998, the SAAF Command Council further instructed the project team to prepare the 'adapted' military value in a costed and non-costed evaluation, to give execution to the AAC's guideline in this regard. It was further stated that the amended evaluations should be presented to SOFCOM for consideration. Based on the risk moderated value and programme cost, the results were as follows:

Aircraft	Moderated value	Programme cost	Cost effectiveness	Normalised	Rating
MB339FD	73,93	US\$0,3777b	195,7	100	1
L159	65,3	US\$0,6414b	101,8	52	2
Hawk	66,7	US\$0,7715b	86,5	44,2	3
Yak 130	46,2	US\$0,5506b	83,9	42,9	4

4.5.3.7 The ranking based only on risk moderated military value (excluding cost) was as follows:

Aircraft	Moderated value	Normalised
MB339FD	73,93	100
Hawk	66,7	90,2
L159	65,3	88,3
Yak 130	46,2	62,5

4.5.3.8 The leasing option, as mentioned, in paragraph 4.5.1.10 above, was investigated and it was found that leasing LIFT aircraft over a 30-year period is not a viable option. None of the contenders could provide a feasible leasing proposal.

4.5.4 LIFT – DIP value system and evaluation

4.5.4.1 The DIP project proposals submitted by each contender in the RFO phase were evaluated against an approved DIP value system. The DIP evaluation team

compiled a value system that was used to evaluate the contender's proposals. The normalised scores regarding the final DIP recommendation presented to SOFCOM were the following:

Bidder	Normalised rating
Italy/Russia – Yak 130	100
Italy – MB339FD	95
UK – Hawk	94
Czech – L159	84

4.5.5 LIFT – NIP value system and evaluation

4.5.5.1 The NIP project proposals of each contender, as submitted in the RFO phase, were evaluated against an approved NIP value system. A description of the process followed and criteria used to evaluate these project proposals is similar to that of the ALFA NIP value system summary mentioned in paragraph 4.3.5. The normalised scores regarding the final NIP recommendation presented to SOFCOM were the following:

Bidder	Normalised rating
UK – Hawk	100
Italy – MB339FD	25
Italy – Yak 130	25
Czech – L159	97

4.5.5.2 According to the records of DTI, a view was expressed in June 1999, that a report that was submitted to the Ministers' Committee on the proposed package for the LIFT programme had a radically inflated Hawk NIP offer. This view held that a "breakdown" in communication within the Department caused the Ministers to have been provided with an incorrect impression of the quality of the offer.

Data to Cabinet Subcommittee (Rm)				
Package	Price	Investment	Exports	Sales
Hawks	4900	3536	5975	81



4.5.5.3 Furthermore, data derived from an assessment provided by the DTI as indicated in the table below, shows that the power procurement project as proposed by BAe was the old (rejected) National Power project in another form: BAe proposed that National Power would invest US\$400 million in local manufacturers of power station equipment, which would be exported to their power station contracts in Africa. However, neither the investments nor the local manufacturers have been defined and the African projects are not yet firm (Sengwa/Gokwe in ZIM). This was therefore not in a state ready for consideration. The only other NIP of significance is the titanium plant, which they expected Ti-Met to establish, but they subsequently withdrew due to the oversupply of titanium sponge from the ex-USSR countries. They then suggested a titanium pigment plant to be put in by Kronos (US).

4.5.5.4 Without these two projects, BAe had virtually no NIP package. Mintek and IDC (BAe to pay) were commissioned to do a rapid pre-feasibility study, after which a visit was planned to Kronos in the US to convince them to invest.

The following data was derived from an assessment provided by the DTI:

Project	Investment	Exports	Local Sales
Power Procurement	400	370	0
BAe Industrial Park	25	78	0
Infrastructure JV	0	134	0
Ind-agri Bus Park	0.8	15	13
Titanium plant	140	359	0
Total	565.8	956	13

4.5.5.5 The above situation led to negotiations with the supplier in order to replace certain projects. This is indicative of the fact that the NIP offer of BAe was not properly evaluated during the RFO phase.

4.5.6 LIFT – Finance value system and evaluation

4.5.6.1 The critical criteria used to evaluate the RFOs were similar to those used in respect of the ALFA, referred to in paragraph 4.3.6.1 above.

