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9 April 1984

CABINET

STATEMENT ON THE DEFENCE ESTIMATES 1984

Memorandum by the Secretary of State for Defence

I attach for the approval of the Cabinet the draft of the Statement on the Defence Estimates 1984.

2. As usual, the Statement begins by reviewing the main issues of defence policy we face. Chapter One seeks to underline the continuing need for our policy of robust defence, whilst making it clear that we remain strongly committed to work for progress on arms control and for a better understanding with the East. The Chapter pays particular attention to recent developments relating to the deployment of cruise and Pershing II missiles in Europe. I have also included a fuller-than-usual treatment of the role of our armed forces in Northern Ireland, since it is several years since this aspect has been given detailed attention in the Defence White Paper.

3. It has been my particular aim in this Statement, notably in Chapter Two, "The Management of Defence", to explain the programme upon which I have embarked to ensure that we make the most cost-effective use of the resources (of both men and money) which we devote to defence. The Chapter describes our policies to improve management and accountability, to reduce overheads and maximise the resources going into our front-line capability, and to introduce competition wherever possible into procurement and the provision of support for the armed forces. Chapter Three discusses some of the key issues in equipment procurement policy; and Chapter Four describes the output currently achieved from the defence budget in terms of force capabilities. The concluding Chapter, as is usual, deals with the Services and the community.

4. The draft has been considered by the Defence and Oversea Policy Committee (OD). Compared with the OD draft which was circulated to all members of the Cabinet, it incorporates substantive amendments to the following paragraphs: 106, 207, 220, 221, 235-236, 240, 436, 438 and 446 of the main text and paragraph 7 of the Essay on "The European Contribution to NATO" at the end of Chapter One.

5. Subject to the approval of the Cabinet, I will arrange for the Statement to be printed. Publication is planned for 23 May.

M H

Ministry of Defence

9 April 1984

STATEMENT ON THE DEFENCE ESTIMATES

1984

VOLUME ONE

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CHAPTER ONE

DEFENCE POLICY

101. This year the North Atlantic Alliance celebrates its 35th Anniversary. Throughout those thirty-five years, it has ensured the maintenance of peace in Europe. The magnitude of this achievement cannot be overstated. For history shows that a nation that desires peace in freedom cannot simply rely on the hope that it will be left alone. If the preservation of liberty requires eternal vigilance then the maintenance of peace demands unremitting effort. NATO has recognised this and has thus been able over three and a half decades to preserve the effectiveness of its policy of deterrence, allowing new generations to grow up with the continuing freedom to choose the form of Government they wish. As a Government, we continue to believe that the collective security which we enjoy as members of the Alliance is the only realistic way of providing for our defence. We therefore remain committed to playing our full part in ensuring that NATO continues to be as effective a guarantor of peace and freedom in the decades ahead as it has in the years since 1949.

THE CHALLENGE FACING NATO

102. When the North Atlantic Treaty was signed, the threat was direct and immediate: Berlin was under blockade. The threat today may seem less obvious; yet it remains, and the consequences of a failure to respond to it would be just as grave. It is manifested in two ways: in the policies followed by the Soviet Union, and in the military capabilities of the Warsaw Pact to

support those policies. Over the past year the Soviet leadership has demonstrated its familiar consistency of purpose. Past gains have been consolidated, for example in Afghanistan where despite the costs of the occupation and the courage of the resistance the Soviet Union has shown no readiness to withdraw. Predictably there has been no change in Soviet policy towards the countries of the Warsaw Pact. Further afield, the familiar pattern of exploitation of regional instabilities has continued, in Central America, Africa, and the Middle East. The tragic episode last Autumn of the destruction, with the loss of 269 lives, of a Korean civilian airliner provided a striking example of Soviet attitudes. Once again, Soviet policies over the last year have been difficult to reconcile with their claims of devotion to world peace.

103. The picture in terms of military capabilities is equally familiar. The last year has seen a further steady increase in Soviet military capability in every significant category of armament, conventional and nuclear. Existing superiorities over NATO forces have been maintained, and in many cases increased. A detailed account of these changes and their effect on the balance of forces between East and West is given in Annex A. At the strategic nuclear level the Soviet Union is testing a new generation of solid propellant ICBMs, the SS-X-24 and SS-X-25, and has under development long range cruise missiles which can be launched from air, ground and sea platforms. At sea, it now has the largest fleet of nuclear powered submarines in the world, having built about one hundred such vessels since 1970, and a growing surface fleet capable of worldwide operations. On the Central Front, the general Soviet advantage in both men and equipment is particularly marked in tanks, artillery and combat aircraft, which would make it much easier for the Soviet Union to

achieve the significant local superiority required by an aggressor. In order to capitalise on these improvements Soviet forces are experimenting with new organisations and tactics. They appear to be introducing a concept of Operational Manoeuvre Groups (OMGs) - combined arms formations of divisional size or larger, operating with considerable air support, which following an initial breakthrough by first echelon forces would be intended to penetrate rapidly into NATO's rear areas. This concept underlines the essentially offensive nature of the Warsaw Pact forces, a feature given further emphasis in the nuclear area by the introduction of further SS20 missiles and by the deployment of SS21, 22 and 23 missiles which are replacing or about to replace older systems. The disparity between the Warsaw Pact and NATO in intermediate range theatre nuclear weapons is currently about five to one.

104. There is room for argument about the precise nature of Soviet intentions in steadily building up every aspect of their military capability. The closed nature of Soviet society makes such analysis all the more difficult. For example, the figures published by the Soviet Union for its defence expenditure have little meaning; but it is estimated that in recent years some 14 to 16 percent of Soviet GNP has been allocated to military spending, which is about three times the percentage for NATO as a whole. It now seems that there have been some signs of slackening in the rate of growth of Soviet military expenditure; this is discussed in the essay on page [ ]. It remains to be seen whether this slackening will be maintained or whether there will be a return to previous rates of growth. But present levels of Soviet expenditure already represent an allocation of resources more than adequate to maintain and improve a formidable military capability.

105. NATO's response to the challenge posed by the Soviet threat must therefore be two-fold. Wherever there are any grounds for belief that the Soviet Union may genuinely be interested in the reduction of tension or armaments, no responsible Western government can do other than whole-heartedly pursue the chance of establishing common ground. NATO has for many years maintained as a fundamental part of its policy that defence and deterrence must be accompanied by an unremitting effort to develop a constructive relationship and improve understanding between East and West. This policy becomes all the more important at just those times when difficulties in East/West relations make it hardest to pursue. Alliance Ministers recognised this when, at the end of their December 1983 meeting, they instructed NATO Ambassadors jointly "to undertake a thorough reappraisal of East-West relations with a view to achieving a more constructive East-West dialogue". For our part, we have made it clear that the Government is determined to continue to work for real progress in arms control and a better understanding with the Soviet Union and the countries of Eastern Europe. But, equally, faced with the objective fact of growing Soviet military power the West cannot responsibly fail to take the precaution of ensuring that its own defences are adequate to meet the threat. The following sections review the efforts that the Alliance is making both to promote arms control and to maintain the effectiveness of its defence capability.

ARMS CONTROL

106. Once again over the past year interest in arms control has focussed particularly on developments in the nuclear area. After the best part of two decades the issue of nuclear defence policy has returned to the fore-front of

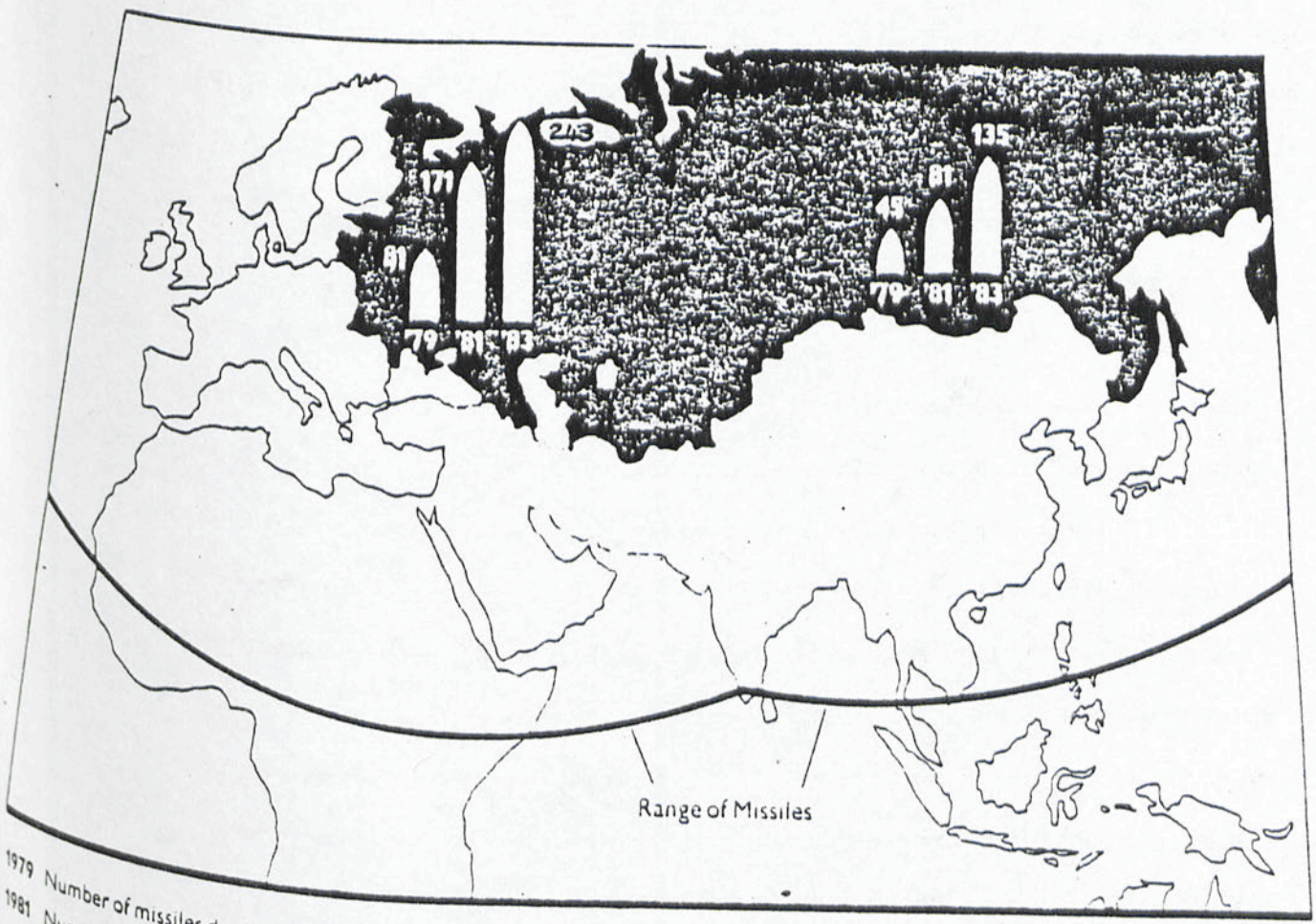
political debate in Britain, with particular controversy surrounding the first NATO deployments of cruise and Pershing II missiles. For the first time in a generation defence considerations played an important role in determining the outcome of a General Election.

107. In previous Statements we have sought to explain in detail the background to the Alliance's decision in 1979 to modernise that component of its theatre nuclear forces with a range capable of reaching Soviet territory from bases in Western Europe. In summary, the only forces in this category before the initial deployments of Pershing II and cruise missiles consisted of about 150 US F111 aircraft based in the United Kingdom. These aircraft will experience growing difficulty in penetrating Soviet air defences and their airfield bases are comparatively vulnerable to attack. Without modernisation, NATO's capability could have been expected to decline steadily in effectiveness in the coming years. The result would have been a dangerous gap in the range of forces that NATO must maintain if it is to be able to deter aggression at every possible level, from conventional through to strategic nuclear attack. The Soviet Union had already made a major improvement in its own capability in this area by introducing large numbers of the SS20 missile which, compared with the earlier SS4 and 5 missiles, has a longer range and greater accuracy, is mobile and has three independently targetted warheads where its predecessors had only one.

108. It was against this background that NATO reached its decision to deploy 464 ground launched cruise missiles and 108 Pershing II missiles. But in doing so the Alliance stressed that it was willing to agree to limits on land-based long-range INF missiles. Indeed in the INF negotiations which eventually began in Geneva in 1981, the United States, with the full support of the Alliance, made it clear that the cruise and Pershing deployments need never begin if the Soviet Union was prepared to remove its SS20s - the so-called "zero option". The West also left the Soviet Union in no doubt that, failing this, it would accept equality at the lowest level the Soviet leadership was prepared to negotiate. In the four years between the NATO modernisation decision and the first deployments, the Soviet response was to do everything possible to undermine Alliance cohesion and to maintain their monopoly of longer-range INF missiles in Europe by preventing these deployments. At the same time they built up their SS20 force from less than 130 at the time of the NATO decision (when they claimed equality already existed) to almost 380 at the end of 1983 - ie over 1100 warheads, some two-thirds of which are targetted on Europe. Figure 1 illustrates their rate of deployment.

109. Since the INF negotiations began in 1981, the United States with the full support of the NATO Allies has negotiated throughout in a serious and flexible manner, determined to reach an agreement if at all possible. The US negotiating position was the subject of regular and intensive consultation within the Alliance, including exchanges between Heads of Government. It was subject to two substantive amendments in 1983. In March an interim proposal for equal limits on missile warheads was put forward; and in September, in response to particular points of concern expressed by the Soviet Union, President Reagan announced at the United Nations three additional elements

Figure 1 Rate of SS20 Deployment since 1979.



1979 Number of missiles deployed by December 1979 when NATO "twin-track" decision taken.
1981 Number of missiles deployed by November 1981 – at the commencement of the Geneva INF negotiations.
1983 Number of missiles deployed by December 1983.

of flexibility - willingness to deploy fewer US INF missile warheads in Europe than the Soviet Union has world-wide; preparedness to accept an agreement involving proportionate reductions in Pershing II and cruise missiles; and willingness to negotiate limits on nuclear capable aircraft. Moreover, the United States made clear that it was prepared to remain at the negotiating table for as long as was necessary to reach an agreement.

110. By contrast the Soviet Union's position remained fundamentally inflexible. While there were some welcome developments (including agreement to use warheads as the unit of account and confirmation that excess missiles would be destroyed rather than merely redeployed elsewhere in the Soviet Union) the underlying Soviet aim remained unaltered: to retain a substantial monopoly in the class of missile under discussion, while denying the West the right to deploy any new range of similar weapons. The various Soviet "offers" of 1983 would all have produced this same result. The unyielding Soviet negotiating position was founded on a misleading presentation of the balance of nuclear forces in Europe which relied on the inclusion of British and French strategic forces in the equation to try to conceal the overwhelming Soviet superiority. This approach was coupled with appeals to Western public opinion over the heads of the negotiators. A severe response including the suspension of the negotiations and further Soviet deployments was threatened if any NATO deployments took place. This threat was carried out: although the West had remained at the negotiating table for two years while the Soviet SS20 build-up continued, the Soviet delegation walked out when the first NATO missiles arrived in Europe.

111. In the face of the challenge posed by these Soviet tactics the Alliance has maintained its cohesion and solidarity. Most of the citizens of Western Europe have had the opportunity to express their views through the ballot box and the results have shown that public opinion has re-examined the case for unilateral disarmament and decisively rejected it. Those who favour one-sided disarmament have no monopoly of moral concern or of a desire for peace. The course they advocate, far from reducing the danger of nuclear war, is more likely to increase it, and far from preserving peace with freedom puts it at greater risk from force or the threat of it.

112. We must hope that this demonstration of Alliance unity and resolve will bring the Soviet leadership to realise that they have miscalculated and that their own interests dictate that they should now pay serious attention to the arms control option. The West's position is clear: 1983 was in no sense a deadline for agreement in the negotiations. The NATO deployments are planned to be spread over a five year period and could at any time be halted, modified or reversed (that is, missiles already deployed could be removed) if there were a negotiated agreement in Geneva which provided for this. The Alliance has already underlined its own commitment to the maintenance of security at lower levels of forces by its decision (described in more detail in paragraphs 120-122 below) to reduce its nuclear warhead stockpile in Europe. If the Soviet Union chooses to return to the negotiations, all the Western offers, including the "zero option", remain on the table. A negotiated solution involving substantial reductions in intermediate range nuclear weapons remains possible, given the necessary political will on both sides. It already exists on the NATO side.

113. The other principal negotiations on nuclear arms control are the Strategic Arms Reduction Talks (START). Although Soviet intentions towards these negotiations remain unclear following their withdrawal from the INF talks, some progress was made during 1983 in establishing common ground. The Russians may now be ready to accept the American premise that the first aim should be to reduce and not merely to limit strategic nuclear arsenals.

114. In the area of conventional arms, agreement was reached at the Madrid follow-up meeting of the Conference on Security and Co-operation in Europe (CSCE) on a mandate for a Conference-on Confidence and Security-Building Measures and Disarmament in Europe (CDE). The first stage of the Conference, which opened in Stockholm in January with all thirty-five signatory states of the Helsinki Final Act participating, is devoted to the negotiation of confidence and security building measures. The mandate of the Conference, at Western insistence, requires that any such measures should be militarily significant, politically binding, verifiable and applicable to the whole of Europe up to the Urals. The Conference offers the opportunity to negotiate measures designed to reduce the risks of an outbreak of hostilities in Europe by accident or misunderstanding. The measures we and our Allies have proposed would promote these aims by creating a greater openness and predictability about normal military activities. We are making every effort to ensure the success of the Conference.

115. The Mutual and Balanced Force Reductions (MBFR) negotiations in Vienna resumed in March after some weeks delay when the East refused to set a date for the next round. We, with the rest of the Alliance, remain committed to achieving fair and verifiable force reductions in Central Europe. But recent

progress has not been impressive. Eastern reactions to our comprehensive draft treaty tabled in 1982 remain negative. An Eastern draft treaty tabled in June of 1983, although it includes some positive elements relating to verification, does not meet Western security requirements in a number of significant respects, particularly in its failure to tackle the dispute over data. This disagreement over the size of existing Eastern forces, and hence the size of the reductions needed to reach parity, remains the crucial issue; and there is a considerable gap between the positions of the two sides which has now grown beyond the discrepancy of 150,000 men in Warsaw Pact ground forces alone, identified when figures were first tabled in 1976.

