THE DEFENCE SUPPLY NAVAL SHIPBUILDING PANEL, 1955-1965

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Introduction and Genesis of the Panel

In matters of defence procurement we are accustomed these days-especially, perhaps, where major ship acquisitions are involved~to the establishment of program centres which cut across functional boundaries and are devoted to the particular concerns of a single endeavour. This was not always the case—indeed, its present success may be in some doubt—and the intent of this paper is to review earlier activities in this regard for such enlightenment as they may provide.

In the era being considered roughly from the mid-1950s to the mid-1960s there was a wide range of naval construction being carried out more or less concurrently. Destroyer escorts (end eventually helicopter-carrying destroyers), minesweepers, an icebreaker, an aircraft carrier, submarines, two classes of supply ships and a wide range of auxiliary vessels would have presented a most formidable set of challenges to any naval technical organization. This was especially so in Canada, where the human technical resources were somewhat limited. Indeed, it is doubtful whether there would have been enough individuals to staff the essential functional elements (naval construction, marine engineering, electrical engineering, weapons specialists) as well as a significant number of programme offices—even if the latter had been contemplated.

Unfortunately - or perhaps fortunately - the production of warships is not simply a matter for technical services. Within the navy there was (and, no doubt, still is) a range of operational entities who have a very clear idea of what they want—usually the ultimate in every aspect of speed, endurance, fighting ability and habitability, as well as an all-round view of the horizon. Somewhat in opposition, possibly reluctantly, are the technical folk who will suggest what can be accomplished within acceptable bounds of size, stability and (let it not be forgotten) cost and time. These entities, however, are only those directly involved—although they do have the advantage of wearing a common uniform and, to an appreciable extent, of sharing the same language and service-oriented aspirations. But there are other entities concerned who almost certainly will march to the beat of a different drummer.

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The Northern Mariner

Thus, before the vessels could be built and equipped there was (and, no doubt, still is) a mass of contractual endeavour to be undertaken. By statute this was then the province of the Department of Defence Production (DDP)--and, especially, its Shipbuilding Branch. Here it may be noted that in those days the navy was also responsible for the work of the Naval Central Drawing Office (NCDO), which produced the working drawings for the various destroyer escorts and thus had a further involvement in the contractual negotiations. As well, of course, it was the Department of National Defence (DND) which in the ultimate outcome had to foot the bill. Thus the navy had also to respond to the overall control of the Minister of National Defence, exercised through various ADM's and their staffs. The general comment of these latter was to the effect that "everything is done much better by the Air Force." After unification, when to some extent we had a clearer understanding, many of us had some doubts about this statement. Finally, brooding from afar over all this—invariably unhappily—were the powerful gurus of Treasury Board.

Perhaps, from the enunciation of this catalogue of pundits it will be self- evident that their number and variety—all with differing interests and involvements-provided ample opportunity for confusion, antipathy, confrontation and from time to time, chaos, obloquy and abuse. All this was not all helped by the history of the *St. Laurents* in which general inexperience, massive challenges, problems of equipment supply and design had led to enormous increases from an initial (and very optimistic) cost estimate, as well as to appreciable delays in completion. Thus it eventually became apparent that communication would have to be improved and that perhaps with this would come better understanding of shared problems and possibly even a measure of mutual sympathy.

In the mid-1950s, after earlier, somewhat abortive, attempts, a Defence Supply Committee had been formed at a high level to co-ordinate the military requirements of the Canadian Armed Forces with resultant production programmes. It was proposed to do this through the instrument of a substantial number of specialized panels, one of which was to deal with shipbuilding. However, the onset of Naval Construction programmes in the late 1940s had earlier led to the inception of a Naval Shipbuilding Committee under the Chairmanship of a Canadian Maritime Commissioner. Its efforts, though, appeared to decline in 1953 and 1954 so that the matter was drawn to the Defence Supply Committee's attention at its first meeting in February 1955. This eventually led the Deputy Minister of DND to complain to DM/DDP that the earlier Shipbuilding Committee had not addressed specific problems being experienced in the naval construction programmes. DDP agreed that a new Shipbuilding Panel should be constituted with senior representatives from RCN, DM/DND, Director of Shipbuilding Branch (DDP) and a representative of Treasury Board. Somewhat surprisingly, DM/DND proposed that the DDP representative should be made chairman. The RCN, however, while generally agreeing to the proposals, retained the chairmanship for itself, identifying a Captain whose normal duties involved the co-ordination of the various Functional Directorates involved in warship-building. The terms of reference for the new Panel included the development of methods for facilitating and expediting defence supply programmes; the resolution of problems of mutual concern in procurement and production programmes.; and the communication to members of information about new projects. Perhaps it also should be noted at the outset that Treasury Board welcomed the innovation, believing that the Panel could provide many answers it required.

