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EXERCISE/EXERCICE NEW HORIZONS

The Canadian Navy of 2030: Personnel Reductions

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Abstract

This paper is about a conceptual Canadian navy of 2030, the trends leading to it and its most important resource, its people. This *Navy After Next* may well be 30 years hence but if the development of military capabilities requires lead times of up to 20 years then it is the near future resource, which will constrain planning for this new navy. That is, to have a desired naval capability by 2030, one must begin serious work on it in 2010, which is a mere 8 years away. A basic examination of budgetary, Human Resources (HR), demographic, policy and readiness trends within DND/CF was conducted. As it was determined that current trends are likely to continue, the status quo, with respect to the current force size of the Canadian navy, was not considered to be an option. Therefore, the last national avenue the Canadian navy has left to positively affect its overall situation vis-à-vis the Fleet of 2030 is to reduce its overall force size (i.e. number of uniformed personnel) in order to resolve its personnel recruiting/retention crisis and modernization efforts.

“Governments cannot live forever, for governments are born to grow and die as well as men...but mark my words, whoever may take over the reigns of power [in Canada] will have to have a navy, as every nation with a seashore must have and has had in the past”¹

“The *Navy After Next* – will always be conceptual, and will therefore never exist.”²

“The navy is not just about platforms and high-tech equipment – its very foundation is its people.”³

Introduction

Often people in uniform wish for the government of the day to change in the hopes that the ‘Next Government’ or ‘The Government After Next’ may do a better job of supporting the Canadian Armed Forces (CF), the grass is rarely greener on the other side of the political fence. Blaming the government for the current woes of the military and the Canadian navy in particular may be pop culture but it is not a solution and certainly not visionary or strategic in nature. Instead, the navy needs to understand our governments’, past and present, trend with respect to the military so that one may make some predictions about future governmental support and allocation of resources to the CF. This is knowledge that is important in being able to effectively plan the future of the CF. Force structure based upon hope of some mythical level of

¹ Leadmark: The Navy’s Strategy for 2020 (Directorate of Maritime Strategy, NDHQ, 18 Jun 2001) pg 168.

² “Leadmark” 22.

governmental resource allocation and the horsepower with which to turn it into tangible capability, by ignoring historical trends and future political pressures to spend elsewhere, is not sound strategic thinking and planning. Hope is not a course of action.

Being a fatalist or realist is not the issue. The Canadian navy has already published its strategy to 2020 in *Leadmark* and it is an ambitious one.⁴ The issue centres on whether or not the plan for the *Navy After Next* is affordable given resource trend analysis and this must be decided soon. The *Navy After Next* may well be 30 years⁵ hence but if “the development of military capabilities requires lead times of up to two decades (20 years)”⁶ then it is the near future resource, which will constrain planning for this new navy. That is, to have the naval capability you want by 2030 one would have to begin serious work on it in 2010, which is a mere 8 years away. Keep in mind that ‘capability’ is not just platforms and equipment but, most importantly, people.

This paper is about a conceptual Canadian navy of 2030, the trends leading to it and its most important resource, its people. A basic examination of budgetary, Human Resources (HR), demographic, policy and readiness trends within DND/CF will show that the Canadian navy will be driven by unrealized increases in funding and shortages in personnel to reduce its force size by 2030. Force size is taken to mean the Canadian navy’s overall number of uniformed personnel. The parallel issue of Fleet size (number of hulls) will not be discussed.

³ “Leadmark” 69.

⁴ “Leadmark”

⁵ “Leadmark” 22.

⁶ Shaping the Future of the Canadian Forces: A Strategy for 2020 (NDHQ, Jun 1999) pg 1.

General Situation

In the wake of the 11 September 2001 terrorist attacks on New York City and Washington, DC, the government of Canada delivered a new Federal Budget on 10 December 2001. Just three days earlier the Auditor-General of Canada had published her annual report in which a \$1.3 billion/yr ongoing deficit in DND's Operations and Maintenance account was highlighted.⁷ While those within DND and the CF had hoped for a real increase to the Department's budget in the light of these attacks, to address the problems that have arisen from years of insufficient funding, it was not forthcoming. An analysis of the Federal Budget stated that:

“The results of Budget 2001 indicate the following: the operational readiness of the CF will continue to decline, mainly as a result of under funding, which leads to a lack of trained manpower and progressive ‘rust-out’ of equipment, and inadequate logistics support. The government does not intend to raise defence expenditures above the level of 1.1% of GDP, and therefore the policy stated in *1994 White Paper on Defence* will remain largely unaffordable in the context of government priorities,”⁸ and that

“It is therefore likely that a defence policy update, schedule for release early in 2002, will direct further downsizing of the CF, with associated elimination or reduction of combat capabilities.”⁹

⁷ Sean Henry, An Analysis of Federal Budget 2001, (The Conference of Defence Associations, 16 Dec 2001) pg 3.

⁸ Henry 5.

In 2001/02, along with the Auditor-General's report already mentioned, there has been much discussion and report generation surrounding the current plight of the CF and the requirement for a Defence Review. One report in particular is noteworthy, *To Secure a Nation: The Case for a new Defence White Paper*.¹⁰ The premise of this report is that the current CF Force Structure cannot in fact support the commitments made in the *1994 White Paper*. A focus is on the enduring budget restraints and the challenges of recruiting, retention and leadership while presenting recommendations for the future CF. In fact it highlights that even, "the Auditor-General estimates that the military will be short \$4.5 billion during the next five years."¹¹ The thrust of the report is that, "[1994 White Paper] is so out of date in some of its content and so deficient in addressing new situations that have arisen since 1994, that a full, public defence review is now warranted."¹² Other interesting comments made relate to Canada's foreign policy and historic involvement with the UN, peacekeeping, NATO and the relationship with its neighbour to the south, the US. In particular, the UN and its peacekeeping operations are viewed as something Canada may want to move away from while becoming more involved and interoperable with its NATO Allies and the US.^{13,14,15} This is significant for the Canadian navy as it already stresses interoperability with the USN and NATO. With respect to Canada's foreign policy, the point is made that to conduct a defence review in isolation from a concurrent review

⁹ Henry 3.

¹⁰ Jim Ferguson, Frank Harvey and Rob Hubert, *To Secure a Nation: The Case for a new Defence White Paper*, (Centre for Military and Strategic Studies, University of Calgary, 9 Nov 2001)

¹¹ "A Call to Arms for Canada." <http://www.stratnet.ucalgary.ca/ccs/ccs21nationalpost/ccs21-npost4.htm> 15 Jan 2002.

¹² Isabel Vincent, "Canada's Combat Incapability," *National Post* 9 Nov 2001, <http://www.stratnet.ucalgary.ca/ccs/ccs21nationalpost/ccs21-npost3.htm>

¹³ Sheldon Alberts, "Eggleton promises new review of defence. Says 1994 paper 'sound'," *National Post* 10 Nov 2001, <http://www.stratnet.ucalgary.ca/ccs/ccs21nationalpost/ccs21-npost5.htm>

¹⁴ Vincent.

¹⁵ Chris Wattie, "Closer partnership with US urged. Eschew isolation: report: 'Threats to American security interests are threats to Canada'," *National Post* 9 Nov 2001, <http://www.stratnet.ucalgary.ca/ccs/ccs21nationalpost/ccs21-npost2.htm>

of foreign policy is not recommended as, “your foreign policy drives your defence policy.”¹⁶ In response to such criticism, the current MND has said, “Everything needs to be reviewed. There is no doubt about it” and, “...we have long been concerned about the United Nations and peacekeeping operations.”¹⁷ Vague, but certainly an acknowledgement that something needs to be done.¹⁸

To summarize the above situation then is to say that the time is right within the CF to take stock of its funding, HR and force size situation as it looks to move forward.