116. In the Conference (formerly the Committee) on Disarmament in Geneva, progress is similarly slow. A wide range of arms control issues are under discussion including chemical weapons, in which the Russians have a large and growing offensive capability. Continuing reports of the use of such weapons in South East and South West Asia make the task of banning them entirely all the more urgent. The aim of the NATO Allies remains a comprehensive world-wide and verifiable ban on chemical weapons. We have made important contributions to this work in Geneva, the latest being a proposal on verification in the event of suspected non-compliance; but again the West finds itself striving against Eastern reluctance to face up to the critical issues of verification. Although the Soviet Union has recently accepted international on-site inspection of destruction of chemical weapon stockpiles, other important aspects of inspection remain to be resolved. We also hope that the Conference will be able this year to review the existing provisions of international law as a first step towards the prevention of an arms race in outer space; in 1983 the Soviet Union objected to such a review.

DEVELOPMENTS IN NATO'S DEFENCE POSTURE

117. We and our Alliance partners thus remain fully committed to achieving balanced, verifiable and significant measures of arms reduction between East and West. But at the same time the Alliance cannot ignore the threat posed by the continuing growth in the military capability of the Warsaw Pact. NATO accordingly agreed in 1977 to aim at real increases in defence expenditure in the region of 3% a year and to put in hand a major programme of improvements to meet the defence needs of the 1980s. This programme covered improvements in many crucial areas of defence capability, such as readiness, reinforcement and reserve mobilisation, as well as theatre nuclear modernisation. It is now bearing fruit in a number of major enhancements to the Alliance's conventional capability, for example in the expansion and training of reserve forces.

118. In parallel with these efforts, the NATO nations have also been examining ways of making the most cost-effective use of resources devoted to defence. The Alliance recognised this important objective at the June 1982 Summit. As a result, work is proceeding in NATO toward improving the co-ordination of defence planning, to finding better performance indicators and to identifying the possibilities for armaments cooperation, especially within the "two-way street" of transatlantic defence sales. The use of civil assets for military purposes is another area which offers scope for improving the effectiveness of conventional forces and on which important lessons emerged from the Falklands conflict. The Alliance is also determined to take full advantage of the free world's greater capacity for invention and innovation by the exploitation of emerging technology to improve conventional armaments. At

the Defence Planning Committee meeting in December 1983, Ministers agreed to a programme of work aimed at identifying a number of key projects which could significantly improve capability at reasonable cost. But exploitation of emerging technology should not be seen as a panacea. Development of new systems will be costly and the return on resources committed uncertain. We must also expect the Soviet Union to try to develop similar systems, thus underlining the importance of effective steps to restrict the transfer of militarily significant technology to the Warsaw Pact. In agreeing the programme Ministers stressed the need to be selective, to set clear priorities and to ensure an equitable sharing of the industrial and technological benefits between Alliance partners. But despite these caveats the prospect remains that emerging technologies, if properly exploited, could lead to substantial improvements in our conventional force posture, and thus reinforce deterrence at the non-nuclear level.

119. At the nuclear level, in the absence of any agreement in the INF negotiations in Geneva, the Alliance pursued the second and complementary element of the 1979 decision by proceeding with its plans to deploy Pershing II and cruise missiles. Decisive votes in favour of continuing with the "twin track" approach took place in the British, West German and Italian Parliaments last autumn and, in the absence of any significant results in Geneva, the initial deliveries of cruise missiles to the United Kingdom went ahead. The first cruise missiles in the United Kingdom and Pershing IIs in West Germany became operational at the end of last year. Cruise missiles have also begun to be deployed in Sicily; and NATO's programme provides for cruise missile deployments in Belgium, West Germany and the Netherlands in the mid-1980s.

120. In the United Kingdom, the total planned deployment of 160 cruise missiles is due to be completed by 1988. Work is continuing at Greenham Common on the operational and administrative facilities for the 2,000 or so personnel who will eventually work there. The missiles, together with their launch vehicles, are stored at their bases in specially built shelters, and strict security precautions are in force to protect them against attacks by saboteurs or terrorists. The United Kingdom is contributing RAF Regiment personnel to the joint US/UK defence force. A full training programme for the US Missile Wing crews at RAF Greenham Common is underway including some necessary training off-base conducted so as to minimise inconvenience to the public, with exercises taking place on Ministry of Defence land.

121. The "twin track" decision of December 1979 represented the culmination of the first stage of a comprehensive review of NATO's requirement for intermediate and short-range theatre nuclear forces in Europe. Since the end of 1979, this review has been taken forward by the High Level Group of officials from NATO governments and representatives of the NATO military authorities, to consider the requirement for shorter-range nuclear forces. These forces currently consist of dual-capable artillery and aircraft, Lance, Honest John and Pershing I surface-to-surface missiles, Nike Hercules surface-to-air missiles and atomic demolition munitions.

122. The Group based its work on a review of the place of shorter-range nuclear forces in existing Alliance strategy. NATO must present to a potential aggressor a range of credible capabilities extending from conventional to strategic nuclear forces, within which there are no gaps which he might be tempted to try to exploit. Adequate numbers of effective intermediate and

short-range theatre nuclear forces are needed to avoid such gaps developing. Involvement of the non-nuclear Allies is also important; a large number of NATO members participate in the operation and basing of the shorter-range forces, reinforcing the cohesion of the Alliance and thus deterrence. On the basis of this review the Group carefully evaluated each of the weapons systems in NATO's inventory with the aim of defining requirements at the minimum number of weapons, taking into account the nature of the threat to NATO. Their report recommended that substantial reductions should be possible in all types of these weapons.

123. NATO's Defence Ministers meeting in Canada on 27 October 1983 considered the High Level Group's final report and approved its conclusions. The net result of these decisions, taking into account the withdrawal of 1,000 warheads completed in 1980, will be the withdrawal of 2,400 warheads since 1979. Each of the new Pershing and cruise missiles that has to be deployed will also be off-set by a further one-for-one withdrawal from the present stockpile. These reductions will bring the stockpile in Europe to its lowest level in 20 years. They represent a cut of one third in the number of warheads deployed in Europe, and of one half in the number of warheads for shorter-range nuclear systems. These significant nuclear arms reductions are being undertaken by the Alliance whilst equivalent Soviet systems are being steadily modernised and increased.

124. In sum, the aim of the Alliance remains to sustain an effective triad of forces - conventional, theatre nuclear and strategic nuclear - to ensure the continued credibility of the Alliance strategy of flexible response. We believe that this strategy remains the basis of a credible deterrent, and

that there is no better alternative available. This is not to say that we cannot enhance our deterrent posture and reduce further the risks of conflict within the existing strategic framework. In particular we need to pay close attention to the need to modernise and improve the conventional element of the triad and the sustainability of the Alliance's forces; sensible application of emerging technology, for example, may provide the means of raising the nuclear threshold. But such developments do not, in the foreseeable future, present an alternative to NATO's existing strategy nor a substitute for the role nuclear weapons play in deterrence.

THE UNITED KINGDOM CONTRIBUTION TO NATO

125. We have made clear in successive Statements our conviction that the needs of NATO must have the first claim on our defence resources, and our determination to contribute to the Alliance's collective deterrence as effectively as we are able. As long as the Soviet Union and her Warsaw Pact allies continue to represent the major threat to the security of the United Kingdom, that must remain our first priority. The importance we attach to this task is demonstrated by the resources we devote to defence. Since 1979 we have increased expenditure on defence by about one fifth in real terms. Moreover out of our total defence budget the proportion devoted directly or indirectly to Alliance tasks continues to account for some 95%. In Cmnd 8288 (The Way Forward) we identified the four principal roles in which our Armed Forces make this contribution: the provision of independent strategic and theatre nuclear forces committed to the Alliance; the direct defence of the United Kingdom homeland; a major land and air contribution on the European mainland; and the deployment of a substantial maritime capability in the

Eastern Atlantic and Channel. The enhancement and modernisation of forces devoted to these tasks (described in detail in Chapter Four) will continue to have the first call on our resources.

NORTHERN IRELAND

126. Set beside a commitment on this scale to NATO, the role of our Armed Forces in support of the civil power in Northern Ireland might seem of a lesser order. However, the scale of the task in terms of military resources reflects neither its importance nor the unique demands it has made and continues to make on our forces. One of the principal responsibilities of democratic government is to ensure the rule of law; and during the past 14 years our Armed Forces have played an indispensible part in helping to uphold the law and fight terrorist crime in Northern Ireland. This work has called for very special skills: our forces are asked to deal with situations involving armed opposition not as soldiers engaging an enemy but as policemen dealing with crime. This task demands a unique combination of restraint, sensitivity, courage and resolution, and the way in which our servicemen have responded to this challenge, day in and day out, cannot be too highly praised.

127. Great strides have of course been made in tackling terrorist crime, and sufficient progress has been made to allow Regular Army force levels to be steadily reduced as the Royal Ulster Constabulary, with the support of the Ulster Defence Regiment (UDR), increasingly shoulder the burden of upholding the rule of law. In 1972, 26 Regular major units were deployed in the Province; today there are 8 Regular battalions, the lowest total for over 13 years, and of these only 2 are on unaccompanied roulement tours in support

of the resident garrison. The support provided by the UDR is to be further improved this year by the amalgamation of 2 pairs of battalions, which will bring battalion areas more closely into line with new Police Divisional areas, and enhance operational effectiveness. The men and women of the UDR run particular risks: they and their families live in the community. They have always been particularly vulnerable to terrorist attack, especially when off-duty, and between 1970 and the end of last year 137 serving soldiers of the UDR have been murdered by terrorists. The cause of peace in Northern Ireland owes an enormous debt to their personal courage.

128. Success against the terrorists is won only slowly; and although the common currency of terrorist crime may no longer be newsworthy, atrocities such as the massacre at the Darkley Pentecostal Church and the Harrods bomb serve as harsh reminders of the sort of destructive forces which continue to threaten the whole of our community. But we should not lose sight of the steady success of the security forces in bringing the men of violence to justice and frustrating their efforts to disturb life in the Province. This achievement is immediately apparent to all visitors to Northern Ireland, who are struck by the way in which normal life is proceeding over almost the whole of Northern Ireland.

129. The Army's bomb disposal experts again had a busy year, responding to almost 1,000 calls for assistance during 1983 and successfully neutralizing 3403 Kg of explosive. In a noteworthy incident in Newry, County Armagh, on 30 June their prompt and courageous action in draining a petrol tanker which had been set on fire by a terrorist bomb prevented a major explosion in the town centre. Northern Ireland service was once more recognised with a number

of gallantry awards which included an Air Force Cross, Military Medal, Distinguished Conduct Medal, and 11 Queen's Gallantry Medals.

BEYOND THE NATO AREA

130. Though our primary commitment must remain to the North Atlantic Alliance, the threat we face is not limited to the NATO area defined in the Treaty - essentially the territories of the member States, the surrounding sea areas and the North Atlantic as far South as the Tropic of Cancer. Events elsewhere in the world, whether or not involving the Soviet Union or her allies, can have a profound significance for Western security interests. An escalation of the conflict between Iran and Iraq, for example, resulting in interference with the passage of oil through the Straits of Hormuz could seriously affect the Western economies; nor can we remain unconcerned about events elsewhere in the Middle East which could have profound implications for East/West relations. In addition to these wider Western interests, the United Kingdom retains particular obligations in places as far apart as Hong Kong and the Falkland Islands.

131. We describe in Chapter Four the various ways in which we discharge these "out of area" responsibilities, ranging from the maintenance of permanent garrisons, through naval deployments and exercises world-wide by all three Services, to the provision of military assistance in the form of training or loan service personnel to friendly nations around the world. One particular aspect of these wide-ranging activities merits special mention here: our contribution to peace-keeping forces. For 20 years we have provided the largest contingent to the United Nations forces in Cyprus seeking to prevent

further outbreaks of violence between the two communities on the island. We have also provided support for the United Nations Interim Force in the Lebanon and the UN Disengagement Force on the Golan Heights. More recently, we have been a part of the multinational force of observers in the Sinai; and for a year up to February 1984 a small force of little over 100 men was stationed in Beirut as part of the four-nation Multinational Force trying to assist in the process of national reconciliation and reconstruction in the Lebanon. The role of the British contingent in providing the guard force for the ceasefire talks attended by all the four main Lebanese factions made one of the most notable contributions to this attempt to provide a measure of stability in that unhappy country. They were withdrawn from Beirut only when it became clear they could no longer play a useful role. The peacekeeping task is often a dangerous and thankless one. But we believe that, in areas where we have historic ties or where our security interests are involved, we need to be prepared to accept our share of the burden in trying to prevent a worsening in the spiral of violence.

132. Recognising that we can no longer afford to make military activity on a global scale a main priority of our defence effort, we try as far as possible to employ for these tasks resources already devoted to a primary role within NATO. This careful use of resources enables our "out of area" activity to make a significant and extremely cost-effective contribution to the protection and promotion of our interests throughout the world, without detriment to the overriding need to defend ourselves against the principal threat we face in Europe. The flexible use of our forces in this way is one example of our efforts to obtain better value for money from the defence budget; this major

objective of our defence policy is considered in more detail in the following chapter.

ESSAY

NATO and the Warsaw Pact:

Like with Like?

1. Elsewhere in the Statement (at Annex A) we compare NATO and the Warsaw Pact in respect of their military capabilities. It might seem obvious that the comparison stops there, and that in other respects the two organisations are wholly dissimilar - the one a free association of sovereign states, the other an instrument through which an unwelcome hegemony is maintained over reluctant clients. But, unsurprisingly, this is not the image the Soviet Union has sought to foster; it has preferred to represent the Pact as in many ways the Alliance's mirror image. The creation of the Pact in 1955 was presented as a response to West Germany's joining NATO; the text of the Warsaw Treaty was evidently modelled on that of the North Atlantic Treaty; and subsequent Soviet calls for "the dissolution of blocs" implicitly equate the two organisations. What are the facts?

2. Comparison of the circumstances in which the two alliances came into being is instructive. At the end of the Second World War the Western democracies rapidly demobilised; the Soviet Union did not. Whilst the West reduced the number of men under arms from five million to less than

one million in the first year of peace, the Soviet Union retained over six million men on a wartime footing. This huge preponderance of military power was there for a purpose; Stalin was determined to retain and consolidate the Soviet control over Eastern Europe obtained by the end of the war. By 1948 the Soviet Union had seen to the installation of compliant regimes in every East European capital. The Berlin blockade followed - and was still in force when the North Atlantic Treaty was signed in April 1949. In the ensuing years the Soviet Union tightened its grip on Eastern Europe. A web of bilateral defence treaties was established which bound the satellite states to it (and still does - a circumstance which reveals the hollowness of "dissolution of blocs" propaganda). Practical control was ensured by flooding the Eastern European armed forces with Soviet "advisers", who formed the de facto chain of command. The Warsaw Treaty speaks of "respect for the independence and sovereignty of states", and of "non-interference in their internal affairs"; at the time of signature Poland's Defence Minister was the Soviet Marshal Rokossovski. Similarly, the signatories' undertakings to "refrain in their international relations from the threat or use of force" and to "settle their international disputes by peaceful means" lost a certain resonance when 18 months later a Soviet Army moved into Hungary to crush the 1956 uprising.

3. The events of 1956 did severe damage to the Soviet Union's international reputation, compounded twelve years later when similar treatment was dealt out to Czechoslovakia. Ironically, the extinction of the "Prague Spring" was carried out under cover of Warsaw Pact manoeuvres. In its aftermath, the Soviet Union finally took steps to improve the public face of the Warsaw Pact organisation. A number of institutional changes were announced, including the creation of an annually-convened Committee of National Defence Ministers. Yet behind this facade the reality of Soviet domination of the Pact remained unchanged. The Warsaw Pact High Command and Staff is installed in the Soviet Ministry of Defence in Moscow, with the top posts all reserved for Soviet officers. In contrast with NATO, where Alliance coordination is conducted by national military and diplomatic representatives permanently assigned to Brussels, liaison within the Warsaw Pact is carried out through powerful Soviet Military Missions in the East European capitals. Command and control systems, military doctrine and weapons systems are rigorously standardised on the Soviet model. Most importantly of all, command and control of forces in the field is kept firmly in Soviet national hands.

4. In NATO the USA, as the principal contributor to Alliance forces, provides two of the three top commanders, the Supreme Allied Commander Europe (SACEUR) and the Supreme Allied Commander Atlantic (SACLANT). The third, Commander-in-Chief Channel (CINCHAN), is British. At the next levels of Major and Principal Subordinate Commander, the European allies

have over 60% of the commands. In the event of hostilities national forces assigned to NATO would automatically pass under the control of these Alliance commanders, regardless of nationality. Thus, for example, American infantry would be commanded by a German general. The commanders would themselves be responsible to the NATO Council, comprising the Foreign Ministers of each of the NATO nations or their representatives. No such command structure is to be found in the Warsaw Pact. The High Command of the Warsaw Pact Joint Armed Forces, Soviet-controlled though it is, concerns itself solely with the organisation, preparation and training of the forces "assigned" to it: it has neither the authority nor the command structure to exercise operational control of troops in the field. In the event of hostilities, East European armies would pass under the control of the Soviet General Staff. The same would apply to East European Air Defence forces and Navies; indeed, even in peacetime the Soviet national commanders are designated simultaneously as Warsaw Pact commanders.