The financial evaluation results were as follows:

Bidder	Program cost (US\$m)	Finance cost (US\$m)	Cash flow (US\$m)	Years	Finance cost (%)	NPV	IRR (%)	Rating	Rank
UK BAe Hawk	756,5	402,5	1 159,0	16	53%	422,2	5,1	100	1
Czech Aero L159	641,1	273,3	821,2	18	28%	243,7	11,6	69	4
Italy Aermacchi MD339FD	377,7	139,9	517,6	16	37%	193,2	7,4	92	2
Italy Aermacchi Yak 130	550,6	203,9	754,5	16	37%	281,7	7,4	90	3

4.5.7 LIFT - SOFCOM combined results

4.5.7.1 The results of the evaluation of the LIFT final offers were presented to SOFCOM on 2 July 1998. From this point on the LIFT was included in all SOFCOM presentations.

4.5.7.2 As mentioned in paragraph 4.3.7.1 SOFCOM consolidated the normalised evaluation scores for technical, IP and finance (all normalised to 100) and was responsible for presenting the combined results (out of 300) to AASB and AAC for approval.

4.5.7.3 The same formula as mentioned in paragraph 4.3.7.2, was used for combining the results.

The different results based on the two formulas are as follows:

Costed:

$$(a) \quad BV = \frac{MV + IV}{\text{Financing Index}}$$

Aircraft	Military value	Industrial value	Financing index	Best value	Ranking
MB339FD	100	62	85.58	1.9	1
Hawk 100	45.1	100	80.35	1.8	2
L159	52	93	100	1.5	3
Yak 130	42.9	64	86.46	1.2	4

$$(b) \quad BV = MV + IV + \text{Financing Index}$$

Aircraft	Military value	Industrial value	Financing index	Best value	Ranking
MB339FD	100	62	92	254	1
Hawk 100	45.1	100	100	245	2
L159	52	93	69	214	3
Yak 130	42.9	64	90	196	4

Non-costed:

$$(a) \quad BV = \frac{MV + IV}{\text{Financing Index}}$$

Aircraft	Military value	Industrial value	Financing index	Best value	Ranking
MB339FD	100	62	85.58	1.9	2
Hawk 100	90.2	100	80.35	2.4	1
L159	88.3	93	100	1.8	3
Yak 130	62.5	64	86.46	1.5	4

$$(b) \quad BV = MV + IV + \text{Financing Index}$$

Aircraft	Military value	Industrial value	Financing index	Best value	Ranking
MB339FD	100	62	92	254.0	2
Hawk 100	90.2	100	100	290.2	1
L159	88.3	93	69	250.3	3
Yak 130	62.5	64	90	216.5	4

From the above recalculations it can be seen that the change in the formula did not affect the ranking of the contenders.

4.5.7.4 The combined results for LIFT were presented to the AASB on 8 July 1998.

4.6 APPROVAL PHASE

4.6.1 Attached to the agenda for the international offers work session of 1 and 2 July 1998, was the presentation of each evaluation team regarding technical, DIP, NIP and finance.

4.6.2 According to the minutes of the special AASB of 8 July 1998, SOFCOM briefed the AASB on the combined evaluation results concerning the ALFA and LIFT. The results were as follows:

ALFA

Military value									
Offeror/Product	Program Cost US\$m	Finance cost US\$m	Total cost (NPV @13.5%)	Mil perf Index	Mil Value Index	IP value Index	Mil+ IP index	Finance index	Best value
United Kingdom JAS39 Gripen	2 217.0	1 252.1	3 469.1 (1 067.6)	100.0	100.0	100.0	100.0	100.0	100.0
Germany DASA AT2000	2 139.0	No offer	****	76.0	79.0	59.0	69.0	0**	46.0
France Dassault Mirage 2000	2 257.0	No offer	****	79.0	76.0	25.0	50.5	0**	33.7

Industrial participation							
Country	Tender Price	DIP		NIP		Total IP	
		Value	%	Value	%	Value	%
United Kinadom	1 877.1	574.2	30.6	8 168.8	435.2	8 742.9	465.8
Germany	1 461.5	781.2	53.5	1 030.2	70.5	1 811.5	123.9
France	1 874.7	937.4	50	915.8	48.8	1 853.1	98.8