Existing Trends

DND Budget

Figure 1 below is used simply to show the almost historically constant budgetary DND allocation of between 1 to 2% of GDP against other growth allocations and against public debt charges and health care/social benefits. Figure 2 is to show how DND spending per capita has in fact not changed and remained roughly the same. The significance of Figures 2 and 3 is to show that “today's [DND] spending level has a purchasing power roughly equivalent to that of the mid

¹⁶ Alberts. This quote is taken from the Chairman of the Commons Defence Committee who also supported not delaying the defence review because of the current campaign against terrorism. The new article goes on to paraphrase the Chairman, “He said that Ottawa should launch a foreign policy review early in 2002 and follow that with a defence review.”

¹⁷ Alberts.

¹⁸ Jeff Sallot, “Ottawa takes a fresh look at its place in new world,” *The Globe and Mail* 15 Apr 2002, http://www.theglobeandmail.com/servlet/GIS.Servlets.HTMLTemplate?tf=lgam/common/FullStory.html&cf=lgam/common/FullStory.cfg&configFileLoc=lgam/config&vg=BigAdVariableGenerator&date=20020415&dateOffset=&hub=national&title=national&cache_key=national¤t_row=4&start_row=4&num_rows=1. “In an interview, Foreign Affairs Minister Bill Graham said the government will review both defence and foreign policies, the first such review in seven years.”

1970s.”¹⁹ The competition is obviously trending in two areas: Health and Social Services, up some 2.4 times, and Public Debt Charges, up some 3 times over the same period. One may conclude that these 30 year trends make it highly unlikely that DND will see any real increase in its budget/spending power in the future as the population ages. This was highlighted in a recent DND paper on strategic HR issues:

“Older Canadians will demand that increased attention/tax dollars be devoted to: health, pensions and policing...the overall Canadian population will begin to decline during the 2030s and the workforce/tax base will start to reduce in the 2020s.”²⁰

**CONSOLIDATED GOVERNMENT EXPENDITURES AS A PERCENTAGE OF GDP /
DÉPENSES AGRÉGÉES DU GOUVERNEMENT EN POURCENTAGE DU PIB**

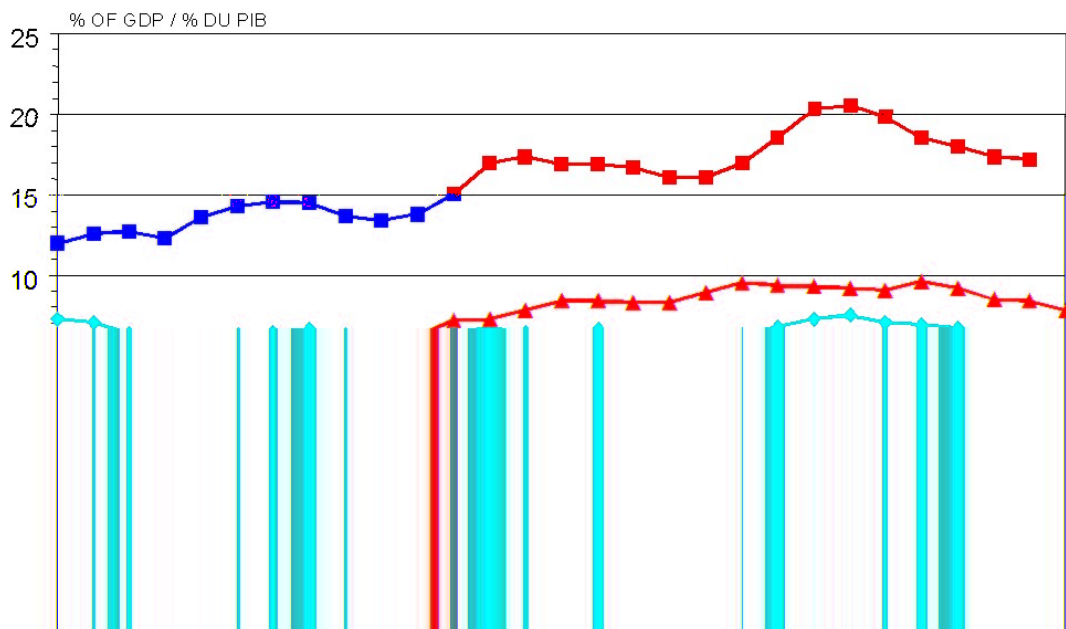
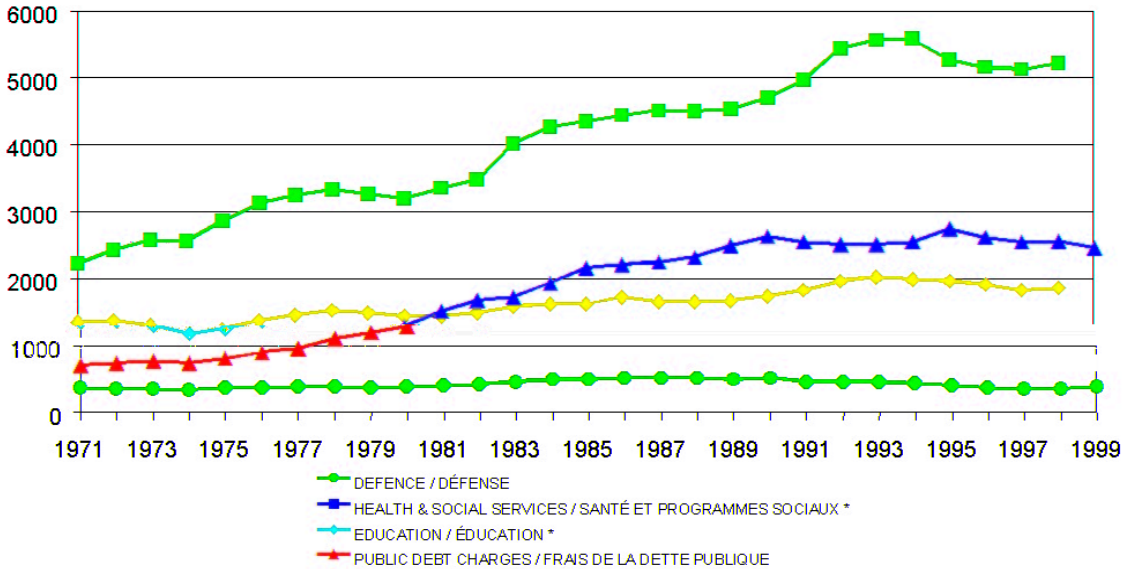


Figure 1: GDP vs. DND percentage Trend²¹

¹⁹ “Making Sense out of Dollars 2000-2001.” http://www.dnd.ca/admfincs/financial_docs/Msood/msood_e.asp#p27
8 Apr 2002.

CONSOLIDATED GOVERNMENT EXPENDITURES PER CAPITA /
DÉPENSES AGRÉGÉES DU GOUVERNEMENT PAR HABITANT

1999 CONSTANT YEAR DOLLARS / EN DOLLARS CONSTANTS DE 1999



SOURCE: STATISTICS CANADA
SOURCE: STATISTIQUE CANADA

*1999 data was not available at time of publication of this edition.
*Les données pour 1999 n'étaient pas connues au moment de la publication de cette édition.

Figure 2: DND per capita expenditure trend²²

²⁰ Cdr A. Okros, INTO THE 21ST CENTURY: STRATEGIC HR ISSUES, (Defence Management Committee Discussion Paper, 30 Mar 1999) pg 2.

²¹ http://www.dnd.ca/admfincs/financial_docs/Msood/images/graph15_b.jpg 8 Apr 2002.

²² http://www.dnd.ca/admfincs/financial_docs/Msood/images/graph16_b.jpg 8 Apr 2002.

