



## **Written History Report**

**Report by**

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**This report was commissioned by Rolfe Monteith to discuss the Department of Defence Production (DDP) and its role in the FHE 400 Hydrofoil Program. The original report has been reformatted for this website posting and every effort has been made to faithfully record the original text.**

## **Recollections of the Department of Defence Production (DPP) and its role in The FHE 400 Hydrofoil Program**

In the first place I should explain how I came to be involved in the 400 FHE Hydrofoil Program. In the late spring of 1965 I was working in private industry in Toronto when I was contacted by Ian Craig. Ian explained that he was working in a government department in Ottawa and that a number of very interesting career opportunities were opening up and he thought that I might be interested in pursuing this avenue. My immediate instinct was pretty negative as it brought to mind all of the stereotype bureaucrats, clothed in grey suits and performing mind numbing repetitive tasks. But I knew Ian well and had enormous respect for his hard work and creative ability and I thought at least it would do well to hear him out.

Incidentally Ian and I had first met some years before when we were both senior engineers at Canadair Ltd. in Montreal. Ian had subsequently joined Garrett Mfg., Ltd. (GML) in Toronto. At that time GML was one of the few Canadian companies to have broken out of the branch plant mould and was heavily involved in developing and producing unique product lines assigned to it by its U.S. parent company, Airesearch. In time Ian head-hunted me to join GML and shortly thereafter he embarked on an ambitious proposal that Airesearch was putting together on the Minuteman Missile program. Following this, for whatever reason, Ian had joined the Canadian government so it came as no surprise that he eventually contacted me.

In any event Ian went on to explain that great things were happening in Ottawa. Apparently there had been a wide ranging review of Government operations under the auspices of the Glassco Commission and the resulting plethora of recommendations to improve the way that Ottawa conducted business had received wholehearted approval from the ruling government. Not only had the government adopted the Commission's recommendations, they were actually moving full steam ahead to implement them. Many of the consulting firms involved in the studies had been hired to aid in the implementation process and indeed quite a number of the original consultants had actually joined the government. Additionally, the government had instituted a major recruitment drive to hire, both from university and industry, talented people who would provide drive and direction to its reordered operations. Hence the reason for Ian's call as a result of which I was suitably enticed to a competition board and the subsequent offer of employment.

The government department that I joined was DDP and the branch that I was assigned to was called Management Control Group. This group, in actual fact was the planning arm of the department and although small in number it wielded great influence in departmental affairs. On the organization chart the group reported through the Assistant Deputy Minister (ADM) Finance, but in practice the relationship was much more direct with the Deputy Minister (DM) and the Management Committee. At this time the group was headed by Arthur Bailey. Art was a wonderful visionary who hurled himself upon his latest pet project with revolutionary zeal and fervour. Unfortunately, as he would be the first to admit, he was not the best at transforming his visions to practical reality or as he would say, "getting the puck in the net". Easily overcoming this deficiency, he had surrounded himself with talented people of all shapes and stripes. As I was later to find out, there were some strange bedfellows in the group, however Art gave them unbridled license to pursue their own projects and in return he was rewarded with patience and respect for his sometimes mercurial personality and also with an enduring and endearing loyalty. Among the bedfellows, I recall one genius with words who was simultaneously working on two papers, one hopefully providing a way out of chronic alcoholism on Indian reservations and the other providing a brilliant method for reaping the harvest of the Northern Quebec forests. What either of them had to do with the mandate of the DDP I never did quite find out.

Prior to the Glassco Commission, DDP had the role of procurement agency for the Canadian Armed Forces and the maintenance of the Canadian Industrial Defence Base. Following Glassco it had now been given the responsibility to be the sole procurement agency for all civilian departments, to set up a nationwide agency to supply all the ongoing common items used by civilian agencies and to centralize all common technical activities such as quality assurance, transport management and technical specifications and standards regulating. In addition, DDP had recently been assigned the task of creating the Department of Industry (DOI) from within its ranks. This "Adam's Rib" operation had to a large part been successfully accomplished with many of the DDP officers now wearing dual DDP/DOI

hats and being charged, in the latter instance, with fostering Canadian Industry (both militarily and commercial) and helping these industries achieve their export potentials.