LIFT

Military value including cost									
Offeror/Product	Program Cost US\$m	Finance Cost US\$m	Total cost (NPV @13.5%)	Mil perf Index	Mil Value Index	IP Value Index	Mil+ IP index	Finance index	Best Value
United Kingdom BAe Hawk	756.5	402.5	1159.0	90.2	45.1	100.0	89.6	100.0	96.5
Czech A Vodochody L159	641.4	179.8	821.2	88.3	52.0	93.0	89.5	69.0	84.3
Italy Aermacchi MB339FD	377.7	139.9	517.6	100.0	100.0	62.0	100.0	92.0	100.0
Italy Aermacchi Yak 130	550.6	203.9	754.5	62.5	42.9	64.0	66.0	90.0	77.5

Military value excluding cost									
Offeror/Product	Program Cost US\$m	Finance Cost US\$m	Total cost (NPV @13.5%)	Mil Perf Index	Mil Value Index	IP Value Index	Mil+ IP Index	Finance Index	Best Value
United Kingdom BAE Hawk	756.5	402.5	1159.0	90.2	90.2	100.0	100.0	100.0	100.0
Czech A Vodochody L159	641.4	179.8	821.2	88.3	88.3	93.0	95.3	69.0	86.3
Italy Aermacchi MB339FD	377.7	139.9	517.6	100.0	100.0	62.0	85.2	92.0	87.5
Italy Aermacchi Yak 130	550.6	203.9	754.5	62.5	62.5	64.0	66.5	90.0	74.6

Industrial participation							
Country	Tender Price	DIP		NIP		Total IP	
		Value US\$	%	Value US\$	%	Value US\$	%
United Kingdom	599.0	429.4	71.7	848.5	141.7	1 277.9	213.3
Czech Republic	513.7	254.5	49.5	981.4	191.0	1 235.9	240.6
Italy – MB339FD	278.1	184.6	66.4	246.3	88.6	430.9	154.9
Italy – Yak 130	420.6	237.4	56.4	246.3	58.5	483.6	115.0

According to the minutes, the chairman also advised that the AAC be briefed in this regard.

Note: Although the MB339FD was still the preferred option under the costed and non-costed option in terms of the military performance index, the Hawk was

placed in an advantageous position under the non-costed option for the total evaluation.

4.6.3 SOFCOM briefed the AAC on 13 July 1998, regarding the combined evaluation results for LIFT and ALFA. The same results as in paragraph 4.6.2 were presented.

4.6.3.1 At the meeting the following was minuted regarding the ALFA:

"Prices in the offer are 'quoted' prices; and DASA and Dassault failed to offer financing, notwithstanding repeated requests. The condition of a business case involving 330 AT2000 aircraft was advised."

4.6.3.2 The minutes of the AAC meeting of 13 July 1998, indicate that two consolidated evaluation summaries were presented, i.e. in respect of costed military value and non-costed military value regarding the LIFT. According to the minutes, the Chief of the Air Force highlighted the limited operational capabilities of the more expensive cluster and the preference of SAAF for a training aircraft that would meet the minimum pilot qualification requirements, starting with the Astra and upgrading from there.

4.6.4 At an AASB meeting held on 16 July 1998, it was minuted that SAAF confirmed that the first contenders in respect of the LIFT, i.e. the MB339FD, the L159 and the Hawk, could all satisfy the pilot training requirements for a conversion from the Astra to the ALFA. The chairman of the meeting ruled that it was the AASB's recommendation that the MB339FD be procured in accordance with the preference of SAAF within its envisaged fighter training system.

4.6.5 CoD was briefed by the AASB on 21 August 1998. It was noted in the minutes of this meeting that the Chief of Acquisitions of DoD explained the difference in the procurement costs between the MB339FD and the Hawk. The Secretary for

Defence remarked that the cost of the Hawk would be twice that of the MB339FD, for an increase in performance of approximately 15%. Hence the recommendation of the AASB that the cheaper option be selected. The minutes stated that the Hawk was more expensive because it has operational capabilities not offered by the MB339FD. According to the minutes the Minister held the view that the operational qualities of the aircraft were only part of the consideration and that the Government had to decide whether or not to enter the European market, and if so, through which partner.