DEFENCE EXPENDITURES HISTORICAL TREND / ÉVOLUTION DES DÉPENSES DE DÉFENSE

2000 CONSTANT YEAR DOLLARS / EN DOLLARS CONSTANTS DE 2000



SOURCE: PUBLIC ACCOUNTS, ESTIMATES PART III (VARIOUS YEARS) AND THE DND ECONOMIC MODEL.
SOURCE: COMPTES PUBLICS, BUDGET DES DÉPENSES, PARTIE III (ANNÉES DIVERSES) ET MODÈLE ÉCONOMIQUE DU MDN.

Figure 3: DND Budget Trend²³

Chief Maritime Staff (CMS) Budget

Generally speaking it may be said that the trend in the overall DND budget applies equally to the monies allocated to the navy from this budget. In the most recent MARCOM Impact Assessment 2002 presented by the Chief of the Maritime Staff (CMS) stated that:

“In the face of costs rising at greater than 1.5% for personnel, consumable materiel, support infrastructure and operations and maintenance [O&M], increasing the proportion

²³ http://www.dnd.ca/admfincs/financial_docs/Msood/images/graph20_b.jpg 8 Apr 2002.

of the...budget that can be devoted to the change agenda remains problematic...essential pressures continue to place unprecedented demand on MARCOM O&M funds. In FY 02/03, demand exceeds supply by \$100M...the navy has reached the point where there is little flexibility left in the sustain agenda...the maintenance of balance between sustaining current capability at a minimum level, investing in Quality of Life (QoL) and Quality of Work (QoW)...generating savings for the future and implementing change continues to be elusive.”²⁴

Clearly, the navy does not have enough money to do everything that is expected of it.

DND Human Resource (HR) Funding

Figure 4 shows the total CF personnel strengths trend from 1992-2002 with an estimate to 2004. In her 2002 Report, the Auditor-General further highlighted the situation by stating that:

“Since 1992, the trained effective strength in the regular force has averaged 92% of the military population. However, by 2001, the trained effective strength had fallen to 90%...projections showed that it could drop below 80% by 2004.”²⁵

²⁴ MARITIME IMPACT ASSESSMENT 2002 (NDHQ: Impact assessment for the three-year planning period commencing 1 Apr 02, no date) 1-2.

²⁵ “2002 Report of the Auditor General of Canada – Chapter 5,” Office of the Auditor General of Canada Apr 2002: pg 2 (<http://www.oag-bvg.gc.ca/domino/reports.nsf/html/0205ce.html>)

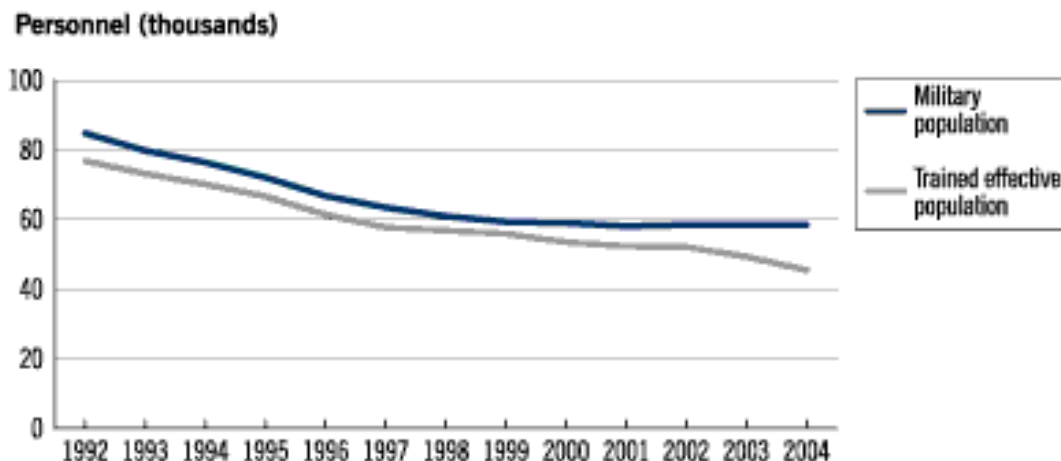


Figure 4: CF personnel strength Trend²⁶

As a result of mandated reductions and reorganization, the budgetary cuts of the 1990s, recruiting and retention problems, the Regular Force total strength or, rather, its Preferred Manning Level (PML), has been set at approximately 54,500 for 2002.²⁷ This figure is short of the projected *1994 White Paper* strength of 60,000.²⁸ What is worse is that out of that 54,500 only some 52,500 form part of the Trained Effective Strength (TES), those who are available and/or trained and ready to be employed on operations or elsewhere (Figure 5).²⁹

²⁶ <http://www.oag-bvg.gc.ca/domino/reports.nsf/html/0205xe01.html> 17 Apr 2002.

²⁷ "PARRA, OSR, PSR, SPR, SIP (amongst other things)," DGMHRPP and DGPPRHM, NDHQ 4 Dec 2001: Slide 5 (PowerPoint presentation given to 1 CAD Staff, DMHRR Brief 2001.ppt).

²⁸ "1994 White Paper on Defence." <http://www.dnd.ca/eng/min/reports/94wpaper/seven.html#TotalForce> 8 Apr 2002.

²⁹ "PARRA" slide 5.

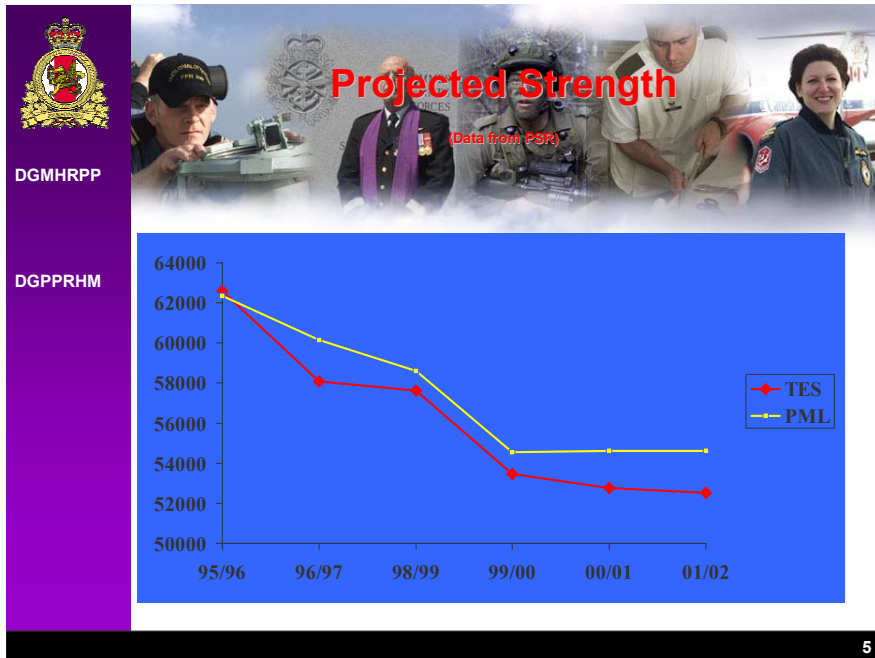


Figure 5: PML vs. TES Trend³⁰

What is perhaps more disconcerting about Figure 5 is what it doesn't show. Further analysis out to 31 Mar 2003 predicts a TES across the CF of only 49,286.³¹ What is also noted when speaking about fluctuations in the TES and how it may grow to meet the PML is the time it takes to produce a TES person (NCM 18 months and Officer 2-7 years). This may not appear unreasonable except that our present training production process does not necessarily respect it i.e. the CF can't train the right number of people in the right time frame.³²

If there are fewer people within DND now than in the past, one would think that HR costs might be less thus enabling a possible transfer of funding to other areas of DND. While this

³⁰ "PARRA" slide 5.

³¹ "PARRA" slide 28.

