

**SENATE STANDING COMMITTEE ON
FOREIGN AFFAIRS, DEFENCE AND TRADE**

REFERENCES COMMITTEE

**INQUIRY INTO RECRUITMENT & RETENTION
OF DEFENCE PERSONNEL**

SUBMISSION

Submission No: 4

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No. of Pages: 12

Attachments Nil

Barsdell, Paul (SEN)

From: Mark Drummond [mark1d@ozemail.com.au]
Sent: Monday, 16 April 2001 7:14 PM
To: fadt.sen@aph.gov.au
Subject: Submission to Inquiry into Recruitment and Retention of Defence Personnel



ABOLADFA.DOC

The Secretary
Senate Foreign Affairs, Defence and Trade References Committee
Parliament House
Canberra ACT 2600



Submission to:
Inquiry into Recruitment and Retention of Defence Personnel

Dear Sir/Maam,

I email here in response to your invitation for Submissions to assist in your Inquiry as above.

Lowermost below is a chain of three emails containing a piece I had published in the Canberra Times (on 9 May 200) which is clearly directly relevant to your Inquiry here. Also, the following is additional commentary I sent the Canberra Times in relation to my article here:

There are other somewhat peripheral issues which my piece does not elaborate on - though nor does the parliamentary library report nor follow up newspaper articles. In particular, across all services, several thousand personnel have been made redundant in recent years, and these redundancies have cost an absolute fortune and added to the Defence personnel bill accordingly. But while the personnel cost figures give the appearance of a TREND of increasing expenditure, the good news is that these redundancies SHOULD NOT (if Defence gets its act together) need to be repeated in the future. So when interpreting Derek Woolner's upward expenditure trend graphs, it needs to be taken into account that these trends are based on an assumption that percentage increases in future years will continue at levels experienced in recent years. Fortunately, this assumption is actually invalid, because the percentage increases experienced in recent years have been significantly attributable to huge redundancy payouts which are unlikely to be necessary in future.

Also, the Navy made redundant in the order of 100 officers in 1998/99 who just several years ago were on short term commissions (effectively short term contracts) under which their separation could have been facilitated (at the Navy's instigation) at no cost to the taxpayer. In an almost laughable (if it were not so expensive) "compounding double error", the Navy extended these commissions from short term ones to open-ended ones only to end up, just a few years later, making many of them redundant. The key point here is that some of the contributions to the recent personnel cost blowouts are (1) not openly admitted by Defence in view of the mistakes which have given rise to them (like the compounding double error stated just above here), but, fortunately (2) not likely to be incurred in future - I'm assuming here that Defence will not make compounding double errors like that mentioned here in the future!!!

The piece I sent you intends to be "future tense" and "solutions" oriented, and accordingly, I didn't feel it necessary to mention these redundancy payout details (some of which - like the Navy "double error" described above - reflect embarrassingly on Defence; I wanted to say something more constructive rather than dwell on past bungle-ups).

Furthermore, regarding the issues listed in paragraphs 2a through 2e in your terms of reference, some initial/brief responses are as follows:

- a. obviously the current recruitment system is failing alarmingly - achieving well thought out recruiting targets should be the first priority of any Defence Minister!!
- b. the DRF has been scapegoated - its impact has almost certainly been over-exaggerated by senior defence personnel attempting to deflect criticism away from their own deficient management etc. etc.
- c. clearly Defence needs to offer much higher income levels to initial recruits and very junior ranking personnel to "shock" the system into desperately needed improvement, but the problem is, in part, that far too much of the Defence "salary cap" is squandered on senior personnel who contribute little or nothing to substantive Defence outcomes - it is exactly like a professional footy team which blows huge chunks of its salary cap on older players on the basis of past performance and reputation rather than present contributions/performance. Also, spouses and children of service personnel generally suffer terribly under present arrangements. Family friendliness must become a first priority career planning priority. A good Parliamentary inquiry would be one into the impact of Military Service Life on the Spouses and Children of Service personnel.

d. all doctors, dentists, lawyers, teachers etc. should be reservists who could put on uniforms when doing formal military activities, wearing civvies when doctoring, lawyering, teaching etc. unless on official representation duties (e.g. when in court).

e. there is a ridiculously misguided over-emphasis on "retention of experienced personnel" - akin to "retention of experienced footballers" - there is clearly a conflict of interest thing happening here: most powerful Defence policy makers are people with 20 years or more service experience and they far too often make policies that are in THEIR best interests rather than the best interests of the country and of improved recruitment; they (albeit naturally) feel that it is good and normal to - like them - serve 20 years or more, and with so many personnel indeed serving such long careers there is invariably simply not enough money left in the salary cap to get serious about recruiting. The media and politicians in both major parties are partly to blame for this over-emphasis on retaining personnel in full time service - they seem to have fallen hook, line and sinker for what is an absurd argument. People leaving the military will generally be more than willing and able to contribute to any national emergency that arises after they leave the services. The challenge should be to retain people as (much much cheaper) reservists after they complete full-time service - not to retain people for longer than is cost effective and generally desirable.

f. Regarding related ideas, I've previously sent parliamentary inquiries the attached word document on ADFA which I first sent to the joint Parliamentary Committee Inquiry on Officer Education in 1995 (that which came up with the Price Report which recommended ending ADFA in its present form among other things). I don't wish you to be distracted by the full extent of my "ABOLADFA.doc" submission again here, however the following extract is worth repeating as many times as is necessary to get the message through to the journalists and politicians who are falling hook, line and sinker for the military's "we're losing too many experienced personnel" whinges:

... one of Dixon's most compelling references is one to the Australian General Sir John Monash, who A.J.P. Taylor described (as reproduced on page 348 of Dixon's book) as 'the only general of creative originality produced by the First World War'. Sir John Monash did not go through a sustained process of 'education' such as that present at ADFA or RMC. Dixon (on page 348) remarks that Monash:

was lucky to have escaped the mind-blunting routinized career of a large mercenary military organization, where the real skills demanded by the complex task of generalship are gradually expunged by orthodox militarism.

It is self evident that ADFA attempts to engender in its trainees the kind of 'orthodox militarism' of which Dixon and others are so critical.

If ADF personnel "waste" 3-5 years stuck in glorified boarding schools, and if typical ADF careers are 10 or more years, the "mind-blunting" problem alluded to above is clearly going to be far more pronounced than if the boarding school stints are avoided and careers are in the main kept much shorter and sharper than what is presently typical. Then there are the immense taxpayer and personnel cost problems that would be addressed by the type of career I am advocating.

A tomato analogy is apt here. Put a green tomato on a window sill for the right amount of time and yes it may turn red, but leave it there too long and it will be sure to go off. The military's absurd preference for longer (10-20 year) typical career lengths over shorter (5-10) years ones means we end up with a hell of a lot of rotten tomato ("over-cooked" people is another description that is apt here) equivalents in the ADF. Look at the intellectually and morally crippled people involved in the 3RAR debacle! My idea of having people in for an apt duration then encouraging their transfer to reserves can produce hitherto unexploited synergies between Defence and the broader civilian/outside world and substantively address critical financial, behavioural and performance deficiencies of the present system. Its hard for military personnel to "look outside the square" if military life is all they've grown up on, but the solutions are out there ...

Furthermore, Defence would be better off if it simply avoided the "burden of ownership" of people in (1) boarding schools like ADFA and (2) "bitter and twisted" career phases that are far too often the norm among personnel who have purely and simply been in the military for too long (these comments of course in no way deny that some long-serving careerists maintain the capacity for balanced, free and deep thought - but the fraction is extremely small!!). ADFA, by the way, is probably still around today only because an anomalously large proportion of senior Defence officers use it as a sort of finishing school for their progeny - again the conflict of interest situation.

Finally, I had the letter following put in the Canberra Times in March, setting out in brief my thoughts on a person/family friendly career structure which I'm sure can address our major personnel problems:

----- Original Message -----

From: "Mark Drummond" <markld@ozemail.com.au <mailto:markld@ozemail.com.au>>

To: "Canberra Times Letters" <letters.editor@canberratimes.com.au <mailto:letters.editor@canberratimes.com.au>>

Sent: Wednesday, 7 March 2001 16:28

Subject: Possible solutions to Defence personnel crisis

Dear Maam/Sir,

Spent perhaps two solid weeks working on a proposal for the Defence White Paper last year, which I can only hope they are taking seriously. Did my costings pretty carefully (can provide you with same on request). Anyhow, the following 249 word letter sets out the main ideas. I hope you agree it can help:

The Defence personnel crisis well draw attention to by Nicholas Stuart (CT, February 27), Peter Funnell (CT, March 7) and P L Morrall (CT, March 7) can be at least largely resolved, at excellent value to taxpayers, as follows:

Firstly, to better reflect labour market realities and significantly boost recruitment and morale, we should pay Defence personnel say 25% more than present levels, but limit full-time careers for most personnel (say 75%) to just seven years or so, with a minority (say 25%) serving longer careers to meet higher level command imperatives. The idea would be to have most personnel serve for short, highly focused careers during which they gain the essential knowledge and skills needed for combat and support roles across a realistic array of national emergency contingencies.

Secondly, we should very strongly encourage personnel to continue serving as reservists following their completion of full-time service, by offering them say \$10,000 a year for two weeks annual service. This high pay-rate reflects the extremely high (and hitherto grossly undervalued) value of reserve service in terms of maintaining a much larger pool of trained personnel, at much lower cost, than can be achieved through full-timers alone. The two weeks would be spent in highly focused "refresher courses" and on-the-job activities tailored to keep personnel current in essential skills and knowledge.

By enhancing ADF service conditions in terms of pay, family friendliness, morale and job satisfaction, the above measures can significantly enhance national security at vastly improved taxpayer value.

I hope the above and what follows below provides some assistance to your Inquiry. In particular I hope I (1) demonstrate the significance of the sporting team salary cap analogy, (2) help you recognise that the chronic neglect of recruiting is connected with the absurd over-emphasis on retaining people well into the "diminishing return" stages of their careers, and (3) encourage you to regard the retention of personnel as (extremely cost-effective) reservists in their post-full-time-service careers as a far more worthwhile aim than that of simply trying to retain people as (prohibitively expensive to the point of wasteful and extravagant) full-timers for longer than personnel themselves, their spouses, children etc. wish to but for distorting, expensive and often ineffectual incentives.

All of what follows provides very important quantitative and qualitative explanations and perspectives.

Yours faithfully,

Mark Drummond
BSc(hons, UNSW) DipEd(Charles Sturt), BA(Macq), BE(hons, UNSW),
MBA(Canberra), MPPM(Monash)

16 April 2001

----- Original Message -----

From: "Mark Drummond" <markld@ozemail.com.au <mailto:markld@ozemail.com.au>>
To: <crispin.hull@canberratimes.com.au <mailto:crispin.hull@canberratimes.com.au>>
Sent: Monday, 1 May 2000 11:35
Subject: Re: Defence article

Dear Sir,

Thanks so much for your email below and for being prepared to run this Sir. I do feel very grateful and thrilled about this. Maybe something like the following could be written at the end:

Mark Drummond is a PhD student at the University of Canberra's Centre for Research in Public Sector Management who spent 14 years in the Navy

Sir if its not too much trouble, I was hoping my paragraph breaks could be slightly amended since one of my paragraph breaks seemed to disappear on changing to plain text. On reflection, I feel the ninth paragraph as it was sent through to you should be split at the start of the sentence starting "Costly waste in non-operational activity is further exacerbated", and that the two separate parts of this divided paragraph should be combined with the paragraphs before and after (though I'm happy to defer to your better

judgment of course). With this new recommended paragraph formation, my "revised" version would be as follows:

The article "ADF caught in poverty trap" (Canberra Times, 28/4/00) paints an unnecessarily gloomy outlook for future Defence spending levels, which, if managed properly, can easily be contained or even reduced in real terms.

Three concerns are being expressed at present by the broader Defence community: firstly, that the attrition rate among military personnel is too high; secondly, that the military personnel structure is way too top heavy; and thirdly, that personnel costs are blowing out. The good news, however, is that the first "problem" is actually a solution to the other two indeed very critical problems mentioned here. The cost blowout is a direct consequence of the overly top heavy rank structure, which in turn is exacerbated when military attrition rates are problematically low - as happens especially in times tending toward or actually in recession. It is simply a myth that high military attrition rates are altogether bad. The immense benefits of higher attrition rates are continually overlooked in the Defence personnel debate.

The underlying cause of the top heavy military personnel structure is the inherently top heavy rank structure. There are presently some 10 separate commissioned officer rank levels and 4 non-commissioned officer rank levels presiding over just 4 ordinary rank levels. Savings of several hundred million dollars per annum could be achieved by reducing the 14 separate officer rank levels to say 9, with the resultant structure still easily "tall" enough to satisfy command and control imperatives.

The overall salary and cost bill for military personnel can also be reduced simply by maintaining high throughputs - in other words, high levels of recruitment and attrition - a measure which also substantively enhances national security by increasing the total number of people with current or recent military experience, all of whom could be called to contribute in the event of a national emergency.