- 4.6.6 After the CoD meeting of 21 August 1998, a special ministerial briefing was held on 31 August 1998 regarding the progress relating to the SDP process. According to the minutes, the following information was given to the ministers to make a decision on the preferred bidder: *"Two options were proposed in the SOFCOM presentations for the LIFT programme. Option A (MB339FD) considered a military value system including programme cost and option B (HAWK) considered a military value system excluding programme cost. Option A considered and selected an aircraft from the lower acquisition cost cluster while option B considered and selected an aircraft from the higher acquisition cost cluster. Option B (HAWK) offered a dual role aircraft both pilot training and a limited operational use capability at a higher acquisition cost. The dual role advantage of the HAWK is not apparent in the value system applied in making the military performance recommendations. The IP proposals of option B were higher in total dollar value and higher in total percentage against the tender price offered. The final decision for selecting the preferred bidders of the SDP rests with the executive level of government"*.

Furthermore, the minutes of the meeting indicate that the following decision was taken:

"11. After a discussion it was decided by the ministers present that the HAWK (Option B) should be recommended as the preferred option. This decision to recommend the HAWK was based on national strategic considerations for the future survival of the defence aviation sector and the best teaming-up arrangements offered

by the respective bidders. Strategically important industrial participation programmes offered with the best advantage to the state and local industries were also a determining factor in the final recommendations for the preferred bidders per programme.”

4.6.7 During the public phase of the investigation it was explained by witnesses that the Ministers’ Committee decided on and prepared final recommendations in respect of the procurement, to Cabinet. It was contended by Government that the nature of the structure of the acquisition process was such that any corruption in the awarding of the tenders would have had to infiltrate effectively up to ministerial level, which was theoretically impossible. The committee dealt with the selection of the preferred bidders on the basis of the evaluation that was done in the other forums discussed above. It was the contention of the committee that industrial participation can never be used to justify a decision to purchase any equipment. Any procurement must be justified in its own right.

4.6.8 The Minister of Trade and Industry explained in his testimony that the initiative to consider a non-costed option in the case of the LIFT came from the Ministers’ Committee and not from the AAC. The AAC was requested to submit different options to the committee and the following were considered:

- (a) The substantial differences in the pricing and capabilities of the different groups of aircraft that were offered.
- (b) The package that could have been negotiated and that eventually was negotiated with the British supplier.
- (c) The favourable industrial participation benefits that would flow from the Hawk offer.
- (d) The dual capabilities of the Hawk.

- 4.6.9 The Ministers' Committee considered very carefully any possible prejudice to tenderers should a non-costed option be considered. It was decided that the consideration of the different options did not amount to moving beyond the parameters of evaluation criteria, but that it was rather a qualitative assessment about the precise value of a weighting figure. The Ministers' Committee was confident that the manner in which the consideration of the different options was done did not require any further bidding process. None of the unsuccessful bidders complained in this regard as might have been expected had the conduct of the Ministers' Committee been improper.
- 4.6.10 The decision to accept the Hawk/Gripen combination that was offered by the suppliers was, according to the evidence of the Minister of Trade and Industry, made by the Ministers' Committee. The reasons for the decision were:
- (a) When considering the two groups of possibilities with regard to the links between trainers, advanced trainers and advanced fighters, the combination of the Hawk/Gripen procurement option offered a more effective overall possibility of achieving technologically advanced NIP projects and achieving a package of NIP projects that was more favourable than the original offers.
 - (b) The fact that the procurement could be packaged through a single export credit agency was beneficial.
 - (c) The considerable structural changes in the European defence industry and the resultant longer-term trajectory of that industry that Government would have to deal with in future.
 - (d) The fact that the design of the selected option was seen as beneficial to DoD.

4.6.11 The following bidders for ALFA and LIFT were recommended for final considerations:

- ALFA - SAAB JAS 39 Gripen (Sweden/UK).
- LIFT - BAe HAWK (United Kingdom).

4.6.12 In a memorandum dated 7 September 1998, to the Chief of Acquisitions, the former Secretary of Defence made the following remarks regarding the minutes distributed to him, signed by the Chief of Acquisitions:

"I question the completeness and accuracy of paragraph 11. I cannot recall that a decision was made. The merits of either the Hawk and the MB 339 were discussed. The fact that the MB 339 meets the SAAF LIFT requirements adequately (with reference to the pre-determined criteria) is not reflected. The Hawk is not the "best" option from a military point of view - the fact that its acquisition cost would solicit substantially more IP apparently carries the day. The SAAF, however, will have to absorb considerably higher operating costs during its life cycle.