³² "PARRA" slide 32.

might seem like a good way to generate revenue needed elsewhere, it isn't reality. Figure 6, below, shows what appears to be a shrinking personnel cost trend during the aforementioned period of personnel cuts within DND. Note that over this same period where the CF also reduced the size of its infrastructure (e.g. Base closures), Operations and Maintenance (O&M) costs actually increased.

**TREND IN DND EXPENDITURES BREAKDOWN /
ÉVOLUTION DE LA RÉPARTITION DES DÉPENSES DU MDN**

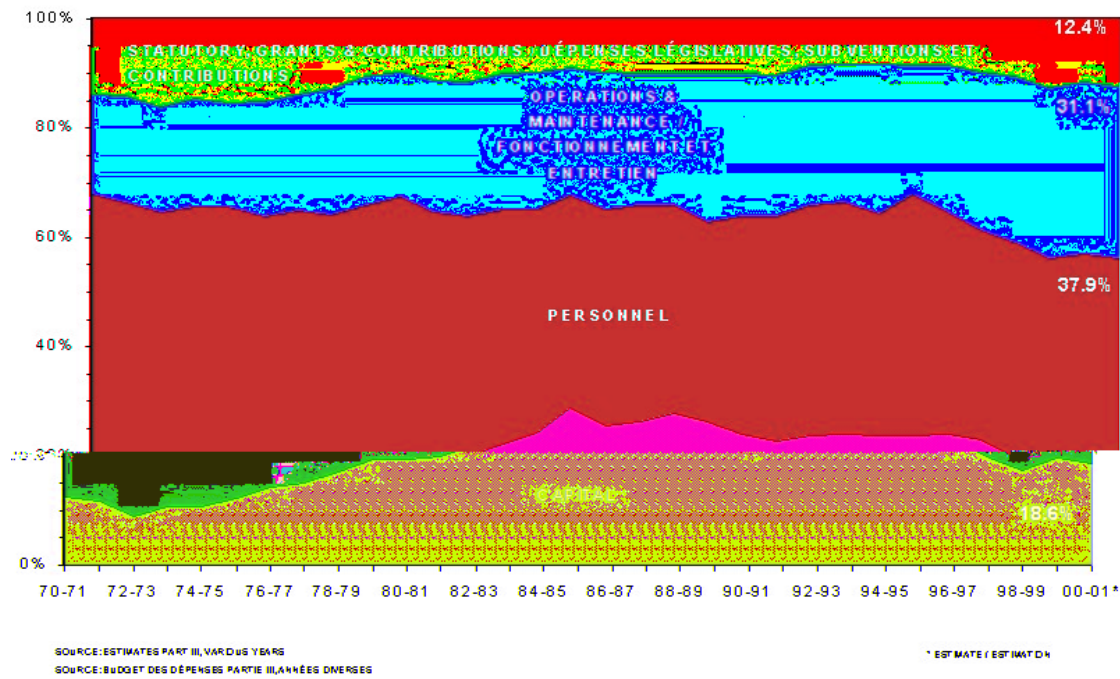


Figure 6: Personnel Cost as % DND Budget Trend³³

However, this roughly 38% or “\$4.2B spent to pay our personnel, including civilians, does not include all personnel related costs. The total personnel related costs are approximately

³³ http://www.dnd.ca/admfincs/financial_docs/Msood/images/graph22_b.jpg 9 Apr 2002.

\$5.7B or 51% of net National Defence expenditures.”³⁴ Improvements in pay and other QoL initiatives in the past decade have undoubtedly contributed to this growth and the overall trend shows that they are unlikely to decrease. Personnel are becoming more and more expensive.

CMS HR Funding

As touched on above in the *CMS Budget* section, the personnel costs within the navy continue to rise. Investing in the QoL/QoW and recruiting of personnel costs money, money that has not always been allocated to support this type of change agenda item. For example, there is roughly \$6.6 million in non-recurring funds being allocated to naval HR issues in 2002/03 with at least a further \$2 million in unfunded but desired HR activities for the same period.³⁵ The problem with unfunded desired/needed activity is that it may never happen unless at the sacrifice of something else which may simply exacerbate or create another problem. The problem with non-recurring funding is that the activity or change that you implement one year may not come with any new, recurring funding (i.e. a real increase in your overall budget) in successive years. If implementation is to be permanent, then the money to continue to support the change initiative would require it to be taken away from another funded area. When budgets are already stretched to the limit, a ‘rob Peter to pay Paul’ approach is not an avenue to future success but rather to eventual failure. A focussed, accepted and most likely, permanent reduction in one area will eventually be required.

³⁴ “Making Sense” http://www.dnd.ca/admfincs/financial_docs/Msood/msood_e.asp#p47 9 Apr 2002.

³⁵ “MARITIME IMPACT” 3,7,13,14.

DND Demographics

Figures 4 and 5 above introduced the trend in overall personnel strength within the CF but they are only one aspect of the demographic issue. There is also a trend developing that shows that the CF is getting older (Figure 7 below). With the year 2002 changes in policy extending the potential Compulsory Retirement Age (CRA) until age 60, we are likely to continue to get older. The importance of Figure 7 is that it is the younger CF generation that comprises the majority of the operational personnel normally available for deployment. The older generation primarily fill the staffing and line functions at home and do not deploy. This is especially relevant in the officer corps. So, in theory, the older you get as an organization, the fewer people you have to deploy thereby reducing your ability to continue to meet these taskings as assigned.

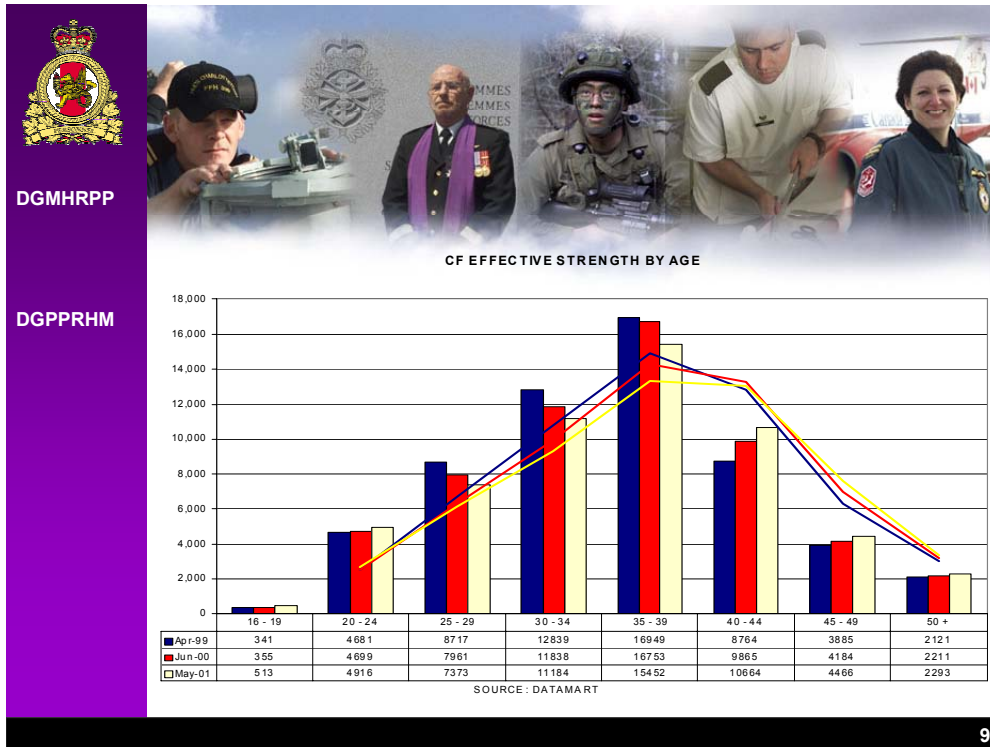


Figure 7: CF Effective Strength by Age³⁶

One of the causes of this aging problem was the Force Reduction Plan (FRP) of the mid 1990s, “a broad, relatively unstructured process under which large numbers of personnel were offered generous terms to leave the CF early.”³⁷ The thrust of the FRP was to realize approximately \$1.0 billion in savings that could be converted and used to modernize equipment and improve capability, to help recapitalization.³⁸ As mentioned and shown above, reducing numbers of personnel does not mean reducing cost, it’s not a 1 to 1 solution. This is what happened with FRP, the monies were “consumed in other areas before it could be spent.”³⁹

³⁶ “PARRA” slide 9.