If we assume that the number of full-time military personnel will be kept at say 50,000, then a 12% per annum attrition rate (resulting in 8.33 year average career lengths) will every year permit the addition of 6000 to the pool of "capable of serving" personnel, whereas just 4500 could be added each year if the attrition rate was just 9% (and average careers 11.11 years). Furthermore, all else being equal, the overall personnel bill with a 12% attrition rate will be some \$400 million per annum less than if it were just 9%. Higher attrition rates generate savings because they permit a lesser number of high ranking personnel and hence reduce the extent of top heaviness in the rank structure. Furthermore, without diminishing the value of military experience in general, it can nevertheless be argued that when attrition is too low, the military will tend to retain too large an element of conservative "oldies" who will too often be less well acquainted with and problematically threatened by state-of-the-art technology, management practices and ideas generally.

The problem of losing too many experienced personnel is certainly very real when attrition rates are sustained above 13% or so, but the present 12% level is probably about ideal and is at any rate a reality which - in view of its advantages - Defence planners should accept rather than fight.

Another massive source of waste and cost blowouts in Defence occurs in the form of the myriad non-operational activities still carried out by uniformed military personnel which could be done either by civilians or not at all.

Whereas Defence personnel can be divided functionally into operational and non-operational components, and longitudinally into pre-operational, operational and post-operational career phases, the problem is that costly pre-operational, post-operational and non-operational components of Defence activity take up far too much of the Defence budget, to the detriment of the operational component which adds most value to our national security. Massive costs are incurred through "most expensive in-house option" pre-operational education and training schemes such as the Defence Academy - which restrict many Defence personnel (especially officers) to glorified boarding school environments for up to (and in some cases more than) five years before they enter a productive career phase. The absurdly top heavy structure also means that far too much of the Defence budget is spent on personnel in their less productive post-operational career phases.

Costly waste in non-operational activity is further exacerbated by the unnecessary fragmentation of Defence into the separate army, navy and air force branches, and by the less than optimal military-civilian divide. Whilst we obviously still need operational sea, land and air components of our defence forces, this by no means demands the retention of separate navy, army and air forces in their present forms with the vast extent of wasteful duplication, traditional baggage, and antagonistic tribalism they entail.

An optimal Defence structure would comprise military personnel serving in sea, land and air combat components of a unified, single defence force like that of Canada - which we could obviously improve upon with the benefit of their experience. People performing non-operational roles within Defence should, in peace time, be employed principally as Defence civilians rather than full time military personnel, with uniformed service in the Defence reserves being optional or mandatory for such staff where necessary and beneficial.

The structural change and policy measures recommended herein could significantly enhance national security and at the same time generate savings of some \$1 billion per annum and safeguards against future personnel cost blowouts.

Thanks again for being prepared to give these ideas a hearing.

Regards Mark

----- Original Message -----

From: "Crispin Hull" <crispin.hull@canberratimes.com.au
<mailto:crispin.hull@canberratimes.com.au>>

To: <markld@ozemail.com.au <mailto:markld@ozemail.com.au>>

Sent: Monday, 1 May 2000 1:12

> markld@ozemail.com.au <mailto:markld@ozemail.com.au>

>

> Interesting argument. Have slotted for op-ed page in the next few days.

> thank you.

>

> Can you send me a sentence to describe yourself to go at the end of the
> piece.... Mark Drummond is a former ...etc.etc.

>

> Crispin Hull

> Deputy Editor

> The Canberra Times

> 61 2 62802217(w) 61 2 62959925(h)

> 04 1947 8391(m)

> 13 Quiros Street

> Red Hill ACT 2603

>

>

Dear Maam/Sir,

I have produced something on the matter of Defence budgetary blowouts and related causes/issues below much too long to fit in on the letter page (887 words). I could try and cut it into 4 letters to the editor and wait for openings to send in, but with the Defence White Paper being worked on as we speak, and also a review of the military personnel structure which the Canberra Times briefly reported a week or so ago, I don't think there is time for that.

Much of what is said below is more fact than opinion - hard, mathematical fact! ... whereas much of the debate on these matters is emotive and motivated by self-interest - the "you'll have to pay us more because we're

all getting out in droves" type argument.

At risk of sounding a know all, I know I understand this stuff as well or better than most of the people regarded as "experts" on defence personnel issues, and I do feel a degree of duty/pressure/frustration because of this, and can only ask you to please do something constructive with my offering here to help get legitimate ideas/truths/facts across.

I'd obviously feel very privileged if I ever got something on to your opinion page, but would also be happy for you to pass this on to Nicholas Stuart noting his many recent writings on Defence, or any other journalist. I'm happy to talk with one of your journalists to help him/her work on an article along the lines of what I've come up with below if someone's interested. I have no desire/need for my name to be attached to anything here, but do believe there are ideas and plain truths here which need to be publicly aired, and which 250 words simply cannot do justice to (I've spent many hours cutting things from 350 words to 250, but this time no chance!!)

I hope you can see merit in what I say below and that we can do something with it.

Regards,
Mark Drummond
5 Loddon Street
Kaleen ACT 2617
phone 02 6255 0772
email: markid@ozemail.com.au <<mailto:markid@ozemail.com.au>>

PS. Following the 887 word letter below is some additional background commentary explaining some of the maths and figures discussed in the letter.

The 887 word "letter" now follows:

The article "ADF caught in poverty trap" (Canberra Times, 28/4/00) paints an unnecessarily gloomy outlook for future Defence spending levels, which, if managed properly, can easily be contained or even reduced in real terms.

Three concerns are being expressed at present by the broader Defence community: firstly, that the attrition rate among military personnel is too high; secondly, that the military personnel structure is way too top heavy; and thirdly, that personnel costs are blowing out. The good news, however, is that the first "problem" is actually a solution to the other two indeed very critical problems mentioned here. The cost blowout is a direct consequence of the overly top heavy rank structure, which in turn is exacerbated when military attrition rates are problematically low - as happens especially in times tending toward or actually in recession. It is simply a myth that high military attrition rates are altogether bad. The immense benefits of higher attrition rates are continually overlooked in the Defence personnel debate.

The underlying cause of the top heavy military personnel structure is the inherently top heavy rank structure. There are presently some 10 separate commissioned officer rank levels and 4 non-commissioned officer rank levels presiding over just 4 ordinary rank levels. Savings of several hundred million dollars per annum could be achieved by reducing the 14 separate officer rank levels to say 9, with the resultant structure still easily "tall" enough to satisfy command and control imperatives.

The overall salary and cost bill for military personnel can also be reduced simply by maintaining high throughputs - in other words, high levels of recruitment and attrition - a measure which also substantively enhances national security by increasing the total number of people with current or recent military experience, all of whom could be called to contribute in the event of a national emergency.

If we assume that the number of full-time military personnel will be kept at say 50,000, then a 12% per annum attrition rate (resulting in 8.33 year average career lengths) will every year permit the addition of 6000 to the pool of "capable of serving" personnel, whereas just 4500 could be added each year if the attrition rate was just 9% (and average careers 11.11 years). Furthermore, all else being equal, the overall personnel bill with a 12% attrition rate will be some \$400 million per annum less than if it were just 9%. Higher attrition rates generate savings because they permit a

lesser number of high ranking personnel and hence reduce the extent of top heaviness in the rank structure. Furthermore, without diminishing the value of military experience in general, it can nevertheless be argued that when attrition is too low, the military will tend to retain too large an element of conservative "oldies" who will too often be less well acquainted with and problematically threatened by state-of-the-art technology, management practices and ideas generally.

The problem of losing too many experienced personnel is certainly very real when attrition rates are sustained above 13% or so, but the present 12% level is probably about ideal and is at any rate a reality which - in view of its advantages - Defence planners should accept rather than fight.

Another massive source of waste and cost blowouts in Defence occurs in the form of the myriad non-operational activities still carried out by uniformed military personnel which could be done either by civilians or not at all.

Whereas Defence personnel can be divided functionally into operational and non-operational components, and longitudinally into pre-operational, operational and post-operational career phases, the problem is that costly pre-operational, post-operational and non-operational components of Defence activity take up far too much of the Defence budget, to the detriment of the operational component which adds most value to our national security.

Massive costs are incurred through "most expensive in-house option" pre-operational education and training schemes such as the Defence Academy - which restrict many Defence personnel (especially officers) to glorified boarding school environments for up to (and in some cases more than) five years before they enter a productive career phase. The absurdly top heavy structure also means that far too much of the Defence budget is spent on personnel in their less productive post-operational career phases. Costly waste in non-operational activity is further exacerbated by the unnecessary fragmentation of Defence into the separate army, navy and air force branches, and by the less than optimal military-civilian divide.

Whilst we obviously still need operational sea, land and air components of our defence forces, this by no means demands the retention of separate navy, army and air forces in their present forms with the vast extent of wasteful duplication, traditional baggage, and antagonistic tribalism they entail.

An optimal Defence structure would comprise military personnel serving in sea, land and air combat components of a unified, single defence force like that of Canada - which we could obviously improve upon with the benefit of their experience. People performing non-operational roles within Defence should, in peace time, be employed principally as Defence civilians rather than full time military personnel, with uniformed service in the Defence reserves being optional or mandatory for such staff where necessary and beneficial.

The structural change and policy measures recommended herein could significantly enhance national security and at the same time generate savings of some \$1 billion per annum and safeguards against future personnel cost blowouts.

THE END!!

Please note: My intention is that the words "OR RECENT" in the fourth paragraph be in italics.

Commentary/explanatory notes now follow:

There is a simple maths formula that relates an organisation's attrition rate with the average length of service of personnel in the organisation - namely: average length of service = 1 divided by attrition rate. This is used in the above.

A formula can also be derived (this time though only an approximation) to relate the total full time defence personnel bill to attrition rate for given total numbers of full time defence personnel. The approximate formula is:

total personnel bill = 1.85 multiplied by total salary bill [this an approximation]
where:

total salary bill = total number of military personnel multiplied by average salary [this part of it is exact]

where, in turn, average salary is \$30,000 plus 1500 multiplied by no. years in service [this part is approximate].

According to my calculations using formulae along the above lines, for a full time personnel force of 52,000, overall salary bills relate to attrition rates roughly as follows:

14% attrition rate <---> total personnel bill of \$3.92 billion
13% attrition rate <---> total personnel bill of \$4.00 billion
12% attrition rate <---> total personnel bill of \$4.09 billion
11% attrition rate <---> total personnel bill of \$4.20 billion
10% attrition rate <---> total personnel bill of \$4.33 billion
9% attrition rate <---> total personnel bill of \$4.49 billion
8% attrition rate <---> total personnel bill of \$4.69 billion
7% attrition rate <---> total personnel bill of \$4.95 billion
6% attrition rate <---> total personnel bill of \$5.29 billion

Whilst these exact figures might depart from present realities a bit, the comparisons are likely to be quite accurate - for example, the 12% case being \$400 million cheaper than the 9% option - at least to the nearest \$100 million or so this is bound to be pretty close. (I used 50,000 as the total force number in my letter for simplicity - the 52,000 above reflects closer to actual numbers, hence its use in the Microsoft Excel spreadsheet the above are based on. The \$400 million figure would not change much at all if 50,000 was used instead of 52,000 in the above total personnel bill figures ... \$400 million would change to about \$384 million).

You can see above that the increase in the total personnel bill which accompanies an attrition rate drop from 14% to 13% is just \$80 million, whereas the increase in the total personnel bill which accompanies an attrition rate drop from 7% to 6% is a "whopping" \$340 million.

A little bit of year 11-12 calculus can show that the rate of change of the total personnel bill with respect to attrition rate is (approximately) inversely proportional to the square of attrition rate - hence the \$340 million is approximately 4 times the \$80 million figure (noting that 14 is 2 times 7, and 2 squared is 4). The main message is that the pressure on overall personnel costs really explodes when attrition rates get too low, as happened in the early 90s during the recession, though I contend that attrition rates have generally been too low ever since the early 90s recession.

I worked in Navy manpower planning during 1992, have studied manpower planning, probability and statistics during my tertiary studies, and lectured in probability and tutored in statistics between 1993 and 1996 at the Defence Academy.

Following is a paper I wrote in 1992 on this general area which provides some further background commentary and analysis. Please note that the term APFL (= Authorised Personnel Funding Level) is Defence's description of its "salary cap" - albeit one which it has not often been contained to in recent years.

HOW RAN MANPOWER PLANNING SHOULD DEAL WITH APFL CONSTRAINTS

INTRODUCTION

1. Over the last decade the Navy has experienced widely varying rates of personnel wastage; from a high of approximately 14% in the mid to late 1980s to a low of some 6% in the last year or so. When wastage was running at very high levels, due concern was expressed over the Navy's capacity to run effectively in the wake of such a rapid drain of experience and expertise. Ever-increasing vacancies resulted in many personnel being promoted before they normally or ideally would have been, and many positions simply could not be filled. Different problems arise in climates of very low wastage

such as we are currently experiencing. Because many personnel are remaining in the service when they might normally have been expected to leave, the manpower flow is stagnating and bottleneaking is occurring at promotion points.