Taken together, all of these new responsibilities placed massive demands on the department. It meant complete restructuring in some areas, establishing major new organizations and recruiting large numbers of new staff. Fortunately, a number of senior DND supply officers had been recruited by DDP and had achieved notable success in setting up the supply network. Nonetheless, the challenges facing the department were enormous and the situation was made even more difficult with the rancorous debate that raged across many government departments by those who saw their responsibilities eroded and their authorities diminished. At the same time DND was going through the throes of the Tri-Service integration which was causing bitter dissent in many quarters.

So, into this heady brew, I warily approached my first meeting with Arthur Bailey only to be informed that my initial assignment would have nothing to do with any of the major new undertakings but in fact I was going to be assigned to the Royal Canadian Navy to work under their command on the FHE 400 Project. Surprise, surprise!! What did I know of RCN Hydrofoils? Nothing! What could an aeronautical engineer like myself bring to a hydrofoil project? Little or nothing! Mercifully Art swiftly eased my inner turmoil by telling me that I was to join a joint DDP/DND office that was going to be established to manage the hydrofoil project and that I would be expected to help in all phases of setting up the office and that I would be responsible for creating a planning and control function for the office. This he said was all virgin territory and that it was up to me to work out not only the best ways to meet the hydrofoil office objectives but also how to carry this forward to other projects.

Art was most forthcoming in providing the reasoning behind the establishment of the joint management of the hydrofoil project. He informed me that DDP had provided some of the funding in the initial feasibility study of the hydrofoil concept. This had been followed by close co-operation with DND through the successive stages of design and development. Unfortunately, the project had been dogged by inadequate understanding of the costs involved with each successive stage. Given the unknown territory that was being explored this was only to be expected, however a few months prior things had come to a head when yet another major cost overrun had come to light. The finance officials were not amused and Treasury Board had stated they were opposed to continuation of the project. To make matters worse, powerful voices had been raised in DND who were opposed to any hydrofoil and this hydrofoil in particular.

On the other hand, DDP felt that it had a hefty vested interest in keeping the project alive. Apart from the monies and time and effort invested, the DDP management were acutely aware that to halt the project would be seen as another failure in a string of such ill-fated ventures in the early 60's. They reasoned that the cancellation of the Hydrofoil program could well be followed by highly uncomfortable appearances before the Public Accounts Committee (PAC). How right and prescient they were as, later, a disastrous cost overrun on a major refit of the aircraft carrier HMCS Bonaventure brought the senior management of DDP and DND before the PAC. The good members of the committee couldn't quite grasp the millions involved in the engine overhaul but they sure knew what it should cost to un-bolt the mess room chairs, take them topside to stow temporarily and later to return them to the mess and anchor them to the deck. And their cost estimates were grossly at variance with what the contractor actually charged. The net result was a scathing report from the PAC and, sometime thereafter, the Deputy Ministers of DDP and DND were re-assigned to lesser departments.

To put it mildly, DDP was in a bit of a dilemma. However, by great happenstance, Art Bailey was in the middle of another vision of a bright future. Recent literature from the U.S., in which the concept of project management had been highly lauded, had caught his attention. In a nutshell the papers argued that when major projects were undertaken involving resources from several organizations, the real needs and priorities of the project were often subsumed to the conflicting priorities and lines of responsibilities of the various organizations. The papers argued, and presented several outstandingly successful examples, that by consolidating the management and the major players in one project management office, the project itself became the major focus and that all of the pertinent information was centralized so that the main players could then make their decisions on the best information available. Finally, the papers described the need for the appointment of a Project Manager having sole responsibility for the running of the project and in turn reporting to a Management Board independent of his normal chain-of-command.

Here then was salvation, reasoned Art. Why not establish a Hydrofoil Office jointly staffed by personnel from DND and DDP? At a stroke, this would get rid of the competing rivalries and the non-sharing of information between the two departments. It would also, not incidentally, give Art a chance to work out his latest theory on a real live guinea-pig. Having not been aboard for the prior events I have no idea if indeed there were intra and inter-departmental rivalries or if vital information had been lacking, but it made a convincing argument.

Management were briefed and impressed by Art who then proceeded to buttonhole all and sundry about the virtues of project management. Ian Craig was commissioned to participate in the Treasury Board Submission to seek sufficient funds to complete the project and to outline how the establishment of a project office would bring the project costs under control. Treasury Board had duly approved the Submission and events were set in motion to create the office, hence my meeting and briefing with Art.