³⁷ Major Jeff Tasseron, “MILITARY MANNING AND THE REVOLUTION IN SOCIAL AFFAIRS,” *Canadian Military Journal* Autumn 2001: 54.

³⁸ Tasseron 54-55.

³⁹ Tasseron 54.

The other interesting fallout from the FRP is that it created the ‘Strength by Age’ problem shown in Figure 7 above. In an effort to get the CF’s manning distribution to some “ideal profile – away from mid-career, relatively expensive and generally overborne personnel towards the already developing shortfall in junior personnel...the opposite occurred.”⁴⁰ This ‘FRP Effect’ is shown in Figure 8 below:

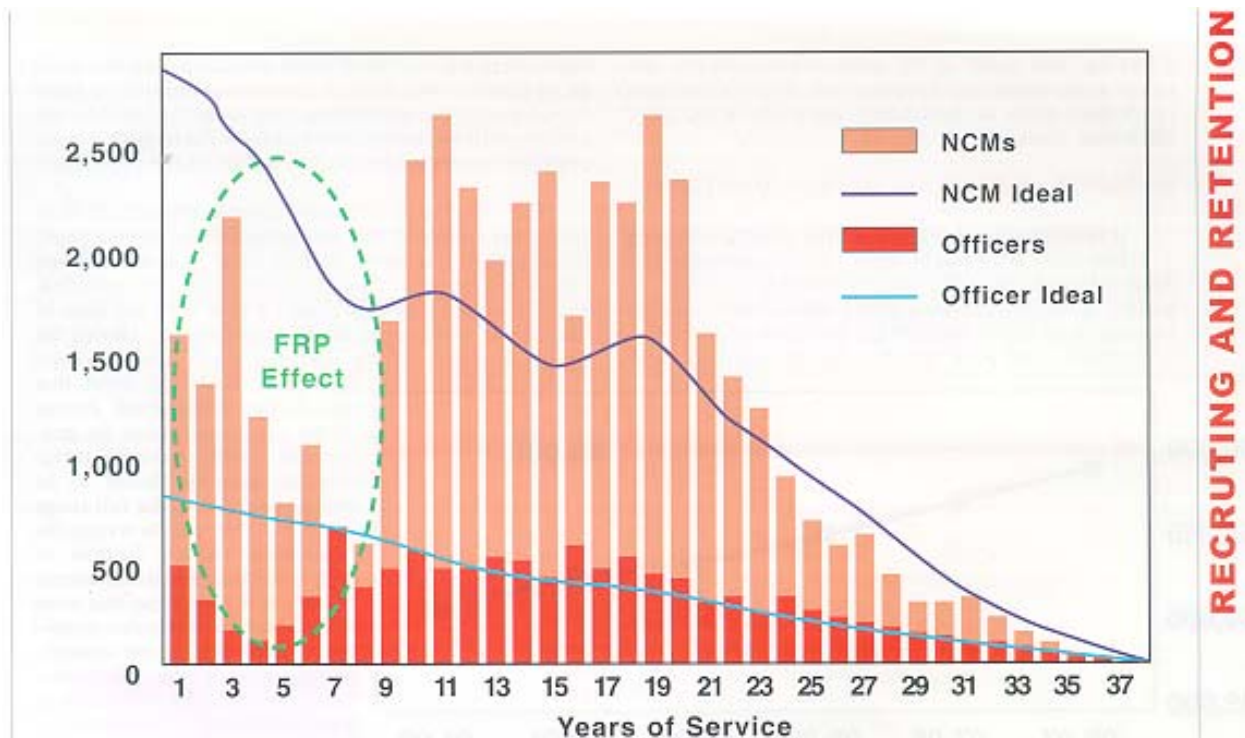


Figure 8: Current Years of Service vs. Ideal Distribution⁴¹

As just mentioned a developing personnel shortfall was beginning about the time of FRP. What FRP did was exacerbate what has become a DND recruiting/retention problem. As the CF

⁴⁰ Tasseron 55.

⁴¹ Tasseron 55.

downsized, the economy got better and the competition for the personnel the CF sought⁴² to recruit got stiffer (Figure 9 below). Despite the CF's recent, highly publicized (and more expensive) recruiting campaign,⁴³ recruitment is falling short. The most recent personnel intake numbers from Apr 2001 to Jan 2002 still show the CF almost 30% short for officers and 40% short for NCMs.⁴⁴ This could be due in part to the “overly optimistic” annual recruiting targets which are setting goals that are 3 to 4 times (7200 and 9400) the trend in recruitment numbers as seen from 1996/97 though 1999/00.⁴⁵

Of course these recruiting or enrolment numbers don't account for attrition and time in training. Typical basic training failure rates range between 20-50% and with the aforementioned training times of 18 months for NCMs and 2-7 years for Officers, “the numbers of people actually attracted would need to be much higher - between 14,000 and 37,600.”⁴⁶ Although the author does not believe that a 50% training failure rate, producing a recruiting target of 37,600, is reasonable, the very low end 20% training failure is probable. This would produce a recruiting target of 14,000 annually which could with all reality not be met, by any stretch, not even close to it over the next 3 to 4 years or beyond.⁴⁷ The problems that are created by these likely unsuccessful recruiting targets (based upon the CF's current force size) are best highlighted in the Auditor-General's 2002 Report where:

⁴² Tasseron 54.

⁴³ “2002 Report of the Auditor General of Canada – Chapter 5” 5. “Spending on advertising increased from \$3.68 million in April 2000 to \$13.78 million in March 2001.”

⁴⁴ “PARRA INTAKE REPORT – JAN 02,” CFRGHQ Borden 13 Feb 2002 (EXCEL spreadsheet, emailed to author 15 Feb 2002, PARRA-INTAKE-FY 01-02-amend-1.xls)

⁴⁵ Christopher Ankerson and Losel Tethong, “Retain or Perish: Why recruiting Won't Save the CF,” The Canadian Institute of Strategic Studies Mar 2001.

⁴⁶ Ankerson and Tethong.

⁴⁷ Ankerson and Tethong. Figure 1 of the authors' article reveals the following enrolment and release averages for the period 1992/93 to 1999/00: Enrolled/year 2222, Releases/year 5431. Removing the downsizing years/FRP

“Departmental research staff estimate that, depending on recruiting success, it could take up to 30 years before the military population profile is such that the right numbers are available with the skills and experience to match the demand.”⁴⁸

This personnel problem is likely to become worse as it is expected that the CF's older workforce will begin to experience an “extremely high turnover starting around 2005...[creating] rapid advancement and a shortage of skilled or experienced personnel to fill vacant positions.”⁴⁹ The other key issue is that DND's operational commitments have grown in the past 10 years as, unfortunately, have the demands being placed on its personnel when not deployed on operations.⁵⁰ The concern is the creation of a cumulative effect of exceeding demands on people, which could, “particularly for the CF, [to] reduce commitment, increase burnout and contribute to elevated unscheduled attrition.”⁵¹ Again in her 2002 Report, the Auditor-General has highlighted this problem by stating that, “many of the retention initiatives will not be implemented until after 2003, by which time many personnel will already have decided to leave.”⁵² This would obviously make the problems with the recruiting numbers discussed above even more of a crisis.⁵³

numbers from 1992/93 to 1996/97 still results in a significant deficit to the side of enrolment: Enrolled/year 2466, Releases/year 3874.