5. The role of the Warsaw Pact thus becomes clear. Politically, it does little more than duplicate the web of bilateral defence treaties in Eastern Europe (comprising what Foreign Minister Gromyko has termed a 'collective defence Alliance' independent of the Warsaw Treaty). But it has some propaganda value as another body promoting Soviet foreign policy objectives; and it serves as a vehicle for reinforcing Soviet domination of Eastern Europe. Militarily, it has no role in hostilities, but it is

a useful agency for rationalising and coordinating the East European armed forces so as to maximise their usefulness to the Soviet High Command. Such, indeed, is the message which emerges from a booklet on the Pact by its Commander-in-Chief, Marshal Kulikov, published in early 1982. Describing the formal organisation, Kulikov lays due emphasis on the equality of rights of all members. But the constant references to the acceptance throughout the Pact of Soviet military doctrine and equipment and to the training of "allied" officers in Soviet military academies, along with Soviet monopolisation of all the senior command positions in the Warsaw Pact's High Command, leave no room for doubt about the Soviet Union's predominant role. For the military planner, the resulting uniformity and operational compatibility of Warsaw Pact forces must represent a considerable advantage, in contrast to NATO's heterogeneous forces and multi-national command structure. But uniformity if imposed by one party on others does not necessarily make for cohesion under stress. Whatever the numerical disadvantages they face, NATO commanders know that they have at least one advantage over the Soviet High Command - they can rely on the fundamental loyalty of all the forces under their command.

ESSAY

THE EUROPEAN CONTRIBUTION TO NATO

1. A cohesive and united alliance offers all its members - even the most powerful - a far greater guarantee of freedom and security than any of them could ever hope to achieve alone. It is this simple truth which explains why the North Atlantic Alliance, after thirty-five years, remains in being. For it is an alliance of mutual advantage - and all the stronger for being so.

2. Essential to the cohesion of NATO - indeed enshrined in the North Atlantic Treaty - is the concept that the security of each member is inextricably linked to that of all the others. As the 1974 Ottawa Declaration of Atlantic Relations emphasised, "All members of the Alliance agree that the continued presence of Canadian and substantial US forces [in Europe] plays an irreplaceable role in the defence of North America as well as of Europe. Similarly, the substantial forces of the European Allies serve to defend Europe and North America as well".

3. But a true partnership also demands that all Alliance members, North American and European together, must take their share of the economic and military burden of preserving their common freedom. As the leading

power in the Alliance, the United States's contribution is predominant, and as crucial today to the defence of Europe as it was when the Alliance was formed in 1949. There is no substitute for the American nuclear guarantee, nor for the presence of 330,000 American servicemen in Europe - nor indeed for the huge reinforcements planned to come from North America in the event of war. But the very substantial scale of the European contribution to our common defence is not always fully appreciated; it is by no stretch of the imagination merely secondary to the American effort. The facts and figures bear repeating. Of the Alliance's ready forces in Europe, the European Allies provide:

about 90% of the ground forces
about 80% of the combat aircraft
about 80% of the tanks
about 90% of the armoured divisions

At sea, in European waters and the Atlantic, European Allies provide 70% of the fighting ships. The European Allies maintain about 3 million men and women on active duty, with some 3 million more in the reserves (the equivalent US figures are 2 and 1 million). Even on the question of defence expenditure, to which the United States has consistently devoted a greater proportion of her GDP than her European allies, it is noteworthy that during the 1970s the gap narrowed significantly; on average the European Allies increased their total real defence spending

by about 2% per year, while US real defence spending during the same period declined on average by a little more than 2% per year. Not until 1983 had US defence expenditure in real terms regained approximately its 1970 level, while European defence expenditure had grown by over one quarter in the same period.

4. The European Allies also make a major contribution in less obvious but no less important ways. In time of tension, NATO's ready forces would be greatly strengthened by reserves from European countries. Britain, for example, is ready in a matter of days nearly to treble her forces deployed in peacetime in the Central Region, while Germany with its tried and tested reserve system could put over one million men into the field in the same period. The large numbers of reinforcements from North America would receive very substantial help from European nations in the form of Host Nation Support, secure lines of communication, and ships and aircraft for transport. In peacetime, too, the European nations provide support facilities whose value is not shown in normal methods of comparing defence expenditure: facilities for training, airfields and harbours, to name only a few. For example, Germany contributes real estate worth more than $80 billion for use by the Allies.

5. In the longer term, too, many of the challenges and problems which face the NATO nations will be better met collectively. For example, the seemingly inexorable rise in the cost of defence equipment is a problem

all Western nations face; and the potential advantages to be gained from defence equipment cooperation between the NATO nations are considerable - although this must be done on a fair and equitable basis and one which respects the vital industrial and defence interests of each nation. Not only are there military advantages to be gained from standardising equipment across the Alliance, but projects in which more than one nation is involved can mean longer production runs and therefore lower unit costs. We describe in Chapter Three some of the work currently in hand, in which the European allies are playing a full part. The Independent European Programme Group, of which all the European Allies are members, has a particularly important role to play here, by fostering both equipment collaboration among the European Members of NATO, and also closer and more balanced co-operation with North America. Similarly, as discussed in paragraph 118, the exploitation of emerging technologies is potentially one of the West's greatest assets; and the European nations can contribute to this effort the enterprise and resources of one of the West's great centres of technological innovation.

6. The common interests of the NATO Allies extend beyond the NATO sphere, and beyond the purely military. Like the US, European countries have many interests which can be threatened by developments outside the NATO Treaty area. Because of its global involvement and capabilities, the US inevitably takes the lead in securing common Western interests against such threats. But many European countries also make important

contributions, whether by providing transit and support facilities, participating in multinational peacekeeping forces, or acting on their own accounts. Particular historical links with countries or regions outside the Alliance often make possible the provision of military help and assistance by European nations. Our own efforts in this regard are described in paragraphs 446-455. But removing sources of regional instability which create opportunities for Soviet intervention is not only a military task. Peace must also be promoted by diplomatic means. Many European nations are active in these areas, and contribute substantially to the development of international cooperation.

7. In the final analysis, however, the defence of our freedom on both sides of the Atlantic rests with NATO. NATO's strength lies not only in its military capability, but in the common purpose of independent nations it represents. The European members of NATO recognise fully how important it is that their contribution should not only be on a substantial scale, but that it should help strengthen the cohesion of the Alliance as a whole. Against this background the Defence Ministers of the EUROGROUP countries meet regularly. The aim of the EUROGROUP is to harmonise European views and to ensure that the European contribution to the common defence is as significant and effective as possible. As current holders of the EUROGROUP's chairmanship, we are committed to taking the lead in ensuring that Europe continues to pull its weight. [We are also fully

involved in efforts to define other ways of strengthening the European contribution to the Western Alliance. In consultation with our Allies we are seeking to identify the most appropriate frame-work for carrying this forward and to ensure that nothing we do undermines the fundamentally important American commitment to Europe's defence and the cohesion of the Alliance as a whole.]

CHAPTER TWO

THE MANAGEMENT OF DEFENCE

THE DEFENCE BUDGET

201. The Government's commitment to national security is demonstrated by the substantial and increasing resources for defence which have been provided in each of the past five years. In 1984/85 the defence budget amounts to £17,033 million and the cash limit is £15,987 million. Figure 2 breaks down the 1984/85 defence budget by main categories of expenditure while Figure 3 analyses defence resources by major programmes.

202. The United Kingdom continues to spend more on defence than any other European member of NATO, both in absolute terms and per capita (on the basis of average market exchange rates). We also spend a higher proportion of our GDP on defence than any major European ally. Comparisons between NATO countries for 1983 are shown in Figure 4.

203. Defence expenditure plans for 1985/86 and 1986/87 were announced in Cmnd 9143. These provide for 3% growth in real terms in 1985/86 with a further addition for Falklands costs. By then the defence budget will be nearly 20% higher than in 1978/79, excluding the Falklands additions. This increase will have been achieved at a time of some economic difficulty and against the background of constraints on public expenditure. The cash provision for 1986/87 should allow for some real growth, enabling the improvements in capability and increased investment in equipment to be maintained.

Figure 2 Division of the Defence Budget by Principal Headings 1984/85

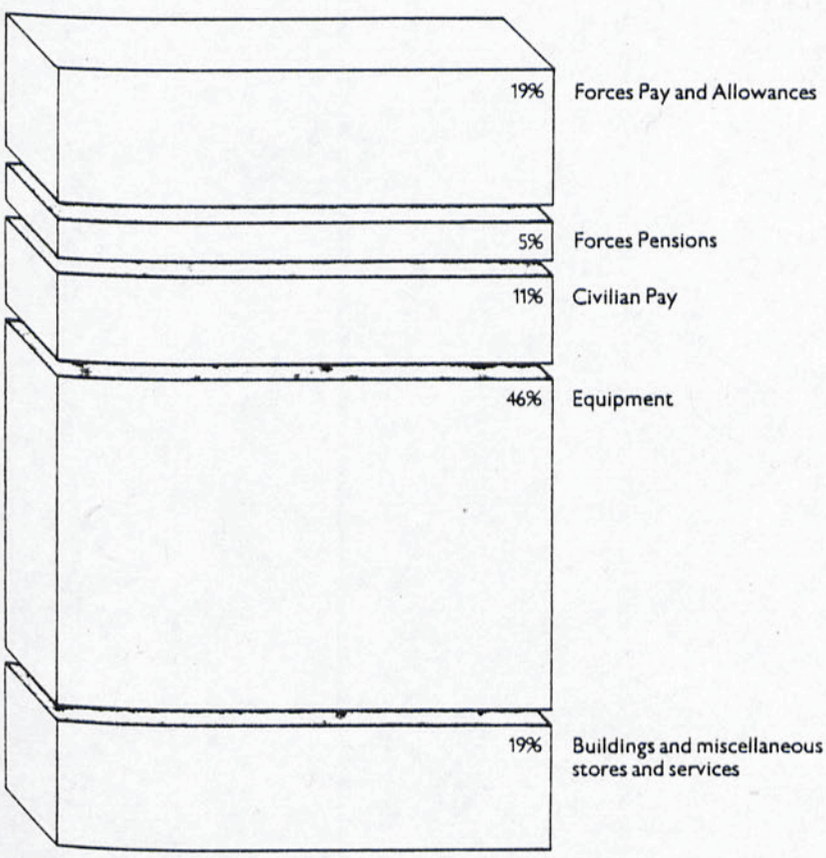
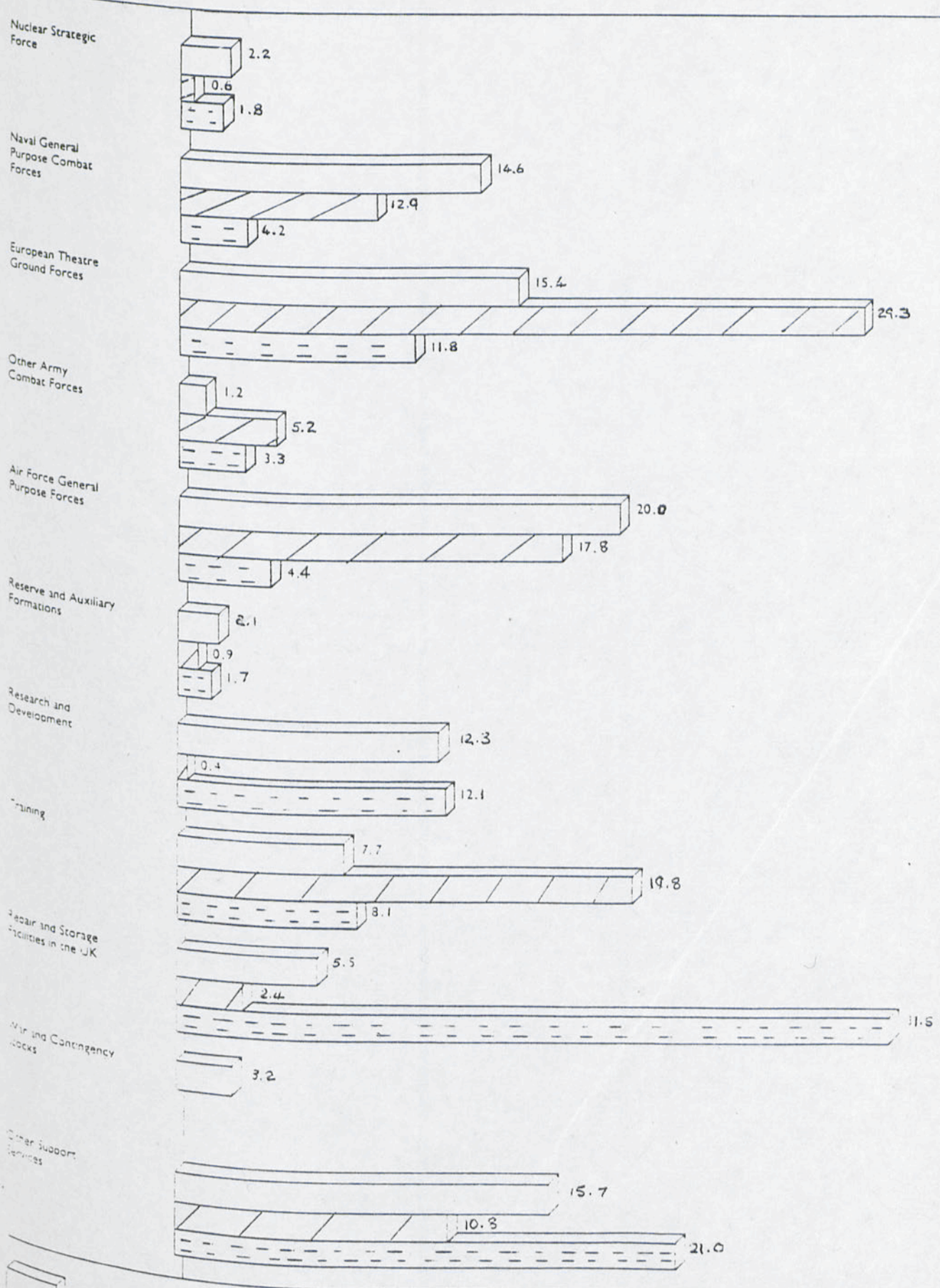
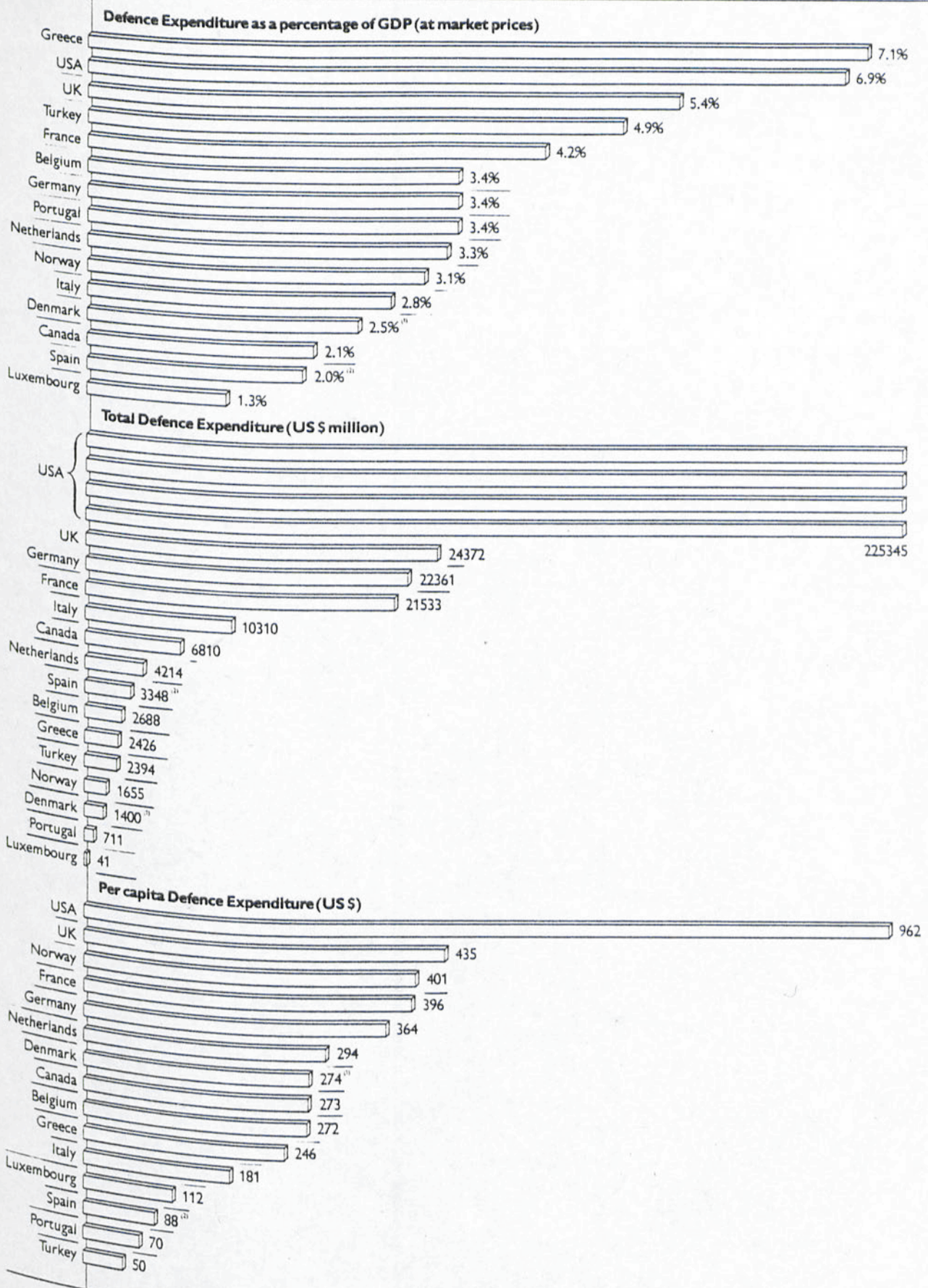


Figure 3. Analysis of Defence Resources (1984/85) by Major Programmes*



*Figures are provisional

Figure 4 Comparisons: NATO Countries 1983



Notes
These figures, which are provisional, have been compiled from NATO sources except where indicated. Total expenditure and per capita figures are based on 1983 average market exchange rates. Market exchange rates do not necessarily reflect the relative purchasing power of individual currencies and so are not a complete guide to comparative resource allocation to defence.
[1] Figures for Danish defence expenditure in 1983 were not available at time of printing. The figures quoted are those for 1982.
[2] The figures for Spain are compiled from national sources.