The Panel-Early Years

On 5 June 1956 the first meeting of the newly-conceived Defence Supply Naval Shipbuilding Panel was convened. On this occasion, the chairman spoke at length on the objectives. He stated that the Panel was being established as a means of promoting better understanding between the different components of government service concerned with naval shipbuilding. In short, there was a problem of communication—of adequately making known to others one's needs and the limitations under which one must act. If the Panel could help to bridge the gap, it would have justified its existence. Thus, in its early meetings the Panel addressed itself to a review of the current environment, with consideration of the need for realistic building schedules and for control of design changes. The work of the Naval Central Drawing Office and the Naval Engineering Test Establishment was reviewed and appropriate Management Committees established. At its eleventh meeting in May 1957, a communication from DM/DND to DM/DDP underlined the significance of the Panel:

Although your Department, under the terms of your interdepartmental agreement will be controlling the execution of this program, I am placing great reliance on the Shipbuilding Panel to continue a close monitoring of the programme in all its aspects - although, of course, the decisions of the Panel will, I assume you will agree, continue to require confirmation by whichever Department is concerned.

This fairly enthusiastic support serves to underline the significant point that while the Panel could, and did, discuss—it could not ultimately decide.

As a new building programme was germinating, the Panel in 1957 began to consider in greater detail the scheduling and procurement policies. In particular, it reviewed the determination to move from cost-plus to fixed price contracts. Design changes, an on-going concern, were approved by the Panel. As well, in March 1958 at the twentieth meeting it was decided to establish a Naval Central Procurement Agency. Since this was a period in which the RCN was achieving its largest postwar complement of warships (up to a total of forty-four) there was no lack of topics for discussion. For example, in 1960 and subsequently the Panel was kept briefed on the RCN's aspirations for acquiring submarines, almost certainly from a non-Canadian source.

Curiously, while there was a general interest and concern in tightening contractual arrangements, there was not much discussion about the cost of vessels—particularly with regard to the estimated and actual costs of future ships. Nevertheless, the Panel had the ultimate endorsement of Treasury Board's insistence that new programmes "should be monitored by the Shipbuilding Panel." As well, since the meetings usually attracted an outer row of "interested bystanders," it seemed likely that word of the deliberations would get around.

At the end of the 1950s there was a reorganization of Naval Technical Services so that the old "functional" divisions (Naval Constructor in Chief, Engineer in Chief, etc.) became amalgamated in broader entities, Le., Director General-Ships and Director General-Fighting Equipment. Thus, when appointed DG-Ships at the beginning of 1961, it was held to be appropriate that this writer should become chairman of the Panel. This was no doubt as much

a surprise to the members as to me, and it was with appreciable trepidation that I sought to preside over the deliberations of these senior individuals.

Perhaps, at this point—before considering particular aspects of the Panel's work, a brief look ahead may be accepted. Thus, as the fiftieth meeting was to occur in April 1962 it occurred to me that a little "stroking" might not be amiss. Accordingly, I prepared a somewhat fulsome letter to the Panel which the Chief of Naval Staff (Vice-Admiral Rayner) was kind enough to sign. In particular, this expressed appreciation to the civilian members of the Panel.

It is these gentlemen who have withstood the long haul and sustained, not only the making of decisions but also their subsequent evaluation, as planning leads into fruition. I am well aware that the continued airing of problems and the discussion of proposed courses of action has contributed in large measure to our improved performance in the Ship Construction field.