⁴⁸ “2002 Report of the Auditor General of Canada – Chapter 5” 6.

⁴⁹ Okros 8.

⁵⁰ Okros 9.

⁵¹ Okros 9.

⁵² “2002 Report of the Auditor General of Canada – Chapter 5” 9.

⁵³ “National Defence 2002-2003 Report on Plans and Priorities,” NDHQ Ottawa 20 Mar 2002: 52 (ACROBAT pdf file accessed from http://www.vcds.forces.gc.ca/dgsp/dfppc/pubs/rpp01/intro_e.asp) Table 10 figures set the Military Regular Force Full Time Equivalent (i.e. PML) out to 2004/05. The Table estimates 2001/02 at 57,279 which we now know we didn't meet. From 2002 to 2005, the Table sets the estimate at 60,500. Because these

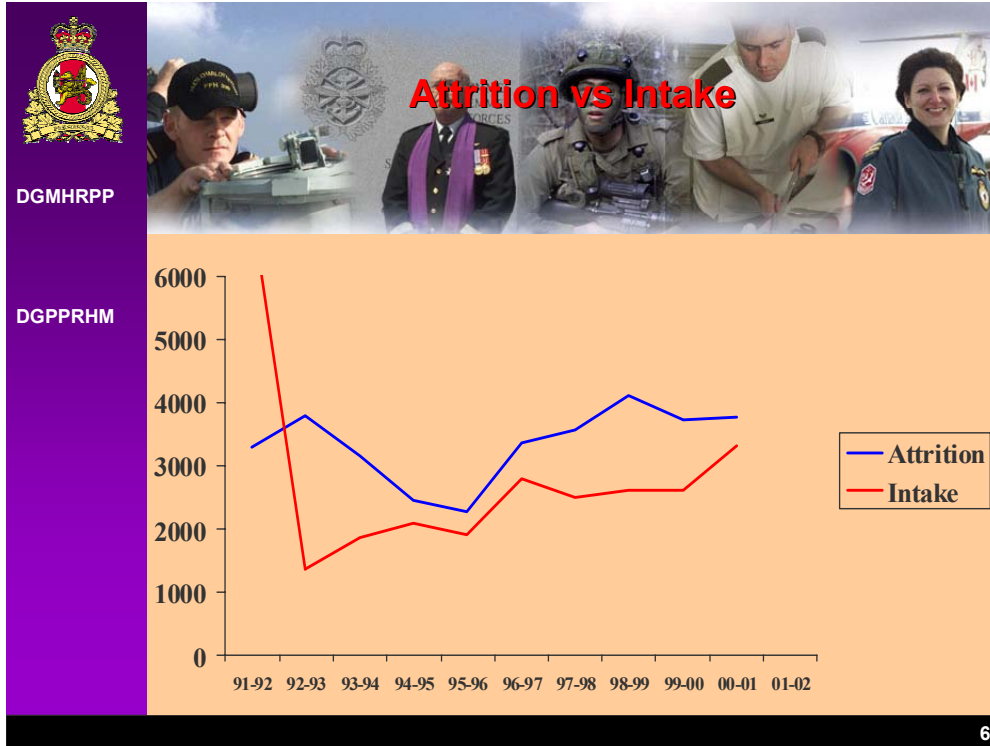


Figure 9: CF Attrition vs. Intake⁵⁴

CMS Demographics

The navy is short of personnel: critically short in many areas. In fact, 45% of the navy’s trades’ classifications (MOC) are currently in distress.^{55,56} An unfortunate result of these shortfalls is that personnel in these MOCs face more seetime and greater workloads. This in turn increases their chances of burnout due to “excessive personnel tempo”⁵⁷ and possibly attrition,

numbers have been derived from an examination of capabilities and what we require to support them, not meeting them will only make matters worse, perhaps past critical in terms of maintaining existing capabilities.

⁵⁴ “PARRA” slide 6.

⁵⁵ “Canadian Forces Recruiting Improvement Study,” ADM HR(MIL) NDHQ 3 Apr 2002: pg ii (Partenaires Delta Partners, MS Word document, executive draft.doc)

⁵⁶ “MARCOM Impact” 3.

⁵⁷ “MARCOM Impact” 3,4.

making matters worse.⁵⁸ It is forecast to take 3 to 7 years before naval TES meets PML and that is only if the recruiting shortfall is remedied.⁵⁹ These personnel shortages, coupled with a change in the navy's readiness posture (which will be discussed later) have resulted in a situation where there is concern over:

“the dwindling experience level of sea going personnel. Also, as a result of relative inactivity in the development of the navy's capital programme, a similar, relative lack of experience exists within the Maritime (and ADM (Mat)) Staff.”⁶⁰

It is important to note the personnel/experience shortfalls that also exist within both the aforementioned ADM (Mat) capital programme and the Fleet Maintenance Facilities (FMF) under CMS. The Director General Maritime Equipment Programme Management (DGMEPM) is the design authority for all naval equipment and is home to all of the equipment Life Cycle management (LCMM) and minor/major/capital equipment engineering project management and procurement staff. They develop, bring into service and support, along with CMS staff, all naval equipment capability. However, within both the DGMEPM and FMF organizations the personnel situation is precarious:

“[within DGMEPM] 30% of the civilian positions are vacant. Nearly a third of the civilian population of MEPM are over 50, with few new personnel coming in. Over 100 personnel are eligible for retirement in the next 5 years... The current impact is that even

⁵⁸ Minutes (Hull, PQ: MARE Council, 27-28 Nov 2001) 4,5.

⁵⁹ “Canadian Forces Recruiting” i.

⁶⁰ “MARCOM Impact” 4.

if CMS was given more money, MEPM does not have the staff to spend it [on equipment/projects],”⁶¹

“[the FMFs'] aging workforce, MEO [Most Effective Organization] and work rules hindered the retention of young employees. 140 personnel will retire in the next 5 yrs, 600 personnel in the next 10 yrs. There are virtually no apprentices in the system. The FMFs do not have the funds to set up an apprentice program (trainers and mentors).⁶² The problem is exacerbated by regional and demographic trends that severely limit the availability of skilled replacement workers for retiring employees,”⁶³ and

“The solution is not as simple as contracting out. Contractors are running out of personnel...The concern expressed was does senior leadership really know how short we are and that we cannot meet their expectations.”⁶⁴

The problem within DGMEPM has already had an adverse affect on the capital programme. With project managers having too many projects on their plates without sufficient help and with a bureaucracy that is hindering project approvals, projects are now suffering from “significant and unpredictable” delays.⁶⁵ With so many highly experienced and well-trained DND personnel expected to retire within the next 5-10 years it is difficult to imagine how both impending key strategic projects and the maintenance of the Fleet can be expected to progress in

⁶¹ “Minutes” 5.

⁶² “Minutes” 5.

⁶³ “MARCOM Impact” 4.

⁶⁴ “Minutes” 5,6.