2. In order to avoid the possibility of having vast over or under bearings at given stream, category, rank and seniority levels in future years, it is imperative that recruitment be kept as constant as possible. Minimising variations in recruitment is arguably the golden rule in effective manpower planning, but such minimal variations are not nearly being achieved at present, as evidenced by the recent cancellation of recruit courses. These low recruitment levels may well have a devastating effect on the RAN's capacity to man the COLLINS and ANZAC Class Ships, and given that the economy will, in all likelihood, take quite some time to pick up, low recruitment levels may need to stay in place for several years to come unless a marked change in policy direction is taken that will provide near constant recruitment levels.

3. Navy manpower levels are now constrained by Authorised Personnel Funding Level (APFL) limits. This paper discusses how such constraints, if managed improperly, could lead to a manpower disaster unless Navy is allowed to exercise control over personnel wastage.

AIM

4. The aim of this paper is to draw attention and propose solutions to the immense problems that could arise if:

a. Navy manpower managers fail to deal with APFL restrictions in a sound manner; and

b. RAN personnel wastage levels, and as a consequence, recruiting levels, are allowed to vary in the future as much as they have done in the past decade.

CONCERNS OVER THE WAY RECRUITMENT IS AT THE MERCY OF TRAINED FORCE WASTAGE DUE TO APFL CONSTRAINTS

5. Historically, wastage across the Navy has been approximately 10% on average; this level of wastage will be regarded as the ideal figure for the purposes of discussion. So if the Navy is to be made up of say 15000 personnel, then it would be necessary to bring in some 1500 recruits each year to maintain force strength. The ratio of recruits to non-recruit would then be 1 to 9. But when it is taken into account that the salaries of these 1500 recruits would be, on average, approximately one-half (see Annex A) of those of the remaining 13500 personnel, it is seen that the ratio of the salary bill for first year recruits to that for the remainder of Naval personnel is about 1 to 18. This 1 to 18 ratio directly refers to the sensitivity of the dependence of recruitment on wastage. For example, if wastage, instead of being 10%, was 9%, then this 1% deviation in wastage would necessitate an 18% reduction in recruitment in order to maintain APFL. And if wastage reduced to 6% then this 4% deviation would necessitate an astonishing 72% reduction in recruitment. If the deviation was 5.6% then we would be unable to recruit a single person. This proves that wastage

deviations of this magnitude are simply intolerable.

6. The Directorate of Naval Manning Policy (DNMP) Strategies Section has asserted, reasonably, that in order to maintain both short and long term manpower stability, recruitment must be kept within plus or minus 15% of the long term desired level. On the basis of 1 to 18 ratio derived above, a 15% deviation in recruitment would accompany a 0.83% (15% divided by 18) deviation in wastage. In other words, if APFL was to be strictly adhered to, then it would only be possible to control recruitment to within 15% of the ideal level if wastage deviations at no time exceeded 0.83%; that is, if wastage was always between 9.17% and 10.83% (using 10% here as the ideal). The fact that the current wastage levels are well outside this acceptable range, and that recruiting levels are, consequently, well outside the acceptable plus or minus 15% range, shows that Navy is not dealing with this problem satisfactorily at the present time.

7. Over the last decade alone, wastage levels have ranged from about 6% to 14%, centring on an average of around 10%. The observed deviation of about plus or minus 4% clearly exceeds the 0.83% limit suggested above. The exact figures used here are not of crucial importance, but the warning they convey is. They all lead eventually to the conclusion that, for manpower planning purposes, wide variations in wastage are simply unacceptable. The approach used by DNMP, in which recruitment levels are directly at the mercy of overall wastage levels (as per the 1 to 18 ratio derived above) is, if left unchecked, likely to cause the Navy grave long-term damage. The present DNMP approach will necessitate that recruitment deviate by great levels - perhaps 70% or more in some years - which will result in huge gluts and holes in the future manpower inventory. Recessional conditions invariably extend over periods of several years, and so it is not inconceivable that such extremely low levels of recruiting may also need to extend over the same time frame. This grave situation can only be avoided if APFL constraints are dealt with in a way that ensures that recruiting levels are not at the mercy of trained force wastage rates.

8. As a matter of urgency, a decision needs to be made as to what an appropriate level of wastage should be in the RAN. When wastage is too high, people are 'sucked through' the system in a way analogous to the sucking of water through a narrow pipeline; upon exceeding a certain wastage threshold

(probably around 13%) the result is turbulence, an example of the numerous phenomena described by chaos theory. Such instability must be avoided if manpower planning is to be carried out in any meaningful sense. But when wastage is too low, other problems arise such as 'bottle-necking' at promotion points. Another critical consequence of low wastage concerns the uptake of technical and technological expertise. Wastage should at least be high enough to allow recruitment to proceed at a sufficient level to ensure that at all future times, there will be significant numbers in the service who have received recent training exposure to up-to-date technologies. If wastage was 6% or less, in which case the average LOS of serving personnel would be around 17 years, there would be too many 'oldies' and not enough 'new blood' in the system, and competence in dealing with state-of-the-art technologies would suffer. As a human resource manager, the Navy must retain full cognisance of the need to remain 'up-to-date', and this simply cannot happen in times of very low wastage such as we are presently experiencing.

CONTROLLING WASTAGE

9. That wastage control needs to be employed is without doubt. The question manpower planners should be asked is this: how should wastage control best be implemented, taking into account considerations of equity and operational stability?.

10. Retention bonuses and redundancy packages are an effective means of controlling wastage, however, their inherent expense is such that they may not prove cost-effective. If a redundancy package amounted to an annual salary payment, then the redundancy exercise would achieve no cost saving that could be used to fund recruitment. This suggests that if redundancy and retention bonuses were used, their monetary value would have to be sufficiently low to ensure their cost effectiveness, but if they were too low (particularly in the case of retention bonuses) they may well prove ineffective on all counts.

11. If the use of retention bonuses and redundancy packages remains politically unfavourable or otherwise proves unviable, then wastage could be controlled through a more judicious implementation of Fixed Period Engagements (FPEs) - for both sailors and officers. As soon as open-ended engagements or commissions are granted to personnel, wastage control is totally lost. A carefully designed FPE policy - to be applied to both officers and sailors - could provide the Navy with the wastage control it needs at minimal expense, hence allowing recruitment levels to remain close to constant. Varying the duration of FPEs might make them a more useful tool in this regard. In times when wastage would otherwise be higher than desirable, it would be good to have relatively long (perhaps 6-8 year) FPEs in place. On the other hand, in times when wastage would otherwise be lower than acceptable, it would be good to have relatively short (perhaps 2-4 year) FPEs in place. The challenge for manpower planners would be to determine the duration FPEs should be at a given time. Such assessments would need to be guided by a systematic economic prediction mechanism such as that which neural network computer software could provide.

CONCLUSION

12. APFL constraints have presented Navy manpower planners with a serious problem as they put recruitment levels at the mercy of overall wastage levels. But if recruitment levels are allowed to rise and fall at the mercy of wastage as they have done in the last decade, huge gluts and holes will emerge in the manpower inventory. On the short to mid term, present low levels of recruitment could have a devastating effect on our capacity to man the ANZAC and COLLINS class ships.

13. To maintain a stable manpower inventory it is essential that Navy be allowed to maintain close to constant recruitment levels. Given APFL constraints, this means that wastage rates must be maintained within an acceptable range. Redundancy and retention bonuses provide one possible method of wastage control, but their inherent expense limits their effectiveness. The implementation of a judicious system of awarding FPEs might provide a cost-effective means of controlling wastage.

RECOMMENDATIONS

14. It is recommended that:

a. an 'ideal level of wastage' be decided upon (perhaps 10%), and that a proactive policy be formulated to ensure that wastage at no stage deviates by more than plus or minus 0.75% from this ideal figure;

b. economic prediction computer software be developed that will enable Navy to forecast personnel propensities to remain in or leave the service in future periods of time; and

c. a judicious system of awarding FPEs be applied to both officer and sailors, the duration of FPEs guided by economics forecasts.

Mark Drummond

(written in late 1992 ... this a re-typed version)

Annex

A. Full recovery costs for selected ranks.

ANNEX A

FULL RECOVERY COSTS FOR SELECTED RANKS

(as per Commercial Support Program Manual dated 5 November 1991)

RECRUIT \$42236

MIDSHIPMAN (ADFA) \$42277

ABLE SEAMAN \$66000 (depending on location)

PETTY OFFICER \$78000 (depending on location)

LIEUTENANT \$98000 (depending on location)

**SENATE STANDING COMMITTEE ON
FOREIGN AFFAIRS, DEFENCE AND TRADE**

REFERENCES COMMITTEE

**INQUIRY INTO RECRUITMENT & RETENTION
OF DEFENCE PERSONNEL**

SUBMISSION

Submission No: 4A (Supplementary Submission)

Submittor: Mr Mark Drummond

Address: 5 Loddon Street
KALEEN ACT 2617

Telephone No: (02) 6255 0772

Fax:

E-Mail <mailto:markld@ozemail.com.au>

No. of Pages: 10

Attachments Nil

15

Barsdell, Paul (SEN)

From: Mark Drummond [markld@ozemail.com.au]
Sent: Sunday, 22 April 2001 5:56 PM
To: fact.sen@aph.gov.au
Subject: Senate Committee Submission



DefPer4b.doc



SenComBook.doc



SalCap12.xls

The Secretary
Senate Foreign Affairs, Defence and Trade References Committee
Parliament House
Canberra ACT 2600

Submission to:
Inquiry into Recruitment and Retention of Defence Personnel

Dear Sir/Maam,

Further to my submission to you dated 16 April 2001 I email here again in response to your invitation for Submissions to assist in your Inquiry as above.

Now and attached, are submissions I sent in to assist in the White Paper process which I also forwarded on to the Defence secretary, Dr Hawke, among others. Some of what is shown in the emails below this present one was sent to you in my 16 April 2001 submission and I apologise for the repetition here.

Basically, I have come up with a detailed, holistic Defence personnel restructuring proposal which, if more or less followed, would resolve the major personnel/recruitment/retention problems causing such havoc at present. The proposal contains both analysis and rationale and I request you please accept the attached and the following as if it were specifically addressed to you. Whereas it dealt with but a fraction of the White Paper it deals with the very core of your present Inquiry.

The passages within the text of the email below help describe what's in the attached files DefPer4b.doc and SalCap12.xls. I recommend you print out in full the attached document DefPer4b.doc since it contains the rationale and detailed descriptions associated with the proposal, but my recommendation is that the first page of the worksheet titled "12% Option 1" is all you'd need to print out of SalCap12.xls - this page has the key summary figures associated with my proposed steady-state force of 100,000 (compared with the 48,000 mentioned of late) at a sustainable cost of \$4 billion per annum in today's terms.

Please note that in my earlier submission to you (of 16 April 2001) I suggested (as stated in a letter I had published in the Canberra Times on 9 May 2001) that reservists who have previously served in the permanent ADF should be paid say \$10,000 a year for two weeks annual service. By contrast, in my detailed proposal below, which assumed a \$4 billion "salary (or overall personnel costs) cap", I only assumed reserves would be paid \$5000 per annum for 10 day stints. My present position is that we really need to shock the system into something we can really have pride and confidence in and so I now very strongly recommend that \$10,000 per annum is the kind of money we need to be offering for two weeks (or 10 working days) reserve work as recommended.

Finally, attached in the file SenComBook.doc is a scanned in copy of details of a book which I believe you definitely should get hold of, titled 'The British Army, Manpower and society into the Twenty-First Century', edited by Hew Strachan and published by Frank Cass in the UK. Its 288 pages, dated the year 2000 and has ISBN 0 7146 8069 9 for the 18 pound 50 pence paper back version. International orders to Frank Cass can be made via email on sales@frankcass.com <<mailto:sales@frankcass.com>> or by phone +44 (0)20 8920 2100 or fax +44 (0)20 8447 8548.

If you'd like me to clarify anything I've sent you today or in my previous 16 April submission I'd be happy to drive over to explain things in person. These issues are important and not ones your committee should be left uncertain about. I've thought as long and hard about these issues as anyone has and would be particularly pleased if you take full advantage of my assistance.

Yours faithfully,

Mark Drummond
BSc(hons, UNSW) DipEd(Charles Sturt), BA(Macq), BE(hons, UNSW),
MBA(Canberra), MPPM(Monash)

22 April 2001

----- Original Message -----

From: Mark Drummond <<mailto:markld@ozemail.com.au>>
To: Dr Allan Hawke <<mailto:allan.hawke@cbr.defence.gov.au>>

Sent: Monday, 17 July 2000 16:45
Subject: Fw: ADF Personnel Restructure Proposal

Dear Dr Hawke,

It wasn't clear to me who receives and sees submissions to Defence Review 2000, however I felt you might be interested in a proposal here, set out in the attached Microsoft Word document.

Some people have trouble recognising that Defence personnel cost blowouts reflect past mismanagement. I DO have faith in your capacity to see through the absurdity in the claims that we taxpayers simply have to fork out more and more to accommodate such obviously avoidable blowouts (which have arisen in some cases due to utterly appalling mismanagement, fundamental misunderstandings and a view that the military is some sort of glorified [and obscenely expensive] labor market program for the chronically institutionalised).