This awareness leads me to commend to the Panel the even more urgent necessity for close and constructive study of the problems posed by the recently announced Naval Shipbuilding Programme. My lively sense of the Panel's earlier accomplishments prompts an appeal for even greater and more fruitful deliberations to meet the problems immediately before us.

I have complete confidence in your future efforts.

On the whole (and with some measure of pride of authorship) I thought this a rather gracious accolade, expressing both appreciation of past efforts and a concern for future achievements. Thus, I read it to the Panel with some pleasure; while it seemed there were some quizzical glances, all appeared pleased and no one accused me of dissimulation. It was probably as well that our spirits were lifted for many problems were in store.

The Panel and the General Purpose Frigate Programme

During 1961 there had been active discussion in the R C N with regard to a new ship programme and it eventually became clear that a key element would be eight new general purpose frigates. These marked a significant departure from the succession of destroyer escorts then building and, as the Chief of Naval Technical Services (CNTS) was advised, "in many ways this vessel represents the first opportunity for several years of spreading our wings in a new design."

And so it turned out. Innovations such as full bridge control of propulsion, "human engineering" applied to operational and living spaces, and the first CO.-designate being attached to DG Ships were all most welcome steps forward. Yet perhaps somewhat ominously, the cost per vessel in the early design stage was set at \$31 million. Nevertheless, this was a programme where the Panel was in at the beginning, and it may be instructive to follow through its involvement in this demanding new endeavour.

Fortunately, despite potential formal antipathy between DND and DDP, some of us in the RCN had formed close alliances with key DDP colleagues and, among its first tasks, the Panel supported development of complex schemes of planning and scheduling that would facilitate more precise control of drawings, weights and flow of procurement. It was in this last

area that one of the first concerns arose. At this time the engineering pundits in the RCN were most anxious to repeat (as far as possible) those items of machinery that were common to the earlier destroyer escorts. DDP, not unreasonably, sought the widest range of competitive tenders. This was the sort of debate that was well-suited to the Panel and in which, perhaps not surprisingly, we in the RCN had eventually to give away.

Yet these were minor problems, for a variety of influences—particularly increases in size and weight of weapons systems-made it necessary that the size of the vessel would have to be appreciably increased from the original sketch design target of about 3200 tons to a revised figure of 3800 tons. This of course led to an increase in costs, which early in 1962 had been estimated at about \$34 million per vessel (in 1960 \$). Clearly this amount was going to be significantly exceeded and a series of meetings (about a week apart in mid-July 1962) was planned for Naval Staff, Naval Board and ultimately the Panel. Indeed, the last of these was to be an "augmented" meeting at which all present should have been fully aware of the financial implications.

Not to offer excuses, but at this point the cost estimates prepared in DG Ships were the product of a very small group of reasonably enthusiastic clerical staff—helped by such intuition as we had, and a good deal of hopefully-inspired guesswork. The unfortunate reality was that no one argued with these figures or produced any better accounting and our "estimates" rapidly became gospel, right up to Cabinet level. Obviously we should have done better - although that would have required skilled and experienced staff who were just not available. It was clearly a shortcoming of the Panel that more attention was not paid to this.

Thus, it has been noted that our first "guess" of \$31 million had risen appreciably to about \$34 million in early spring 1962—although the Minister announcing the program in April 1962 had still referred to the original \$30 million. Now, however, in high summer, we plunged into the financial morass and produced a ship cost of \$46 million in 1962 dollars. This then was the situation presented to the "augmented" Panel (some forty-five people being present) which included the large, brooding and ominous presence of the Assistant Secretary of Treasury Board's Programme Branch. All those actively involved with the design said their piece (I, unfortunately, having to say more than most). In vain we raised issues about the new implications of "overall programme costing," changes in the act governing sales tax, and several other issues. Treasury Board was not to be mollified and was ably supported by our own Deputy Minister's staff. The situation was viewed "with some trepidation" and Cabinet would clearly have to be informed. At this point the meeting concluded with my noting that "the R C N would have to take counsel within itself to consider the next course of action."