⁶⁵ “MARCOM Impact” 6.

a satisfactory manner. A 'satisfactory manner' would mean one that is in line with current expectations and commitments, while avoiding premature rust-out.⁶⁶

The navy's new Director General Maritime Personnel and Readiness recently provided a succinct summation of the CMS demographic issue when he wrote that:

“The navy today finds itself well equipped with leading edge technology but undermanned and competing from a position of relative anonymity for a comparatively scarce skilled workforce with changed values and expectations.”⁶⁷

External Demographics

Can the CF or will the CF be able to improve or maintain its personnel strength in the future? There is a distinct possibility that it won't be able to compete effectively with the private sector for new recruits. There is a fundamental shift taking place within the general workforce as a by-product of the Information Age, known as the *Knowledge Economy*. As was the case with the Revolution in Military Affairs (RMA), brought on by the technology inherent in the Information Age, the *Knowledge Economy* could also be referred to as a Revolution in Business Affairs (RBA). The *knowledge-worker* will have to be highly adaptable, technically oriented/educated, flexible, dynamic and agile while being at ease operating in a networked environment. Although the current trend indicates that more students are staying in high school to graduation and that even more will attain post-secondary degrees/diplomas, there continues to

be an insufficient knowledge base of maths and sciences amongst high school graduates. Couple this with another trend towards too many general BA/MA degrees vice high-tech degrees and it is not hard to realize the level of competition that will be generated for the *knowledge-worker*. Of course, it just so happens, that the skill sets of the *knowledge-worker* are exactly what the CF needs now and into the future.⁶⁸ The issue is that there won't be enough of the new workforce to go around between the public and private sector, which will increase competition and exacerbate the CF's recruiting problem:

“The private sector faces the same demographic challenges as the public, and will be looking for similar skill sets as public sector organizations. There will be a sustained ‘war for talent’ between the two sectors. The reality of CF operations and the military’s continued use of leading-edge technology is such that the need for improved technical, leadership and other professional skills may be growing beyond the capabilities of the CF to develop them internally, from perspectives of both cost and time-effectiveness.”⁶⁹

There is much more to the issue of the external demographic than just the CF's requirement for the *knowledge-worker*. What are the expectations of this new workforce and is or will the CF be seen as an employer of choice? “The CF is not currently perceived as an employer of choice...some continue to assert that the CF does a better job of maintaining its equipment than its people.”⁷⁰

⁶⁷ Cmdre Roger Girouard, “Seeking Flexibility and Fulfillment: Providing Wins on multiple Levels,” thesis, Royal Roads University, Dec 2001, 1.

⁶⁸ Okros 2-5.

⁶⁹ Girouard 4.

The new workforce is commonly referred to as Generation Y and they are within the ages of 17-24, the traditional CF recruiting market.⁷¹ Their expectations of an employer will challenge the current HR and work management construct within the CF. First, they expect that lifelong education is a reality and they expect balance between their career and personal lives. Second, they expect to have meaningful roles doing meaningful work in motivated and committed teams. Third, they expect to earn high salaries and they expect to have several jobs and not a long term commitment to a single employer.⁷² “They won’t be lured by promises of climbing ladders, paying dues and cashing out at retirement;”⁷³ the traditional CF promises.

Generation Y are self-reliant and don’t wish to be micro-managed. With a result oriented focus, they exhibit a certain amount of impatience when they are under-resourced, under-informed and/or under-trained for the task at hand; a common complaint these days within the CF.⁷⁴ This is a generation that thinks outside of the box, is innovative and is not interested in the “one size fits all” solution.⁷⁵ This means that they have developed a habit of “constant questioning...the prerequisite for innovation.”⁷⁶ The current problem is that the CF has not been successful in dealing with innovative and inquiring personnel from within its hierarchical and parochial structure:

⁷⁰ Girouard 44.

⁷¹ Partenaires iii.

⁷² “Managing Generation Y – Part 1,” Business Week online 28 Sep 2001, http://www.businessweek.com/smallbiz/content/sep2001/sb20010928_113.htm

⁷³ “Managing Generation Y – Part 2,” Business Week online 4 Oct 2001, http://www.businessweek.com/smallbiz/content/oct2001/sb2001105_229.htm

⁷⁴ “Attrition Research: Revising Attrition and Retention Data Collection,” DHREE NDHQ 14 Mar 2002: Slides 5 and 9 (PowerPoint presentation given by Maj Morrow to MHRPPC, ADM HR (Mil) Attrition Brief.ppt)

⁷⁵ “Managing Generation Y – Part 2”

⁷⁶ “Managing Generation Y – Part 2”

“The fundamental reality is that in striving to keep control of scarce personnel assets we are often frustrating, and at times stifling, our best and brightest, forcing many out the door into the arms of a receptive and often lucrative job market, whatever the unemployment rate of the day.”⁷⁷

If the above quote is an accurate reflection of the current situation within the CF, then practices must change dramatically if the CF is to attract and keep this Generation Y workforce, the *knowledge-worker*. The CF must continue to adapt and update its attitudes towards its personnel or face failure on an unimaginable scale:

“Failure to adapt our organizational structures and military social mindset to meet the expectations of the upcoming generation will not simply mean ‘more of the same old thing’, but instead will likely see the gradual dissolution of the military (at least in Canada),”⁷⁸ and

“In the future the Human Resource function must move from being perceived as a residual activity to taking precedence over equipment. This reflects the truism of today that people are an organization’s most valuable asset. Caring for people is a line activity. It gives you a competitive edge. It is the key to operational success.”⁷⁹

Clearly a status-quo approach towards its personnel by the CF is no longer acceptable. Even with all the recent effort being put forth into its HR issues, it would be unreasonable to

⁷⁷ Girouard 10.

⁷⁸ Tasserou 61.

assume anything but less than a 100% success rate in the longer turn around to the CF's recruiting/retention problems, based upon historical trends and future workforce competition. This means less people in uniform in the CF and, therefore, in the Canadian navy.

Emerging Trends

Readiness & Sustainment (R&S) Policy

The aforementioned budget, HR and demographic issues have already caused the Canadian navy to rethink its policy vis-à-vis its readiness and sustainment. The two most commonly referenced naval orders addressing R&S policy are MARCORD 2-10⁸⁰ and 2-12.⁸¹ MARCORD 2-10 describes *what must be done* which 2-12 is then derived from to describe *the how it will be done*. These two MARCORDS are the essence of the navy's overall R&S policy.

MARCORD 2-10 has been under revision for several years now and while there have been successive draft iterations published as a means of interim R&S guidance the final document remains in draft form.⁸² A review was required to deal with issues relating to

⁷⁹ Girouard 55.

⁸⁰ "MARCORD 2-10 VOLUME 1: MARITIME COMMAND SHIPS AND SUBMARINES – MAINTENANCE AND OPERATING CYCLE." http://navy.dwan.dnd.ca/marcords/v1/02-10_e.asp 3 Apr 2002.

⁸¹ MARCORD 2-12 VOLUME 1: READINESS SUPPORT PROGRAMME – SHIPS." http://navy.dwan.dnd.ca/marcords/v1/02-12_e.asp 3 Apr 2002.

⁸² "[no subject]," [Email with attachments](#) from Cdr Tim Addison NDHQ/DMPOR to the author 26 Mar 2002. Also, author was personally involved in earlier MARCORD 2-10 and 2-12 discussions, Working Groups and with input to drafts while employed in MARLANT/Sea Training (Atlantic) 1997-2000.

QoL/QoW, conflicting demands on lower readiness ships, affordability, etc.⁸³ An analysis of the review reveals the following key points, which clearly echo the issues:

"To live within our means...To provide adequate motivation and experience for personnel...A motivated workforce which is prepared to stay as per terms of service... A skilled, capable workforce...Adequately maintained equipment which will last its design life...The navy has been exceeding the requirements of the White paper in order to meet additional government taskings (at the expense of other requirements such as force generation/development)...Regardless of the navy's establishment there are some MOCs that will not have the required strengths to meet/sustain crewing requirements within this policy's planning horizon...Training organization has limited output capacity...we are constrained in our ability to generate sufficient trained personnel over the long term...Surges for contingency ops are back-breaking [operations/personnel tempo]...Potential shift in national military direction as a result of defence service plan review."⁸⁴

The key tenet of the new/interim R&S policy is that of Tiered Readiness. This tier comprises three essential readiness levels: High (HR), Standard (SR) and Extended (ER). The difference between these levels has to do with a combination of allocated sea days, level of crewing, operational (training) and technical/materiel readiness. Ships at HR can expect the most (120 sea days/year +/- 10%) while an SR ship will not be operationally/technically/materially capable of all missions, will be crewed between 75-90% and will most likely only be deployed in