As far as I can recall, the choice between the Hawk and MB 339 will be made later by the Cabinet. Hence the Italians should be afforded the opportunity to respond with other successful bidders. If we fail to do this, I submit that the ensuing fracas could derail the initiative completely. In any event, by keeping the Italians in play, it would sustain the element of competition."

4.6.13 A presentation regarding the SDP was made to Cabinet on 21 October 1998. Cabinet discussed the presentation and resolved that the committee dealing with the procurement must have further discussions with the Minister of Finance regarding the recommendations, after which the matter must be resubmitted to Cabinet.

4.6.14 During the Cabinet briefing on 18 November 1998, Cabinet decided on the following:

"The Cabinet discussed the matter and resolved that the recommendations on the preferred suppliers for the strategic defence equipment be accepted as recommended as an interim step and that the Departments of Defence (convenor), Finance, Public Enterprises and Trade and Industry proceed with further detailed negotiations with the preferred bidders with the view to achieve affordable agreements."

4.6.15 The report of the Affordability Team was presented to the Ministers' Committee in August 1999, it stated the following regarding the total cost of the procurement:

"2.1.1 The total cost of the procurements comprises a number of elements:

- Costs of the actual military equipment as procured from the suppliers (i.e. the tender or contract price).*
- Statutory costs which consist of items such as freight, insurance and taxes, the largest portion of which is incurred in South Africa.*
- Project management costs incurred by the DoD and ARMSCOR in managing the procurements.*
- Financing costs for deferring payments to suppliers so as to fit an optimum cash-flow schedule more closely.*
- ECA premiums which are payable on all ECA-backed loans.*
- Escalation on all of the above payments made in future years.*

2.1.2 The costs as presented to the Cabinet in November 1998 did not take into account all the elements as described above for each and every package. Consequently, the total full cost is substantially higher than that originally presented to the Cabinet."

The estimate made by the Affordability Team for both ALFA and LIFT at August 1999 came to R19 620 million, which was R4 017 million more than the R15 603 million approved by Cabinet on 18 November 1998.

4.7 NEGOTIATION PHASE

4.7.1 On 18 November 1998, the International Offers Negotiating Team (IONT) was constituted by Cabinet with the brief to negotiate an achievable funding arrangement and an affordable package with the identified preferred suppliers, which would result in final contracting for the offered strategic defence equipment to the SANDF. IONT comprised appointed members from DoD, DoF, DTI and Armscor, and was led by a Chief Negotiator appointed by the Deputy President (IONT is discussed in chapter 8).

4.7.2 The minutes of the meeting of the Ministers' Committee held on 20 January 1999, stated the following:

"Initial discussions by the negotiating team with the project teams indicated a possible increase in the overall procurement cost presented to the Cabinet on 18 November 1998. These increases in cost were directly related to technical performance of the equipment and programme management cost associated with equipment acceptance. The DoD undertook to ensure that all technical performance-related costs would be accommodated within the programme cost as approved by the Cabinet on 18 November 1998. However, it was proposed by the DoD that all programme management cost should be addressed outside the approved procurement cost."

4.7.3 According to an air combat programmes status report for the period February 1999 to April 1999, the programme management cost which was not included in the cabinet figures of 1998 for ALFA and LIFT, at that stage calculated at a rate of exchange R6.25 = US\$1, was the following:

ALFA:	US\$25m which equals	R156,25 million
LIFT:	US\$15m which equals	<u>R 93,75 million</u>
Total:		<u>R 250,00 million</u>