204. These are very considerable sums of money: there can be no clearer indication of the Government's resolve to make full provision for defence. We are determined that the capability of our Armed Services shall continue to be enhanced and improved. But the resources which can be devoted to defence are not limitless. Our priority must be to ensure that they are efficiently used. In a democracy it is not enough to maintain levels of defence spending adequate to meet the threat. We have to show the public - who bear the cost of defence - that those who are responsible for the defence budget are aware of their responsibility to secure the greatest output of defence capability for a given input of manpower, equipment and money. At no time is this more important than when expenditure is rising. The need for financial discipline is clear when money is tight. It may be less so when the budget is increasing. But we are convinced that, as in all areas of public expenditure, the interests of the taxpayer must be safeguarded by the most vigorous scrutiny of the defence budget to secure maximum cost-effectiveness.

205. Budgetary management must be sufficiently flexible to allow changes in the programme in the light of developments in technology and the threat. Ministers and their advisers must have some margin for choice in the light of the most up-to-date assessment of our defence requirements. This freedom for manoeuvre would not exist if the budget was committed up to the hilt with expensive and inflexible programmes for several years ahead. Taut, responsive management operating within sound financial disciplines is the essence of our approach to getting value for money from the defence programme. Necessary flexibility already exists in the programme. Owing to a system of authorisation of commitments on a step-by-step basis, some 50% of planned expenditure on major equipment projects three years ahead might be regarded as uncommitted,

rising to well over 90% ten years ahead. There are, of course, political, international and industrial limitations on the extent to which this flexibility can be used. There are inevitably many claims competing for the available resources. Nevertheless, the figures indicate that there is substantial room for manoeuvre, even in the short- to medium-term.

DEFENCE MANAGEMENT

206. For many years the Ministry has been subject to the pressures of rising costs. We have nonetheless made progress in switching money from the support "tail" into the "teeth" of the Armed Forces' actual fighting capability. The proportion of the budget spent on equipment has risen from 34% nine years ago to the planned level of 46% in 1984/85. Manpower resources have been redeployed away from support and administrative functions to front-line roles. Comprehensively across the Department these trends are being intensified, amplified and extended. The principle of obtaining better value for money is also being applied increasingly outside the Department to the numerous suppliers of goods and services on which the Ministry of Defence depends. Our objective is to achieve the most efficient "teeth" to "tail" ratio.

207. There is no sign of any slackening in the pace of technological change. To meet the increasing sophistication of the threat the quality of defence equipment must continue to grow for the foreseeable future. This brings its own benefits in terms of increases in reach and hitting power. But this also can bring, the penalty of real increases in costs. The requirement is to take action to free resources within the programme to make room for these cost increases and to enhance the fighting capability of our forces.

An important range of initiatives have been launched over the past year across the spectrum of defence management to ensure that this is done.

MINIS

208. MINIS (Management Information System for Ministers and top management) is central to our strategy. The MINIS process will improve the efficiency and effectiveness of the Department's organisation. The system will also give managers information, in comprehensible form, about what is being done and at what cost in the areas for which they are responsible. They will be able to set priorities and make informed judgements in the light of a clear picture of functions, costs and performance of the staff under their control.

209. Over the past year MINIS has been developed to provide such a picture across the very considerable range of the Department's work. Information has so far been collected on 156 individual management areas. In each case the senior official, normally of Under-Secretary, Rear Admiral or equivalent service rank, set out in a standard format details of the structure of his organisation, its place in the department, the staff and other resources under his control, the achievements of his organisation during the previous year, and his plans for the next two years, including key objectives for change. Detailed information has been provided about some 34,000 (mainly office-based and Headquarters) staff. In total, however, the first round of MINIS covered the activities of over 275,000 military and civilian staff.

THE LESSONS OF MINIS

210. MINIS enables Ministers and top management to familiarise themselves with, and scrutinise, the activities, costs and efficiency of all aspects of the Department. A number of lessons are already clear from the first round. First, too much effort is being put in to co-ordinate, monitor and supervise work being done outside the Department. The need is to devolve and decentralise. The second lesson is that accountable management in the Ministry of Defence must be strengthened and extended. At present managers responsible for functions do not have a sufficient degree of control over the resources of manpower, equipment and money for which they are responsible. They are too often in the position of advising on the work of their organisation rather than exerting firm and full budgetary control.

211. Third, Ministerial scrutiny of the higher organisation of the Department through MINIS has shown that the issues which faced the authors of the 1963 White Paper on the Central Organisation for Defence still remain largely unresolved. The Ministry of Defence has survived as a federal structure, based on three largely autonomous Service Departments. MINIS has shown that this organisation is less economical than it should be and that lines of accountability and responsibility for decision-making are blurred. The Ministry is far from inefficient - as the mounting and support of the Falklands operation showed - and the quality of military and civilian staff is very high. But it is clear that the organisation must be changed to cut overheads, improve accountability and encourage delegation and the more efficient use of resources.

212. This was the rationale for the proposals for change which were announced to Parliament on 12 March this year and were set out in greater detail in "MINIS and the Development of the Organisation for Defence" (Defence Open Government Document 84/03). A principal objective of these proposals is to draw a clearer distinction between the formulation of advice on operations, defence policy and resource allocation on the one hand, and the management of defence resources on the other.

213. A combined Defence Staff will be created, responsible to the Chief of the Defence Staff and the Permanent Under Secretary (jointly or severally) for advising on defence policy, strategy, the conduct of operations and resource priorities. The relevant parts of the Central, Naval, General and Air Staffs and the Defence Secretariat will be brought together to form a fully unified and integrated military/civilian Defence Policy and Operational Staff. The Defence Staff will provide advice for all parts of the Ministry, including as appropriate the Service Chiefs of Staff. The Chief of the Defence Staff will be responsible for the preparation for and conduct of all military operations and not just as at present those involving more than one Service.

214. The principal concern of the Service Chiefs of Staff will in future be the oversight of the management of their individual Services; they will be responsible for their total fighting efficiency and morale. They will chair Executive Committees of their Service Boards responsible for the management functions of Service personnel, training, logistics and supply. An important priority for the Executive Committees will be to draw up a programme of work aimed at streamlining management in their area, including further delegation

of authority for day-to-day administration to Commanders-in-Chief. The objective will be to reduce the potential overlap that exists between Headquarters administrative staff and those in Commands.

215. The third major element in the proposals is the creation of an Office of Management and Budget (OMB) to achieve stronger control over the Department's corporate planning, the commitment of resources and the monitoring of Departmental financial and management systems. Responsibility for finance and budget, resource allocation and audit matters will be concentrated in the OMB. In accordance with policy and priorities laid down by the Secretary of State, the OMB will issue the assumptions for and co-ordinate the annual Long Term Costing exercise. The Controller General of the OMB will be the Department's "Finance Director" to whom the Secretary of State will turn for advice on financial and management matters. He will sit on each Service Executive Committee and he and his staff will agree proposals for budgets managed by Board members and will scrutinise, on behalf of the Accounting Officers, new requirements for major equipment projects. Advice on the affordability of equipment and other programmes will rest with the OMB.

216. There is no disguising the radical nature of these proposals. They are currently the subject of a period of discussion and consultation, leading by the summer to the detailed working out of proposals for change which will subsequently be presented to Parliament. At the same time we shall be examining, in an equally fundamental fashion, ways of improving the efficiency and cost-effectiveness of the Procurement Executive. Industry will be directly involved in this examination.

ACCOUNTABLE MANAGEMENT

217. Stronger central determination of priorities and control of resource allocation is the essential corollary of greater devolved responsibility for the management of resources. Greater accountability will be achieved by the introduction of Executive Responsibility Budgets on an extensive scale across the support area of the Department. Line Managers will be responsible for, and agree with top management the achievement of, specified levels of performance within resources made available to them in the form of a comprehensive budget. Within the overall cash cost of their budgets managers will have some freedom to switch funds and manpower from one expenditure category to another in response to new developments. In the case of office-based activities where staff costs account for a very high proportion of the total expenditure, the requirement for a budgetary system will be met by means of Staff Responsibility Budgets. A comprehensive system of such budgets for civilian staff was introduced on 1 April this year.

218. Steps will be taken across the Department to codify responsibilities, improve procedures and strengthen financial control. Individual charters will be issued to all those who have financial responsibilities. Increasing stress is being laid on management information and management tools. The Department already has cost and management accounts which cover approximately 70% of the Defence budget, excluding procurement expenditure. Their coverage will be developed as necessary in order to meet the requirements of the Executive Responsibility Budget System.

MANPOWER ECONOMY

219. Taken together these changes in the management of the Department will produce financial and manpower economies. These cannot be quantified in advance: the results will only become apparent as the process of reorganisation and rationalisation works through. But it is clear they will be significant and extensive. The prinicpal focus will be on manpower. The Ministry of Defence is responsible for over half a million servicemen and civilians and has a manpower budget of some £5215 million. Resources on this scale must be used in the most efficient and cost-effective way. Maximising output per employee and eliminating waste is in the interest of the taxpayer; it also enhances our defence capability. This applies equally to Service and civilian manpower.

THE SERVICES

220. Within the individual Services the shift from the support areas to the front line is gathering pace. The Royal Navy is drawing on skills and experience within the Fleet to reduce the shore training load; this and a vigorous drive to secure economy in all forms of shore support will reduce the numbers of men employed ashore by 25% between 1981 and 1988. Three shore establishments will have closed by the end of 1985 and others will close later. The search for greater efficiency will continue in the longer term; in the five years after 1988 a further fall of 15% in shore-based numbers is expected.

221. These economies will contribute directly to our defence preparedness. The Government has decided that up to eight ships which would otherwise have been placed in stand-by from 1986 onwards will now remain in the operational Fleet, thus enhancing the numbers of destroyers and frigates which will be available at short notice for NATO or national commitments by up to 20% compared with the plan envisaged in Cmnd 8288 (The Way Forward). The manpower for these ships will be found without any increase in the previously-planned provision by the further drive to improve efficiency in shore support. By the early 1990s total naval manpower numbers are planned to be some 11000 lower than in 1981 before the Defence Review which led to Cmnd 8288.

222. The Royal Air Force is implementing recommendations of its Support Area Economy Review Team, set up in 1981/82 to identify less costly ways of supporting the front line. The aim is to release engineering and other manpower from training and support units for service on operational stations and to achieve reductions in establishments. Follow-on studies are being conducted into ways of reducing manpower establishments in headquarters by improving the management of training, supply and engineering. Our aim will be to hold RAF manpower steady as the number of front line aircraft increases by 15% over the decade.

223. In the Army, we have renewed our efforts to improve the effectiveness of our fighting units while still exercising a firm control over the strength of the Army as a whole. As in other areas of Defence, we are seeking to strengthen the fighting elements of the Army through savings in the training and support areas without detriment to the essential logistic support needed by our fighting units in war, which we are seeking to enhance. We shall redeploy 3%

into the front line. This represents 4000 men. They will be found by reorganising training units to make the most economical use of the permanent staff; by reductions in the size of signal units, especially those behind the front line; by close scrutiny of the smaller Corps of the Army; by contracting out to civilian firms functions such as equipment maintenance and non-operational transport; by minimizing the size of headquarters and administrative units; and by transferring functions to the Territorial Army.

224. The manpower saved will be used to strengthen our front line. Some will be required for the wide range of new and highly effective equipment which will come into service later in the decade. This includes the introduction of the Mechanised Combat Vehicle (MCV 80) into the regular infantry battalions of BAOR; two regiments of the Multiple Launch Rocket System; improved air defence of 1(BR) Corps through the formation of a regiment equipped with a new missile system; new equipments for front line logistic support; and the Saxon armoured personnel carrier for UK based regular infantry battalions with NATO reinforcement roles. Taken together these enhancements will strengthen the fighting capability of the Army to an extent not seen in the past three decades.

225. For operations outside the NATO area, we intend to improve the readiness and capability of our 'out-of-area' forces to provide, effectively, a divisional sized force. Improved logistics and communications will enable us to deploy rapidly overseas a strong 5th Airborne Brigade under the command of an enhanced Joint Force Headquarters, which could, if necessary, take under command 3 Commando Brigade Royal Marines. For the Defence of the United Kingdom Base, we plan to increase the size of some Home Defence battalions.

226. Our plans for the redeployed manpower have yet to be finalised. But it is clear that we will be able to make a very real improvement in the three areas of responsibility that fall to the Army - the support of NATO, the defence of our own Home Base and the ability to send fast moving lightly equipped forces to trouble spots beyond the NATO area. In parallel, in Exercise SHARP SWORD, we are conducting a review of the Army's chain of command. The objective is to create a simpler and managerially more efficient structure. The results should be known by the end of the year.

227. We must also pursue the savings which can be achieved by rationalisation across the spectrum of Service logistic and support functions. Significant progress has been made or is in hand. For example, in the area of Service training the process of rationalisation of catering training is already well advanced. The Naval and Army training courses are now co-located at Aldershot and the RAF component was moved there in the spring. All Service musician training is to be concentrated at a single location. It has been decided to concentrate Service language training in a Defence School of Languages at Beaconsfield.

228. We intend to build on the successes which have already been achieved and pursue vigorously the further rationalisation of support services. Some 23 separate ranges of stores embracing 25% of the defence inventory are now managed by one Service on behalf of all three. Chief amongst them are food, vehicles and spares, accommodation stores and clothing. The Army has taken on the rationalised single Service management responsibilities for the supply and spares provisioning of all non-specialist vehicles, small arms and related ammunition, medical and dental stores and general clothing for the three

Services. Weapons used by more than one Service are now managed by the major user. In this respect the Army is responsible for the supply and maintenance of Rapier for themselves and for the RAF and for the associated training, while the RAF manages all air-to-air weapons, particularly Sidewinder, for itself and the Royal Navy. As part of long-standing arrangements whereby the RAF managed the deep servicing of all fixed-wing aircraft and aero-engines and the Royal Navy that for helicopters, the Navy looks after the RAF's Chinooks and the RAF undertakes similar work for the Navy's Sea Harriers. Finally, the Navy is responsible for all food and water transport (and related spares) and the RAF for aviation fuel (except aviation carrier turbine fuel), defence accommodation stores, air stores and flying clothing. These examples show what can be achieved, both in terms of the direct financial and manpower savings which accrue and also in terms of reducing parallel hierarchies of highly-paid senior personnel.

229. Another study with similar objectives is that currently being undertaken into the Defence Medical Services by Sir Henry Yellowlees, formerly Chief Medical Officer in the Department of Health and Social Security. The purpose is to determine the most efficient and economical arrangement for Headquarters organisation and administration and the most cost-effective use of the medical resources available to the Department, including the National Health Service and the private sector. Sir Henry will also examine the role of Reserves, in conjunction with civil medical resources, in the event of the outbreak of war.

CIVILIAN MANPOWER

230. Reduction in the number of civilians employed by the MOD has been a continual process since the unified Department was created in 1964, as the graph at Figure 5 shows. The number of UK-based civilians in the Department has been reduced by 47,700 to 200,000 between 1979 and 1 April 1984, a reduction of nearly 20%. The Ministry of Defence, which comprises one-third of the Civil Service, has contributed nearly one-half of the total Civil Service reductions over this period. Numbers of locally-engaged civilians serving overseas have fallen by 4,700, a reduction of over 12%. The majority of reductions have been achieved without recourse to redundancies, by improving efficiency, general streamlining, privatisation (including contracting-out) and dropping or curtailing functions.

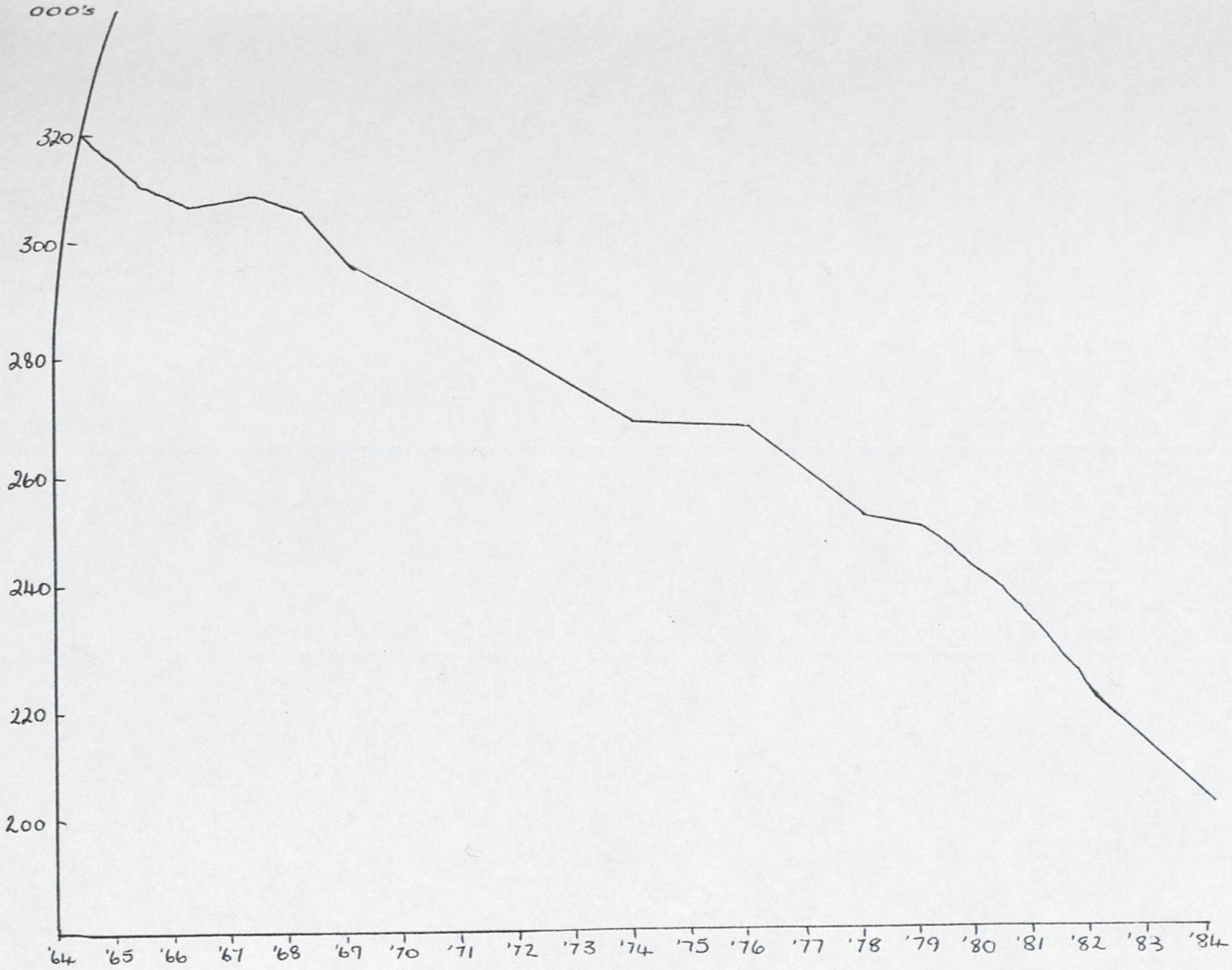
231. Some examples of savings measures already achieved or in hand are as follows:

- contracting-out of cleaning and catering at Ministry of Defence establishments is now producing an annual saving of £12 million.

