

MARINE ENGINEER OFFICERS' CONFERENCE, 1968

BY

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Opening the fourth Marine Engineer Officers' Conference at Manadon on 19th April, 1968, no longer as Director of Marine Engineering, which office has lapsed, but as the Senior Officer of the Marine Engineering profession on the Board of Management of the Ship Department, Rear-Admiral Raper welcomed Rear-Admiral A. F. Turner, the Chief of Naval Supplies and Transport, Rear-Admiral G. C. Crowley, the Director General of Naval Personal Services and the 104 other officers present.

Announcing that the theme was 'The Training and Employment of General List Marine Engineer Officers', Admiral Raper explained that this had been chosen because the new look of the Fleet demanded a new look at training to ensure that the methods were right; with the Navy facing many difficulties, it was more important than ever that officers should be clear about their role and the reasons for the training they were given.

Admiral Raper further explained that the only reason for not including the Special Duties List in the day's business was because both stories could not possibly be covered in the one day: he hoped, however, that SD officers present would not feel inhibited about speaking.

Entry and Early Training

The first address was given by Captain Pearsall, the Director of Naval Engineering Training. He pointed out the need for the standard of Engineer Officer to rise as technical development continues to accelerate; while this means attracting the young man with a good potential of the various qualities required, it is from his early experiences in the Fleet that he derives his determination and motivation, and therefore how good the officers of the future were depended quite largely on the assembled company and their contemporaries.

On recruiting, he said that there had been a shortfall of about 17 per cent last year, and that most of the vacancies were in engineering. It was of interest that less than one third of the total Cadet entry last year came from independent schools. Attempts by the Admiralty Interview Board to analyse why young men opted for engineering showed no one particular reason above any other, and indeed few candidates had any idea of what being an Engineer Officer entailed; a comforting fact was that the marking accorded by the AIB proved to be a reasonably accurate forecast of the results at Dartmouth so that it was unlikely that suitable material was being rejected. Attraction to the Service from University was not proving very successful.

Of the Officers under training of all sub-specializations at Dartmouth, less than 20 per cent were engineering; and furthermore, while there, there were more transfers from engineering than to it. Partly perhaps this is because the marine engineering world cannot present itself very dynamically with the antiquated training equipment held, and the fact that it is out of the limelight down at Sand Quay, and efforts are being made to improve matters.

A new syllabus for the Midshipman's sea training is to be introduced this year following recommendation in the Howard and English Report: it is perhaps more realistic in its approach—astro-navigation is out for engineers,

for example—but the degree of improvement it achieves will depend very largely on the interest and effort that MEOs of ships can show. Their influence, by pointing out the importance of engineering in the Navy and the challenge which it offers, has a major part to play in inducing motivation of the young Officer.

The following points were raised in the discussion that followed:-

- (i) Was the Navy achieving all it should be at schools? Obtaining entry to University was held in greater esteem than entry to the Services. Captain Pearsall said that DGNR was doing his best to counter this attitude; he was also aware that a boy's interest in joining the Navy was at its greatest at about 15 years of age, and in fact the Scholarship Entry numbers (i.e., 15 year old) were about three times the Direct Entry numbers (i.e., 17 years old).
- (ii) Did not the present system of initial training discourage potential engineers? It seemed questionable whether the two years spent at Dartmouth were of much value, besides which they occupied perhaps the most academically receptive years, and delayed the emergence of the Qualified Officer by that amount. The point was made by Admiral Turner of the vital importance of officers being 'all of one company' during their formative years if harmony, and parity in opportunity and responsibility on the General List, are to exist in later years.
- (iii) On the premise that we require engineer officers to be graduates and in view of the poor response from universities, the Navy might consider 'buying' engineers in as it did with doctors, dentists and instructors.

Professional Training

Captain Malim, Captain of the College, caused an audible stir of nostalgia as he opened his talk with a colour slide of the College at Keyham; he followed this with an aerial view of Manadon, so contrasting that it lent emphasis to the great changes that have occurred in the training task. He explained that the academic task of the Royal Naval Engineering College was to train to an accepted national level for professional status, and to this end there were about 100 students per year on the degree course (with another 7 per year at Cambridge); failures averaged 15 per cent, which was just half the figure nationally for mechanical and electrical faculties of Universities and Colleges of Advanced Technology, and occurred at random across the span of academic ability; failure was almost invariably a question of motivation, and there was little doubt that an officer entering with the minimum required 'A' levels if acquired normally, could succeed on the course if he wanted to.