- 4.7.4 On 26 May 1999, IONT met with the Ministers' Committee and recommended that the procurement of the ALFA be deferred. This recommendation was made on the basis of:
- 4.7.4.1 The timing of the need for this equipment, alternative approaches to meeting these needs and the requirements of an affordable package.
 - 4.7.4.2 The current operational capabilities of the SAAF in terms of the number of Cheetah fighter aircraft available.
 - 4.7.4.3 The fighter pilot capacity of the SAAF.
 - 4.7.4.4 The currency risk implications of procuring equipment in advance and the possibility that better priced suitable alternatives may be available, should the procurement take place at a more appropriate time.
 - 4.7.4.5 The fact that the financing cost of the procurement would be higher than it would otherwise have been, should the procurement take place at a later stage.
- 4.7.5 It was, however, also indicated by IONT during the meeting that the planned procurement of the Gripen would generate significant industrial participation benefits for the Defence and non-defence related industry.
- 4.7.6 IONT's recommendation amounted to engaging the suppliers in a negotiation of a deferment of the procurement on terms and conditions which are practical and favourable, failing which the tender should be scrapped for the present moment.

4.7.7 The recommendation of IONT was considered by the Ministers' Committee on 26 May 1999. According to the minutes, it was decided to defer the decision regarding the procurement of the Gripen and to allow IONT to endeavour to conclude a single contract with BAe for both the Hawk and Gripen.

4.7.8 As part of IONT an Affordability Team was established after the March 1999, Ministers' Committee meeting. The Affordability Team conducted a comprehensive analysis of the economic, fiscal and financial impact of the procurements on the country, and used the macroeconomic model of the Bureau of Economic Research at the University of Stellenbosch to test and develop alternative scenarios for consideration by the Ministers' Committee. Their report, compiled in August 1999, indicates that:

4.7.8.1 "4.4.2 *Adverse Rand: forex movements*

The South African government is fully exposed to the depreciation of the Rand against foreign currencies, which accounts for about 75% of the total purchase amount. There is no effective means hedging the currency risk inherent in the procurements. Although the forward exchange rate used in the affordability assessment incorporates a premium for exchange rate risk, there is clearly a possibility that currency depreciation could be even more rapid. Should this occur, additional costs are for the account of government, with the obvious implication that the costs of the packages and their financing could be considerably higher than expected."

4.7.8.2 BAe/Saab were approached by the negotiating team, in terms of the mandate of the Ministers' Committee, to explore the possibility of their supplying the Gripen at a time in the future on condition that this would not lead to a price premium or technological obsolescence and that BAe/Saab would continue to deliver in terms of their industrial participation commitments.

4.7.8.3 BAe proposed, as an alternative, a combination transaction for the supply of 24 Hawk and 28 Gripen aircraft. This offer involved the supply of a number of Hawk and dual-seater Gripen upfront with an option to the Government to cancel the procurement of the remaining aircraft.

Summary of BAe tranching options:

	Tranche 1	Tranche 2	Tranche 3	Total
Equipment:	12 Hawk 9 Gripen	12 Hawk	19 Gripen	24 Hawk 28 Gripen
Payment dates:				
First	2000	2002	2004	
Final	2009	2006	2011	
Total price	R 6 565 m	R 1292 m	R 5 316 m	R 13 173 m
Unit cost:				
Hawk	R 213 m	R 108 m		R 161 m
Gripen	R 445 m		R 280 m	R 333 m
Margin above / below average unit cost:				
Hawk	+35%	-33%	-	-
Gripen	+34%	-	-16%	-

Note: prices stated are at the exchange rate of R6.25 = US\$1

4.7.8.4 The costs of the aircraft in tranche 1 are 35% and 34% higher than the average cost for the Hawk and Gripen, respectively. The reason for this is that BAe/SAAB have front loaded their non-recurrent expenditures for the full contract on tranche 1. The implication is that the option to cancel involves a large implicit cost. Exercising the cancellation would effectively mean that the Government would pay a premium of 35% and 34%. This equates to a total of R1 736 million.

4.7.8.5 Exercising the option to cancel the single-seater Gripen in 2004 would imply a major waste of resources as the only purpose of acquiring the dual-seater is to train pilots to fly the single-seater.

4.7.8.6 On 18 August 1999, the Chief of the Air Force indicated that:

- (a) The LIFT and ALFA aircraft is a system in terms of the total system management approach. This means that any scenario that does not include all the components of the system, cannot be supported.
- (b) The scaling down of the number of aircraft available to train pilots is a risk.
- (c) The dual-seater Gripen does not have the full operational capability of the single-seater and, consequently, does not have the same deterrent value.
- (d) Without the delivery of the second and third tranches, the operational fighter capability of the SANDF will be severely limited after 2010.