- the introduction of a comprehensive Royal Navy stores inventory system in 1983 should lead to an annual saving of £2 million in 1983/84 and subsequent years.

- the use of improved computer technology in Service pay systems should lead to staff savings amounting to £11 million a year.

Figure 5 The Reduction in Ministry of Defence Civilian Manpower 1964-1984



232. A whole range of studies and re-organisation now in hand will ensure that the momentum is maintained. For example, a restructuring of the Quality Assurance area of the Procurement Executive, taken together with the increasing development of quality control by defence contractors themselves, will enable the number of personnel employed on these tasks to be reduced substantially.

233. The Department's forward plans, taking account of the privatisation of the Royal Ordnance Factories which will transfer some 18,500 posts outside the Civil Service, assume a total civilian manpower provision of not more than 179,000 by the end of the 1984/85 financial year and not more than 170,000 by 1 April 1988, in line with the Government's target for the Civil Service as a whole. The aim will be to achieve a rate of rundown which significantly betters this target.

COMPETITION

234. The Armed Forces must be provided with the equipment and support services they need in the right quantities, at the right time and at a quality and price which represents value for money for the taxpayer. This means a sustained and vigorous pursuit of efficiency in the Procurement Executive and the supply and logistics organisations. Overheads must be reduced to the bare minimum. This applies equally to defence industry - if it is to live in the keen and competitive international market place. With this in mind a number of recent initiatives to secure greater cost-effectiveness in defence procurement and supply have been taken.

235. Central to our strategy is the need to promote more extensive and effective competition in the supply of defence equipment. Competition is vital for the achievement of the best value for money, the most efficient use of industrial resources and the stimulation of innovation and new ideas. The achievement of more extensive competition between defence firms will bring benefits for the Ministry of Defence, the taxpayer and the firms themselves. There are inevitably some limits to the extent to which competition can be introduced. We need a strong indigenous defence/industrial base, as was illustrated vividly during the Falklands crisis, and the limited number of British suppliers of certain advanced defence equipment is also a constraint on competition within the United Kingdom. But we are nevertheless steadily succeeding in injecting an increasing degree of competition into the equipment procurement process.

236. Some 20% by value of the contracts totalling £6800 million placed in 1982/83 were awarded following competitive tendering (not counting competition at sub-contractor level). We are determined to continue increasing this proportion and to seek competitive proposals wherever it is practicable and reasonable to do so both for main contracts, and, beyond them, for the very significant level of sub-contracts which do not show up in the current 20% figure. Instructions have been issued within the Department to this effect. Ministers will be concerned to monitor the results on a close and continuing basis. The main features are as follows:

- we will be making clear to contractors that we expect them to exercise competition to the maximum extent possible not only in negotiating their sub-contracts but also in determining whether work should be

done in-house or by a specialist outside contractor. We will expect prime contractors as a matter of course to set out for us the steps they have taken to secure competitive prices for sub-components of the main contract;

- having regard always to value for money, we will use competition as much as possible at the early stages of projects to ensure that we have the best available choice of concepts to consider, and to stimulate innovative ideas for meeting our requirements;

- the arguments for giving development contractors the initial tranche of production requirements will be carefully assessed at an appropriately senior level before any such commitment is accepted in the development contract. The objective will be to secure a competitive situation wherever possible;

- the staff levels at which authority is given to proceed on a non-competitive basis have been clearly defined and the reasons for not going to competiton will be formally recorded to ensure that automatic allocation to the previous contractor does not take place.

237. This policy will take some time to work through. It is too early to generalise about the results. But the extension of competition should lead to very significant cost savings of a size and nature sufficient to ensure a continuing shift in the balance of the defence programme towards additional front-line capability. An analysis of some recent contracts showed an average saving of over 30% following the introduction of competition. A very

significant recent example of the new policy is the decision on the production arrangements for the MCV80 armoured personnel carrier - a programme worth some £900 million. This vehicle has been very successfully developed by GKN Sankey and the original planning for its production made it likely that GKN would be the sole source of supply. However, it has now been agreed that, although the firm will receive an initial production order, further orders will be open to competitive tendering by all interested and qualified manufacturers and these competitive arrangements will reflect back on the price which GKN will receive for the initial production batch. We are sure that increased use of competition more generally will lead to lower costs, tighter timetables and sound products.

238. We are keen in particular to involve small firms, with their qualities of enterprise and willingness to innovate, in the competitive process. Some 45,000 new contracts, many of them under £10,000 in value, were placed in 1982/83 by the Ministry of Defence purchasing branches. At any one time there are about 10,000 firms working on contracts with the Department. Additionally, there are many more opportunities for small firms in the sub-contracting field. We have recently published a practical guide "Selling to the MOD", in order to help them to understand our procedures and organisation. Ministry of Defence staff have addressed "Meet the Buyer" seminars arranged by such bodies as Chambers of Commerce and Enterprise Agencies in order to encourage smaller companies to seek a greater share of our defence business. We intend to arrange more open tendering to allow these companies greater access to our procurement procedures.

239. Competition will also be rigorously pursued in the areas of support, supply and maintenance services. Warship refitting provides an example of this developing policy. At present the warship refitting load falls almost exclusively on the Royal Dockyards, although in the past there have been occasions when it has been necessary to put warship work out to contract to cope with temporary overloads. The Dockyards will continue to play a vital role in warship refit activity, but in the interests of extending competition, we have initiated discussions with firms who might be interested in bidding for work in refitting warships. These include not only British Shipbuilders and the independent ship-repairing sector but also companies already engaged in a wider defence sphere who might wish to broaden their activities by acting as prime contractors for warship refits. As a result of these discussions, we intend as a first step to offer two ships - probably a frigate and a conventional submarine - for refit by contract following competitive tender, the work to begin in the latter part of this year. This will open up the market, help us to gauge its likely size and capabilities and will enable us to compare the performance of the commercial yards during the refits with similar refits being undertaken in the Dockyards. In addition, we have placed refits of auxiliary ships to competitive commercial contract.

240. Competition will be extended to other areas of support. Some examples are as follows:

- Supply arrangements for non-warlike stores. As a result of competitive tendering exercises the physical aspect of the defence accommodation stores depot at RAF Quedgeley and the warehousing task at the air publications and forms stores, Woolwich, are to be

managed by contractors from 1 September and 1 October of this year respectively. There will be savings of some 440 posts.

- Aircraft Servicing. Steps are now being taken to promote competition for the tender covering the servicing of Army flying training aircraft and other services at Middle Wallop, which is to be re-let in the near future. It was decided in 1983 to transfer major servicing and refurbishment of Canberras and Hunters to industry. We have decided that deep servicing of Nimrods is to be opened to competition and action is now in hand to open up to competition the major servicing of Hawk aircraft. Tenders are also being sought for contract support of University Air Squadrons and Air Experience Flights and a trial contract is to be let this year for the support of one Basic Flying Training School.

- It is intended to contract out more than 30% of army equipment repair. Competitive tenders in this area will be an integral part of the developing strategy on the Army's workshops which currently handle £76 million of REME repair work (86% of the total). Territorial and isolated regular units are to be given budgets for contracting-out more vehicle repair and servicing to local garages.

- In the Royal Navy the cost-effectiveness of contracting-out six sample support activities, currently done in-house, will be tested. Successful experience in putting a helicopter refinishing task to competitive tender has encouraged the Navy to put much more of this work out to tender and to explore other possibilities of the same

kind. The £33 million of Royal Navy general stores purchases placed annually with single source/proprietary suppliers is also being thoroughly examined in order to increase competition.

- Movement. All air charter contracts which can be are now subject to competitive tender. Action is in hand to put the Army's movement of freight (currently handled by British Rail and the National Freight Corporation) to competitive tender next year.

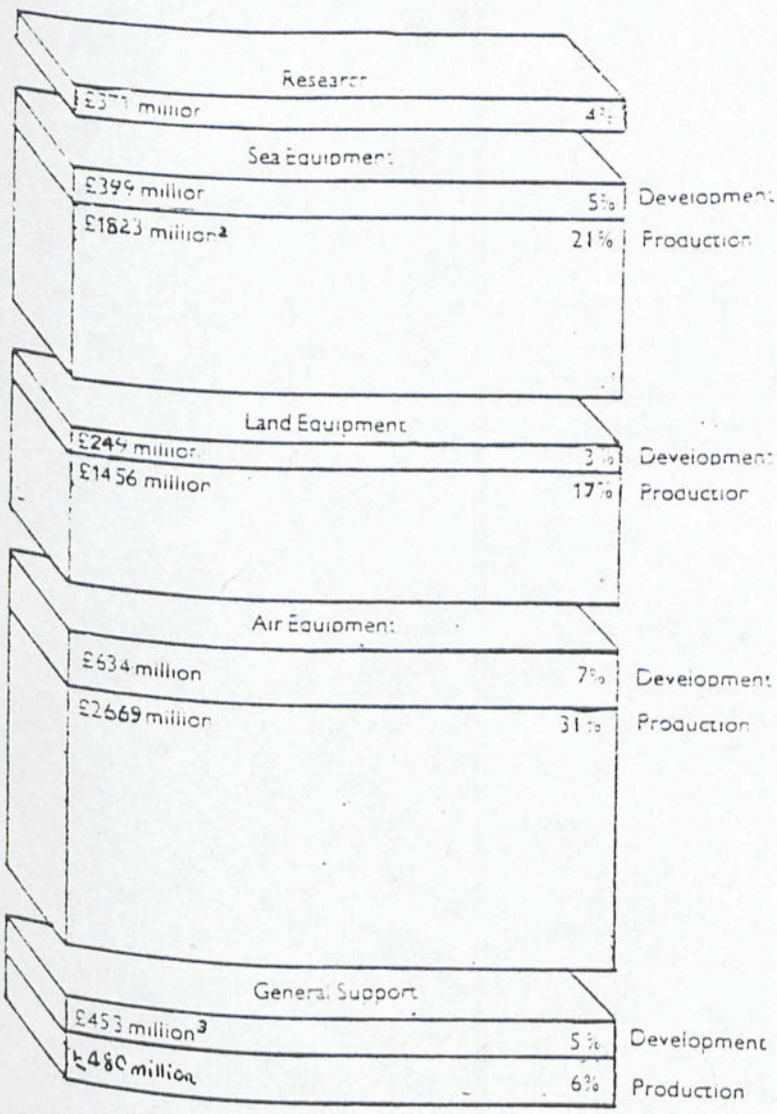
241. Generally, we shall seek to apply the principle that the only work carried out within our own defence support organisation should be that which is essential for clearly proven operational reasons or where there is financial advantage for the tax-payer. The Department is thus seeking to improve competition in a number of ways: through privatisation, contracting-out, hiving-off or partnership with private enterprise. For operations that remain within the public sector we are seeking greater involvement of commercial expertise through consultancies, through developing potential for commercial exploitation, and through exchanges with and secondments to industry and commerce. To promote closer links between the Department and the defence industries we have agreed with the National Defence Industries Council to set up during the coming year a continuing programme of fifty short-term secondments outwards from the Department, matched by an equal number inwards.

CHAPTER THREE

EQUIPMENT PROCUREMENT

301. In the previous chapter, we noted that in recent years there has been a steady rise in the proportion of the defence budget going on equipment. Expenditure on equipment accounts for approximately 46% of the defence budget and is expected to amount to some £7800 million in 1984/85. If the associated costs of the Research and Development Establishments, of managing the programme and of personnel in the Procurement Executive managing the programme are included, total procurement expenditure for 1984/85 is estimated at £8534 million. Figure 6 shows the pattern of expenditure on research, development and the main areas of production.

Figure 6 Main Divisions of the Procurement Programme 1984/85[1]



1. Figures relate to expenditure at Estimates prices and net Appropriations-in-Aid.

2. Including the costs of some HQ staff who are responsible for both research and development.

3. Including the cost of equipment for dockyard services.

302. A procurement programme on this scale makes us the single largest customer of British industry. Indeed, in certain sectors of British industry the Department is the dominant customer, accounting for 45% of the output of the aerospace, 20% of the electronics, and 30% of the ship building industries. The table below lists some of the major projects which have started development during the past year. In employment terms expenditure on defence equipment sustains about 225,000 jobs directly and a further 180,000 indirectly. The corresponding figures for the Department's expenditure on other materiel and stores are 90,000 and 70,000. In all, including the effect of defence exports, the energies and livelihood of more than 700,000 people are engaged in the industrial activity associated with the defence effort.

PROJECT	ESTIMATED PROGRAMME COST* (average 83/4 prices) £M
Secure ECM - resistant communications system (ERCS) for Air Defence aircraft and ground - based sensor systems.	300
Air-Launched Anti-Radiation Missile (ALARM)	300
Electronic Counter Measures Suite and Radar Warning Receiver for Harrier GR5	145
Mechanised Combat Vehicle (MCV 80) Variants	373
EH101 Helicopter	1,200
Advanced Medium Range Naval Surveillance Radar (Type 996)	100
Electronic Support Measures Equipment for Surface Ships - UAF (1)	105

*Total development and production cost

303. Defence equipment procurement thus makes very substantial calls on our national resources, both of money and of skilled manpower. In recent years the increasing sophistication and complexity of the threat our Armed Forces face, and the consequent growth in the real costs of equipment to meet that threat, have concentrated attention on ways of securing better value for money from the resources employed. The Ministry of Defence has conducted a continuing search in discussions within Government and with industry to develop an approach to procurement which would take account of the wider potential benefits of our equipment expenditure while at the same time trying to meet the cost pressures on our budget.

PARTNERSHIP WITH INDUSTRY

304. Our efforts to promote competition and to tighten contractual arrangements described in Chapter Two are complemented by the development of a more closely collaborative relationship with industry. We have particularly aimed at promoting a dialogue at the earliest stages of the procurement process, before staff targets for new systems are formulated. At the same time, we are exercising care in avoiding over-elaboration in our equipment requirements. The result should be a better return on our investment in research and development, by the production of equipments that meet not only our needs but also those of industry for a widely marketable product - the effect this is having on defence sales is discussed below. We are also seeking to involve industry more closely in sharing both the risks and the opportunities that arise in developing new systems. The evolution of our approach to research and development is described in later paragraphs. Our plans for the Royal Ordnance Factories, too, are based on the belief that a closer integration of our own procurement

process with the operations of industry and commerce will make for greater efficiency and cost-effectiveness.

Defence Sales

305. Defence exports are essential to the health of our defence industrial base and to ensure that we get maximum value for money from limited resources. Of course, the export of defence equipment must remain subject to strict Government control. Under the export licensing arrangements every application to sell military or related equipment is individually examined and the political and security implications are carefully assessed in each case. But within this framework of close Governmental scrutiny our policy is to encourage overseas sales, and to cooperate with industry in the development of equipment suitable for such markets. Overseas sales can contribute to longer production runs, lower unit costs, lower overheads and the recovery of our investment in research and development. They also amount to some 4% of visible exports and sustain some 145,000 jobs in this important high technology sector.

306. In an increasingly competitive environment, defence sales have enjoyed continued success over the past year. Further orders have been secured for Rapier, Jaguar and Hawk, major new contracts have been signed for tanks, helicopters and infrastructure projects, and the first contract has been won for the Sea Eagle anti-ship missile. International Military Services Ltd continued to trade profitably in 1983 and is confident of further development in 1984. We estimate that receipts from defence sales in 1984/85 will amount to £2,600 million. The Defence Sales Organisation has again mounted major exhibitions of defence equipment, most recently the 1983 Royal Navy Equipment

Exhibition. Earlier last year a floating exhibition of equipment toured the Gulf region. This was recognised by major defence contractors as a most successful venture and underlines our commitment to assist industry in promoting its products. The Defence Sales Organisation has been strengthened by the secondment of a banker to advise on financial and credit questions.

Research and Development

307. The R and D Establishments provide scientific and technical support to the Services in determining their future equipment requirements and in helping to meet them. Establishments are continuing to devolve design, development and project support work to industry wherever possible and to devote greater effort to longer term, innovative activities. Research expenditure in 1984/85 is expected to comprise £217 million intramural and £154 million extramural, which are together estimated to be about 18% of total R and D expenditure in that year. Intramural and extramural expenditure on equipment development is expected to amount to £345 million and £1389 million respectively.

308. In keeping with our policy of closer collaboration with industry, increased emphasis is being placed on jointly-funded research. Greater attention is also being given to technology demonstrators, which form a bridge between innovative research and full development of new projects. Further initiatives are being taken to promote 'spin off' from defence technology in the R and D Establishments to the civil market, by encouraging entrepreneurs to come together to seek out marketable inventions. We are also looking at ways of promoting wider application of the results of research and development contracts funded by the Ministry of Defence. When a firm develops equipment under a fully-funded

contract, it normally acquires the design rights in the equipment concerned (subject to certain Ministry of Defence "free user" rights for its own purposes and to the receipt of a small levy on sales of the equipment to other customers). We are concerned, however, that technology generated in industry in this way at the taxpayer's expense should be made available for exploitation more widely in non-defence fields. We are therefore discussing with industry possibilities for securing greater civil application of their defence technology.