⁸³ "NEW R&S POLICY – MISSION ANALYSIS," NDHQ/DMPOR 26 Feb 2002 (Email from Cdr Tim Addison, MS WORD file, New RS Policy Mission Analysis – 20020226.doc)

domestic roles (80 sea days/year +/- 10%). Ships at ER can expect to have a very small maintenance crew on board or may be zero-crewed if in refit. Tiered Readiness is a reaction to the navy's resource shortfalls in an effort to maintain capability.⁸⁵ This has been clearly stated by the navy's Director Maritime Policy Operational Readiness in his analysis of the R&S review:

“It is acknowledged and accepted that the adoption of a tiered readiness system will result in an overall reduction in the readiness posture of maritime forces. However, the operational readiness and integrity of specific ships...will be preserved in as cost-effective manner as possible.”⁸⁶

Tiered Readiness is not a new concept. It has in fact been around since about 1997. While the concept of sharing resources to maintain capability seems sound, the increasingly tight O&M budget and growing personnel crisis already discussed is undermining the premise that Tiered Readiness would enable the navy to maintain its current number of hulls.⁸⁷ “HMCS HURON has been tied to the dock since October 2000 [in ER], partly because the navy cannot provide it with enough skilled sailors to put to sea.”⁸⁸ Another interesting and not well-known aspect vis-à-vis HURON is that it is highly unlikely that she will ever sail again before being decommissioned.⁸⁹ Even ships that are designated HR often cannot maintain 100% of their established crew as they

⁸⁴ “NEW R&S POLICY – MISSION ANALYSIS” 1-12.

⁸⁵ “MARITIME COMMAND ORDERS INTERIM READINESS AND SUSTAINMENT POLICY,” and, “NEW READINESS DEFINITIONS,” NDHQ/DMPOR 28 Aug 2001 and 28 Feb 2002 (Email from Cdr Tim Addison, MS WORD files, R&S MARCORD Draft 13.doc, New Readiness definitions.doc)

⁸⁶ “MARITIME COMMAND ORDERS INTERIM READINESS AND SUSTAINMENT POLICY,” and, “NEW READINESS DEFINITIONS” 11.

⁸⁷ “NEW R&S POLICY – MISSION ANALYSIS” 4.

⁸⁸ “2002 Report of the Auditor General of Canada – Chapter 5” 3.

⁸⁹ Based upon author’s personal experience and involvement with the HMCS HURON case while employed in DGMEPM/DMCM IRO 2000/01.

are supposed to do within Tiered Readiness⁹⁰. Ships in SR are also more likely to be crewed between 75-80% vice the 75-90% quoted in the Tiered Readiness document.⁹¹ There are simply not enough of the right people to go around with the situation, as discussed earlier, getting worse. There should be little doubt then, that a Tiered Readiness policy aimed at maintaining the status-quo, in terms of number of hulls, into the future will only work if smaller crew sizes across the whole Fleet can be realized while maintaining stated operational targets.

Ship Design and Crew Size

The current trend in design for future warships is to leverage advances in technology in order to achieve a level of automation that enables navies to reduce crew size while realizing fiscal savings.⁹² The USN Smart Ship project is simply one example, which has achieved significant success in reducing workload and crewing while improving QoL and combat readiness and saving money in associated life cycle costs and maintenance conducted ashore.⁹³

The Canadian navy incorporated similar *Smart Ship* design features into the HALIFAX Class when it was designed/built and delivered through the 1980s and early 90s. However, as the navy is unable to properly crew, maintain and support these warships, as evidenced by its Tiered Readiness Policy, more will need to be done in the future. This process has already begun with a

⁹⁰ Based upon author's personal experience in Sea Training (Atlantic) 1997-2000. HR ships conducting Work-ups more often than not would be augmented by between 5-10% of their crew for the Work-ups. These augmentees would leave immediately following this essential training period. They are rarely replaced unless the ship has to deploy on a mission such as OP APOLLO.

⁹¹ Based upon author's personal experience in Sea Training (Atlantic) 1997-2000.

⁹² Based upon previous research conducted by the author as part of the CFC curriculum in support of MS/MOC/522/D-2, Trends in Maritime Technology, 7 Mar 2002.

⁹³ "Smart Ship initiatives successful," USN 4 Mar 2002

<http://www.chinfo.navy.mil/navpalib/ships/cruisers/yorktown/smrship.html>

long overdue *Maintenance Rationalization Review* currently underway in DGMEPM and the FMFs.⁹⁴ It must also be acknowledged that both the PMOs for ALSC (Afloat Logistics Sealift Capability), the project to replace the navy's existing replenishment fleet, and CADRE (Command/Control Area/Air Defence Replacement), the project to replace the IROQUOIS Class, are studying the issue of reduced crew size intently, with goals of reducing by up to 50% from current levels.⁹⁵

The trend towards reducing crew size is not unique to the Canadian and US navies. Other navies facing similar resource constraints, such as the Royal Netherlands, Royal Australian Navy, Royal Navy and German Navy are also designing and building ships that leverage technology to enhance capability while reducing the size of its crew.⁹⁶

Perhaps two retired USN officers, one an Admiral, provided the best summary of the Canadian situation vis-à-vis the aforementioned existing and emerging trends when describing the parallel USN situation and the need for innovative change. In a recent *Proceedings* article they wrote about the delta between "requirements and the resources to support them"⁹⁷ and laid out six key steps to future success, three of which stated:

⁹⁴ "Minutes" 2.

⁹⁵ Based upon author's experience and personal involvement with PMO ALSC/CADRE while employed in DGMEPM/DMCM IRO 2000/01.

⁹⁶ Information gathered by the author from lectures attended during Canadian Staff College Course 28 at the Canadian Forces College in Toronto 2001/02.

⁹⁷ Rear-Admiral W.J. Holland Jr. USN (Retired) and William P. Holland, "Centralization: A Prescription for Failure," Proceedings US Naval Institute Feb 2002: 46-49.

“(1) Recognize budgets will stay constrained... (2) Husband resources from current operations... (3) Sacrifice force size to recruit and retain quality personnel as well as to modernize.”⁹⁸

Conclusion

The Canadian navy of 2030 is only conceptual. However, the existing operational and personnel tempo, fiscal and HR trends within the navy are not. They constrain and hamper the navy’s efforts in the vital areas of O&M, modernization, recruiting and retention. The navy needs to find more money for O&M and modernization in its efforts to avoid rust-out and remain capable of meeting the requirements of the government. The navy is critically short of personnel with all indicators describing a future where reaching current PML targets will not be possible. In fact, the current CF PML has already been reduced by some 10% from that called for in the *1994 White Paper* and is forecast to stay that way until at least 2005. However, given the unrealistic recruiting targets based upon the current PML, coupled with the expected high attrition forecast for around 2005, current PML numbers will not be achievable well beyond 2005. In fact, a stabilized PML may not be achievable for another 30 years given existing and emerging trends.

Reduced crew sizes are an emerging trend that reflects the navy’s desire to lower its personnel resource costs at sea while augmenting its empty billets ashore in an effort to address fiscal, recruiting and retention problems. An R&S policy that tiers the Canadian navy’s Fleet readiness is a stark recognition of not enough money and not enough people to get the job done.

⁹⁸ Holland 49.

It also provides keen insight to the unwillingness of a CMS to further reduce the size of an already small Fleet. Similar numbers of hulls will require similar levels of manning ashore to support them. Filling these shore positions will require reducing crew sizes in order to compensate for recruiting/retention problems. Rising O&M and personnel costs and an evolving R&S policy will support this way ahead with the end result seeing the navy's PML being reduced by a percentage of its ships' crew reductions. What this percentage reduction will be, only time will tell, but without question, the Canadian navy's force size will be smaller by 2030.

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