Here, indeed, the Panel was fulfilling its role. Everyone now knew there was a difficult financial situation and that someone (Le., the RCN) had to do something about it. In effect, with the general "sounding of an alarm" the discussion moved to a more rarefied level, although probably not a more accurate or informed one. Essentially this involved an exchange of correspondence between the Chief of Naval Staff and the Deputy Minister' which, as well as seeking to "explain" the cost pointed to the need for urgent committal authority to facilitate the procurement of "long-lead items." Similarly, the Chief of Defence Staff and the Chiefs of Staff Committee were alerted to these concerns.

This sort of correspondence continued for some time, all without input from the Panel, and eventually culminated in an agreement between DM/DND and DM/DDP in which various minor exclusions were proposed and, deleting sales tax, costs were said to be \$35.62 million per

ship for the first four and \$36.93 million for the second four. All this was accepted, bringing to the end for the time being a somewhat ritual dance with symbolic cost cutting, skilful manipulation of figures and "honour" generally satisfied all round. One cannot but marvel at the confidence of senior officials to use cost estimates to four significant figures for vessels whose design was not yet complete.

What was quite apparent though, was that the Panel while effective in raising issues and monitoring production, was not so successful in resolving major and difficult questions.

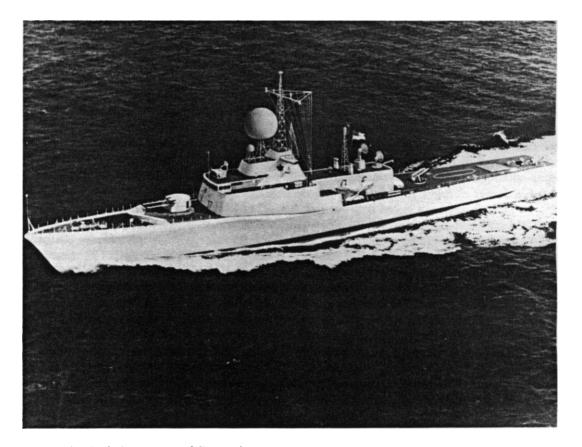


Figure 1: Artist's concept of GF. Frigate.

Source: Department of National Defence.

Extending the Panel's Influence

With regard to the general purpose frigate, however, continued pressure brought Treasury Board, albeit with much whimpering and complaining, to approve procurement of long-lead

items.* This led to an interesting turn of events which, somewhat to my present surprise, the record appears to show that I initiated. The contract design process in Naval Headquarters was proceeding apace "in accordance with a Critical Path approach," as noted the jargon of the period, while preparation of working drawings was about to begin in the Naval Central Drawing Office. Undoubtedly, the key to progress lay in decisions being made to facilitate the deliveries of fighting equipment. Noting that the Panel did not have executive authority to make decisions, it was proposed that an appropriately constituted "General Purpose Frigate Management Group" should be established which would have such authority. The idea appeared to have general if not enthusiastic acceptance. DDP, interestingly, did not want to spend all the Panel's time on the frigate and recognized the need for another entity-but one that must have authority. Treasury Board, with a perhaps reluctant comment that "it would be a shame to lose the advantages which are gained from present Panel meeting" had no objections to the proposed group. The latter, it said, should be "not necessarily technical in nature, but have technical advice." The Board went on to note that it "required the assurance that in a program of this magnitude adequate planning had been done." This provoked an indignant outburst from DDP that indeed their Department had undertaken projects worth hundreds of millions of dollars and that no problems were being experienced with the current "Repeat Restigouche" programme. All this was perhaps the Panel acting at its best, with a brisk exchange of authoritative views and all gaining in the process. However, there seemed general accord that the Panel should continue to provide expert advice but that with regard to the general purpose frigate it should be able "with ease and despatch" to call on a higher group for executive decisions. I was directed to so approach Deputy Ministers.

All was not over, for in this same meeting, despite Treasury Board's earlier agreement to approve long-lead procurement, the ADM from DND was reluctant to sign these "until the overall programme had been established" - whatever that might have meant. At any event, after general expressions of outrage, he agreed to sign the contract demands which went forward just before Christmas. It had been quite a morning—and, indeed, quite a year.

