

PAPER 5 - WHAT HAPPENED TO THE RAAF'S ENGINEER BRANCH?

The Demise of the RAAF's Engineer Branch

The 3rd November 1943 was a testing day for the patience of the RAAF's Air Member for Engineering and Maintenance (AMEM), Air Commodore E.C. Wackett. The RAF had accepted that the design technology of military equipment demanded the full-time employment of technical specialists to perform the various activities associated with the engineering and maintenance disciplines, and had formed a Technical Branch in the Categories of Engineering, Signals and Armament on 24th April 1940. The RAAF decided to make a similar move shortly afterwards, but the Technical Branch concept was watered down to a 'Technical List', and even this was bogged down under years of bickering about such issues as seniority and promotion prospects, pay, and relationships with the General Duties Branch. In trying to make the List system work, Wackett proposed to the Air Member for Personnel that it was necessary to modify the Engineering Section of the Technical List so as to exercise more efficient control over the appointment, posting and promotion of specialist officers. This proposal was opposed vigorously by the Director of Personnel Services (DPS) of the day, who saw the categorisation proposal as an unnecessary refinement of no more advantage than the sub-division of the Medical List into specialist categories such as ENT, Eye and Skin. This position was countered by Wackett who argued:

"I do not think that DPS can really seriously hold the views suggested in paragraph 3 of his minute that all medical officers have a universal application. I am sure he would not, for instance, like to have a delicate operation carried out on his eyes by a skin specialist. I am equally sure that DGMS (the Director General of Medical Services) is permitted to control the postings of his medical officers to ensure that such a situation would not arise."

Some improvements followed, but it was not until many years later that a Technical Services (later Engineering) Branch was formed within the RAAF to manage all engineering and maintenance activities.

After the war, the RAF initiated a review of the future of its Technical Branch, conducted by Air Marshal Sir Roderick Hill. He found that the RAF's dependence on technology required *'the intelligent direction of engineering resources, as well as the men who apply them, together with a common technical doctrine and a strong corporate*

feeling, all a pre-requisite for really efficient and economic management'. In March 1946, the Air Member for Engineering and Maintenance (AMEM) initiated action to consider the Hill Report in relation to RAAF post-war technical requirements, and this led eventually to the formation, on 23rd September 1948, of a RAAF Technical Branch with an Air Member for Technical Services (AMTS) as its Head, and an organisation much along the lines of the Hill Report.

From then, until November 1989, the Branch, with some changes in its title and that of its Chief, and of the categories comprising the Branch, provided engineering and maintenance support of RAAF planning and operations. The Branch faced challenges encountered by few organisations, covering periods of force expansion, periods of overt hostilities, financial constraints, and the introduction of waves of new technology on all fronts.

The success of the Branch was due, to a large extent, to the unity of direction, the careful selection of and attention to priorities, and the professional pride and morale that flowed from the Branch Head down, much as Hill foresaw. The Branch was well placed to monitor system and technical support performance across all fleets, identify problems and possible courses of action early, and initiate and manage those activities necessary to ensure that operations would be impacted to the minimum. Technical resources could be directed to where they were needed most, thus providing a large measure of flexibility and responsiveness. While these activities may not be quantifiable in simple economic terms, they were effective in operational terms. Over the years, the Branch established an enviable reputation amongst overseas Air Forces and major equipment suppliers for its engineering and maintenance expertise, as well as for its management of the many complex technical aspects associated with major new equipment acquisitions. With very rare exception, new systems were operable and supportable on arrival in Australia and then throughout their usual very long Service life. Engineer officers and technicians attached overseas were invariably held in high esteem as well trained, eager, innovative, and quick learners.

Many technical challenges, ranging from major structural deficiencies, modifications, fuel quality problems, and low system or equipment performance were qualified, quantified and rectified, often in the face of system and equipment manufacturer insistence that the problem had not been encountered elsewhere; a statement often found, in retrospect, to be incorrect. In short, the Technical Branch provided

an independent, organic technological capability that kept the RAAF operating under a wide range of very difficult conditions, often with little comprehension from those outside the Branch. The history of those years has yet to be written.

On a warm, sunny, autumn day in May of 1993, the surviving RAAF Technical/Engineer Chiefs assembled in the waiting room of the current Chief's office for morning tea, ostensibly to decide the fate of the memorabilia that went with the appointment, but also to close the book on the Engineer Branch. The final element of the Engineer Branch had been disbanded after several years of debilitating decline.