Although I was still to join the Civil Service, I was next flown to Ottawa to meet with Captain (RCN) Rolfe Monteith who had been nominated as the Project Manager (HPM) of the Joint DND/DDP Hydrofoil Project Office (HPO). Monteith turned out to be a charming, soft-spoken, thoughtful man quite unlike the picture I had of a salty old sea dog, cap at a jaunty angle barking out orders to terrified matelots while surrounded by shot and shell. I was later to discover that Monteith had seen quite enough of that scenario while on the Murmansk convoy run in WWII. The interview itself was quite lengthy and Capt. Monteith was very interested in my previous careers and how they might lend themselves to the project. Following this meeting we then went down the corridor to the office of Maj. Gen. Lilley, then Director General of Engineering Systems (DGES). Again I was impressed with the calibre of the DGES and felt most re-assured about my decision to join the government.

## **Ottawa**

It was August 3<sup>rd</sup> 1965 before I finally arrived in Ottawa. After reporting for duty in 'C' Building at the National Defence Headquarters, Capt. Monteith made introductions all the way around and then suggested I read some of the major files to get abreast of the project. While I was deeply engrossed in this task there was a sudden cacophony of sound outside my office window which startled me to the very core. On looking out of the window I was to find that the noise emanated from some regimental band which was playing a stirring march as the Governor General's Foot Guards formed up prior to their march to Parliament Hill to perform the Changing of the Guards ceremony. This routine was to become my morning adrenalin rush for the next few weeks.

A major immediate task was to set up a new office in the Gillin Building at the corner of Laurier and Elgin. Symbolically, this location was approximately midway between DND H.Q. and DDP H.Q. then located in the MacDonald Building on Slater Street. We were most fortunate in having available to us, Vince Barsona, who was Administrative Officer of the Management Control Group. Vince was a wily veteran bureaucrat who knew all of the tricks of the trade. Through him, office equipment magically appeared, furniture was prised from the clutches of the Department of Public Works (DPW), telephone systems were hastily installed and support staff were engaged. In all, including a complete re-layout of the interior walls, the 10th floor of the Gillin Building was ready for occupation in a little over six weeks. By all accounts this was a minor miracle when judged by existing government standards.

It should be noted that all the office space, equipment, furniture etc and most of the support staff were funded by DDP, thus showing further evidence of their commitment to the project.

Among the DND staff that Capt. Monteith brought to the office were Cdr's, Hal Smith, Ken Meikle, Tino Cotaras and Jock Allan. L/Cdr's, Aubrey Karygiannis. Pat Barnhouse and Lt. Tom Drummond. Other naval personnel included Cdr. T.S.(Dudley) Allen, Principal Naval Overseer (PNO) at the Sorel shipyard and L/Cdr Roy Gilbert, PNO at De Havilland Canada. To say they were the best and the brightest may be stretching things a little but their ranks did include two future Admirals, one Commodore, one distinguished Professor at the University of Toronto and two officers who would later become leading lights in the Defence Research Establishment (DRE). In turn, DDP supplied a senior contracts officer with a small staff and I created the Hydrofoil Control Office supported by Bill Walker, Mike LaSalle and a secretary.

My office had been assigned the task of developing a Master Plan to be a primary tool in the management of the project. To better understand the project, I was invited to visit all of the major

facilities in concert with previously arranged progress review meetings. Thus I was able to visit DRE at Halifax, the Sorel Shipyard where the hydrofoil was being fabricated, De Havilland at Toronto which was the designer of the hydrofoil, and Canadian Westinghouse Ltd. which was responsible for the design and construction of the towed sonar system. As a result of these visits, two points soon became evident. Firstly, it was abundantly clear that the hydrofoil was an engineering feat of great complexity and that the design was constantly breaking fresh ground. Secondly, my immediate masters at DDP (great fellows though they were) had only the foggiest idea of the hardware that was actually being developed. DND may have seen the objective of the project as the prototype development of a superb fighting vessel whereas many DDP senior management saw it as a means to a much different end i.e. the introduction of project management as a major new management technique into the Canadian government.