To save on printing out, the first page of the worksheet titled "12% Option 1" in the attached Excel spreadsheet has the key summary figures associated with my proposed steady-state force of 100,000 (compared with the 48,000 mentioned of late) at a sustainable cost of \$4 billion per annum in today's terms.

I hope we are prepared to accommodate very good solutions to the defence funding problems we face. Lets be prepared to be innovative, excellent etc!

Regards,
Mark Drummond
5 Loddon Street
Kaleen ACT 2617

----- Original Message -----

From: Mark Drummond <mailto:markld@ozemail.com.au>
To: whitepaper@cbr.defence.gov.au <mailto:whitepaper@cbr.defence.gov.au>
Cc: [Derek Woolner](mailto:Derek.Woolner@aph.gov.au) <mailto:Derek.Woolner@aph.gov.au>
Sent: Wednesday, 12 July 2000 15:06
Subject: ADF Personnel Restructure Proposal

To:
Defence Review 2000
R1-5-A137
Russell Offices
CANBERRA ACT 2600

Dear Sir/Maam,

Further to my email to you of 7 July 2000, please find attached proposal (in Word Office 2000 version) for a significantly reformed defence personnel structure which provides in sum a massive quantitative and qualitative improvement to our inventory of "capable of serving" defence personnel relative to the present 48,000 personnel proposal, absent of the capacity for future cost-blowouts (due to its stable steady-state characteristic). The sheet titled "12% Option 1" (which would take 27 A4 pages to print out in full, though page 1 has the key summary details) in the ...so attached Excel spreadsheet provides the actual figures and the relevant calculations (Please feel free to play around with this as you see fit, though note that most of the worksheets are incomplete and/or only present to enable multiple "what ifs" to be done).

I should stress that the pool of 100,000 personnel achievable for \$4 billion per annum in today's dollar terms under the proposal here only includes those personnel who complete the three operational skills acquisition program (OSAP) as described, and DOES NOT include reservists who have never been in full time service. It is assumed that the scheme I propose come into place **in addition to** a reserve scheme like the present one which does not have full time service as a prerequisite. So at risk of repetition, my 100,000 for \$4 billion proposal sets out to compete with (and "out do") the 48,000 permanent ADF proposal recently announced.

I assume that Defence offloads tertiary education to external providers and that personnel are recruited with degrees, trade certificates etc. I will follow this email up with a forwarding on of a proposal I came up with in 1998 in relation to the external provision of tertiary qualifications. **[not provided to you Dr Hawke since I sent you it all earlier in the year]**

For your further information, please find below a series of emails below containing contents of a submission I made to the Canberra Times, some comments I addressed to Mr Derek Woolner at the Parliamentary Library following my reading of his recent research Paper 20 titled 'Pressures on Defence Policy: The Defence Budget Crisis' (which I might add I believe was extremely successful in identifying cost pressure areas ... my interest is to clarify that the personnel cost pressures could be overcome with sound management), and a paper I wrote in 1992 (which fell on deaf ears back then!!) whilst working in Navy manpower planning titled 'HOW RAN MANPOWER PLANNING SHOULD DEAL WITH APFL CONSTRAINTS'. I believe it is incumbent upon your committee to take on board certain critical messages in the attached submission letter and in the passages below.

Thanks for your time.

Regards,
Mark Drummond
5 Loddon Street
Kaleen ACT 2617
phone 02 6255 0772

----- Original Message -----

From: Mark Drummond <mailto:markld@ozemail.com.au>
To: Derek Woolner <mailto:Derek.Woolner@aph.gov.au>
Sent: Thursday, 11 May 2000 12:07
Subject: Defence personnel cost issues

Dear Mr Woolner,

Sorry I'm a little late with this, but I was tied up a little with my PhD before now.

I see my article (my original version of which is at the end of this email) was in the Tuesday Canberra Times, and the first of the letters to the editor responding arrived in today's paper - I'm hoping I can drag a few more people out of the woodwork, because these matters clearly need to be debated out in the open.

I feel my own little contribution here actually answers some of the questions/dilemmas appropriately drawn attention to in your report.

There are other somewhat peripheral issues which my piece does not elaborate on - as we briefly discussed over the phone earlier this week. In particular, across all services, several thousand personnel have been made redundant in recent years, and these redundancies have cost an absolute fortune and added to the Defence personnel bill accordingly. But while the personnel cost figures give the appearance of a TREND of increasing expenditure, the good news is that these redundancies SHOULD NOT (if Defence gets its act together) need to be repeated in the future.

Also, the Navy made redundant in the order of 100 officers in 1998/99 who just several years ago were on short term commissions (effectively short term contracts) under which their separation could have been facilitated (at the Navy's instigation) at no cost to the taxpayer. In an almost laughable (if it were not so expensive) "compounding double error", the Navy extended these commissions from short term ones to open-ended ones only to end up, just a few years later, making many of them redundant. The key point here is that some of the contributions to the recent personnel cost blowouts are (1) not openly admitted by Defence in view of the mistakes which have given rise to them (like the compounding double error stated just above here), but, fortunately (2) not likely to be incurred in future - I'm assuming here that Defence will not make compounding double errors like that mentioned here in the future!!!

The piece I sent you intends to be "future tense" and "solutions" oriented, and accordingly, I didn't feel it necessary to mention these redundancy payout details (some of which - like the Navy "double error" described above - reflect embarrassingly on Defence; I wanted to say something more constructive rather than dwell on past bungle-ups).

As stated above, an original version of my article (prior to the editors changing it a little grammatically) is as below, along with some explanatory notes.

I hope at least some of this is of interest/assistance and hope people like us can cooperate to avoid major defence personnel spending crises in the future.

All the best,
Regards,
Mark Drummond
5 Loddon Street
Kaleen ACT 2617
phone 02 6255 0772

The article "ADF caught in poverty trap" (Canberra Times, 28/4/00) paints an unnecessarily gloomy outlook for future Defence spending levels, which, if managed properly, can easily be contained or even reduced in real terms.

Three concerns are being expressed at present by the broader Defence community: firstly, that the attrition rate among military personnel is too high; secondly, that the military personnel structure is way too top heavy; and thirdly, that personnel costs are blowing out. The good news, however, is that the first "problem" is actually a solution to the other two indeed

very critical problems mentioned here. The cost blowout is a direct consequence of the overly top heavy rank structure, which in turn is exacerbated when military attrition rates are problematically low - as happens especially in times tending toward or actually in recession. It is simply a myth that high military attrition rates are altogether bad. The immense benefits of higher attrition rates are continually overlooked in the Defence personnel debate.

The underlying cause of the top heavy military personnel structure is the inherently top heavy rank structure. There are presently some 10 separate commissioned officer rank levels and 4 non-commissioned officer rank levels presiding over just 4 ordinary rank levels. Savings of several hundred million dollars per annum could be achieved by reducing the 14 separate officer rank levels to say 9, with the resultant structure still easily "tall" enough to satisfy command and control imperatives.

The overall salary and cost bill for military personnel can also be reduced simply by maintaining high throughputs - in other words, high levels of recruitment and attrition - a measure which also substantively enhances national security by increasing the total number of people with current or recent military experience, all of whom could be called to contribute in the event of a national emergency.

If we assume that the number of full-time military personnel will be kept at say 50,000, then a 12% per annum attrition rate (resulting in 8.33 year average career lengths) will every year permit the addition of 6000 to the pool of "capable of serving" personnel, whereas just 4500 could be added each year if the attrition rate was just 9% (and average careers 11.11 years). Furthermore, all else being equal, the overall personnel bill with a 12% attrition rate will be some \$400 million per annum less than if it were just 9%. Higher attrition rates generate savings because they permit a lesser number of high ranking personnel and hence reduce the extent of top heaviness in the rank structure. Furthermore, without diminishing the value of military experience in general, it can nevertheless be argued that when attrition is too low, the military will tend to retain too large an element of conservative "oldies" who will too often be less well acquainted with and problematically threatened by state-of-the-art technology, management practices and ideas generally.

The problem of losing too many experienced personnel is certainly very real when attrition rates are sustained above 13% or so, but the present 12% level is probably about ideal and is at any rate a reality which - in view of its advantages - Defence planners should accept rather than fight.

Another massive source of waste and cost blowouts in Defence occurs in the form of the myriad non-operational activities still carried out by uniformed military personnel which could be done either by civilians or not at all.

Whereas Defence personnel can be divided functionally into operational and non-operational components, and longitudinally into pre-operational, operational and post-operational career phases, the problem is that costly pre-operational, post-operational and non-operational components of Defence activity take up far too much of the Defence budget, to the detriment of the operational component which adds most value to our national security. Massive costs are incurred through "most expensive in-house option" pre-operational education and training schemes such as the Defence Academy - which restrict many Defence personnel (especially officers) to glorified boarding school environments for up to (and in some cases more than) five years before they enter a productive career phase. The absurdly top heavy structure also means that far too much of the Defence budget is spent on personnel in their less productive post-operational career phases.

Costly waste in non-operational activity is further exacerbated by the unnecessary fragmentation of Defence into the separate army, navy and air force branches, and by the less than optimal military-civilian divide. Whilst we obviously still need operational sea, land and air components of our defence forces, this by no means demands the retention of separate navy, army and air forces in their present forms with the vast extent of wasteful duplication, traditional baggage, and antagonistic tribalism they entail.

An optimal Defence structure would comprise military personnel serving in sea, land and air combat components of a unified, single defence force like that of Canada - which we could obviously improve upon with the benefit of their experience. People performing non-operational roles within Defence should, in peace time, be employed principally as Defence civilians rather than full time military personnel, with uniformed service in the Defence

reserves being optional or mandatory for such staff where necessary and beneficial.

The structural change and policy measures recommended herein could significantly enhance national security and at the same time generate savings of some \$1 billion per annum and safeguards against future personnel cost blowouts.

THE END!!

Commentary/explanatory notes now follow:

There is a simple maths formula that relates an organisation's attrition rate with the average length of service of personnel in the organisation - namely: average length of service = 1 divided by attrition rate. This is used in the above.

A formula can also be derived (this time though only an approximation) to relate the total full time defence personnel bill to attrition rate for given total numbers of full time defence personnel. The approximate formula is:

total personnel bill = 1.85 multiplied by total salary bill [this an approximation]
where:

total salary bill = total number of military personnel multiplied by average salary [this part of it is exact]

where, in turn, average salary is \$30,000 plus 1500 multiplied by no. years in service [this part is approximate].

According to my calculations using formulae along the above lines, for a full time personnel force of 52,000, overall salary bills relate to attrition rates roughly as follows:

14% attrition rate <---> total personnel bill of \$3.92 billion
13% attrition rate <---> total personnel bill of \$4.00 billion
12% attrition rate <---> total personnel bill of \$4.09 billion
11% attrition rate <---> total personnel bill of \$4.20 billion
10% attrition rate <---> total personnel bill of \$4.33 billion
9% attrition rate <---> total personnel bill of \$4.49 billion
8% attrition rate <---> total personnel bill of \$4.69 billion
7% attrition rate <---> total personnel bill of \$4.95 billion
6% attrition rate <---> total personnel bill of \$5.29 billion

Whilst these exact figures might depart from present realities a bit, the comparisons are likely to be quite accurate - for example, the 12% case being \$400 million cheaper than the 9% option - at least to the nearest \$100 million or so this is bound to be pretty close. (I used 50,000 as the total force number in my letter for simplicity - the 52,000 above reflects closer to actual numbers, hence its use in the Microsoft Excel spreadsheet the above are based on. The \$400 million figure would not change much at all if 50,000 was used instead of 52,000 in the above total personnel bill figures ... \$400 million would change to about \$384 million).

You can see above that the increase in the total personnel bill which accompanies an attrition rate drop from 14% to 13% is just \$80 million, whereas the increase in the total personnel bill which accompanies an attrition rate drop from 7% to 6% is a "whopping" \$340 million.

A little bit of year 11-12 calculus can show that the rate of change of the total personnel bill with respect to attrition rate is (approximately) inversely proportional to the square of attrition rate - hence the \$340 million is approximately 4 times the \$80 million figure (noting that 14 is 2 times 7, and 2 squared is 4). The main message is that the pressure on overall personnel costs really explodes when attrition rates get too low, as happened in the early 90s during the recession, though I contend that attrition rates have generally been too low ever since the early 90s recession.

I worked in Navy manpower planning during 1992, have studied manpower planning, probability and statistics during my tertiary studies, and lectured in probability and tutored in statistics between 1993 and 1996 at the Defence Academy.

Following is a paper I wrote in 1992 on this general area which provides some further background commentary and analysis. Please note that the term APFL (= Authorised Personnel Funding Level) is Defence's description of its "salary cap" - albeit one which it has not often been contained to in recent years.