Eventually the Chief of Naval Technical Services wrote to $DM/DND^{+\circ}$ noting the proposal from the Panel for the formation of a Senior Executive Committee which would include the Deputy Ministers of DND & DDP, the Secretary of Treasury Board and the CNS as members or - coming down to earth somewhat—their designated alternates, with DM/DDP as chairman. Thus, it could be reported to the Panel that the DM's had agreed to constitute the Senior Executive Committee at the ADM level—reflecting the membership proposed." This would meet monthly, following the Panel meetings, and would receive reports or requests for decisions from the Panel's chairman.

In a more general sense, it was felt that DND should now approach the Canadian Maritime Commission with regard to the allocation of ships to the "lead and follow yards." It should be noted that the practice at the time was not competition but, in the interest of employment in the shipbuilding industry, to have one vessel in each yard that was capable of this kind of construction. The question was somewhat complex, involving the building times for the lead and follow yards, the movement of R C N "trials teams" from one yard to another, and the need to take account of winter conditions with regard to completion in yards on the St. Lawrence. At this time it was also decided to bring into the Panel representatives of the Director General, Fighting Equipment, and corresponding DDP colleagues as associate members when general purpose frigate questions were being considered.

At this point D M / D N D went forward officially to D M / D D P with the "Committee" proposal—somewhat enhancing the suggestions to date and requiring that the Chairman of the Panel would

...submit reports to the Committee of the financial & physical progress of the programme, will keep the Committee advised as to the anticipated or actual problems and will seek direction from the Committee as and when necessary. The Committee will assist and expedite the programme within the area of responsibility of the members...¹²

Again, it was emphasized that the overall objectives of both the Panel and the new Committee were to keep costs within accepted estimates, to avoid delay and unproductive shipyard time, and to guard against expensive design changes and retrofits. Interestingly, the DM/DND now observed that this concept had indeed been his initiative—not mine, as I had understood.¹³

At its next meeting in February 1963 the Panel gave particular attention to the many concerns relating to fighting equipment, even including a somewhat astonishing observation from Treasury Board that "if DGFE will give substantiation of his need for more staff, this would receive prompt TB consideration." This at least shows that the Panel did occasionally operate as it was intended. At this time too, the nature of the reports to the Executive Committee were considered and it was agreed that these would, for the most part, be of a somewhat graphical nature with clear indications of trends and variances, particularly with regard to cost. And so the first report was made noting that these would propose to advise on preparation of drawings, procurement of long-lead items, questions of allocation of ship construction, and physical progress. After much discussion about process, however, it was noted that currently there were no matters requiring decisions and—with undoubtedly misplaced optimism-it was concluded that "in summary, while some personnel shortages are still apparent—all Departments & Divisions are now fully at grips with their various problems and work is proceeding on schedule." So far, indeed, so good.

Now, however there was the appearance on the horizon of, so to speak, a "cloud no bigger than a man's hand." This was the election of the Liberals on 23 April and the almost immediate press report that "Mr. Hellyer had stated that he would take a 'cold hard look' at all embryo defence programmes on which little money has so far been spent, such as the Navy \$240 million construction program for eight frigates."

Nevertheless, the Panel's work continued as new estimates—still edging upward - were brought forward. At any event the new Executive Committee during the spring and early summer of 1963 professed itself satisfied with the reporting process. However, there was now a moratorium by government edict on the procurement of critical items, so that a general lack of momentum developed. All this led in October to the Panel's consideration of action to be taken should the programme be cancelled. It was noted that "every effort should be made to finish off neatly and maintain the vast amount of experience gained in the development of the Project." This was appropriately prescient, for on 24 October 1963 Mr. Hellyer announced that the programme was indeed to be cancelled.

Assessment of the Panel-So Far

This illustration of the work of the shipbuilding Panel may perhaps be regarded as less than inspiring, since the programme came to naught, albeit after the expenditure of very considerable time and effort as well as the development of many new ideas and concepts. However, this was a first example of the Panel being involved with the development of a major new programme which in many areas was pushing at the limits of technology. Not surprisingly, there were cost increases and while the Panel was unable to resolve these, nevertheless it helped to create the climate in which they could be addressed. As well, credit must be given to the Panel for acknowledging its own shortcomings as a decision-making entity and for proposing and obtaining a mechanism that could make these decisions. Both in a technical and in an administrative sense, the general purpose frigate programme, while never coming to fruition, prepared the way for subsequent programmes.