Against this background and following discussions with many players associated with the project, the Master Plan was evolved. The Plan itself a relatively short document, outlined a summary of the project objectives and contained a master schedule and overall cost estimates to completion. This overall summary was then followed by summaries of each of the major components of this project. For example; Hull Structure, Foils, Engines, Sonar Equipment, Other Equipments, Training, Contracts, Personnel, Trials, Scheduling, Dockside Facilities, Spare Parts and Manuals. An officer was assigned responsibility for each of the components and each officer was responsible for producing a short summary of their particular component objectives accompanied by appropriate time and cost schedules. Taken together, all these documents formed the FHE 400 Hydrofoil Master Plan which was duly signed off by the Project Manager. In addition, the Plan called for a monthly publication which would review progress of the project as a whole together with each major component and which would compare actual versus estimated time and costs and which would also outline major milestones accomplished or major difficulties encountered. As to be expected, there was a good deal of criticism from various officers as this meant extra work for them and they allowed that they knew full well what they were doing and that the extra effort was not going to help them at all. To a man though, they all rallied round to produce a plan which for the first time encapsulated all of the project in one document and which gave transparency of objectives, times and costs for all to see.

In October, 1965, Capt. Monteith presented this Master Plan to the Hydrofoil Management Board (of which more later) and it met with the instant approval of the Board. The format of the original plan and the progress review system were to provide the basis of the planning and control system for many of the major projects that were subsequently commissioned.

In tandem with these activities, much effort was being expended to postulate and reach agreement on the most effective management systems within the Project Office and the most realistic reporting system for the office itself. The former had gone through many machinations including (a) A DDP project mgr, (b) A DND project mgr., (c) a Joint DND/DDP project mgr, (d) a six month DND/DDP rotating managership and (e) an outside consultant brought in to manage the project. Quite rightfully DND were to eventually reject all of the other ideas in favour of the sole DND project manager. Their argument was overwhelmingly simple - they were footing the bill, they knew what they wanted and ultimately they might be required to fight and possibly die in the machine. The concept of the project manager being drawn from the funding department has mercifully prevailed until this day.

The question of whom the Project Manager should report to proved much more vexatious. Fertile minds in DDP were brought to bear on this problem, as were U.S. consultants from Peat, Marwick. Art Bailey had long ago figured out that outside consultants generally garnered more approval for their ideas and, furthermore, he had noted that independent outside consultants could usually come up with the desired result if they were well briefed and adequately compensated.

A first solution was postulated to have a Management Board composed of the Branch Directors to whom the Project Manager and the Contracts Manager would normally report. This option was discarded almost immediately as having far too narrow a focus and leading almost inevitably to the same organizational squabbles as before, let alone leaving the managers in an overly tight disciplinary mode. Going from one extreme to the other, it was next proposed that the Ministers of DND and DDP should sit in on a Management Review Board. This proposal soon had Ministerial lips a-licking as they visualized political winds blowing the hydrofoil (and subsequent projects) into safe and favourable harbours. Savvy senior bureaucrats swiftly and smoothly torpedoed this idea, so that it sank without a trace and with scarcely a ripple.

The next option to be considered was to constitute the Board at the Deputy-Minister level. This option gained some immediate support, not least from the DM of DDP, however it was postulated that the DM's had far too much on their plates already, also it was seen that a DM Board would be the final arbiter with no court of appeal possible.

As a result of all of these peregrinations, which were explored at considerable depth, the final choice fell upon a review board composed of members at the ADM level. As bureaucratic theory goes, this is a level, senior enough to be believed but junior enough to be disavowed. Initially Dave Mundy (ADM at DDP), Maj. Gen. Lilley (DGES at DND) and a civilian ADM at DND (Lou Crutchlow, I believe) were chosen to comprise the Hydrofoil Management Review Board and it was these worthy gentlemen who approved the original Hydrofoil Master Plan. Similarly constituted boards were to guide almost all of the ensuing projects over the years with, in many cases, the addition of an ADM from the Department of industry (DOI) to recognise the major industrial benefits inherent in certain projects.

So here we have the Hydrofoil Project newly re-funded by Treasury Board, a Project Manager selected, a joint DND/DDP Management Office established and staffed with a first class team, and a Hydrofoil Master Plan approved by a Management Review Board. Everything should now be plain sailing. Right? Well not quite! Project management was, and is, not a panacea for all ills - at best what it can deliver is timely information, both good and bad, to enable a highly focused team to come to grips with arising problems and hopefully deal with them in an efficacious manner. Encouraging news was flowing into the Project Office but bad news of an extremely volatile nature was about to surface. The nature of this information and how it was tackled was to bring out the very best in the project management team.