4.7.9 During the negotiation phase the packages were reviewed in order to stay with the amounts approved by Cabinet. This resulted in some essential functionalities of the aircraft in the LIFT and ALFA package not being included in the contracts. Funding will have to be found outside the Cabinet approved package funding for these functionalities.

4.8 THE INFORMATION ON COST SUBMITTED TO CABINET

4.8.1 Information regarding the total cost of ALFA and LIFT was not submitted to Cabinet, which had the result that such costs would have to be accommodated in DoD budget. The following costs were not submitted:

- (a) The minutes of the meeting of the subcommittee of Cabinet Ministers held on 20 January 1999, state that DoD undertook to ensure that all technical performance-related costs would be accommodated within the programme cost as approved by Cabinet on 18 November 1998. However, DoD proposed that all programme management cost should be addressed outside the approved procurement cost.

- (b) According to an air combat programme status report of April 1999, the programme management cost for ALFA and LIFT, which was not included in the Cabinet figures of 1998, amounted to R250 million.
- (c) It is accepted that the total "other cost", including program management cost was not yet determined by 18 November 1998. However, no indication of such additional cost was brought to the attention of Cabinet during the presentation on 18 November 1998. (Refer paragraphs 4.7.2 and 4.7.3)

4.9 CONTRACT PHASE

4.9.1 During a Cabinet meeting held on 15 September 1999, Cabinet approved that:

"(a) The total price for the military equipment should amount to R29 992 million. This total amount will consist of two options to cancel decisions to be taken by the government in 2002 and 2004. The South African Government is committed to the respective suppliers for tranche one only at this stage at a cost of R21 330 million"

For ALFA and LIFT the tranches consist of the following:

"(b) Tranche one consists of –

- (iv) Twelve dual-seater trainers aircraft from British Aerospace – Hawks 100.*
- (v) Nine dual-seater fighters aircrafts from Britain, Sweden-Gripen-Jas 39.*

(d) Tranche 2 consists of 12 dual-seater trainer aircraft from British Aerospace – Hawks 100 and the option to cancel must be exercised by the government by 2004 (sic).

- (e) *Tranche three consists of 19 single-seater fighter aircraft from Britain, Sweden-Gripen JAS39 and the option to cancel must be exercised by the government by 2004.*"

4.9.2 A decision of Cabinet meeting of 1 December 1999, indicates that Cabinet:

"(a) granted the permission required by the department to sign supply non-defence industrial participation (NIP), defence industrial participation (DIP) and umbrella agreements for –

- (iv) Twelve HAWK 100 trainer aircraft (Tranche 1);*
- (v) Nine dual GRIPEN fighter aircraft (Tranche 1);*
- (vi) Twelve HAWK 100 trainer aircraft (Tranche 2);*
- (vii) Nineteen single GRIPEN fighter aircraft (Tranche 3)"*

According to the contract, the nine dual-seater Gripen aircraft will be delivered from July 2007 and the nineteen single-seaters from August 2009. However, the air force has 50 supersonic Cheetah fighter aircraft able to operate until 2012, which will be replaced by the Gripen from August 2009.

4.9.3 On 3 December 1999 the umbrella agreement incorporating the LIFT supply terms as well as the associated NIP and DIP agreements was signed. It linked the LIFT and ALFA Projects into a combined programme.

4.10 A COMPARISON OF NIP AND DIP

The following comparison of NIP and DIP was made:

Project	RFO R6.25=US\$1 Rm IP	Cabinet Nov '98 R6.25=US\$1 Rm IP	Contract Dec '99 R6.25=US\$1 Rm IP
ALFA	54 643	48 313	-
LIFT	7 987	8 580	-
ALFA and LIFT (tranché)	-	-	54 302
TOTAL	63 630	56 893	54 302

The reason for the difference in IP between the RFO and Cabinet approved IP of 18 November 1998, was due to the number of ALFA aircraft being reduced from 38 to 28 and therefore the IP was reduced accordingly. However, no further reduction of aircraft took place although the IP was again reduced by approximately R2,5 billion in the final contract.

