

VICE-ADMIRAL E. J. HORLICK, C. ENG., F.I.MECH.E., M.I.MAR.E. CHIEF NAVAL ENGINEER OFFICER

## FOREWORD BY THE CHIEF NAVAL ENGINEER OFFICER

Like most of my predecessors as CNEO I take over the job at a time of change. Indeed change is endemic to high technology and that is the sphere in which we operate today and will continue in the future. Change is a curious thing; it is vital—without it we stagnate, but with too much we become confused and inefficient. As in all things, judgement is the key to getting the right balance. Engineers at all levels are required continually to exercise judgement (sometimes without knowing it), materially, financially, in training and education and perhaps predominantly in handling people. Sage counsel and good judgement are needed in these difficult days perhaps more than ever before.

We are required now to operate under severe financial constraints which are reflected in all our activities. This places new emphasis on the need for self-discipline, for economy in all our activities and, above all, for the continuing exercise of judgement on priorities in all that we do. Only by the downward cascade of managerial decisions on priority can we squeeze out of the bottom those activities that are least

profitable to our aims and improve our efficiency.

Constraints on manpower stem directly from those on money. It is nothing new for the Engineering Branch to be short of officers and men in key categories. The effects are always uneven and they are always tackled with determination and success by those parts of the branch affected. There are shortages now and there will be others in the future: there are problems in the provision of training facilities ashore and afloat. All are being tackled and I am confident that acceptable solutions will be found.

While the financial background may be sombre the technology is exciting and challenging. New generations of aircraft carrier, ASW ship, mine counter-measures vessel, and offshore patrol vessel are with us. The first of a new class of nuclear attack submarines is nearing completion and a new design of conventional submarine is before the Admiralty Board for approval. Hovercraft and hydrofoil are being operated with success. The Sea Harrier and the Sea King are in operational service at sea. A whole range of new sensors and weapon systems for underwater, surface-to-surface, and AA warfare together with their command, communications, and control are being put to sea. Trident is before us. Vital and stimulating as this introduction of new systems and equipments may be, the overhead costs in ship conversion, support, and training continue to climb and leave very little scope for expansion in any field.

The Branch has changed its structure to meet the developing challenge. This has produced stresses and strains that have been met with enthusiasm and success by those concerned. The altered ME/WE balance of responsibilities is being implemented in the training establishments and in the Fleet with fewer strains than expected as a result of careful planning. We must now look to the X/WE area where the problems inherent in maintaining and operating our new integrated weapon systems must be resolved.

I am confident that the officers and men in the Engineering Branch will rise to the inevitable challenges of the future as they have done so consistently and successfully in

the past

I shall require advice in many fields during my term as CNEO and I shall be pleased to see and hear from those who wish to contribute. I look forward to meeting as many of you as possible during my visits to ships and establishments.

Edwin J. Harlich.