For myself, I had attempted to glean as much information as possible about the program. Towards this end, I had continued to attend the monthly progress meetings at De Havilland. Two things struck me - firstly, on the whole real progress was being made but secondly there was something not quite right with the management reports. During the monthly meetings and at the appropriate agenda item, two management reports were tabled and after minimum discussion accepted by the government team. These reports were the PERT (Program Evaluation and Review Technique) and the CPM (Critical Path Method). Both these management tools were in vogue at this time and were highly regarded. However, from what I gathered, De Havilland did not regard these as their primary tools and indeed were producing them mainly in compliance with a provision in the work contract which required the reports to be provided in exchange for a fairly handsome fee. In turn, the Project Office was accepting the reports and proceeding to file them into a pretty large cabinet. This is not to say that the De Havilland side of this contract was out of control. Far from it, from all accounts the company was doing a first class job in handling a very complex program of highly innovative technology.

Still, what the reports really contained continued to intrigue me. By this time, I had developed some good contacts in De Havilland and so I approached one of them to ascertain the viability of the reports. He was readily forthcoming and informed me that both reports gave a pretty accurate assessment of the progress to date. Armed with this validation I dug out the latest progress reports and attempted to make sense of them. What I was to find proved most disquieting.

In a nutshell, as far as I could gather, the work under the De Havilland contract was about 60% complete but about 80% of the available contract funds had been expended. This was certainly not what I wanted to find, but, after further analysis provided roughly the same conclusion, I requested a meeting with the DDP senior contracts manager.

At this meeting, and somewhat to my surprise, the contracts manager allowed that I was on the right track but that the cost/work performance differential was probably not quite as large as I had postulated. He then went on to say that he was not unduly perturbed as De Havilland were firmly on the contract hook for any cost overruns. The contract, he explained, was on a profit incentive basis with maximum profit accruing to the company at \$24 million and thereby reducing to zero profit at \$30 million, the maximum funds available. The contract was silent on what could happen when these funds had been expended but the manager's view was that De Havilland had entered into a commitment and therefore they would have to complete the necessary work using their own money. Furthermore he thought that it would be highly dangerous to broach any misgivings as this could open up the contract with the company.

Although, I was by no means an expert on contractual law, his argument made eminent sense to me. Nevertheless, I continued to be nagged by thoughts of what would happen if De Havilland were not quite as altruistic as had been anticipated. I could see the company absorbing a profit diminution as long as a fairly healthy G&A (General Administrative and Overhead) was being absorbed. However, I had difficulty in believing that the company could continue to fund the work out of its own pockets with all of the uncertainties associated with a development program of this nature. My personal nightmare was what would be the fall-out if the funds were to be exhausted and De Havilland, without notice, was to cease work. The resulting blood bath was not to be contemplated.

After some reflection, I decided to contact my mentor in DDP. We spent a long time going over as many of the facts that I could muster. Eventually I left it up to him dwell on it overnight and to hopefully provide me with some guidance on the coming day. Apparently however, my mentor, against what I would have desired, had decided to take matters into his own hands and had elevated his information to higher level. Much consternation had immediately followed.

The first inkling of trouble brewing, was on the following day upon my return from lunch to be met by an ashen faced secretary who haltingly informed me that I had been summoned to meet with the Deputy Minister at 3:00 pm. Actually this news didn't perturb me as I had been quite used in private industry to meet with some pretty major players. Little did I know that DM's were not noted for meeting with low guys on the totem pole like myself, and certainly not to meet one-to-one as eventually was to prove the case.

Shortly after the appointed hour, I was ushered into the DM's office, Mr. Gordon Hunter. Deputy Minister of DDP was known throughout the organization as being generous by nature and for possessing the common touch. He was not to disappoint. Within minutes, he had me thoroughly at ease as he explored the same story that I had recounted the day before. We had about an hour together by which time I was pretty well talked out. What happened next I was not privy to but I understood, long afterwards, that there were some major developments.

Whatever, the Project Office had to come to grips with this turn of events and in short order Mr. A.E.J. (Tony) Combley appeared on the scene as DDP Senior Contracts Manager supported by Contracts Officers Armour Henderson and Jack Binder. Once the dust had settled and preliminary estimates had been made, it was obvious that the project funding would have to be increased by a substantial amount. Nobody relished the prospect of going once again to Treasury Board. When and how to break the news was the subject of great debate. Public floggings seemed to be the order of the day! But a strategy gradually emerged.