To some extent, however, we have done the Panel a disservice by concentrating on this one programme, since it was far from the only item on the agenda. The Panel was also engaged with the on-going construction of the Mackenzie and Annapolis-classes of destroyer escorts, as well as the very difficult situation of the completion of *Provider* at the end of 1963, where considerable problems had arisen in a tight fixed-price contract. As well, at about the same time the Panel was keeping an eye on the negotiations leading to the procurement of three Oberon-class submarines in England. To say the least, there was no lack of intriguing problems for discussion.

The Panel's Closing Era

We can look at the Panel's subsequent work more briefly. By the early summer of 1964, a new naval programme was contemplated that would have four DDG's i.e., destroyers with air-defence capability, although their precise configuration was unclear. Deliberations in this regard continued through the summer, it being noted that these took place in the newly-integrated Canadian Forces. The outcome was somewhat encouraging for towards the end of the year there was approval for two new supply ships (which were eventually to be *Preserver* and the *Protecteur*) and for four "improved" and "lengthened" Nipigon-class, i.e., ASW equipped DDH's, but with an enhanced missile point defence system. This announcement, the origin of which was rather unclear, came as somewhat of a surprise. A revamped older design was not what those of us with a naval background had been expecting. Further, as this programme was announced (again that small cloud on the horizon) Pratt and Whitney advised" of studies that could apply their gas turbines to these vessels.

This new class, as now presented, was a demanding technical problem. The Nipigon design was nearly twenty years old and much "growth" and added "top-weight" had eroded its reserve of stability. As well, putting a twenty-five foot chunk of hull (the length that had been suggested) into a complex warship design is not like adding a piece in the middle of a supertanker. Further, the helicopter operators now added more demanding constraints. All in all, though we did not say so very clearly, these requirements pushed us to use the hull form of the general purpose frigates, upon which so many hours and weeks of development had been spent.



Figure 2: "Tribal-class Algonquin DDH-283"

Source: Department of National Defence.

At this point it should be emphasized that, while the Panel was still active and involved, there was a good deal more caution all around. We had had most unfortunate experiences with costing in relation to the frigates. And at that time we were moving in a new "integrated" approach, in which much was being made of "networking" and similar managerial convolutions. As well of course, though still somewhat close to our bosom in DG Ships, there was the possibility of a complete new propulsion system. Thus, urged on by the Panel there was a good deal of prior discussion with Treasury Board before the submission went forward in February 1965."

Predictably, the cost estimates were based on those for the general purpose frigate and a figure of \$142 million for the four ships was generally accepted. However, it was in the early design stage and, clearly, the D M / D N D was not to be "painted into a corner." It was thus noted in the submission that several briefings had been given to "interested parties and departments" and that

during the course of these briefings it was clearly explained that some design work, mainly in the area of equipment selection, was still required. To this extent, cost estimates cannot be precise at this time. However, the basis of estimates, in collaboration with the Department of Defence production has been examined in some detail and is considered reasonable for the program budgeting.

As well however, their submission took account of both the "old" and "new" ways, noting that

it is intended that the program be monitored by the Defence Supply Naval Shipbuilding Panel with the program being formulated on a PERT network in order to ensure that detailed planning and cost control will result in the most efficient and economical use of available funds and manpower resources.

Treasury Board, stunned no doubt by all this piety, was quick to respond and approve in barely more than a couple of weeks.¹⁹

The Introduction of Gas Turbine Propulsion

At this point, it is appropriate to diverge from the main consideration of the Panel and to reflect on the fairly prompt response by the RCN to Pratt and Whitney's gas turbine concept. The company's comprehensive proposal which included several alternative schemes, was received in mid-February and was given a very thorough review by the Technical Directorates. These included those who were enthused (those concerned with the new design) and those who were more cautious (those concerned with subsequent maintenance). Very lengthy reports were prepared by all concerned and briefings held for operational and technical people, including representatives from the Departments of Industry and Defence Production.