309. The quality of work at the Establishments is well demonstrated by the fact that jointly with industry, the Royal Signals and Radar Establishment gained two Queens Awards in 1983 for technological achievement: one for work on infra-red detectors, the other for X-Ray detectors. Both areas have significant potential benefit in medicine and other civil work. Important long term benefits could stem also from the Royal Aircraft Establishment's "world first" in using direct voice input to control the integrated navigational displays of an aircraft used as a flying laboratory.

310. Staff numbers at Establishments have been reduced by over 850 during the past year, making a reduction of nearly 5,000 since 1979. Three existing Establishments are being merged to form from 2 April 1984 a single Land Systems Research Establishment, to be called the Royal Armament Research and Development Establishment with some work and about 850 associated staff being transferred to the Royal Ordnance Factories. The three Sea Systems Establishments have also been re-organised with effect from 1 April 1984, to form a single Establishment, the Admiralty Research Establishment, under one Director with Headquarters at Portsdown. The restructuring of the previous twelve Establishments into seven, accomplished over the last two years, will make for

more efficient management, and will facilitate the deployment of resources to work of the highest priority in the Establishments' evolving role.

Royal Ordnance Factories

311. We first announced in May 1982 our plans to enable the Royal Ordnance Factories (ROFs) to operate under the Companies Acts. We discussed in last year's Statement the first steps that had been taken to make the necessary technical and managerial adjustments within the ROFs in preparation for this change. The Bill to enable the changes to be made is now before Parliament with a view to a Vesting Day for the new organisation of 1 October 1984.

312. We believe that by adopting a more flexible structure the ROFs will be better equipped to operate in the marketplace and to meet more effectively the requirements both of the Ministry of Defence and of other customers. Once incorporated the new company will operate on a fully commercial basis. We expect it to be a success, and there is no reason why privatisation should be long delayed. Consultations with the Trades Unions are continuing on all aspects of the terms and conditions of employment of the staff who will transfer to the new company.

INTERNATIONAL COLLABORATION

313. The United Kingdom has long recognised the potential economic, operational and political advantages of collaboration with our NATO Allies in the development and production of new weapons sytems. Efficient collaboration can help to

make our money go further; we also see it as an important factor in achieving greater standardisation and interoperability of equipment within the Alliance.

314. We are at present involved in a wide range of collaborative projects. The Multiple Launch Rocket System, on which we are cooperating with the US, France, Germany and Italy, should be in service in the next few years; and we and our partners have invited proposals for the development of terminally-guided warheads to enhance the system's effectiveness against enemy armour. Development of a new self-propelled gun, SP70, is being shared with the FRG and with Italy. Italy is also our partner in development of the next generation of anti-submarine warfare (ASW) helicopter, the EH101. We are cooperating with France and the FRG on new generation Anti-Tank Guided Weapons, and again with the FRG on the Advanced Short-Range Missile, which will itself be part of a wider package of new generation air-to-air missiles shared with the United States. We are also in discussions with other nations who have expressed an interest in both of these projects.

315. Looking further ahead, the RAF will need an advanced and highly agile fighter to meet the expected air threat in the 1990s and beyond. A good ground attack capability will also be necessary. The Air Staffs of France, Germany, Italy, Spain and the United Kingdom have reached agreement on the framework of a common requirement (known as an Outline European Staff Target) for such an aircraft, and the five countries are now exploring the possibilities for collaborative development and production. In parallel we are continuing with our own Experimental Aircraft Programme, which will bring together and demonstrate in one aircraft specific advanced technologies applicable to future advanced aircraft. To meet future naval requirements, we are studying with several

other nations the feasibility of introducing a standard NATO frigate design for the mid-1990s.

316. This is an impressive catalogue. But more needs to be done. If the Alliance is to take full advantage of the potential for improving our conventional defence offered by emerging technologies - and do so at a cost it can afford - then it needs to achieve a still greater pooling, and a still more rational use, of its member nations' resources. This calls for a greater effort to harmonise military requirements and priorities and a greater willingness to align national procurement policies and practices in the interests of achieving more common and cost-effective equipment. Much determination will be needed if the many obstacles to wider and more efficient collaboration are to be overcome. We are putting our full weight behind the efforts which are being made in NATO, in the EUROGROUP and in the Independent European Programme Group (IEPG) both to extend the large measure of cooperation which already exists between European countries and to promote further, balanced, transatlantic cooperation. National industries, too, have a vital role to play; and it will be important to build on the experience of working together which has already been gained in previous and current collaborative projects to develop closer and more effective international links and partnerships. In this latter connection we welcome an important report (the Currie Report) published recently in the US which highlights not only the difficulties but also the opportunities for improving transatlantic cooperation, particularly at the industrial level. We have joined with our European partners in the IEPG in preparing a constructive response to this report.

Technology Transfer

317. Finally, we have also been cooperating with our Allies on a task which mirrors the collaborative exploitation of Western technology - the problem of preventing leakage of that very technology to our potential enemies. It is now evident that the Soviet Union and its allies have for some years been pursuing a far-reaching and well co-ordinated programme to acquire advanced technology with a military potential from the West both by legal and illegal means. If the technological lead currently enjoyed by NATO in most areas is eroded, the consequences for our collective security will be severe. The cost of new research and development programmes required to re-establish the advantage would be difficult to meet and the extended timescales involved could open up serious gaps in our defences.

318. The Eastern Bloc can acquire advanced technology from the West in various ways. But one of the most significant routes for technology transfer is through legitimate trade in equipment ostensibly acquired for civil use but easily diverted or applied to enhance the military capability of the Warsaw Pact. Over the last year we have been giving increasing attention to our policy on export controls in the area of high technology. This policy needs to balance the requirements of legitimate civil trade with those of our national security and the security of the Western Alliance as a whole. To be fully effective such a policy must be based on a sound analysis of those areas where the West enjoys a technological advantage and which are therefore likely to become prime acquisition targets for the Eastern Bloc. Export controls need to be agreed collectively with our Allies, and to be seen to be applied uniformly within the Western Alliance if they are to command the respect of industry.

Furthermore, such controls must focus on areas of genuine strategic concern where they can be effectively enforced. In these areas they increasingly need to cover technology as well as equipment.

319. Considerable progress has been made in meeting these objectives over the last year. Steps have been taken to improve our ability to analyse those areas of technology where early acquisition by the Eastern Bloc would be particularly damaging. Work is proceeding in close consultation with industry and with our NATO partners. The extent of our controls has been widened in concert with our Allies to cover, where appropriate, technology as well as equipment; and a wide range of measures, including reallocation of resources in the Departments concerned, has been introduced to improve the enforcement of our export controls, and to minimise the risk of inadvertent or illegal leakage of high technology.

320. The debate on the dangers of technology transfer will continue within the Alliance over the coming year. With the rapid growth and adaptation of new technologies these dangers have to be continually monitored and reassessed. We attach particular importance to this exercise and will be playing a leading part in the continuing debate.

ESSAY

WARSHIP DESIGN AND PROCUREMENT

1. Warships are the largest and most expensive individual capital asset bought by the Ministry of Defence. Even without its aircraft an Invincible class aircraft carrier costs approximately £300 million and a nuclear-powered fleet submarine about £200 million. Investments on this scale demand that every effort is made to ensure full value for our money. This essay describes how we go about it.

2. Warships are meant to fight; value for money therefore implies concentrating the highest possible proportion of the cost of a warship on its fighting capability. The design for the Type 23 Frigate, broad outlines of which were announced last year, demonstrates this priority. But fighting capability consists not only of actual weapons systems, but also of a large number of ancillary services without which the weapons could not be used - command, control and communication systems, a variety of sensors for detecting and engaging targets, and so on. Moreover, apart from providing a platform for the weapons they carry, warships must also be able to survive in a hostile environment. Thus they must be designed to operate in extreme weather conditions and to withstand action damage from blast, shock, fire and flood so that, if they are attacked, they have reasonable prospects of surviving as fighting units.

These elements form a major part of warship costs. A recent analysis of the costs of a Type 22 Frigate gives the following breakdown, by function:

Floating	Moving	Operating and Fighting
17%	20%	63%

3. These varied requirements must all be given proper weight in striking the balance between the need to maximise a warship's overall efficiency in her primary role, and the need to minimise costs. But other considerations must be factored in before the design can be finalised. We need, for example, to determine at the out-set how we might build into the design - and at what cost - ease of maintenance and reduced running costs during the life of a ship. And how much of a premium should be paid for versatility? The Falklands Campaign demonstrated the advantage of warships with a range of capabilities, including air defence, anti-submarine warfare (ASW) and shore bombardment. On the other hand, we cannot afford to build each ship to do everything; and the dictates of the export market may sometimes point to a simplified and cheaper design. Export sale potential (not only of complete ships but also of individual equipments) is kept in mind at all stages of the procurement process. The right balance has to be struck between the Royal Navy's specialised requirements - for example to meet its ASW role within NATO - and the specifications of other Navies which may be less exacting.

4. The design of major Royal Navy ships and submarines is undertaken jointly by the Ministry of Defence and industry. Initial concept designs are principally produced within the Ministry, which has for many years had particular expertise in this field, and now makes increasing use of highly advanced computer-aided ship design methods. But shipbuilders are involved from the earliest stages; and from the feasibility study stage onwards most ship design work is undertaken in industry. Private design agencies are also employed when appropriate in their particular fields of expertise; and it has been our practice for some time to order smaller vessels for the Royal Navy on design-and-build contracts, on the basis of competitive tenders. We are now seeking to extend this practice to larger ships. In contrast with other items of military equipment, the cost of a major warship rules out the use of prototypes in the design and development process. Design work therefore has to be carried out in considerable detail before the order is placed for the first-of-class ship. It will itself in a sense be a prototype, but one which must be guaranteed to function effectively.

5. In recent years all major RN warships and submarines have been built by British Shipbuilders, three of whose member companies (Vickers Shipbuilding and Engineering Ltd, Yarrow Shipbuilders Ltd and Vosper Thornycroft (UK) Ltd) are specialist warshipbuilding yards. Orders for first-of-class warships are normally placed with the shipbuilder who undertook

the design work. Whenever possible, however, contracts are placed following competitive tendering and the Ministry welcomes the fact that both specialist and non-specialist shipbuilders have competed keenly for recent orders; we are endeavouring to extend the scope for this. Competition is also strong among the very large number of companies involved in manufacturing ships' equipment and weapons.

6. In "The Falklands Campaign: The Lessons" (Cmnd 8758) we concluded that "It is clear that RN ships are strong and reliable platforms able to operate continuously at sea even in the most difficult weather conditions". Our ships have been proved in action. But we shall continue to work to improve yet further their versatility, their efficiency, and the value for money they represent.

CHAPTER FOUR

FORCE CAPABILITIES

401. In paragraph 124, we described the four principal roles in which our Armed Forces make their contribution to the Alliance's collective deterrence, and which they must be structured and equipped to perform. The force capability which we contribute to each of these tasks represents the output of the resources the nation devotes to defence; and the managerial and procurement strategies we have described in the preceding chapters are directed at maximising those capabilities. In this chapter we examine the results achieved, reviewing each role in turn. We also describe the enhancement of our reserve forces, to support and augment our front-line capabilities; and we consider the ways in which the flexible utilisation of forces committed to NATO can enable us to promote national and Alliance interests world-wide.

NUCLEAR FORCES

BRITISH STRATEGIC NUCLEAR FORCES

402. Britain's current strategic nuclear force of four Polaris submarines has provided a continuous independent deterrent since 1969. This force will remain effective until its replacement, the Trident II strategic weapon system, enters service in the mid 1990s. The effectiveness of the Polaris force is being maintained through the re-motoring of the missiles and by the Chevaline programme. The Chevaline development is designed specifically to penetrate Anti-Ballistic Missile (ABM) defences, although it is not a Multiple

Independently Targetable Re-entry Vehicle (MIRV) system and does not involve any increase in the number of warheads associated with the Polaris force.

Trident

403. Trident, like Polaris, will be entirely under British control, although committed to NATO. It will be based on a force of four ballistic missile submarines, each with 16 missile tubes. A four submarine force is the smallest that is capable of guaranteeing one boat continuously on patrol. The case for the United Kingdom to retain an independent strategic nuclear capability and the arguments which point clearly towards the selection of the Trident submarine-launched ballistic missile system for that purpose have been set out fully in previous Statements. The independent British strategic force is, and will continue to be, of the minimum size necessary to provide a credible and effective deterrent. We have no intention of increasing the capability of the force beyond that minimum. We have already made it clear that our current plans for the Trident force will not involve using the full capability of the system. But is it important to remember that Soviet anti-submarine warfare capabilities and anti-ballistic missile defences have not stood still since Polaris entered service, and they will certainly continue to improve in the future. The improved design of the Trident submarines and the greater range of the missiles will together help to ensure that the system will remain invulnerable to the potential threat posed by these capabilities. We have also emphasised that in the area of strategic nuclear arms control we attach great importance to the achievement of substantial negotiated reductions in the strategic arsenals of the two superpowers. If such reductions were to be achieved and if no significant changes had occurred

in Soviet defensive capabilities, we would want to review our position and to consider how best the United Kingdom could contribute to arms control.

404. Since last year's Statement, detailed planning and design work in support of the Trident programme has continued. The basic configuration of the D5 missile and of the Strategic Weapon System has now been decided, as has the design for our submarine. Although bigger than the Resolution class, the United Kingdom Trident submarines will follow the same pattern of a centrally-situated missile compartment based on a US design - in this case a scaled-down version of the OHIO class - between British-designed and equipped forward and after sections. The former will house a new Tactical Weapon System whilst the latter will accommodate a new nuclear propulsion plant. Initial long lead orders for steel and certain other major items have been placed, and a start made on modernising construction facilities at Vickers, Barrow. We hope to order the first of our four Trident submarines by the end of next year. Last year we reported our agreement with the US authorities to use facilities at Kings Bay, Georgia, both for the initial preparation of our Trident missiles for service and their periodic refurbishment. In consequence, we indicated that our need for such facilities in the UK would be reduced.

405. There has been no change in the cost of the Trident programme given in last year's Statement other than for inflation and exchange rate variations. At average 1983/84 prices and at an exchange rate of $1.53 to the pound the estimate is approximately £8.7 billion, of which we expect about 55% to be spent in the United Kingdom. The total value of the Trident programme to British industry will depend on the extent to which United Kingdom firms are awarded contracts for the D5 weapon system under the industrial participation

arrangements made in 1982. A number of small contracts have already been negotiated, but a fuller picture will not emerge until later this year when the main sub-contracts are placed. Trident will absorb 3% of the total defence budget over the period of its procurement, and 6% of the equipment budget.

BRITISH THEATRE NUCLEAR SYSTEMS

406. Three squadrons of Tornado GR1 - the strike/attack variant - have now been formed in the United Kingdom and, as discussed further in paragraph 425, the introduction of the aircraft into RAF Germany in place of the Buccaneer and Jaguar has begun. In addition to its important conventional role, Tornado is being equipped to carry British nuclear weapons, as part of our contribution to the Alliance's theatre nuclear forces. We will also continue to deploy in the United Kingdom RAF Buccaneer aircraft capable of delivering either conventional or nuclear weapons, and to operate nuclear-capable maritime helicopters and aircraft.

CONVENTIONAL FORCES

DEFENCE OF THE UNITED KINGDOM

407. Protection of our own country and its people must lie at the heart of our defence policy. It is sound strategy to meet the threat as far from our shores as possible. But in recent years the Warsaw Pact has steadily increased its capacity to strike harder and deeper behind NATO's front lines. Since

1979 we have accordingly been devoting increasing attention to the defence of the United Kingdom itself.

408. Effective defence of the United Kingdom is also essential to NATO's strategy, given our islands' crucial strategic position. The United Kingdom provides a forward base for the Supreme Allied Commander Atlantic (SACLANT), a rear base for the Supreme Allied Commander Europe (SACEUR) and a main operating base for the Allied Commander-in-Chief Channel (CINCHAN). In the event of war in Europe it would also constitute a vital staging post through which reinforcements of men and equipment from North America would pass. Any Warsaw Pact conventional attack on Western Europe would probably include heavy air attack against the United Kingdom, a principal aim being to disrupt such reinforcement. RAF Strike Command, responsible for the United Kingdom Air Defence Region within NATO, is charged with defending the United Kingdom and adjacent waters from air attack.

409. A comprehensive programme of qualitative and quantitative improvements to our air defences, fully described in last year's Statement, will involve the replacement or modernisation of virtually all the RAF's air defence assets. This programme is now under way and the RAF is beginning to derive the benefits from it. A particularly significant improvement will be achieved by the introduction into service later this year of the Nimrod AEW (airborne early warning) aircraft which will transform our early warning capability and provide the British contribution to the NATO airborne early warning force. Its sophisticated surveillance and data-processing equipment will greatly improve the ability of our air defence controllers both to detect attack and to direct the air battle.

410. Later this year the Tornado F2 - the air defence variant - will join the RAF and crew training for the operational conversion unit at RAF Coningsby will begin. With its excellent range and loiter capability the aircraft is ideally suited to the UK air defence region, and will be equipped with a powerful new air intercept radar. Seven F2 squadrons will eventually form, and our assets will be further increased by the running-on of two squadrons of Phantoms. Meanwhile the Phantom F4J(UK) aircraft purchased from the US Navy will be delivered shortly, thus making good the shortfall in aircraft immediately available for UK air defence following the deployment of Phantoms to the South Atlantic. The programme to equip 72 Hawk trainer aircraft to carry Sidewinder missiles provides a further significant enhancement to our air defence capability at relatively little cost.

411. The network of ground radars and command, control and communications systems for air defence, known as the United Kingdom Air Defence Ground Environment (UKADGE), is also being totally modernised. New radars are about to enter service and other sensors will follow. New communications are also being developed, including the installation of secure jamming-resistant links between UKADGE, Nimrod AEW and Tornado F2.