HOW RAN MANPOWER PLANNING SHOULD DEAL WITH APFL CONSTRAINTS

INTRODUCTION

1. Over the last decade the Navy has experienced widely varying rates of personnel wastage; from a high of approximately 14% in the mid to late 1980s to a low of some 6% in the last year or so. When wastage was running at very high levels, due concern was expressed over the Navy's capacity to run effectively in the wake of such a rapid drain of experience and expertise. Ever-increasing vacancies resulted in many personnel being promoted before they normally or ideally would have been, and many positions simply could not be filled. Different problems arise in climates of very low wastage such as we are currently experiencing. Because many personnel are remaining in the service when they might normally have been expected to leave, the manpower flow is stagnating and bottlenecks are occurring at promotion points.

2. In order to avoid the possibility of having vast over or under bearings at given stream, category, rank and seniority levels in future years, it is imperative that recruitment be kept as constant as possible. Minimising variations in recruitment is arguably the golden rule in effective manpower planning, but such minimal variations are not nearly being achieved at present, as evidenced by the recent cancellation of recruit courses. These low recruitment levels may well have a devastating effect on the RAN's capacity to man the COLLINS and ANZAC Class Ships, and given that the economy will, in all likelihood, take quite some time to pick up, low recruitment levels may need to stay in place for several years to come unless a marked change in policy direction is taken that will provide near constant recruitment levels.

3. Navy manpower levels are now constrained by Authorised Personnel Funding Level (APFL) limits. This paper discusses how such constraints, if managed improperly, could lead to a manpower disaster unless Navy is allowed to exercise control over personnel wastage.

AIM

4. The aim of this paper is to draw attention and propose solutions to the immense problems that could arise if:

a. Navy manpower managers fail to deal with APFL restrictions in a sound manner; and

b. RAN personnel wastage levels, and as a consequence, recruiting levels, are allowed to vary in the future as much as they have done in the past decade.

CONCERNS OVER THE WAY RECRUITMENT IS AT THE MERCY OF TRAINED FORCE WASTAGE DUE TO APFL CONSTRAINTS

5. Historically, wastage across the Navy has been approximately 10% on average; this level of wastage will be regarded as the ideal figure for the purposes of discussion. So if the Navy is to be made up of say 15000 personnel, then it would be necessary to bring in some 1500 recruits each year to maintain force strength. The ratio of recruits to non-recruit would then be 1 to 9. But when it is taken into account that the salaries of these 1500 recruits would be, on average, approximately one-half (see Annex A) of those of the remaining 13500 personnel, it is seen that the ratio of the salary bill for first year recruits to that for the remainder of Naval personnel is about 1 to 18. This 1 to 18 ratio directly refers to the sensitivity of the dependence of recruitment on wastage. For example, if wastage, instead of being 10%, was 9%, then this 1% deviation in wastage would necessitate an 18% reduction in recruitment in order to maintain APFL. And if wastage reduced to 6% then this 4% deviation would necessitate an astonishing 72% reduction in recruitment. If the deviation was 5.6% then we would be unable to recruit a single person. This proves that wastage deviations of this magnitude are simply intolerable.

6. The Directorate of Naval Manning Policy (DNMP) Strategies Section has asserted, reasonably, that in order to maintain both short and long term manpower stability, recruitment must be kept within plus or minus 15% of the long term desired level. On the basis of 1 to 18 ratio derived above, a 15% deviation in recruitment would accompany a 0.83% (15% divided by 18) deviation in wastage. In other words, if APFL was to be strictly adhered to, then it would only be possible to control recruitment to within 15% of the ideal level if wastage deviations at no time exceeded 0.83%; that is, if wastage was always between 9.17% and 10.83% (using 10% here as the ideal). The fact that the current wastage levels are well outside this acceptable range, and that recruiting levels are, consequently, well outside the acceptable plus or minus 15% range, shows that Navy is not dealing with this problem satisfactory at the present time.

7. Over the last decade alone, wastage levels have ranged from about 6% to 14%, centring on an average of around 10%. The observed deviation of about plus or minus 4% clearly exceeds the 0.83% limit suggested above. The exact figures used here are not of crucial importance, but the warning they convey is. They all lead eventually to the conclusion that, for manpower planning purposes, wide variations in wastage are simply unacceptable. The approach used by DNMP, in which recruitment levels are directly at the mercy of overall wastage levels (as per the 1 to 18 ratio derived above) is, if left unchecked, likely to cause the Navy grave long-term damage. The present DNMP approach will necessitate that recruitment deviate by great levels - perhaps 70% or more in some years - which will result in huge gluts and holes in the future manpower inventory. Recessional conditions invariably extend over periods of several years, and so it is not inconceivable that such extremely low levels of recruiting may also need to extend over the same time frame. This grave situation can only be avoided if APFL constraints are dealt with in a way that ensures that recruiting levels are not at the mercy of trained force wastage rates.

8. As a matter of urgency, a decision needs to be made as to what an appropriate level of wastage should be in the RAN. When wastage is too high, people are 'sucked through' the system in a way analogous to the sucking of water through a narrow pipeline; upon exceeding a certain wastage threshold

(probably around 13%) the result is turbulence, an example of the numerous phenomena described by chaos theory. Such instability must be avoided if manpower planning is to be carried out in any meaningful sense. But when wastage is too low, other problems arise such as 'bottle-necking' at

promotion points. Another critical consequence of low wastage concerns the uptake of technical and technological expertise. Wastage should at least be high enough to allow recruitment to proceed at a sufficient level to ensure that at all future times, there will be significant numbers in the service who have received recent training exposure to up-to-date technologies. If wastage was 6% or less, in which case the average LOS of serving personnel would be around 17 years, there would be too many 'oldies' and not enough 'new blood' in the system, and competence in dealing with state-of-the-art technologies would suffer. As a human resource manager, the Navy must retain full cognisance of the need to remain 'up-to-date', and this simply cannot happen in times of very low wastage such as we are presently experiencing.

CONTROLLING WASTAGE

9 That wastage control needs to be employed is without doubt. The question manpower planners should be asked is this: how should wastage control best be implemented, taking into account considerations of equity and operational stability?.

10. Retention bonuses and redundancy packages are an effective means of controlling wastage, however, their inherent expense is such that they may not prove cost-effective. If a redundancy package amounted to an annual salary payment, then the redundancy exercise would achieve no cost saving that could be used to fund recruitment. This suggests that if redundancy and retention bonuses were used, their monetary value would have to be sufficiently low to ensure their cost effectiveness, but if they were too low (particularly in the case of retention bonuses) they may well prove ineffective on all counts.

11. If the use of retention bonuses and redundancy packages remains politically unfavourable or otherwise proves unviable, then wastage could be controlled through a more judicious implementation of Fixed Period Engagements (FPEs) - for both sailors and officers. As soon as open-ended engagements or commissions are granted to personnel, wastage control is totally lost. A carefully designed FPE policy - to be applied to both officers sailors - could provide the Navy with the wastage control it needs at minimal expense, hence allowing recruitment levels to remain close to constant. Varying the duration of FPEs might make them a more useful tool in this regard. In times when wastage would otherwise be higher than desirable, it would be good to have relatively long (perhaps 6-8 year) FPEs in place. On the other hand, in times when wastage would otherwise be lower than acceptable, it would be good to have relatively short (perhaps 2-4 year) FPEs in place. The challenge for manpower planners would be to determine the duration FPEs should be at a given time. Such assessments would need to be guided by a systematic economic prediction mechanism such as that which neural network computer software could provide.

CONCLUSION

12. APFL constraints have presented Navy manpower planners with a serious problem as they put recruitment levels at the mercy of overall wastage levels. But if recruitment levels are allowed to rise and fall at the mercy of wastage as they have done in the last decade, huge gluts and holes will emerge in the manpower inventory. On the short to mid term, present low levels of recruitment could have a devastating effect on our capacity to man the ANZAC and COLLINS class ships.

13. To maintain a stable manpower inventory it is essential that Navy be allowed to maintain close to constant recruitment levels. Given APFL constraints, this means that wastage rates must be maintained within an acceptable range. Redundancy and retention bonuses provide one possible

method of wastage control, but their inherent expense limits their effectiveness. The implementation of a judicious system of awarding FPEs might provide a cost-effective means of controlling wastage.

RECOMMENDATIONS

14. It is recommended that:

a. an 'ideal level of wastage' be decided upon (perhaps 10%), and that a proactive policy be formulated to ensure that wastage at no stage deviates by more than plus or minus 0.75% from this ideal figure;

b. economic prediction computers software be developed that will enable Navy to forecast personnel propensities to remain in or leave the service in future periods of time; and

c. a judicious system of awarding FPEs be applied to both officer and sailors, the duration of FPEs guided by economics forecasts.

Mark Drummond

(written in late 1992 ... this a re-typed version)

Annex

Full recovery costs for selected ranks.

ANNEX A

FULL RECOVERY COSTS FOR SELECTED RANKS

(as per Commercial Support Program Manual dated 5 November 1991)

RECRUIT \$42236

MIDSHIPMAN (ADFA) \$42277

ABLE SEAMAN \$66000 (depending on location)

PETTY OFFICER \$78000 (depending on location)

LIEUTENANT \$98000 (depending on location)

**SENATE FOREIGN AFFAIRS, DEFENCE AND TRADE
REFERENCES COMMITTEE**

**INQUIRY INTO RECRUITMENT & RETENTION
OF DEFENCE PERSONNEL**

SUBMISSION

Submission No: 4B

Submittor: Mr Mr Mark Drummond

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No. of Pages: 17

Attachments: 4

Barsdell, Paul (SEN)

From: Mark Drummond [markld@ozemail.com.au]
Sent: Friday, 4 May 2001 5:16 PM
To: FADT, Committee (SEN)
Subject: Additional Senate Committee Submission



DOSS1606.DOC



ATT4.XLS



ATT2.DOC



ATT3.XLS



ATT1.DOC

Senate Foreign Affairs, Defence and Trade References Committee
Parliament House
Canberra ACT 2600

The Secretary

Submission to:
Inquiry into Recruitment and Retention of Defence Personnel

Dear Sir/Maam,

Further to my submissions to you dated 16 April and 22 April 2001, I have an additional contribution here that focuses on ADFA, which I know has proven unable to attract officer recruits in the quantity and quality aimed for by Defence recruiting planners.

As in the attached, your Committee clearly ought to revisit the recommendations of the Joint Committee on Foreign Affairs, Defence and Trade as set out in its 1995 Report on Officer Education (aka The Price Report). The ongoing deficiencies of ADFA and its insufficient numbers will continue to cripple Australian national security until the Price report recommendations are more or less followed, to provide for a sustainable officer education system to replace the clearly failing ADFA.

Please see especially paragraph 4 of the introductory passages of the document ***A Defence Undergraduate Sponsorship Scheme (to replace the ADFA scheme) that will work ... 'Price Plus'*** (in DOSS1606.DOC attached) and its Attachments 1, 2 and 3 (in files ATT1.DOC, ATT2.DOC and ATT3.XLS as also attached) which, whilst based on a small sample number, show that you should expect a significant boost in Defence recruits generally (and officer recruits in particular) should you adopt a scheme along the lines recommended.

Some further related points:

- A. A major problem with Defence recruiting relates to an element of false advertising. For example, I've worked/spoken with dozens of people promised that their prior qualifications (especially in technical and trade type areas) would be recognised by Navy upon joining who've found once in that their qualifications would not be recognised as indicated when applying and being signed up. Obviously such stories return to the community ...
- B. Whereas Defence retains a formalised, anachronistic English class type system, most young people reject the idea of an upper and lower class. Command and control requires a rank structure but certainly does not require an overlaying class structure anything like what the ADF retains, which is basically a three-tier class system comprising officers as upperclassmen, NCOs as middle classmen, and soldiers/sailors/airmen as lower classmen. The ADF is not getting enough high quality officer applicants, but the situation with non-officers is probably even more perilous, and non-officers of course make up the vast majority of Defence personnel numbers - even taking into account how ridiculously top-heavy the ADF rank structure is. The pertinent question here is: Why would people want to join an organisation in which they are lowerclassmen - a status which they are constantly reminded of through their separate messes, pay packets etc? End (or at least significantly reduce) the entrenched class system and its associated culture and watch recruiting outcomes significantly improve!

I urge your committee to have the courage and astuteness needed to address these issues properly - as they must be given the gravity of national security and the gross failings of the present systems in place. We can't afford to have the government skirt around the edges any longer on all this. Its time to address the substantive challenges faced here.

Mark Drummond
BSc(hons, UNSW) DipEd(Charles Sturt), BA(Macq), BE(hons, UNSW),
MBA(Canberra), MPPM(Monash)

4 May 2001

A Defence Undergraduate Sponsorship Scheme
(to replace the ADFA scheme)
that will work ... 'Price Plus'

1. Following below is a draft policy setting out essential features of a scheme (to be referred to as 'Price Plus' or 'the DOSS scheme') intended to replace the ADFA undergraduate scheme. Motivation for this 'Price plus' scheme detailed below derives from the serious concerns that:

- a. on the one hand, the present ADFA undergraduate scheme suffers enormously from, among numerous problems:
- (1) its near monopoly position in relation to the officer labour market and associated protection from beneficial (if able to be exploited) market forces,
 - (2) being largely a glorified boarding school and hence and at any rate a reflection of bygone ages that is hopelessly unable to prepare people for leadership in national security maximisation into the 21st century,
 - (3) its extreme narrowness of tertiary subject and course choices, and
 - (4) its enormous financial cost.

and

- b. on the other hand, the fact that the Price Committee's 1995 recommendations left many in the Defence community unsure that the scheme recommended by Price and others could ***guarantee*** at least as good an outcome for Defence as is currently provided through the ADFA system.