Eventually, in spite of my cowardly personal preference to continue with the old "tried and true" steam plant, I had to make the formal proposal- and this as a naval constructor to the Chief of Naval Technical Services who was a marine engineer. In any event, the very lengthy analysis recommended the change to gas turbines and this was rapidly put before the Naval Advisory Group, the successor to Naval Board.

The proposal now went through various levels in the new integrated hierarchy, noting that the cost of the programme would be increased from \$142 to \$147 million. And finally we rose into the bright illumination of Defence Council in mid-July, with both the Minister (Hon. Paul Hellyer) and the Associate Minister (Hon. Leo Cadieux) present. After relatively little discussion, the ministers approved the proposal and after our long ascent to a decision we were now urged to make haste.

The Beginning of the End

It is interesting that in this relatively swift resolution of a primarily technical decision the Panel though kept informed, was not significantly involved. At least in part this was probably because the entity was engaged in other discussions that would lead to some fundamental changes. To appreciate this we must step back to a Panel meeting in January 1965 when, paradoxically as it will appear, the new Chief of Logistics, Engineering and Development, an Air Force officer, asserted the need to continue the Panel This elicited from Treasury Board members the observation that "Treasury Board has always taken an interest in the work of the Panel and indeed has looked upon it as a vehicle for monitoring ship construction programs." These sentiments were also echoed by D M / D N D.

At the same meeting, however, DDP expressed concern about the "entire ship construction concept." It was noted that previously the shipyards had only provided labour; the design and working drawings had been prepared by the RCN through its agency, the Naval Central Drawing Office. The opposing views can be stated succinctly. The RCN argued that it could not accept the preparation of working drawings anywhere else but in NCDO. DDP's response was that "as long as the RCN controls the drawings, competition does not exist." These were the divergent opinions that circumscribed the desire, or intent, for a greater measure of competitive tender.

In April 1965 an Interdepartmental Committee on Canadian Shipbuilding, reviewing government activities in this area, supported the concept of "unrestricted tender competitions conducted on as broad a base as possible." As a result, in July 1965 the Panel sought guidance and perhaps arbitration from Gibbs and Cox, a US firm of naval architects with much experience in the destroyer escort field. The company was engaged, presumably at DDP expense, "to examine the whole question from the background of their extensive and relevant experience."

The Panel agreed that this review should concentrate on the capacity of NCDO and the Canadian shipyards to produce working drawings and should compare US methods and procedures with those of Canada in regard to government ship-procurement programs. The intent evidently was to be able to refine the tendering procedures so that a fixed-price contract could be let, at least for the last three vessels in the program. The study, after describing the unsatisfactory nature of the current situation (the "one-ship-per-yard" policy and the generally limited yard facilities) recommended that "the preparation of working drawings be transferred to the shipyards via appropriate sub-contract arrangements." Shortly thereafter, a DND/DDP study achieved a possibly reasonable compromise taking account of the existing constraints:

...only the Naval Central Drawing Office (NCDO) had the necessary capability in Canada of producing the working drawings and it was decided that the lead builder, who would be responsible for production of the working drawings under the new system, would retain NCDO under sub-contract for the work, a similar operation to that carried out by DND when it was responsible for the drawings.²⁶

Thus the management of the NCDO, carried out for more than fifteen years by DND & DDP, was to be transferred to the new lead yard. This eventually turned out to be Marine Industries, which had previously had no experience of such management.

It is not the intent in this essay to investigate the future performance of the DDH program. What is pertinent, however, is that this new move towards a fixed-price approach, with overall responsibility being passed to the shipyards served—since this was soon to be the only significant new construction programme—to erode the relevance of the Panel. As well, this period saw a cessation of significant involvement by senior officials in both DDP and the RCN.²⁷ Thus the Panel continued until its seventy-sixth meeting in December 1965, which appears to be the last one recorded—although there was no indication that this was, in fact, the final meeting.