Captain Malim then described the extra-academic side of the training which, combined with the academic, produced the unique balance that gave the Naval Engineer Officer his character and competence. This balance had been developed over the 87 years' existence of the College and was helped by several factors which it would be folly to lose, such as the naval environment, the entirely uniformed lecturing staff, the avoidance of distraction caused by research work—or by the proximity of the more sophisticated centres of entertainment. It was most important to remember that the College existed for the benefit of the Navy, unlike a university which existed for the benefit of the students. In order to get the maximum benefit, several mixes of the shore and sea training had been tried over the years, and approval was now being sought for yet another slight variation, this time to the Application Course in an endeavour to counteract the loss of the training ground provided in the past by the big ship. It was just as necessary as ever for the engineer officer to gain an intimate

knowledge of the equipment and systems for which he will be responsible, and confidence in himself in handling machinery. It was hoped that a ship might be specifically allocated for this purpose.

The following points were raised in the discussion that followed:-

- (i) While providing valuable recruiting propaganda, was it necessary for their employment that all Naval Engineer Officers had degrees, and was good material, that could ill be afforded, being lost because of this stipulation?

Several speakers from the floor expressed their views that degree level was required—not so much for the letters this conferred, but for the ability and educational standard it demonstrated: it had to be remembered that to-day's entries would not be fully professionally effective until the 1980s, and with the speed of technological advance who could guess what the problems then would be. Admiral Raper made the further point that a vital part of the Navy getting the high standard of machinery that it must have, was in its engineer officers being able to talk on professionally equal terms with industry, and even give a lead.

- (ii) One speaker suggested that the degrees need not be in engineering; as the basic requirement was for able administrators perhaps students should be allowed to graduate in whatever subject within reason suited them, and be subsequently selected for a specialization.
- (iii) Had Captain Malim meant to use the word 'train' in defining the task of Manadon? It was important that the student was 'educated' because, this having been achieved, he could easily be 'trained', or 'train' himself, for particular employment.
- (iv) Authoritative figures were given concerning promotion prospects for rating entries; at entry, the Apprentice now had a 1 in 6 chance of attaining commissioned rank, and of ME Commanders serving at the present time, 20 per cent had entered as ratings.

Employment Patterns

Captain Roberts, the Director of Naval Officer Appointments (E), gave the next address, the substance of which has already been published in the article by Commanders Willcock and Ward in the last issue of the *Journal*.

Although he had learnt in his present appointment that every officer's problems were unique to him—or so he thinks—there were career structures and employment patterns that were applicable to all officers; these were depicted graphically in the article.

The length of employment of officers was being increased; Lieutenant-Commanders may now remain until they are 50, and from 1973 Commanders will be able to stay until 53. It must be remembered when looking at the career pyramid, of course, that any displacement of the interfaces between Engineer Officers and RNES Officers, or between the Engineering Specialization and the General List could alter its shape. Nevertheless, let the figures speak for themselves: in 1955, 40 per cent of engineering Lieutenant-Commanders were promoted to Commander and 17 per cent of all Captains were Engineer Officers; today, the equivalent promotion figure is nearly 70 per cent, and 33 per cent of all Captains are Engineer Officers.

Discussion produced the following points:-

- (i) The breadth of employment and frequency of job changes meant inevitably that there were two conflicting requirements of an officer—broadmindedness and the ability to do a professional job thoroughly;

was there not a case for broadening those with adequate capacity, and specializing those without? Captain Roberts replied that it would not be possible to match such a system with balanced promotion chances for all.

- (ii) That some disquiet was felt about the extent of civilianization of professional posts. Captain Roberts gave the assurance that this matter was appreciated, and that a study of all functional professional posts was being carried out.

Sea Employment

Opening his address, Captain Flower (FMEO on the Staff of Commander-in-Chief, Western Fleet) recalled that he had heard a lady guest at a recent cocktail party liken engineer officers to the Dougal of 'Magic Roundabout' fame—dignified and lovable; he hoped that the Western Fleet Technical Staff would be as equally worthy of this epithet.