2. Further to para 1b above, despite the obvious merit of much that the Price Report discussed and recommended in relation to ADFA's undergraduate education programme, the undergraduate sponsorship scheme recommended by Price was nevertheless legitimately (when all the narrowness, paranoia, chronic risk-aversion and stupidity was seen through) seen as too risky, but for essentially only the following reasons:

- a. the quantity and quality of ADF officer applicants could decline below already worrying low present levels because it was considered that the prestige and alleged high reputation of ADFA itself may be a major recruiting attraction that could not be matched by Price's proposed scheme;

- b. the quantity and quality of ADF officer applicants could decline below already worrying low present levels because under the Price recommended sponsorship scheme target recruits would be offered considerably lesser financial inducement than is presently offered to ADFA undergraduate students; and
- c. Price recommended an abolition of Return of Service Obligations, which would leave Defence with too little control over retention of graduates it has sponsored and a lack of legal recourse for ensuring their retention in the vital early years post-graduation.
3. The Defence community would presumably be more inclined, or even obliged, to support a new system of Navy/Defence education sponsorship if such a system comprehensively addressed the concerns listed above. Concerns raised in response to Price's recommended scheme other than those raised in para 2 above have generally been groundless, naive and downright 'wimpy', and have essentially amounted to the Defence community confessing that it is simply incapable of designing a new, improved scheme which could optimise the quality of its graduate officer workforce at best possible value to the taxpayer (hence and at any rate making more funds available for core national security business and/or other more worthy government service areas) if it was required to ween itself off the teat of ADFA. Drs Graeme Cheeseman and Robert Hall, in their book titled 'Preparing for Australia's Military After Next: The Price Report and a "New Model" Australian Defence Force Academy', provide extremely strong and authoritative support for the overwhelmingly and essentially sound recommendations made by the Price Committee and Report in relation to ADFA. They provide appropriately damning criticism of ADFA in its present form and clear support for the substance of Price's concerns and recommendations. And they quite rightly criticise and expose those whose irrational and destructive attacks on Price's recommendations distracted attention away from areas of valid concern which, as Price correctly identified, warranted urgent attention.
4. Based on abundant anecdotal evidence and the substantial evidence arising in the results of a questionnaire (see **Attachments 1, 2 and 3**), the concerns raised as in 2a above not only appear to be groundless, but it emerges quite to the contrary that potential Defence officers would be much more likely to join the ADF if only they were able to live in a location and attend a tertiary institution of their choice rather than be forced to attend ADFA in Canberra. The questionnaire referred to here and associated summary results and commentary are presented here as **Attachments 1, 2 and 3**.
5. The concern raised as in 2b above is clearly legitimate, being an expression of the generally acknowledged and valid concern to the effect that (with due respect) "if you only pay peanuts you'll end up with monkeys",

although the consistency and legitimacy of such concern demands the converse admission that if sponsorship levels under a Price type scheme were actually made to be higher than present ADFA levels, then the quantity and quality of ADF officer applicants could be expected to **increase** and hence alleviate concerns deriving from the worrying present low levels. The **'Price plus'** scheme detailed in the draft policy below involves sponsorship as per Price's recommendation, but at much higher levels which roughly equate to the present levels paid to ADFA undergraduates.

6. Return of Service Obligations in their present form are probably legally dubious in that they provide unilateral obligations on the employee without a balancing/legitimising obligation on the employer (as per contract law principles). At present, a person under a ROSO is expected to remain in the Service no matter how badly they may be treated by the employer. From a legal viewpoint it is simply not enough for Navy to say 'but oh we'd never treat anyone badly'!!!

7. In addition to the features discussed in paragraphs 5 and 6 above, the following draft policy addresses all of the legitimate concerns listed in paragraph 2 above and hosts several new, improved features which are sure to increase the quantity and quality of ADF officer applicants – especially that of **retrospective payment for students who have sponsored themselves** through some or all of their tertiary studies.

8. The following draft policy is biased toward Navy but the essence therein could be equally applied across all three services and hence form the basis of a joint service policy.

9. Based on the assumption that 300 graduates (a figure consistent with figures supplied to the Price Committee by Defence) would need to be generated through the sponsorship (at the time of study or retrospectively) of between 375 and 1000 tertiary students from the start of their 1st year of study, it is estimated that the 'Price plus' scheme will cost between \$22 million and \$52 million per annum, compared with the \$85.5 million per annum cost of the present ADFA scheme (as per para 15.63 on page 177 of the Price report) and the \$21 million per annum estimated cost of the scheme as recommended by Price. So the scheme recommended here could be expected to save between \$34 million and \$63 million per annum, with \$40 million being an appropriate best guess for such an estimate. **Attachment 4** provides details and figures used in estimating the savings achievable through the implementation of a scheme along the lines of the 'Price Plus' scheme recommended in the draft policy that follows.

10. Whilst the undergraduate sponsorship scheme recommended by Price drew a strong negative response from within Defence circles, on close examination it has emerged that Price's recommended scheme has excellent features and requires only slight modification in order to definitively dispel the concerns of even the most risk-averse and doubting sceptics. The policy set

out herein specifically aims to bridge the gaps left open by Price's scheme in order to devise a watertight system which the Defence community will be comfortable with.

11. It is intended that the passages and draft policy above and below, and the attached questionnaire results, be considered alongside the excellent (and extremely accurate) book (which certainly should be treated with the utmost seriousness) by Cheeseman and Hall referred to above, and the Price Report itself, with a view toward capturing and combining the best ideas from Price and Cheeseman and Hall, along with the best ideas presented here and the best ideas generated within Navy/Defence, in order to **design an optimal system** of Navy/Defence officer education which both (1) generates the best possible quality of Navy/Defence officer at the best possible value to the taxpayer and (2) addresses the legitimate concerns raised in response to the Price recommendations. We in Navy/Defence are of course duty bound – as entrusted agents of the Australian people – to attend to the design of such a system of officer education with the utmost care, balance, diligence, wisdom and cleverness, in order to make it absolutely as good as we can possibly make it. The draft policy below is offered in an effort to establish the basis of a new improved system of officer education and sponsorship which faithfully discharges this duty.

12. The draft policy now follows.

Mark Drummond
10 Jun 98

Draft Policy for Scheme to replace the ADFA Undergraduate Entry scheme

TITLE

1. The new scheme, to replace the undergraduate program at ADFA, shall be referred to as the Australian Defence Force Officer Sponsorship Scheme (ADFOSS, or DOSS). Students under the DOSS scheme shall be known as 'DOSS students'.

ELIGIBILITY

2. The DOSS shall be open to all Australian citizens upon completion of Year 12 (notwithstanding the possibility for concurrent continued operation of Scholarships to encourage students in years 11 and 12).

APPROVED COURSE OF STUDY

3. Approved courses of study are those which lead to the following awards in an approved field:

- a. an Australian Qualification Framework (AQF) approved Diploma or Advanced Diploma, and
- b. a Bachelor degree.

4. The inclusion of Diploma level courses (which typically take two years full-time equivalent to complete and are mostly offered through TAFE colleges) is motivated by the need to maximise the size of the pool of high quality graduates who might be recruited/selected as Navy/Defence officers. The inclusion of Diploma level courses also reflects:

- a. the ever increasing availability of new, innovative courses appearing in the tertiary education sector generally, and the TAFE sector in particular;
- b. the simple reality that universities do not monopolise the provision of high quality tertiary graduates; on the contrary, the best TAFE graduates are, by any fair and reasonable assessment, higher academic achievers than many university graduates; for example, a TAFE graduate achieving an 85% average in a two year Diploma course in a field which is highly relevant to Navy/Defence (for example the Diploma in Occupational Health and Safety available at the TAFE level Canberra Institute of Technology) should be viewed favourably for DOSS sponsorship and subsequent officer recruitment/selection when compared with a University graduate who achieves a 55% average in a

degree which might be of little or no direct relevance to Navy/ Defence (for example, an arts or science degree in English literature or mathematics or chemistry).

5. To qualify for sponsorship as a prospective engineer officer, students must undertake an Institute of Engineers Australia (IEAust) approved Diploma, Advanced Diploma or Degree such that they will be eligible for qualification as professional engineers, engineering technologists or engineering associates.

APPROVED FIELDS

6. Limitations on fields of study shall be minimised in order to maximise:
- a. the diversity of educational backgrounds of ADF entrants, and
 - b. the size of the viable recruitment pool.
7. Approved fields shall include, but not be limited to, the following:
- a. Warfare Officers (Seaman [including SM]/Pilots/Observers) officers - any Diploma or Degree in which *at least one* unit/module is undertaken in at least one of the following subjects:

maths, physics, computing, information systems, electronics
 history, politics, English, psychology, sociology, anthropology
 economics, accounting, finance, management, logistics, law, OH&S
 (occupational health and safety).
 - b. Marine Engineer Officers - any Institute of Engineers approved (at the level of engineering associate or higher) Diploma or Degree in fields including, but not limited to, the following:

marine engineering, mechanical engineering, mechatronic engineering,
 electromechanical engineering, maintenance engineering,
 manufacturing engineering, engineering logistics, control engineering
 - c. Weapons Engineering Officers - any Institute of Engineers approved (at the level of engineering associate or higher) Diploma or Degree in fields including, but not limited to, the following:

electrical/electronic engineering, communications engineering,
 computer engineering, control engineering

- d. Air Engineering - any Institute of Engineers approved (at the level of engineering associate or higher) Diploma or Degree in fields including, but not limited to, the following:
- aeronautical/aerospace engineering, mechanical engineering, mechatronic engineering, electromechanical engineering, maintenance engineering, manufacturing engineering, engineering logistics, control engineering
- e. Supply officers - any Diploma or Degree in which at least one unit/module is undertaken in *at least three of* the following subjects:
- computing, information systems
economics, accounting, finance, management, logistics, law
OH&S (occupational health and safety)
- OR
- any Diploma or Degree in which *at least two* units/modules are undertaken in *at least one* of the following subjects:
- economics, accounting, finance, logistics
- f. Training Systems Officers - any Diploma or Degree in fields including but not limited to the following:
- teaching, education, quality control
- g. Medical Officers - any medicine degree sufficient for registration as a medical practitioner in Australia;
- h. Dental Officers - (this one is controversial in light of current deregulation moves - which I for one support ... you don't need to spend five years at Uni to polish teeth!!! In Fact Defence is probably leading the way in its use of para-professional dental practitioners - ie. hygienists etc.) - any dental qualification sufficient for registration as a dental practitioner;
- i. Nursing officers - a Diploma or Degree sufficient for registration as a registered nurse in any State/Territory in Australia;
- j. Legal officers - any diploma or degree (LLB or Bachelor of legal studies - such as that at Macquarie Uni) sufficient for registration as a barrister/solicitor in any State/Territory in Australia;
- k. Chaplains and others - refer to experts!!

LOCATION OF STUDY

7. Students chosen/selected for sponsorship under the DOSS program shall be permitted to undertake an approved course of study at a tertiary institution of their choice, whilst living at the location of their choice.

MODES OF STUDY

8. DOSS students may undertake their approved course at the rate of progression and in the mode (full or part time; day or night; internal or external) of their choice.

FLEXIBLE ENTRANCE

9. To further maximise the viable recruitment pool, students shall be accepted in to the sponsorship scheme at any stage of their studies, hence accommodating the entire continuum from completion of Year 12 (as in the standard ADFA entry as things presently stand) to the completion of a tertiary qualification (as in the graduate direct entry scheme as things presently stand).

LEAVE UNDER DOSS

10. DOSS students shall be entitled to six weeks paid leave per calendar year.

PROFESSIONAL QUALIFICATION PROGRAM (PQP)

11. In order to qualify as an officer in a given branch, it is necessary to successfully complete a professional qualification program (akin to the professional year programs undertaken by accountants, or the intern year for medical practitioners and lawyers) as follows:

- a. Seaman officers (non SM) - NEOC, JNCC, OH&S, JOSOC, SEAC Phases 1 and 2 ?? (a SMN expert needed here) ... whatever is needed to qualify as an OOW;
- b. Seaman SM officers - NEOC, JNCC, OH&S, JOSOC, basic SM training (policy to be determined by experts - I'm not qualified to decide) ... whatever is needed to qualify as an OOW;
- c. Pilot/Observer officers - NEOC, JNCC, OH&S, JOSOC, pilots course ... whatever is needed to qualify for first operational posting
- d. Marine Engineer Officers - NEOC, JNCC, OH&S, JOSOC, MEAC, MEOCC
- e. Weapons Engineering Officers - NEOC, JNCC, OH&S, JOSOC, WEAC, WEOCC (or WE equivalent to MEOCC)

- f. Air Engineer Officers - NEOC, JNCC, OH&S, JOSC, AEAC (AEOCC)
- g. Supply officers - NEOC, JNCC, OH&S, JOSC, SUAC
- h. Training Systems Officers - NEOC, JNCC, OH&S, JOSC, TSAC
- i. Medical/Dental/Legal/Nursing Officers - intern/bar/nurses aid/work experience year, NEOC, OH&S

12. Officers recruited on successful completion of their approved course of study (like present direct entry officer recruits) shall undertake their full PQP post recruitment.