Conclusion

The Panel in the end appeared simply to "fade away." During the decade or so of its existence the Defence Supply Naval Shipbuilding Panel had been a useful mechanism by which the various parties involved in naval ship procurement could express their views, seek action and, eventually, resolve difficulties. As well, through a series of demanding compromises the Panel had facilitated a transition to incentive contracts and even to a measure of fixed-price approach. This change obviated the need for extensive on-going monitoring and informal inter-departmental discussion, which had been the Panel's main contribution. Undoubtedly, far too little attention was paid to cost estimates-although the very few engaged in this latter activity did have appropriate enthusiasm. Nevertheless it was a rare circumstance that figures were subjected to adequate scrutiny at higher levels before being passed to, and accepted by, the highest authority. Perhaps this indeed was a useful lesson to have learned. Withal, however, we did our best—and made some progress. It is not clear that present-day performance in the design, costing and delivery of the new patrol frigates is all that much of an improvement.

NOTES

- * S. Mathwin Davis, Rear Admiral (Ret'd) was Director General-Ships in the RCN for much of the Panel's existence. After retirement from the Canadian Forces he gained a Ph.D. at Queen's and, for some years, has been an Adjunct Professor at the School of Public Administration in that University. His research interests are in Naval technical developments during the period of major construction i.e. 1950-70.
- 1. DND Memorandum, HQ S2-70-20, DM Sect 220-1,13 December 1954.
- 2. Letter from DM (DND) to DM (DDP), S 2-70-20,13 February 1956.
- 3. Letter from DM (DDP) to DM (DND), NS 350-17-6,1 March 1956.
- 4. Letter from Chief of Naval Staff to Chairman Defence Supply Naval Shipbuilding Panel (DSNSP), 26 April 1962, filed as Appendix B to the Minutes of the 50th Meeting, 30 April 1962.
- NS 8885, FFE/G (DG Ships), DG Ships to CNTS, 19 March 1962.
- 6. Minutes of 52nd Meeting of Naval Shipbuilding Panel, 24 July 1962.
- 7. NS 8885, FFE/G, CNS to DM (DND), 25 July 1962.

- 8. TB 59750, Asst. Secretary TB to DM/DND, 11 December 1962.
- 9. Minutes of 56th Meeting of Naval Shipbuilding Panel, 18 December 1962.
- 10. NSS 8885, FFE/G (CNTS), CNTS to DM/DND, 14 January 1963.
- 11. Minutes of 57th Meeting of Naval Shipbuilding Panel, 22 January 1963.
- 12. NS 8885, FFE/G, DM/DND to DM/DDP, 23 January 1963.
- 13. NS 8885, FFE/G, DM/DND to CNS, 19 Februa r y $^{\wedge}$.
- 14. NS 8885, FFE/G (DG Ships), Chairman, Naval Shipbuilding Panel to ADM/DDP, 4 May 1963.
- 15. Minutes of 63rd Meeting of Naval Shipbuilding Panel, 15 October 1963.
- 16. This was included in a Memorandum to Cabinet, 16 November 1964 (to be seen as Annex A to S3135-1 VCDS of 11 January 1965 currently found in S11900-500).
- 17. T.E. Stephenson, President, United Aircraft of Canada to DG Ships, 13 November 1964.

- 18. TB Submission NS 8250, DDH (DG Ships), 19 February 1965.
- 19. TB 636636, 26 February 1965 (now filed on S1190-33).
- NS 8885, DDH (DG Ships), DG Ships to CNTS, 19 March 1965.
- 21. Defence Council Minutes, 152nd Meeting, 6 July 1965.
- 22. Minutes of 71st Meeting of Naval Shipbuilding Panel, 20 January 1965.

- 23. Record of Management Review Group, 1972 Staff Report E, "Research, Engineering and Procurement" (hereafter referred to as MRG/E).
- 24. Minutes of 73rd Meeting of Naval Shipbuilding Panel, 27 July 1965.
- 25. MRG/E, 10.
- 26. Proceedings of Standing Committee on External Affairs and Defence Issue No. 12,18 February 1971, Appendix "G," DND-DDH 280 Helicopter Destroyer Project, 39.
- 27. The unifying of Technical Services in the Canadian Forces led to my own departure in late summer 1965.