412. We are also concentrating on improving our surface-to-air missile capabilities, as a further line of defence. Additional Rapier fire units have been acquired and, following the equipping of RAF Germany Rapier units with the Blindfire radar, the second Bloodhound squadron has been deployed back to the United Kingdom and is now operational. The first elements of the Rapier wing owned by the USAF and operated by the RAF Regiment have now formed. In the event of hostilities, surface warships equipped for air

defence would also be integrated into the United Kingdom air defence network while carrying out other duties such as supporting ASW groups. Work on the hardening of airfields and important installations to give further resistance against attacks is also proceeding.

413. Although we regard the air defence of the United Kingdom as our highest priority we have not ignored ground defences. The main threat here is not that of large-scale invasion but of sabotage by small squads of specially-trained troops. The Soviet Union has a capability to mount this sort of operation. The targets would include vital military installations like radar stations and air bases. We already have some 100,000 ground forces available on mobilisation for home defence. We are strengthening these forces. The expansion of the Territorial Army will include the creation of extra units for home defence; we plan to make better use of Army Regular Reservists; and we describe in paragraphs 440-445 the strengthening of other reserve forces, including the Home Service Force, for this role. Planning for ground defence, which is coordinated by the Headquarters United Kingdom Land Forces, has also been revised. The new plans make better use of available manpower by providing for mobile quick reaction forces as well as improved guarding arrangements for vital installations. Exercises to test various aspects of the revised plans will be held shortly.

414. In the event of a conflict, the Soviet Union could also be expected to seek to disrupt both naval and merchant shipping movements around the UK. Prime targets would be the approaches to the Clyde (to interfere with the deployment of our Polaris force), essential shipping routes, reception ports and naval bases. The main threat would be posed by submarines armed with

torpedoes, missiles and mines. In addition to our anti-submarine warfare capability, discussed further at paragraph 430, to meet the challenge posed by the Soviet Union's modern sea mines we are continuing to modernise our mine countermeasures (MCM) force. Six new Hunt class MCM vessels, capable of both minehunting and minesweeping, have now entered service, and a further five are on order. Their glass-reinforced plastic construction makes them much less vulnerable to magnetic mines. Plans for further orders are under consideration. The first four vessels of the new River Class of Fleet minesweepers for the Royal Naval Reserve should be accepted into service by the end of the year. Orders have been placed for a further eight. The ships, which are based on a commercial stern trawler design, are of steel construction and equipped to sweep mines in deep water. The design of a new class of minehunter has been approved, to enter service towards the end of the 1980s. These vessels, also built of glass-reinforced plastic, will be cheaper than the Hunt class and able to deal with mines in deeper water. Our own mines are also being modernised and we plan to develop new types for defensive mining.

FORWARD DEFENCE: THE EUROPEAN MAINLAND

BAOR

415. The British Army of the Rhine (BAOR) is the visible demonstration of our commitment to the forward defence of the heartland of the Alliance, the Central Region: it is indeed the forward defence of Britain itself. We stand by our commitment to maintain the strength of BAOR at 55,000 in peace, consistent with our obligations under the Brussels Treaty. Along with Belgian,

Dutch, and German corps, 1(BR) Corps forms the Northern Army Group of the Central Region, and is responsible within it for the defence of a vital 65 kilometre front on the North German plain. Its role in war would be to delay, absorb and ultimately repulse an enemy attack as close to the Inner German Border as possible.

416. The reorganisation of 1(BR) Corps, announced in the 1981 Defence Review, is now complete. It will significantly enhance the combat effectiveness of the Corps, in particular its ability to react to attack at little warning. The Corps now comprises four divisions, one of them - 2 Infantry Division - stationed in the United Kingdom in peace. The three in-theatre divisions are all armoured and consist of regular troops; and the six brigades in the two forward divisions are fully mechanised. When reinforced on mobilisation by regular and Territorial Army (TA) units, and by individual reservists, the size of the Army in Germany would increase to some 150,000 soldiers. The recently-signed agreement with the Federal Republic of Germany for the provision of Host Nation Support for reinforcement will further enhance the capability of our forces in this area. Our ability to reinforce 1(BR)Corps in Germany will be tested in September 1984 in Exercise LIONHEART. Some 58,000 Army and RAF personnel including 35,000 members of the TA and 4,500 Reservists will be moved to the Continent, representing the largest movement of Servicemen to Europe since 1945. A total of 132,000 personnel from the United Kingdom and our NATO allies will be involved.

417. On 1 November 1983, 6 Brigade, one of the two brigades of 3 Armoured Division located in Germany in peace, commenced a trial in the airmobile anti-tank role. The Brigade's role will be to move swiftly to counter an enemy

breakthrough or to meet a threat developing from an unexpected direction. For this purpose, it will be equipped with Milan anti-tank guided weapons, Lynx anti-tank helicopters and Blowpipe anti-aircraft missiles. The first phase of the trial will last for just over a year. This will enable the Brigade - now retitled 6 Airmobile Brigade - to participate in Exercise LIONHEART in the airmobile role. We shall take a decision on whether to extend the trial in the light of experience gained in the first phase.

418. Our programme to keep the Army's armour and anti-armour capabilities abreast of the improvements to Warsaw Pact Armoured Forces is reaching a significant phase. Over the next few years, four regiments will be equipped with Challenger, the first British tank to benefit from the greatly increased protection provided by Chobham armour. The first regiment enters service this year along with the introduction of the new tank transporter Commander. An improved armour-piercing round for use by both Challenger and our existing Chieftain tanks entered service last year. Later this decade, we plan to incorporate improvements to both tanks, to keep them in the forefront of armoured warfare technology; a new thermal imaging sight is also being developed to enhance their fighting ability in darkness and conditions of battlefield obscuration.

419. Thermal imaging sights are also being fitted to both of the Army's ground-based anti-tank guided weapon systems, Milan and Swingfire. An improved warhead for Swingfire is now in service, whilst Milan's new warhead developed in collaboration with our French and German allies is about to enter production. All the Army's frontline Lynx helicopters are now fitted with TOW anti-tank

missiles, and we expect to complete the retro-fitting of improved missile warheads this year.

420. A new wheeled armoured personnel carrier - Saxon - will be introduced later this year to enhance the mobility of infantry earmarked to reinforce BAOR. The programme for the infantry's new Mechanised Combat Vehicle (MCV 80) for forward troops now encompasses full development of specialised variants, and is on course for introduction into service in the late 1980s. Production starts this year of the infantry's new family of small arms for the 1980s, which is due to enter service next year. A light assault rifle will provide the individual weapon and a light support weapon is planned to replace the existing general purpose machine gun as the infantry section weapon. They weigh less than the weapons they replace and are to be fitted with a new image-intensifying night sight. A complete range of illuminating, smoke and high explosive ammunition enters service this year for the new 51mm mortar. Production of a new light anti-armour weapon (LAW 80) is planned to start this year. We are also improving the Army's combat clothing. The new Combat High Boot, better at keeping water out than its predecessor, is now in widespread use. This year will also see the introduction of the new Mark 6 helmet, which is more comfortable and provides better protection, and of improved waterproof jackets and trousers.

421. Further to enhance night fighting capability, General Purpose Night Vision Goggles are entering service this year in significant quantities, as are higher specification goggles for use by aircrew. Portable thermal imaging systems are also being developed to enhance weapon effectiveness within the battle group; they are significantly more effective than existing equipments

for surveillance, target acquisition and direction of fire in darkness or in conditions of battlefield obscuration. We are also working on defining new systems to be developed for in-depth surveillance and target acquisition, based on remotely-piloted vehicles and airborne battlefield surveillance radars. Such new systems would better enable us to identify where our artillery firepower should most effectively be concentrated.

422. Major improvement programmes underway in air defence will maintain the operational effectiveness of Rapier and Blowpipe in the sophisticated electronic warfare environment to be expected in any conflict in Europe. By the end of the year, all towed Rapier units will have increased immunity to electronic countermeasures, enhanced surveillance radars and improved reliability. Four Rapier batteries are to be equipped with the new tracked version which will be introduced into service later this year. In forward areas its mobility and enhanced speed of reaction will be of great value. The Blowpipe missile system will start to be phased out this year and replaced by Javelin - a development of Blowpipe which has both higher performance and lethality and which is more easily and accurately aimed.

423. A new fuze for Barmine, the anti-tank mine, enters production this year; this fuze will enable the mine to be effective over the whole width of the tank allowing its belly to be attacked as well as its tracks. To safeguard our own mobility, our armoured engineer vehicles are being fitted with mine plough attachments for breaching minefields; production should be completed this year. They are also to be equipped with pipe fascines for crossing small gaps and production of these starts this year. A new general purpose

handheld mine detector is also under development. This will have a capability against mines with a small metal content.

424. Significant progress is also being made in the modernisation of communications, command and control facilities. During the next twelve months one division of the Corps will be equipped with Wavell, our computer-assisted tactical command and control information system, and Ptarmigan, our new communications network. Further deployments of these equipments will be effected in following years. The Artillery's command and control facilities are also to be improved on the introduction of the Battlefield Target Engagement System (BATES) in the late 1980s. BATES, which is in full development, will allow more effective use of available resources by concentrating fire on the highest priority targets.

RAF Germany

425. Two squadrons of Tornado GR1 strike/attack aircraft are now in service in Germany. With its capability for operations at low level (at night and in all weathers) and for accurate weapon delivery, the Tornado represents a major improvement in the RAF's ability to penetrate the improving Warsaw Pact air defences. In due course a total of eight squadrons of Tornado GR1 (seven in the strike/attack and one in the reconnaissance role) will be deployed as the Jaguar squadrons are phased out. Work is progressing on a suite of new weapons and equipment for the aircraft. Deliveries of the JP 233 cratering and area-denial weapon will start next year; this weapon will markedly improve the RAF's ability to put enemy airfields out of action. The Tornado GR1 carries a comprehensive fit of electronic and other

countermeasures, including the advanced Sky Shadow ECM pod. Sidewinder AIM 9L missiles will also be carried. Full development has now begun on the Air-Launched Anti-Radiation Missile (ALARM). With the two squadrons of air defence Phantoms and two of Harrier GR3s (which would operate from dispersed field sites in close support of ground forces) there will then be a total of twelve fast jet squadrons in RAF Germany.

426. The RAF's four airfields are defended from air attack by Rapier surface-to-air missiles supported by the Blindfire radar and are hardened to increase survivability after attack. Ground defence is provided by four RAF Regiment squadrons equipped with light armoured vehicles; a further two such squadrons are provided for the defence of Harrier in the field. A Royal Engineer squadron is provided for each airfield for rapid runway repair and the maintenance of essential services in war. In time of tension RAF Germany would be reinforced by aircraft from operational training units in the United Kingdom. In addition, RAF squadrons based in Britain are assigned to SACEUR's Strategic Reserve (Air) and could, if needed, be deployed in the Central Region.

427. In the late 1980s the arrival of the Harrier GR5 will improve our capability for offensive support. Like the Tornado, the aircraft will carry new weapons. An improved version of the BL 755 anti-armour weapon will enter service at the end of this year, initially for carriage on the Harrier GR3 and subsequently the GR5, pending the development of a "smart" anti-armour weapon planned for the 1990s. The Harrier GR5 will also carry a full suite of electronic and other countermeasures which has recently entered full development.

The Northern Region

428. Our major role on the European mainland is on the Central Front. But we make a significant contribution to NATO's defensive strategy on the northern flank, which is of crucial importance to the defence not only of the Central Region but of the United Kingdom itself. In time of tension or war, 3 Commando Brigade Royal Marines, as part of the United Kingdom/Netherlands Amphibious Force, would be available at an early stage to reinforce Norway, Denmark or the North Atlantic islands. We are currently examining the provision of future amphibious capability once the existing specialised ships come to the end of their lives in the 1990s. We also maintain a Mobile Force consisting of 1 Infantry Brigade and a Logistic Support Group, the latter composed largely of TA personnel, for rapid deployment to the Northern Region. It has dedicated RAF Chinook and Puma helicopters plus Army helicopter support and exercises regularly in its deployment areas. RAF Jaguars in the attack and reconnaissance roles are specifically assigned to the Alliance's Northern Command (AFNORTH) and we assign Harriers and Tornado to SACEUR's Strategic Air Reserve, which could also operate in the region.

MARITIME TASKS: THE EASTERN ATLANTIC AND CHANNEL

429. A major objective for any aggressor against the NATO Alliance would be the disruption of the transatlantic and cross-Channel seaborne reinforcement and resupply that would be so crucial to the conventional defence of Central Europe. An evident ability to ensure the safe passage of this seaborne traffic is essential both to discourage any military adventure that might be

undertaken in the belief that it would be possible to isolate NATO's forces in Europe, and to sustain the confidence of the Allies in NATO itself. For these reasons, NATO maintains a substantial maritime presence in the Eastern Atlantic and Channel areas. Given our geographic position at the focus of the busiest sea-lanes in the world and close to the main route for Soviet Naval forces deploying to the Atlantic, it is appropriate that we should make a major contribution to that presence. The United Kingdom provides 70% of the forces involved.

430. In these important areas, the Soviet submarine would constitute the greatest threat; Annex A describes the extent to which the Soviet Navy continues to enhance the capabilities of its submarine forces. It is for this reason that particular emphasis is given to anti-submarine warfare (ASW) capability in our maritime forces. A particularly important wartime role would be our contribution to the anti-submarine defence of the NATO Strike Fleet Atlantic: the United Kingdom would provide Anti-Submarine Group 2 comprising one or two aircraft carriers with Sea Harriers and ASW helicopters; several air defence destroyers and anti-submarine frigates; Nimrod long-range maritime patrol aircraft; and perhaps also nuclear-powered attack submarines. Other maritime units would concentrate on the ASW defence of reinforcement and resupply shipping by mounting operations across the routes which Warsaw Pact submarines must use to gain access to the Atlantic.

431. We have continued to provide the resources our maritime forces need to discharge these demanding tasks. More, in real terms, was spent on the construction of new ships and their weapon systems in 1982/83 than in any of the previous 20 years. In 1983/84 we expect to have spent about £750M more

in constant prices on the conventional Navy than was spent in the year before we first came into office. On current plans such expenditure will remain higher than the 1978/79 level even when spending on Trident reaches its peak at the end of the decade. We are continuing with the programme of development or production of a wide range of naval weaponry; and there are 37 warships on order for the Royal Navy.

432. The lightweight Sting Ray torpedo, after the successful completion of its development on time and within cost, entered service in Sea Kings and Nimrods last September. Development of the new heavyweight Spearfish torpedo is also progressing satisfactorily. Joint Service evaluation trials of Sea Eagle, the air-launched sea-skimming anti-ship missile, will take place this year, with introduction into service scheduled for next. Plans are in hand further to enhance Sea Wolf, which has demonstrated its ability to destroy sea-skimming missiles such as Exocet, and to examine the possibility of fitting it more widely. An initial purchase of the Dutch Goalkeeper close-in weapons system is planned for Type 22 Batch III frigates. Work is also planned on improvements to the Sea Dart area air defence guided-weapon system. Sonar equipment for both surface ships and submarines is being improved and modern long-range radars are being fitted in all Type 42 destroyers and on carriers. Electronic countermeasure equipment is also being improved and more widely fitted throughout the Royal Navy; new and versatile decoy systems to mislead attacking missiles are under development, to enter service later in the decade.

433. The programme to provide a new military communications satellite, known as Skynet 4, is now well advanced. We plan to provide a British payload

specialist on board the United States Shuttle for the mission which deploys the first satellite at the end of 1985, and another for the second launch in 1986. Maritime communications will be significantly enhanced through the introduction of these satellites.

434. The enhancement of the submarine fleet is continuing. Following the introduction into service last year of HMS Trafalgar there are now 12 nuclear-powered hunter-killer submarines (SSNs) in the Fleet with four more on order. A further order is expected shortly. The first of the new class of conventional diesel-electric submarines, the Type 2400, which will provide a valuable addition to our capability, was ordered last November.

435. The design of the Type 23 frigate was approved last year and the order for the first-of-class ship will be placed shortly. This new class of ship, which will complement the existing Type 22, is designed to conduct anti-submarine warfare in the North Atlantic and general purpose duties world-wide. Together with its helicopter capability, to be provided by the EH101, it will add considerably to our ability to control the sea lines of communication. The Type 23 will be in service towards the end of the decade and incorporate the most modern technology to enable it to perform these vital roles. It will be a very capable and effective ship, and substantially cheaper than the Type 22.

436. Seven Type 22 frigates are on order including three replacements for ships lost in the South Atlantic. Two more including the final replacement will be ordered shortly. This will bring the total number of Type 22 frigates for the Royal Navy to 14. The last 3 destroyers of the Type 42 class are

approaching completion and are all due to be accepted into Service in 1985. There will be about 55 front-line destroyers and frigates in service this year, with no ships in the Standby Squadron. In the longer term we are continuing to aim for a force level of about 50 destroyers and frigates, all of which would be in the front line and in the Standby Squadron. We are also considering the concept of a new class of ship, smaller and considerably cheaper than existing classes of frigates but larger than coastal craft. Such ships would not be alternatives to the frigates and destroyers but would be complementary to them.

437. The third aircraft carrier, HMS Ark Royal, will be accepted into service next year and we intend to continue our policy that two carriers should be operational at any one time with the third in refit or on standby. We have already taken steps to provide interim organic helicopter-borne Airborne Early Warning (AEW) and we are working on a longer-term solution based on a development of this system, which will enable us to deploy a flight of AEW helicopters in each of the two operational carriers. Studies are progressing on a package of improvements to the Sea Harriers including a replacement radar.

438. MV Contender Bezant has been purchased for the Royal Fleet Auxiliary Service as a replacement for the helicopter support ship RFA Engadine. This merchant ship will be converted to meet its new peacetime support role. It will also have an important operational role in times of tension or war when it will be used to transport aircraft and to provide a fully equipped spare deck from which aircraft from other ships could operate if required. Tenders have been sought for the replacement of Sir Galahad and repair and modernisation

of Sir Tristram, the first of which was lost and the other damaged in the Falklands conflict. In the meantime ships have been chartered into service as replacements.