Captain Flower then proceeded to summarize the three positions of a marine engineer officer at sea—as a junior, as the Deputy MEO, and as the MEO. The junior was more mature and more qualified professionally than he used to be, but had less experience of machinery; as superficial knowledge of machinery was not enough, it was necessary for him to get down to work among the ERAs and he should have something to offer the latter in return for the practical knowledge they could pass to him. Such a mutual relationship was an important foundation for the future one between the MEO and the CERA. The Deputy MEO of a frigate might be anywhere within the range of a newly promoted Special Duties Sub-Lieutenant to a junior General List Lieutenant-Commander; it was rarely possible for him to be a deputy in the traditional sense as the compactness of the Department precluded the need for an intermediary between the MEO and the Heads of the various Sections; what the Deputy must spend his time at was learning to be an MEO one day. The 'Guidance Notes' recently issued by C-in-C. WF represent the teaching of FOST's staff and contain plenty of helpful good sense on proven ways of doing things.

The MEO of a frigate today generally gave sound advice to his Captain, was usually competent in maintaining and repairing his machinery, and set good standards of training and performance of personnel; but he was sometimes criticized for his management. In that he was required to be part consultant, part diagnostician, part trainer, part inspector, part welfare worker and part socialite, perhaps he did find it difficult to 'manage' his day equitably and hence find little time to concentrate on management itself. Besides, the example set by the administration ashore neither inspires the MEO nor helps him with his own management problems; for example, the lack of PILs hindered his obtaining spare gear, his planned ration of assisted and self-maintenance periods was not forthcoming, long delays occurred in processing Modifications and As and As, mandatory As and As were not done by the dockyards, planned recommissioning denuded him of old hands at the end of the refit, and he had machinery that should still be on a development test bed ashore.

Captain Flower then touched on one or two more problems. He pointed out that the disbanding of the Squadron system had deprived the MEOs of oversight from a Squadron EO, and at the same time had confined many Commanders to the job of being merely MEO of a frigate. However, a system of Divisional Command was being introduced which might partially restore matters. There was also the trying period consisting of the strenuous end of refit with many newcomers and the intensive spell at Portland; small wonder that some MEOs and Senior Rates were pretty exhausted by the end of the work-up and some lessons passed them by. A third unattractive feature was

that the combination of five different machinery systems in the Fleet and fewer sea appointments meant that the machinery spent most of its time as a training ground; it was not surprising that the best was not always obtained from the equipment and furthermore, it must be doubted whether adequately experienced naval marine engineers were being produced to satisfy the future demands in design offices, staffs, and training.

Admitting that he had tended to dwell on shortcomings, Captain Flower concluded by saying that in fact he felt there was very little wrong with the manpower or with much of the machinery, but that perhaps the right match had not yet been achieved between the requirements and the resources.

The points around which subsequent discussion centred were:-

- (i) The contention that the most important factor missing was experience in running a marine engineering department and of the standards necessary, and that this led to the majority of the breakdowns at sea that occurred. However, more sea experience meant more ships—clearly beyond consideration—, the adoption of ‘wet’ and ‘dry’ lists—clearly undesirable—, or the allocation of more shore appointments to SD officers so that the GL officers they replaced could take their sea billets.
- (ii) The danger of the MEO feeling a diminution of his responsibility if oversight of him were increased; certainly in home waters he was forever under someone’s eye, though the return to some sort of squadron concept had many attractions.

Headquarters Employment

Giving the final address, Admiral Raper spoke mainly of the impending reorganization of the Ship Department; details of this and the purpose behind it are given elsewhere in this *Journal*. Broadly the intention was to weld the three professional disciplines into teams capable of producing solutions to the complex modern requirements, which must take account of cost effectiveness, reliability, etc., in order to tell industry what was required but not how to do it, as had been the policy in the past.

The agreed complement of mechanical engineers for the Department was 63 naval officers and 60 RNES officers; this blend should produce the essential feed in of personal experience from sea while maintaining good continuity of expertise. Admiral Raper then explained that although the post of Director of Marine Engineering had ceased to exist, a professional head of the Branch, responsible for setting the marine engineering standards of the Fleet and for maintaining the very necessary liaison with the Fleet and the Departments of the Chief of Naval Personnel, would remain in the person of the senior marine engineering officer in the Ship Department.