13. Students under DOSS sponsorship shall undertake their PQP during university breaks when not on leave. PQP component units/modules shall be timetabled so as to coincide with student vacation breaks (especially in December through February, a period over which 4 weeks can be spent on Xmas leave and the remaining 9 weeks can be spent undertaking PQP activities).

14. PQP durations will vary greatly from branch to branch, and depending on a DOSS student's chosen branch and his/her period under sponsorship, he/she may or may not complete his/her PQP prior to completing his/her approved course of study. Whereas those who do complete their PQP will be ready for their first operational posting, those who do not will need to complete their PQP at the earliest opportunity post completion of their study.

STUDENT CHOICE REGARDING PQP TIMINGS

15. Students shall be entitled to choose when they undertake their PQP subject to prerequisite sequencing considerations. For example, the MEOCC for Marine engineer Officers would need to follow MEAC, which in turn would need to follow a substantial amount of learning in the basic academic subject matter relevant to Marine engineers. So a DOSS MEO student undertaking a four year degree in mechanical engineering would probably be required to complete at least his/her second year of study before then being allowed to take a year off study perhaps in order complete the PQP, part of which would involve sea time. Careful consideration will need to be given to prerequisite sequencing, scheduling and timing considerations for the marine and weapons electrical engineering branches in particular.

PAY ARRANGEMENTS AND LEVELS UNDER DOSS

16. DOSS students shall receive a fortnightly income comprising a living allowance (LA) and a performance bonus (PB) based on performance in academic studies (and possibly achievement in professional military training).

EQUITY AND PARITY

17. The DOSS scheme is specifically designed to achieve the principles of equity and parity for all DOSS students and officer recruits irrespective of whether they:

- a. enter the DOSS scheme from the outset (ie. the start of their 1st year) of their studies;
- b. enter the DOSS scheme after having sponsored themselves through part of their Diploma/Degree, or
- c. are selected/recruited into the Navy/ADF on completion of their Diploma/Degree.

18. To achieve the equity and parity prescribed in paragraph 17 above, an integral part of the DOSS scheme, and the associated scheme of officer recruitment/selection, is the use of **retrospective sponsorship** to compensate those who:

- a. sign up under DOSS after having sponsored themselves through part of their Diploma/Degree, or
- b. are selected/recruited into the Navy/ADF on completion of their Diploma/Degree.

19. Under the DOSS scheme each officer recruit is viewed as a **highly and equally valued investment**, and through retrospective sponsorship, Navy/Defence provides equal sponsorship to officer recruits/appointees irrespective of their period of sponsorship. This means, for example, that a person (X) who is recruited/selected as an officer after sponsoring him/herself through a three year science degree will retrospectively be paid the equivalent amount actually paid to another person (Y) who completes a three year degree entirely under DOSS sponsorship (ie. for the full three years). [the present system, absurdly and inconsistently, suggests that the taxpayer (or defence recruiters and policy makers and implementers as entrusted agents of the taxpayer) should be prepared to pay close to \$200,000 for an ADFA science degree graduate who had passed a selection board over three years prior to graduation and subsequent Defence employment, but not a single cent to attract a person into the ADF who has saved the taxpayer the expense of sponsorship by self-sponsoring through a similar three year science degree course]

20. The retrospective sponsorship initiatives detailed in paragraphs 17 through 19 are designed to:

- a. achieve an ethically sound and legally watertight (especially from the viewpoints of parity, equity and equal opportunity) system of remuneration which removes the effective penalty on later entrants

- (who are in many respects advantageous in that they spare Defence of the problematic 'risk/burden of ownership' during their period of study) relative to those under DOSS sponsorship from the outset of their study;
- b. satisfy the principle of equal pay for equal productive effort and equal outcome;
 - c. attract an increasingly competitive pool of prospective Navy/Defence officers through the use of an immense incentive (through the integral vehicle of retrospective sponsorship) to tertiary graduates or tertiary students who have self-sponsored part or all of the way through their studies (hence and at any rate comprehensively allaying the fears held by some risk-averse Defence policy makers who are concerned to the effect that "if we don't get them in early [ie. straight from school] they'll slip through the net and be lost forever") – hence encouraging later entrants who otherwise might 'slip through the net';
 - d. achieve the highest quality of Navy/Defence officer recruits for the dollar (acknowledging that very good money will need to be offered to attract 'the best' in an increasingly competitive professional labour market); and
 - e. provide a retention control measure less coercive than and hence and otherwise superior to the traditional Return of Service Obligation (ROSO) [See para 22c especially and also paras 23-26].
21. Pay shall comprise the following components: [sums suggested are considered sound but are obviously intended to be subject to review; see also **Attachment 4**, which provides further description of the pay scheme set out below]
- a. fortnightly paid **annual living allowance (LA)**, based on year of study and rate of progression (pro-rata if less than full time loading), as follows:
 - LA1 = living allowance during 1st year studies = \$12000 per annum
 - LA2 = living allowance during 1st year studies = \$14000 per annum
 - LA3 = living allowance during 1st year studies = \$16000 per annum
 - LA4 = living allowance during 1st year studies = \$18000 per annum
 - {Note: 5th and 6th year Dental and Medical students might need to be separately case managed}
 - b. fortnightly paid **performance bonus (PB)** payable to students achieving credit grades and greater (the use of higher threshold grades for such a bonus could be detrimentally elitist in the wrong area ... we

want great leaders/warriors not great academics, but solid academic performance is clearly desired), as follows:

PB1 = performance bonus based on 1st year studies = \$2000 per annum

PB2 = performance bonus based on 1st year studies = \$2000 per annum

PB3 = performance bonus based on 1st year studies = \$2000 per annum

PB4 = performance bonus based on 1st year studies = \$2000 per annum

- c. **retrospective living allowance (RLA)** payable on a pro-rata basis to those whose DOSS sponsorship begins after they've completed an amount of study under their own sponsorship, as follows:

RLA1 = retrospective living allowance during 1st year studies = \$12000 per annum

RLA2 = retrospective living allowance during 1st year studies = \$14000 per annum

RLA3 = retrospective living allowance during 1st year studies = \$16000 per annum

RLA4 = retrospective living allowance during 1st year studies = \$18000 per annum

- d. **retrospective performance bonus (RPB)** payable to students achieving credit grades and greater (the use of higher threshold grades for such a bonus could be detrimentally elitist in the wrong area ... we want great leaders/warriors not great academics, but solid academic performance is clearly desired), as follows:

RPB1 = performance bonus based on 1st year studies = \$2000 per annum

RPB2 = performance bonus based on 1st year studies = \$2000 per annum

RPB3 = performance bonus based on 1st year studies = \$2000 per annum

RPB4 = performance bonus based on 1st year studies = \$2000 per annum

and

- e. Service and/or Seagoing allowances - shall be payable on a pro rata basis for periods of navy/military training and/or sea time as per regular Navy/Defence members.

PAYMENT TIMINGS

22. The various components of sponsored income set out in paragraph 21 above shall be paid at the following times:

- a. LA - fortnightly during year of sponsorship;
- b. PB - fortnightly in the year following that in which the credit average (or any other achievement deemed worthy of attracting PB - for example, Navy/military training performance) was achieved;
- c. RLA - 20% 'up front', the balance (80%) on expiry of ROSO (CPI indexed as appropriate) or upon **mutually acceptable early discharge** as defined in paragraph 26 below [so, for example, a person who enters the DOSS scheme after completing 3 years of a 4 year engineering degree would receive RLA of 20% of {RLA1 + RLA2 + RLA3} = 20% of {\$12000 + \$14000 + \$16000} = 20% of \$42000 = \$8400 'up front' {subject to CPI adjustment to achieve an appropriate net present value - although this complicating, albeit simple, CPI adjustment factor is perhaps not worth the trouble and could be dispensed with} with the balance of 80% of \$42000 = \$33600 payable on expiry of ROSO];
- d. RPB - a lump sum payable (and taking into account CPI indexation) 'up front' on enlistment under the DOSS scheme or upon formal selection/recruitment as an officer in the case of appointees who have completed tertiary courses completely prior to joining the Navy/Defence [so, for example, a person who enters the DOSS scheme after completing 3 years of a 4 year engineering degree would receive RPB of RPB1 + RPB2 + RPB3 = 3 x \$2000 = \$6000 'up front' {again subject to possible CPI adjustment}];

and

- e. Service and/or Seagoing allowances - paid fortnightly at the time of the service/seagoing activities that are the basis for their payment.

RETURN OF SERVICE OBLIGATION

23. (Subject to any recent legal updates) DOSS students shall, on successful completion of their course, be subject to a 'new improved' ROSO equating to the full time academic year equivalent of the length of course under sponsorship plus one year (eg. if one completes a 3 year degree under DOSS, a 4 year ROSO will apply)

24. DOSS students who fail to complete their course shall not be subject to any ROSO.

25. ROSOs under DOSS (I recommend this for the future of ROSOs across the board) shall be based on the principle of mutual (or bilateral) obligation whereby:
- a. the employee (officer who has received DOSS sponsorship) agrees to and is required to discharge his ROSO by undertaking a period of service equating to his/her course length plus one year;
 - b. the employer (Navy/Defence who has provided DOSS sponsorship) agrees to and is required to discharge its side of the ROSO by undertaking to provide a safe (according to best practice OH&S standards and legislation) and legally and ethically satisfactory working environment free of any form of harassment or discrimination (as per Defence Equity policies or their parent Human Rights and Equal Opportunity legislation, and common law provisions); and
 - c. the employee (officer who has received DOSS sponsorship) or employer (Navy/Defence) may discharge the ROSO and seek appropriate compensation in the event of breach by the other party. If the Navy is found to have, for example, discriminated against an employee, that employee shall be entitled to discharge from the ROSO, discharge from the Navy/Defence without any financial or other form of prejudice if he/she so chooses, and an appropriate redundancy package. If on the other hand an employee wishes to leave the Navy/Defence prior to serving out the full ROSO period, then he/she shall be duty bound (in the absence of a justifying breach by the employer) to repay his/her sponsorship on a pro rata basis; with accounts settled along with lump sum superannuation and long service leave payouts as applicable. (On reflection maybe we should follow the Price Committee's recommendation to abolish ROSOs!! There ARE better retention measures within our control!!)
26. A **mutually acceptable early discharge** is a discharge that is mutually accepted by both employee (officer who has received DOSS sponsorship) and employer (Navy/Defence) whereby both parties agree that discharge without any financial penalty shall be permitted in spite of a failure to serve out a ROSO period in full. [for example, on medical or compelling compassionate grounds - eg. the event of an officer with a disabled child]

RANK SENIORITY

27. Only those graduates who are selected by an officer selection board will actually be official/formally appointed. Successful graduation with at least a two year tertiary qualification (ie. a Diploma or Degree) will be a prerequisite for selection and formal/official/confirmed appointment as an officer in the Navy/Defence.

28. Throughout their period of sponsored study, DOSS students will be assigned the *provisional* 'rank' of Midshipman/Officer Recruit/Tertiary recruit.
29. Pay shall be assigned as per paragraph 21 above but official rank will not be assigned until successful graduation.
30. On appointment (having graduated, been selected and on acceptance of an offer of appointment) officers are assigned rank seniority as follows:
- a. graduate of a two year tertiary qualification (Diploma, Advanced Diploma or Associate Degree) - SBLT with four years remaining before promotion to LEUT;
 - b. graduate of a three year tertiary qualification (Advanced Diploma or Degree) - SBLT with three years remaining before promotion to LEUT;
 - c. graduate of a four year tertiary qualification (Degree - for example, BE, LLB, BA(hons), BSc(hons)) - SBLT with two years remaining before promotion to LEUT;
 - d. graduate of a five year tertiary qualification (Degree - for example a Dentistry degree) - SBLT with one year remaining before promotion to LEUT;
 - e. graduate of a six year tertiary qualification (Degree - for example a Medicine degree [MBBS]) - LEUT on promotion (ie. with zero seniority as a LEUT);
31. Rank (and pay) seniority additional to that set out in paragraph 30 can be assigned to appointees who have undertaken relevant work experience, but only very specifically relevant work experience shall constitute grounds for such 'advanced standing'. Advanced standing' will be considered on a case by case basis, but shall include, but not be limited to, grounds/bases/examples such as the following:
- a. for seaman branch warfare officers - employment in the merchant Navy;
 - b. for aircrew branch warfare officers - employment as a civil pilot;
 - c. for engineer officers - employment as an engineer or technical officer for an Australian (Commonwealth, State, Territory or Local) government or a private firm;
 - c. for training systems, medical, dental and nursing officers - employment in their respective field in the civil community;

32. For the purposes of assigning advanced standing as set out in paragraph 31, the following limitations shall apply:
- a. rank seniority shall be assigned on a pro-rata basis such that a maximum of one year's seniority shall be assigned for every two years of recognised relevant work experience (so, for example, an appointee assessed as having served exactly one year of relevant work experience shall be granted a maximum of six months rank seniority in addition to that set out in paragraph 29), and
 - b. LEUT with two years seniority is the maximum seniority level at which a recruit officer shall be appointed.