In effect, the Branch had ceased to exist from November 1989, although it was not until 27th February 1990 that the delegations to the Engineer Branch Head expired. From February 1990, a remnant of the Branch continued to function under a Director General of Engineering which formed part of the Materiel Division within Air Force Office, but this came to an end in February 1993, and so led to the final meeting of the Chiefs.

The start of the demise of the Engineer Branch in the RAAF can be traced back to the implementation of the Tange Report in 1972, which re-established a single Department of Defence and abolished the individual Service Ministries. Dr T.B. Miller, a well-respected defence analyst of the time, saw the move as *'a giant step along the road to Public Service (as opposed to Parliamentary) control of the armed forces'*. How right he has proven to be. The years that followed saw a steady erosion of Service authority and a diversion of resources from the military to an expanding bureaucracy that was incapable of taking those appropriate and timely decisions upon which the Services' capabilities depend. The continuing lack of resources that followed imposed stresses and strains from which our defence capabilities have not recovered. The current state of Australia's defence capabilities, preparedness, and morale does not speak well of some 32 years of public service administration.

The changes that followed Tange culminated in the acceptance of the Defence Efficiency Review (DER), followed in 1997 by the imposition of the Defence Reform Programme (DRP), which has created a cost-based revolution in the RAAF's organisation and capabilities, rather than an informed and capabilities-based evolution. Money matters, but capabilities do matter more! The rush towards change by decree, to 'implement and not question', netted the inevitable results. Firstly, morale dropped as arbitrary change was imposed, members then

reached a 'don't care' or 'what's the use' stage, and then focussed their attention on their departure date. What an appalling waste of highly-trained and dedicated knowledge and experience, knowledge and experience now sorely needed, but which Defence has not been able to replace.

The Sanderson Review

However, the engineering function in the RAAF was to be frustrated dramatically as a result of 'The Report on the Structural Review of Higher ADF Staff Arrangements' which was presented in July of 1989 by Maj Gen Sanderson. While this review was aimed at *'contributing to improved efficiency and effectiveness of Defence Force policy and administration'*, it was also aimed substantially at reducing a perceived, excessive number of Service officers, and a flattening of organisational structures to reduce manning costs. In looking at the Service Offices, the review also saw a need to develop, as far as possible, *'symmetrical functions and functional relationships within the three Offices'*, a step which failed completely to recognise the marked differences in operational dependency on technology between the three Services, and particularly the role and importance of Technical Services to the RAAF, the most highly technological of the three services. As a result of this review, the Chiefs of Staff Committee, on 27th June 1989, agreed, amongst other sweeping changes, to downgrade the RAAF's Development and Engineering Chiefs of Staff posts and their staffs.

As a result of this, the Technical Services' functions were divided finally between Headquarters Logistics Command, and the Engineering and Logistics Directorates formed within the Materiel Division. However, this latter arrangement was to move again, this time into the Office of the Deputy Chief of Air Force, and then yet again to become part of Support Command Australia (Air Force) (SCA-AF) where a small group of engineers reported to a Director General of Technical Airworthiness (DGTA). While SCA-AF may have inherited, by default, some of those functions held previously by the Engineering Chief, it is clearly unable to discharge them properly through the current organisation. In addition, DGTA could well be in a position of conflict of interest with his managerial as well as regulatory responsibilities for airworthiness. These movements and indecisions would tend to indicate a progressive loss of recognition of the central role and importance of organic technological expertise to RAAF operations and technical support. The loss of SCA-AF to the Defence Material Office (DMO) removed the last technical/engineering management element from the RAAF.

The General List

The second major change that impacted the survival of the engineering function in the RAAF relates to the formation of a General List of officers which, in effect, provided for officers of the rank of Group Captain and above to be without specialist category and so be capable of being moved into any managerial post for which they are considered qualified. This was in fact a return to the old generalist management approach in the RAAF that was found to be unsatisfactory and which led to the establishment of a specialist Technical Branch. Appointments for these officers are made against job specifications, but with the loss of the Chief Engineer (an Air Vice Marshal post), and his organisation, no specialist job specifications exist for any higher level engineering functions. As a result, there are no officers in the RAAF above Wing Commander devoted purely to engineering duties and no engineers form part of the Office of the Chief of Air Force. The practice of having an AVM with some engineering background somewhere in the organisation to provide engineering advice, as requested, hardly provides a reassuring technological backbone to the most highly technological organisation in Australia. Generalists will generally give a generally poor decision compared with a specialist, and this has been well demonstrated both in Industry and Defence.