Referring to the General List, Admiral Raper recalled that its main aim was to release non-seamen officers from being confined to strictly professional careers and to open up to them the higher administrative posts in the Navy; there was a place for officers with a technical background to take part in the management of the Navy, and for four years now, of course, the post of Fourth Sea Lord had been held by an Engineer Officer. A junior officer may well be asked to perform various duties which he considers to be General List chores but he must remember that this was the guarantee that he was regarded as a proper Naval Officer and part of the Navy as a whole; this had by no means always been so. On the purely engineering front, it was becoming increasingly difficult to keep abreast of rapidly evolving specialist technologies, and as the higher ranks were reached what was really required was enlightened first-class management with a technical insight into the nature of the problems to be

faced. Any engineer who wanted to contribute the maximum to whatever organization he belonged must forego the protective coat of being the expert and be willing to compete with people of other disciplines in order to make the most use of his talents. The use of mixed teams is becoming increasingly necessary to deal with modern technological development.

Admiral Raper closed with the following comment on the need for professional qualification:-

‘The requirement for professional standard is the only viable guarantee that an officer has the intellectual capacity, the necessary education and/or the propensity for hard work which will enable him to be highly adaptable in a rapidly changing world; to cope with administrative paperwork quickly and competently and still have time to be creative; to provide guidance to technicians of highly specialized training and employment; and to cover the wide field of activities in two or three-year periods, in each of which he will face much that is unfamiliar. He is expected to act on his own initiative and be ready to improvise or innovate, always leaving a job in a better state than he found it. If we all do that—even when professionally qualified—we shall be doing well!’

Questions raised in the discussion were:-

- (i) Would the new organization give better service to the Fleet? Admiral Raper hoped that it would; now, the Directorate of Warship Design would be devoting about half its effort to the running ships, and, in the longer term, a strengthened Forward Design Group would co-operate more closely with the Naval Staff in analysing the functions of a new Class in the various possible scenarios so that perhaps ships would be better suited to their tasks.
- (ii) Had the re-organization been drastic enough in a diminishing Navy, and should not, say, DGW(N) have been drawn in?

Admiral Raper replied that it was important not to take such a big stride at one time that the co-operation of all those involved was lost, and it was also important to keep an organization within that size that could be properly managed.

Closing Address

In summing up the day’s proceedings, Admiral Turner said that the discussions had naturally and rightly been concerned mainly with the professional requirements for naval engineer officers. The difficulties which arise from the changing shape of the modern Navy—largely ‘small ship’ with the consequential loss of early watchkeeping experience—and from the ever increasing complexity of equipments and systems—with the consequential requirement for higher professional standards—inevitably highlighted engineering short-comings. As the presentations and discussions had shown, steps would have to be taken to overcome this. However, he wanted to warn that such steps must not prejudice the General List concept.

Admiral Turner considered that one of the clearest proofs of the success and correctness of the General List was that, if he spoke to young naval engineer officers of the frustrations and restrictions under which engineer officers of pre-General List days had suffered, they had no idea what he was talking about. The fact was that if the technical standards and performance of the Royal Navy were to be maintained at the high level required, engineer officers must be involved in policy formation at the top levels. On a General List concept, officers could be given the necessary training and experience to fit them for such posts. Any solution to to-day’s professional problems which involved a return

for all or even the majority of engineer officers to the narrower specialist field would in his opinion be disastrous.

Commenting on the overall position of the Royal Navy in to-day's difficult national situation, Admiral Turner said that, once one had accepted the unpleasant facts of our reduced national status, the position was not one for despair or despondency. On the contrary, in his view, we now had a golden opportunity of overhauling our organization, tightening up procedures and producing a modern and more efficient Service. This was pre-eminently so in the case of Fleet Support, and in this field engineer officers had clearly a major part to play. For this reason, and because it was obvious that the technical content of the Royal Navy was bound to go on increasing, both the immediate and the longer term future offered great opportunities to the Naval Engineer Officer.