ADMINISTRATION

33. DOSS students shall be administered by a joint service cell (to be referred to as '**the Administration Cell**') comprising at least one officer from each of the three services. This cell should (though this is not essential) be located in Canberra under the JET (joint education and training) command.

34. The DOSS administration cell shall be responsible for:
- a. updating this policy statement herein as necessary to reflect the changing environment in the higher education sector and Navy/Defence requirements;
 - b. managing DOSS selection boards;
 - c. reviewing the performance of all DOSS students through half-yearly review boards
 - d. liaising with DOSS students and overseeing their day to day administration and pastoral care through the establishment and ongoing management of cooperative liaison/support offices in (1) defence establishments and (2) tertiary institutions themselves, and through visits to students studying in remote locations absent of Defence support infrastructure (for example, Southern Cross University, Lismore, NSW)
 - e. coordinating single service of joint service training during university breaks through liaison with relevant defence establishments
- and
- f. participating, along with ADF recruiters and manpower planners, in the decision as to how many DOSS students should be recruited each year.

(The duties suggested in the second, third and fourth 'dot points' in para 15.52 on page 174 of the Price Report should be carried out by the Administration Cell here)

ATTACHMENT 1

QUESTIONNAIRE RESULTS WHICH SUGGEST THAT NAVY/DEFENCE WOULD ATTRACT MORE TERTIARY STUDENTS AS PROSPECTIVE OFFICER RECRUITS IF IT INSTITUTED A MORE FLEXIBLE (RELATIVE TO ADFA) SCHEME (LIKE THAT RECOMMENDED BY THE PRICE COMMITTEE AND REPORT IN 1995) WHEREBY STUDENTS UNDER SPONSORSHIP COULD (1) LIVE AND ATTEND UNIVERSITY AT THE LOCATION OF THEIR CHOICE AND (2) BE GIVEN THE OPTION TO SPEND TIME AT SEA PRIOR TO GRADUATION

To whom this may concern,

I write here to inform of the results of a small questionnaire survey I conducted on Monday 4 May 1998 with fifteen ADFA Midshipmen who had just arrived at HMAS CERBERUS to undertake two weeks of engineering workshop practice.

The Midshipmen were asked to fill out the questionnaire shown at **Attachment 2**.

The results are as shown at **Attachment 3** (I have retained the originals) which comprises copies of all the filled out questionnaires and a two page summary table.

The results of the survey demonstrate as follows:

1. (Based on Q1 responses) One third of respondents stated that they were not made aware that they could join the RAN under the undergraduate scheme. Response # 11 (among several others) provides evidence of the manner in which recruitment was biased against the undergraduate scheme and toward the ADFA entry scheme.

2. (Based on Q3 responses) Thirteen of the 15 respondents (87%) stated that they would prefer to undertake their degree at a university of their choice, whilst living at the location of their choice rather than attend ADFA as they presently are. It is noteworthy that one of the two respondents who indicated that they would prefer the status quo lived at Sussex Inlet (Shoalhaven area), which is some 100 km away from Wollongong and 200 km away from Canberra. After Wollongong (which only has the one university level institution - the University of Wollongong itself), Canberra is the nearest location hosting a university (and including ADFA and the Catholic University, Canberra has four separate universities), so this individual might well have chosen to study at a University located in Canberra anyway if not accepted into ADFA, and would at any rate have needed to leave home anyway to attend University.

3. (Based on Q5 responses) Only 20% of respondents (the 3 of the 15 who chose option a) would prefer to complete their degree as is the case with the ADFA entry scheme (or the Undergraduate scheme) at present - that is, 'in the one hit' *without first going to sea*. Conversely, 80% of respondents (the 12 of the 15 who chose options b through e) expressed a preference to complete a year at sea prior to the year in which they complete their degree studies.

Just over one-half of respondents (53%; the 8 of the 15 who chose options c or d) expressed a preference to complete a year at sea prior to undertaking any degree studies.

Just under one-half of respondents (47%; the 7 of the 15 who chose options b, d and e) expressed a preference to split their degree studies up into two stages. The remainder (53%; the 8 of the 15 who chose options a or c) expressed a preference to complete their degree 'all in the one hit'.

CONCLUSIONS

The results of this survey suggest that an appropriately designed undergraduate scheme along the lines recommended (Recommendation # 16) in the 1995 Price (Joint Standing Parliamentary Committee on Foreign Affairs, Defence and Trade) would, all else being equal (especially pay levels as per the wording of option b in Question 3, noting that if a MIDN lived at a location of his/her choice, he/she would obviously not have to contribute R & Q) attract *more* applicants, rather than less, as was feared by those who doubted the prudence of the Price Committee's recommendation to abolish the ADFA undergraduate programme.

Mark Drummond
10 Jun 1998

QUESTIONNAIRE

Q1. When you applied to join the Navy were you advised of other options through which you could become a Naval officer (e.g. the Undergraduate scheme)? If yes, please explain?

Q2. In what state/territory and town/suburb/city did you live prior to joining ADFA?

Q3. Please **circle** which of the following options would you prefer if you had the choice:

- a. Undertake your degree and training at ADFA as you presently are;
- b. Undertake your degree at a university of your choice, whilst living at the location of your choice (at home, university campus or wherever), receiving the same leave and pay as you'd get whilst at ADFA plus your R & Q charges, and attending single-service/tri-service training during Uni breaks;
- c. Another option of your own choosing - please detail in the space provided below:

Q4. Are you doing a BE or a BTech? _____

Q5. Which of the following options would you prefer if you had the choice? (Note that whilst at sea you'd be in receipt of service and seagoing allowance, totalling approx. \$11,000 per annum; more if you were on a submarine)

- a. Undertake your degree at ADFA as you presently are 'all in the one hit';
- b. Undertake your degree at ADFA as follows: first do first two years of your course; then do a year at sea; then return to ADFA to finish off your degree;
- c. First go to sea for a year; then go to ADFA to do your degree 'in the one hit';
- d. First go to sea for a year; then do first two years of your course; then do another year at sea; then return to ADFA to finish off your degree;
- e. Another option of your own choosing - please detail in the space provided below:

ATTACHMENT 3 - SUMMARY

SUMMARY OF RESULTS OF QUESTIONNAIRE - Note: all written responses are shown here re-typed in full									
Response #	Q1	Q1 amp	Q2	Q3	Q3 amp	Q4	Q5	Q5 amp	
1	yes	Yes, if my ADFA application was unsuccessful I could go undergraduate scheme. Either that or enter as direct entry through CRESWELL	QLD	b	-	BE	c	-	
2	no	-	VIC	b	-	BE(Aero)	d	-	
3	yes	Yes but only as a passing mention, ADFA was advised as the best method of joining	TAS	b	-	BE	e	-	Do the 3 years of the degree - go out in the fleet for a year then come back and do the final year of the degree as an ADSS [ADSS?]
4	yes	Yes, I was told to apply if I missed out on ADFA in the following year	NSW	a	-	BE(Mech)	a	-	do the 3 years, then go to RMC, then come back
5	yes	Yes, I was told about direct Entry and Undergraduate. The options were described but they were secondary choices to ADFA	SA	b	-	BE	b	-	
6	yes	Yes, the undergraduate scheme and NEOC were both presented to me as options	TAS	c	As per B, as long as the periods of SST and CMT allowed at least 2.5 months	BE	c	-	
7	yes	Yes, through RMIT	WA	b	-	BE	d	-	
8	yes	Yes, I was informed of being able to enter either as an undergraduate or a direct entry officer, or through ADFA	QLD	a	-	BTech	a	-	
9	yes	Was given the option of Undergraduate scheme as a second choice to ADFA. Because I had already done a year at RMIT it was made clear to me that the undergraduate scheme was an option	VIC	b	-	BE	a	-	

ATTACHMENT 3 - SUMMARY

10	yes	I was only advised of the Undergraduate scheme, this was only brought up briefly. It was my 2nd option (instead of ADFA), as a result I didn't look into any further at that stage	VIC	b	-	BE(Mech)	c	-
11	yes	They told me not to bother with undergraduate scheme and just apply to ADFA	VIC	b and c	Just study with pay and no military attachment until degree is finished. Both b and c are good options.	BE(Mech)	e	Start degree at RMIT do a year of work during 3rd year at sea then finish 4th year at RMIT
12	no	-	QLD	b	-	BE	b	-
13	no	-	VIC	b	-	BE	c	-
14	no	No, I wasn't informed personally but I did realise ADFA wasn't the only way	QLD	b	-	BE	c	-
15	yes	Yes- Direct Entry to Creswell --> post graduate degree. Undergraduate was mentioned, but ADFA at the time was the main focus & wasn't explored. If I did not gain entrance to ADFA then I would have looked into this option in more detail.	VIC	b	Alternatively c. Undertake all Military training first, then having the university course afterwards, so that the two could not clash.	BE(Aero)	d	-
Q1 yes	10					Q5	#	%
Q1 no	5			Q3 a	2	a	3	20.00
Q1 yes (%)	66.67			Q3 b/c	13	b	2	13.33
Q1 no (%)	33.33			Q3 a%	13.33	c	5	33.33
				Q3 b/c%	86.67	d	3	20.00
				Q3b	11	e	2	13.33
				Q3b%	73.33	b to e	12	80.00

SAVINGS SUMMARY TABLE - shows savings estimates of various possible sponsorship schemes

(Note: TQ = tertiary qualification)

Basis for sponsorship amounts	total # sponsored students	Total Cost (\$m pa)	Ave. cost per selected graduate (assuming 300 graduates)	ADFA Total Cost (\$m pa)	Savings Estimate (\$m pa)	Sheet Ref
Price Recommendation 16	2462	21.0	69903	85.5	64.5	PriceP176
Price Table 15.5, p. 176	2462	25.5	85147	85.5	60.0	PriceP176
Mark D's suggested DOSS figures - min.	2462	39.1	130387	85.5	46.4	PriceP176
Mark D's suggested DOSS figures - max.	2462	44.0	146800	85.5	41.5	PriceP176
Price Table 15.4, p. 171	2462	43.4	144502	85.5	42.1	PriceP176
Official salary scales as at 17Oct96	2462	46.2	154027	85.5	39.3	PriceP176
Price Recommendation 16	1000	11.5	38333	85.5	74.0	PriceP176
Price Table 15.5, p. 176	1000	13.4	44667	85.5	72.1	PriceP176
Mark D's suggested DOSS figures - min.	1000	18.9	63000	85.5	66.6	PriceP176
Mark D's suggested DOSS figures - max.	1000	20.9	69667	85.5	64.6	PriceP176
Price Table 15.4, p. 171	1000	20.6	68803	85.5	64.9	PriceP176
Official salary scales as at 17Oct96	1000	21.8	72687	85.5	63.7	PriceP176
Mark D's max. cost figures: 25% of 300 selectees graduate with 2 yr TQ, 60% 3 yr TQ, 15% 4 yr TQ	1000	51.5	171667	85.5	34.0	Cost234a
****	800	42.2	140667	85.5	43.3	Cost234a
****	600	32.9	109667	85.5	52.6	Cost234a
****	500	28.3	94167	85.5	57.3	Cost234a
****	400	23.6	78667	85.5	61.9	Cost234a
****	375	22.4	74792	85.5	63.1	Cost234a
Mark D's max. cost figures: 50% of 300 selectees graduate with 2 yr TQ, 40% 3 yr TQ, 10% 4 yr TQ	1000	46.0	153333	85.5	39.5	Cost234b
****	800	37.8	126000	85.5	47.7	Cost234b
****	600	29.6	98667	85.5	55.9	Cost234b
****	500	25.5	85000	85.5	60.0	Cost234b
****	400	21.4	71333	85.5	64.1	Cost234b
****	375	20.4	67917	85.5	65.1	Cost234b
Mark D's max. cost figures: 80% of 300 selectees graduate with 3 yr TQ, 20% with a 4 yr TQ	1000	57.0	190000	85.5	28.5	Cost34
****	800	46.6	155333	85.5	38.9	Cost34
****	600	36.2	120667	85.5	49.3	Cost34
****	500	31.0	103333	85.5	54.5	Cost34
****	400	25.8	86000	85.5	59.7	Cost34
****	375	24.5	81667	85.5	61.0	Cost34
Mark D's max. cost figures: 25% of 300 selectees graduate with 2 yr TQ, 75% with a 3 yr TQ	1000	48.5	161667	85.5	37.0	Cost23
****	800	39.8	132667	85.5	45.7	Cost23
****	600	31.1	103667	85.5	54.4	Cost23
****	500	26.8	89167	85.5	58.8	Cost23
****	400	22.4	74667	85.5	63.1	Cost23
****	375	21.3	71042	85.5	64.2	Cost23
min. savings estimate (\$m pa) =					28.5	
max. savings estimate (\$m pa) =					74.0	