The sole exemption in the General List relates to officers in the General Duties Branch. The philosophy behind this exemption relates to the appointment of Chief of Air Force (CAF), *which post must be held by an officer with a deep knowledge of and experience in the use of air power, and which knowledge will usually only be available to a senior officer who has spent a full career of involvement in the operation of military aircraft. This deep knowledge is usually available only to pilots, hence to ensure selectivity for the position of CAF, some positions throughout the hierarchy must be reserved for pilots. Beyond that, the most qualified officer should hold the post.*

While this approach may open up posts held previously by specialist categories, it misses entirely the role and importance of technology in support of RAAF operations. Indeed, the proper management of technology relates equally as highly as knowledge and expertise in the use of air power in achieving operational success. If this is not recognised fully, then the RAAF eagle will be trying to fly with only one wing.

Using the same approach as that which initiated the General List, one could argue equally as follows:

'The Chief Engineer of the RAAF is an appointment that must be held by an officer with a deep knowledge of and expertise in the application of technology in the support of air power. That deep knowledge will usually only be available to a senior officer who has spent a full career of involvement in the technological support of military aircraft. This deep knowledge is normally available only to engineers. To ensure selectivity for the position of Chief Engineer, some positions throughout the hierarchy must be reserved for engineers.'

RAAF Headquarters Support Command Reorganisation

While the RAAF had been planning since the early 1980s to decentralise its Support Command engineering, maintenance and supply support functions down to the major bases, this was planned against the assumption that a central policy and planning organisation would be retained at Air Force Office level and within Headquarters Support Command to ensure the required technical unity of direction, standards, capabilities, and morale were maintained. This arrangement was particularly important as the Weapon System Logistic Management Squadrons (WSLMs) were being deployed to their Bases, in response to mounting external organisational, financial, and manning pressures, before the necessary systems, procedures and training could be developed and implemented.

However, the establishment of logistics support elements on Bases, coupled with the direction in which higher policy is structuring budgets and contracts, carries a number of potential problems that will need to be monitored and managed technically across all fleets. Space only allows two to be covered briefly here.

- Firstly, each logistic support element had to carry a whole range of very complex technical management overheads, all of which were resource and skill demanding, which had been previously carried centrally. When aggregated, these overheads represent an unnecessary multiplication of effort. To achieve greater efficiencies and economies of effort, some technical management functions need to be drawn back to a central technical organisation where policy, systems and procedures appropriate to all fleets can be developed and applied. It is erroneous to think that each fleet is unique in all technical management ways. Their

commonality vastly outweighs their uniqueness, and experiences in one can be applied across other fleets with considerable benefit. The current organisation provides none of the economies of scale that were inherent in the old organisation.

- Secondly, the move towards making each fleet (ie, force capability) a cost centre raises further problems in terms of economies of scale, as well as building in barriers to flexibility and responsiveness on a Service-wide basis. Under this approach, each system has to carry all of its overheads, and when support contracts such as for repairable items are packaged by weapon system, the problems simply increase. Under current policies, each fleet has to carry all its overheads to support a small number of aircraft flying a small number of hours. This adverse ratio of overheads to operating costs differentiates the RAAF from other Air Forces which can normally amortize their overheads over more aircraft operating more hours. The resulting problems demand RAAF-unique solutions. One solution to this problem is predominantly a technical management one whereby like sub-systems and equipments are aggregated and managed across fleets to obtain economies of scale. Having each support group go out to contract for its 'penny packets' of maintenance and supply requirements is uneconomic, and also dictates against developing and preserving local industry support.

The Need for a Stronger Engineering Element in the RAAF

In short, there needs to be a far better balance between those technical management overheads that are best carried by the weapon system support elements and those that are common to all elements and are best carried centrally, and across all fleets. The RAAF needs a strong backbone of organic engineering expertise just as much as it needs a strong backbone of skilled aircrew. The drastic reduction in technical manpower numbers and skills and putting all but operating level maintenance out to contract will not provide the numbers, expertise, span and depth of experience, or organisational structure needed to ensure that the RAAF's required technical standards are re-established and maintained at the required level.

Finally, the Chief of Air Force needs a Chief Engineer and staff within his organisation to provide the leadership necessary to recover and maintain morale, and to provide the unity of technical direction across all fleets to support operations effectively and economically. The expertise and experience so gained will then feed productively into new

project management, one of the most sensitive areas in the whole Defence machinery.

Air Cdre E.J. Bushell AM (Retd)

Revised and updated, June 2006