The last batch of funding had been approved on the basis of the establishment of the joint DDP/DPP Project Office. Had not this office proved its worth almost immediately by providing the intense focus to give transparency (warts and all) which had heretofore been lacking on the project? Could not the same management team have the skills to re-estimate the program costs and therefore should not the government have the confidence in these new estimates and the ability of the IFPO to bring the project to a successful conclusion? It was a bit of a gamble and smacked of making a virtue out of necessity, but nevertheless it was decided to pursue this scenario.

The next important step was to establish a credible re-estimation of program costs. Changes had been made to the lines of communication between the HPO and De Havilland and the two parties were acting even closer together in a common pursuit. After all it certainly wasn't in De Havilland's best interests to be facing imminent program cancellation. With regard to the re-estimation there were those, both industry and in government, who thought that this was a development full of unknowns and that to produce a "precise" estimate was both foolhardy and deceptive. Others felt that this position was certainly correct for that time 5 years before when the final design of the FHF 400 was absolute conjecture, however the project had crystallized since then. Granted there were still many areas of uncertainty for example, the bow foil steering control system, the foilborne transmission, and the manufacturing techniques for the maraging steel foils - but many other areas were known quantities. The hull was 80% complete and the final 20% could easily be estimated. The engines and their installations presented no undue problems and the general equipment such as the radio and the ship's salt water evaporator were a given. Further, copious empirical data existed to estimate hydraulic and electrical lines installation. Putting all these factors together and by establishing probability indices, it should be possible to estimate the costs to complete the ship within an

acceptable margin of error which would allow the re-negotiation of a definite contract. This approach was accepted by both the Crown and the company.

Accordingly, I was commissioned to work with De Havilland to establish the guideline for the re-estimation. When I next stepped off the airplane at Toronto's Malton Airport I found out that I had arrived in more ways than one. Waiting to meet me was Larry Clarke, De Havilland V/P and he escorted me to the chauffeur driven company Rolls-Royce. A far cry from the usual beat-up old taxi! At the plant I was introduced to Gary Rutledge, the Chief estimator of De Havilland. Gary was a very competent individual who later became President of DAF-IN DAL the manufacturer of the highly successful "Bear Cat" Helicopter Haul Down System acquired by many navies. Rutledge and I worked throughout the day and agreed upon a modus-operandi for the estimate.

Tony Combley and his team then went into full action and established a basis for re-negotiation of the contract. A Treasury Board Submission was prepared requesting approximately \$6.5 million in additional funds. The submission of course pointed out the role that project management had played in discerning and reporting the funding shortfall. In April 1966, Treasury Board approved the request with suitable admonishments that further cost overruns would not be tolerated. As far as I know the project was keeping within the new funding parameters until the disastrous on-board fire of November 1966, which changed everybody's calculations.

The way in which this possibly fatal program glitch had been so swiftly tackled by the HPO, was considered by DDP management to be a major success for the concept of project management. Accordingly in very short order, DDP and DND in concert, established joint mgt offices for the DDH 280 Destroyer Program, the CF5 Aircraft Program and the Periscope Surveillance Program. This latter program because of inherent technical problems was not to survive for long. I was to be heavily involved in the start-up of these projects together while still maintaining my role in the HPO. Eventually in August 1966, I left the projects and, for the first time, joined my compatriots in the Management Control Group.

With or without the HPO, project management would have assuredly arrived on the Canadian Government scene. But the HPO made it happen sooner rather than later and it established first-rate management structures and techniques which were to guide other projects for years to come. Major projects to follow during the next 30 years included the:

- CF18 Aircraft
- DELEX Destroyer Refit
- Montreal and Toronto Postal Sorting Facilities
- TRUMP Tribal Class Refit
- CL89 Surveillance Drone
- AURORA Long Range Patrol Aircraft
- DND Command, Control and Communication System
- Low Level Air Defence Systems
- PATROL FRIGATE

Taken together these programs represented a massive multi-billion investment by the Canadian government. Within some of these programs there would be cost overruns. In others technical difficulties were not always adequately dealt with. But, overall the project management system was to prove greatly superior to the previous regime which perpetuated confused responsibilities together with denied accountabilities. I firmly believe that the introduction of the concept of project management for major programs resulted in the savings of hundreds of millions of dollars for the taxpayers of Canada.

In this regard, the Canadian Government owes a debt of gratitude to two dedicated public servants; Arthur Bailey of DDP, for his visionary zeal that showed the way and Captain (RCN) Rolfe Monteith who, with his diplomatic and leadership skills, made it happen.

Toronto. June 2005