4.11 THE BASIC UNIT PRICE

Allegations were made that South Africa is paying double the normal basic unit price for the Hawk and Gripen aircraft. The following tables indicate the unit cost per aircraft according to the annex AC1 of the Supply Terms:

COST OF AIRCRAFT ALONE (US\$)		
Description	Hawk	Gripen
Total aircraft cost	470 218 430	958 009 000
Number of aircraft	24	28
Average aircraft unit cost	19 592 434	34 214 607

TOTAL EQUIPMENT PACKAGE COST (US\$)		
Description	Hawk	Gripen
Total equipment package cost	623 907 199	1 513 535 996
Number of aircraft	24	28
Average aircraft unit cost	25 996 133	54 054 857

The cost for the total equipment package includes the cost of the aircraft plus the cost of the following items:

- Operation support equipment.
- Spares.
- Ground support equipment.
- Initial logistical support equipment.
- Mission planning and ground support system.
- Non-recurring engineering and testing.
- Technical training, flying training and training aids.
- Technical publications.
- Technical support services.
- Programme management and customer liaison.

It is unclear what figures were used by those who made the allegations and on what functionalities it was based.

4.12 FINDINGS

4.12.1 The decision that the evaluation criteria in respect of the LIFT had to be expanded to include a non-costed option and that eventually resulted in a different bidder being selected, was taken by the Ministers' Committee, a subcommittee of Cabinet. Although unusual in terms of normal procurement practice, this decision was neither unlawful, nor irregular in terms of the procurement process as it evolved during the SDP acquisition. As the ultimate decision-maker, Cabinet was entitled to select the preferred bidder, taking into account the recommendations of the evaluating bodies as well as other factors, such as strategic considerations.

4.12.2 The decision to recommend the Hawk/Gripen combination to Cabinet as the preferred selection for the LIFT/ALFA was taken by the Ministers' Committee for strategic reasons, including the total benefit to the country in terms of counter trade investment and the operational capabilities of the SANDF.

- 4.12.3 The RFOs for the ALFA was issued prior to the approval of the revised Staff Target and Staff Requirement. Although the latter is not a mandatory milestone document, it is advisable that planning should first be done to determine needs and technical requirements before tenders are requested. It was noted that DoD considered the Staff Target for the AFT to be adequate for the ALFA and LIFT projects.
- 4.12.4 The value system for the evaluation of the responses to the LIFT RFIs was approved after the replies had been received. Value systems should be properly approved, prior to the receipt of RFI replies.
- 4.12.5 In some cases, the value systems used during the evaluation process were known to evaluators. This is undesirable as evaluators may be influenced by knowledge of the relative importance of parameters, or could manipulate the results through knowledge of relative weights. No evidence was, however, found that such manipulation had taken place.
- 4.12.6 No evidence could be found in support of the allegation that South Africa is paying more than the normal basic unit price for the Hawk and Gripen aircraft.
- 4.12.7 Certain information regarding the total cost of the ALFA and LIFT was not submitted to Cabinet. The result is that such costs will have to be accommodated in the DoD budget.

4.13 RECOMMENDATIONS

From the shortcomings identified during the investigation discussed in this chapter and the observations made, the following is recommended as improvements to the procurement process:

- 4.13.1 Proper approved needs determination (ST and SR) should be compiled during the acquisition process. During needs determination it should be ensured that the planned acquisition addresses the operational capability required as well as the future sustainability thereof.
- 4.13.2 The evaluation system should contain effective controls to ensure a fair and regular process in order to exclude the possibility of manipulation.
- 4.13.3 During cardinal acquisitions, sufficient time should be made available to determine needs properly, compile acquisition plans, evaluate offers and finalise contracting.
- 4.13.4 Changes to approved value systems should only take place in exceptional cases. Such changes should be properly motivated, approved and documented. It should also be ensured that such changes are not to the advantage/prejudice of a specific bidder.
- 4.13.5 Detailed and accurate information, including all possible costs, should be submitted to Cabinet. All currency risk implications regarding international armament acquisitions should be disclosed to Cabinet. Such information is necessary to ensure that essential functionalities are not removed from aircraft during negotiations due to budget constraints.
- 4.13.6 The NIP offers during RFO stage should be properly evaluated. This will ensure that only feasible projects are accepted and negotiations with bidders to replace projects at a later stage will not be necessary.