439. The Royal Air Force also makes an important contribution to the conduct of maritime operations; and the assets it brings to these tasks are being steadily enhanced. The programme to convert 34 Nimrod maritime patrol aircraft to the improved MR 2 standard is nearing completion. There will be progressive improvements to the aircraft's equipment enhancing its ability to locate and track the increasingly quiet Soviet submarines, and Nimrod MR 2s are now equipped with the new Sting Ray anti-submarine torpedo. They are also capable of anti-ship operations using Harpoon missiles. In the maritime strike/attack roles the two Buccaneer squadrons are due to be re-equipped with Sea Eagle missiles.

THE RESERVES

440. Perhaps the single most cost-effective way in which the front-line capability of our regular forces can be augmented is by making the fullest possible use of our volunteer reserves. These reserve forces are an invaluable national asset upon which we are determined to capitalise (as explained in the essay on p).

441. We announced in Cmnd 8288 our plans to expand the Territorial Army (TA). This programme is well under way, and a number of important measures which will improve its operational efficiency, equipment and accommodation have already been implemented. Last year, a new infantry company for 5th (Volunteer)

Battalion The Royal Irish Rangers and two Royal Engineer airfield damage repair (ADR) squadrons were formed. We plan to form another two infantry companies for 3rd (Volunteer) Battalion The Royal Regiment of Wales and 3rd Battalion, 51st Highland Volunteers and a further two ADR squadrons by 1 April 1985. The TA has also continued to receive new equipment. The initial issue of the Milan anti-tank guided weapon system has been completed.

442. Plans have also been agreed for a second phase of expansion from a planned strength of 79,000 in 1986 to a strength of 86,000 by the end of the decade. This second phase of the TA's expansion will include the formation of six new infantry battalions, one air defence regiment, a new Yeomanry squadron with a NATO role and an Army Air Corps squadron, as well as a number of logistic and support units. In devising these plans we have also taken the opportunity to undertake some re-organisation and restructuring of the TA to improve command and control and operational capabilities. Further details of the TA expansion programme are contained in Defence Open Government Document 84/02.

443. To augment the forces available for home defence we have been running a pilot scheme to assess the feasibility of raising a Home Service Force to provide static guard forces for lower priority key points in time of tension or war. The two-year project which began in September 1982 was based on four trial companies. The pilot scheme has been successsful and we have announced our intention to increase progressively the strength of the Home Service Force to around 5,000 in the first instance.

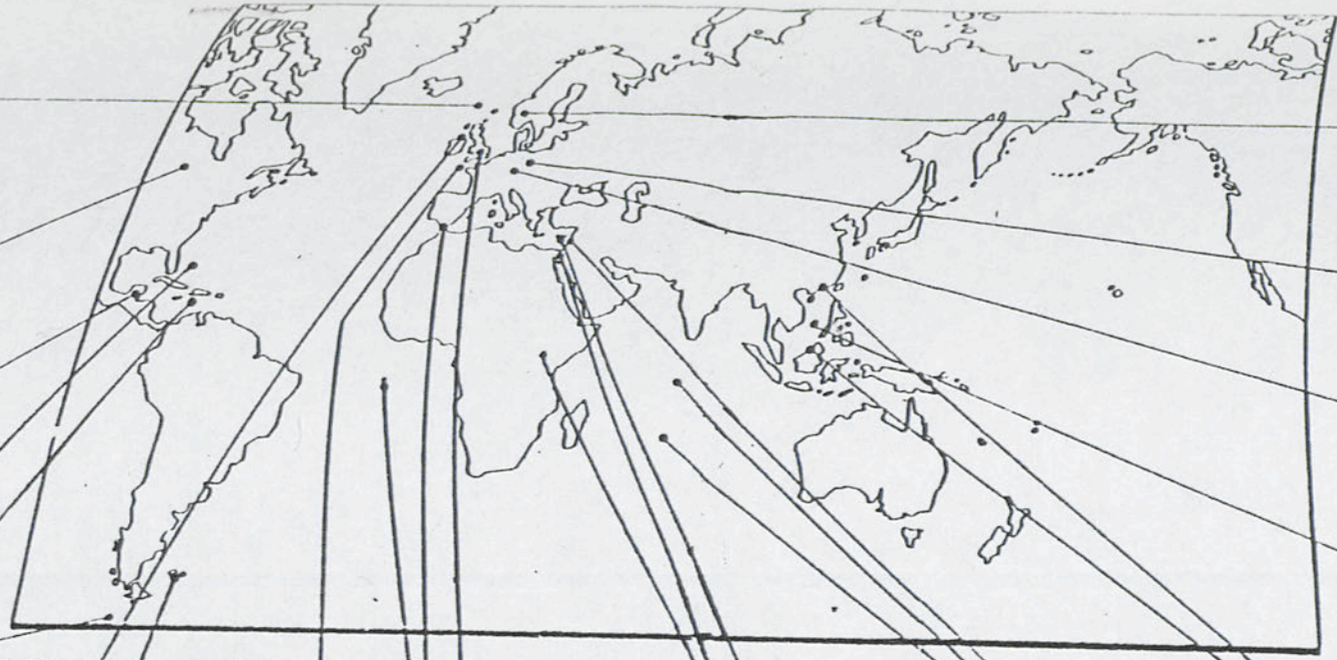
444. The Royal Auxiliary Air Force (R Aux AF) has also been expanded considerably in recent years. Six field squadrons have now formed and we are considering forming several further units over the rest of the decade. In addition an air movements squadron and an aeromedical evacuation squadron have been formed. Consideration is being given to using the R Aux AF for manning support helicopters and Rapier units.

445. Work is similarly in hand to ensure that we are able to make the fullest and most immediate use of our Royal Naval and Royal Marine reserves, both regular and volunteer, in time of need. The Royal Naval Reserve is to be equipped with new build ships; the River class minesweepers and new patrol craft are now coming into service. We are planning to increase the Royal Marines Reserve by 400 men. We are also introducing measures to enhance the speed and efficiency of mobilisation, of both regular and volunteer reserves, by the greater use of computer-based technology.

BEYOND THE NATO AREA

446. The performance of our four key roles within the Alliance remains the first priority for our defence effort. But, as discussed in Chapter One, we cannot ignore the significance of threats to Western interests posed in other parts of the world, as NATO itself has recognised. Moreover, the United Kingdom still retains a variety of defence commitments, in some cases backed by permanent garrisons, beyond the NATO area. The world-wide disposition of our forces in early 1984 is illustrated in Figure 7. Apart from permanently-stationed forces, our defence effort beyond the NATO area operates at the three levels identified in Cmnd 8758 (The Falklands Campaign: The Lessons).

Figure 7 Deployment of Armed Forces, Early 1984



EASTERN ATLANTIC and NORTH SEA

RN
Destroyers
Frigates
Submarines
RFAs
MCMVs
Offshore Patrol Vessels
Survey Vessels
Shore based Wessex and and Sea Kings

RAF
Buccaneers, Canberras, Nimrods, Phantoms & Victors

CANADA

ARMY
Training Unit

BELIZE

ARMY
1 Armd Recce Troop
1 Field Artillery Battery
1 AD Detachment
1 Engineer Squadron
1 Infantry Bn
1 Detachment AAC

RAF
Harriers, Pumas
¼ Squadron RAF Regt (Rapier)

WESTERN ATLANTIC

RN
CVS, Frigates
RFAs

WEST INDIES

RN
Frigate
RFA

ANTARCTIC

RN
Ice Patrol Ship

NORTHERN IRELAND

RN
Patrol Craft

ARMY
HQ Northern Ireland
2 Brigade HQ
1 Engineer Squadron
6 Resident Infantry Bns
2 Roulement Infantry Bns (one may be RM Commando)
2 Squadrons AAC
11 Battalions UDR

RAF
Puma/Wessex Helicopters
Squadron RAF Regt.

FALKLAND ISLANDS

RN
Submarines, Destroyers, Frigates, RFAs.

ARMY
1 Infantry Bn Group
Supporting Arms and Services

RAF
Phantoms, Harriers, Hercules, Chinook & Sea King helicopters
[illegible] Squadron.

CHANNEL

RN
Destroyers
Frigates
Submarines
RFAs
MCMVs
Offshore Patrol Vessels
Shore based Wessex and Sea Kings

RAF
Canberras & Nimrods

ASCENSION ISLAND

RN
Wessex

RAF
Victors and Hercules

GIBRALTAR

RN
Frigate, Lynx

ARMY
1 Specialist Team RE
1 Infantry Bn
1 Surveillance Troop
Royal Artillery
RAF
[illegible]

GREAT BRITAIN

RN

Destroyers
Frigates
Submarines
RFAs
MCMVs
Survey Vessels
Helicopters
Royal Marines Commando Forces
Royal Marines SBS
Royal Marines based for home defence

ARMY
Specialist Reinforcement Units for NATO
Reinforcements for BAOR
Forces for home defence
1 SAS Regiment

RAF
Buccaneers, Canberras, Chinooks, Harriers, Jaguars, Lightnings, Nimrods, Hunter AEW, Phantoms, Pumas, Hercules, VC10s, Sea Kings, Shackletons, Tornados, Tristars, Victors, Vulcans, Wessex, Communications aircraft & helicopters
RAF Regiment Squadrons
Bloodhound, Rapier

CYPRUS

ARMY
1 Armd Recce Sqn
1 Engineer Support Sqn
1½ Infantry Bns
1 Flight AAC

RAF
Wessex
1 RAF Regt Squadron

UNFICYP Contingent
1 Armd Recce Sqn
½ Infantry Bn
1 Flight AAC
Supporting Services

SINAI

MFO Detachment

KENYA (Exercise)

ARMY
1 Engineer squadron

Buccaneer, Chinook and Phantom detachments

LEBANON

MNF Contingent
Force HQ
1 Armed Recce Sqn

DIEGO GARCIA

RN
Naval Party
RM Detachment

INDIAN OCEAN

RN
Destroyer, Frigate
RFA, Survey Vessel

HONG KONG

RN
Patrol Craft
RM Landing Sqn

ARMY
1 UK Infantry Bn
4 Gurkha Infantry Bns
1 Gurkha Engineer Regt
1 Squadron AAC

RAF
1 Wessex Squadron

BRUNEI

RN
1 RM Company

ARMY
1 Gurkha Inf Bn
1 Flight AAC

NORWAY (Exercise)

RN

RM Commando Brigade HQ
2 RM Commandos with combat and logistic support
RM Landing Squadron

RAF
Harriers, Jaguars, Pumas, Chinooks

BERLIN

ARMY
Inf Bde

WEST GERMANY

ARMY (BAOR)
1 Corps HQ
3 Armoured Divisions
1 Artillery Division

RAF (G)
Buccaneers, Jaguars, Tornados, Phantoms, Harriers, Pumas, Chinooks, Rapier
RAF Regt Squadrons

FAR EAST

RN
CVS
Frigates
RFAs

LEGEND

AAC	Army Air Corps	CAM/LPH	Commando Carrier	Recce	Reconnaissance	RFA	Royal Fleet Auxiliary	UDR	Ulster Defence Regiment
AD	Air Defence	CHS	Coastal Minesweeper	RE	Royal Engineers	HQ	Headquarters	UNFICYP	United Nation Force in Cyprus
Armd	Armoured	CVS	Anti-Submarine Carrier	Regt	Regiment	SAS	Special Air Service		
Bde	Brigade	LPD	Assault Ship	MFO	Multinational Force and Observers	SACEUR	Supreme Allied Commander Europe		
Bn	Battalion	MCMV	Mine Counter Measures Vessel	[illegible]	[illegible]	SBS	Special Boat Squadron		

These are the provision of military assistance and training to countries of importance to Western interests which request our help; periodic deployments of British forces, including the deployment of Naval task groups and exercises (details of which are in Annex B); and maintenance of a capability to intervene either to protect our national interests or, with our allies and in response to a request for help, those of the West as a whole. In addition, we make an important contribution to international peace-keeping operations (which are discussed in Chapter One).

Garrisons

447. Two of our most important overseas garrisons, those in Cyprus and Gibraltar, are within the NATO area. Gibraltar's position at the Western entry to the Mediterranean is of particular strategic significance for NATO. The Sovereign Base Areas (SBAs) in Cyprus are currently important for the support of peace-keeping operations in the Eastern Mediterranean: we provide logistic support through them for the United Nations forces in Cyprus and Lebanon. We also maintain garrisons overseas in the Dependent Territories of the Falkland Islands and Hong Kong, and in Belize and Brunei.

448. The Falklands garrison of ships, aircraft and land forces provides the means to defend the Islands and Dependencies. It is maintained at the minimum size necessary for this purpose, taking into account our capability to reinforce the Islands rapidly in an emergency. This capability will be greatly improved once the new airfield at Mount Pleasant, designed to take wide-bodied jets, is operational. Construction began on schedule on 2 January 1984 and is progressing well. Once the airfield is complete it should be possible to

reduce the levels of permanently-stationed forces on the Islands. The airfield will also contribute significantly to the future economic development of the Falklands, as proposed in Lord Shackleton's Economic Studies in 1976 and 1982. Meanwhile, the garrison forces continue to liaise closely with the civil administration and undertake a wide variety of tasks to help the civil community. Relations between the garrison and the Islanders have remained excellent.

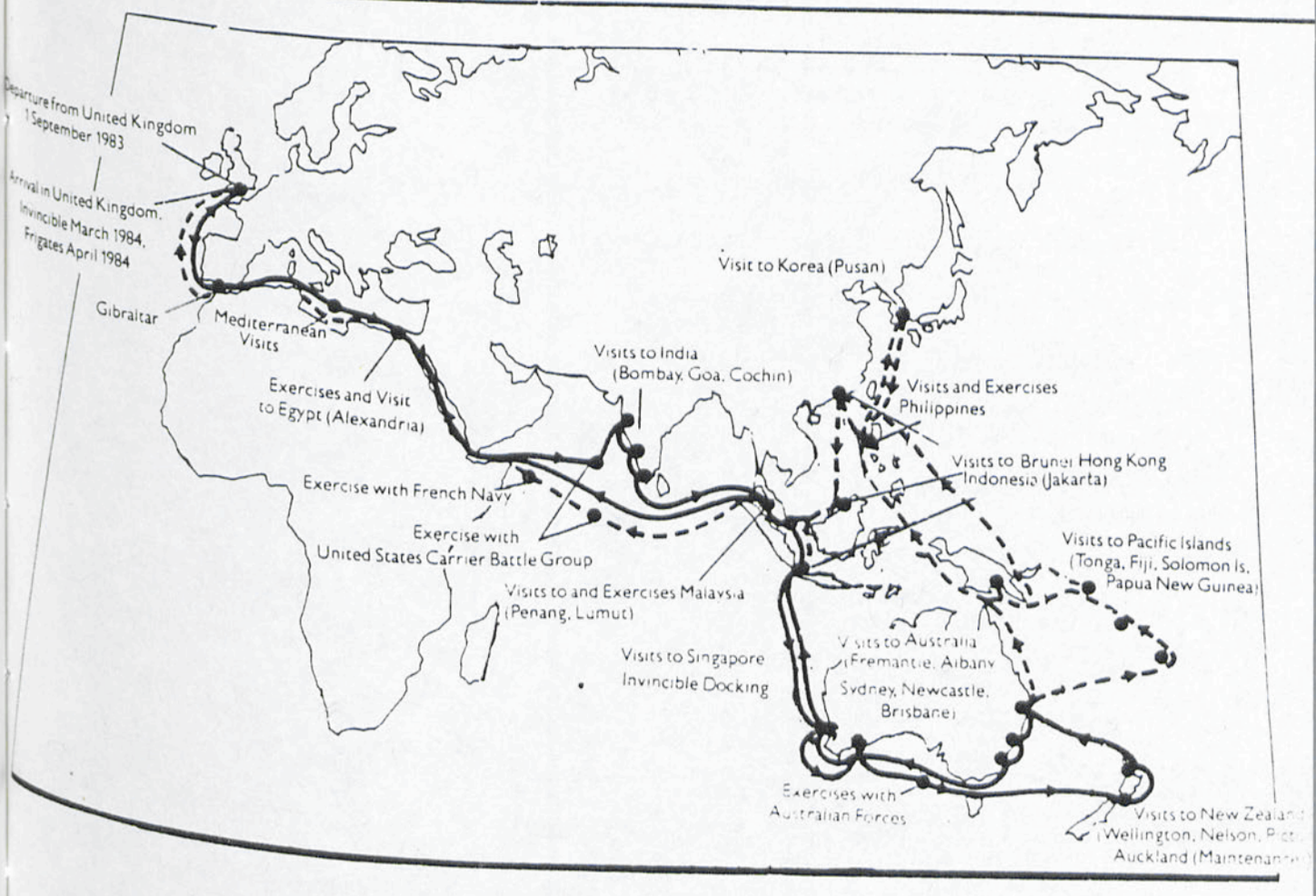
Military Assistance and Training

449. We continue to devote considerable effort to helping friendly nations to help themselves, through the provision of training assistance to their Armed Forces. During the financial year 1982/83 nearly 3,200 students from more than 65 countries and territories outside the NATO area attended courses in the United Kingdom. We also continue to lend personnel to friendly governments to assist with the training and development of their armed forces. In early 1984 over 700 British servicemen were on loan in 29 different countries and territories. Assignments varied from small technical tasks carried out by just one or two servicemen, to the maintenance of substantial training teams (notably in Brunei, Kuwait, Oman, and Zimbabwe) which are making a significant contribution to the organisation and expertise of the local armed forces.

Naval Deployments

450. Last year saw the first major Task Group deployment since 1980. The Group, consisting of HMS Invincible and a number of frigates and Royal Fleet Auxiliaries, left Portsmouth in September 1983 on a seven-month deployment

FIGURE 8 ROYAL NAVY GROUP DEPLOYMENT SEPTEMBER 1983-APRIL 1984



(although Invincible had to return home a month earlier than planned because of propeller shaft problems). In the course of a full and successful programme exercises were undertaken with friendly navies, and many countries in the Indian Ocean, the Far East and the South Pacific were visited. Figure 8 traces the passage of this deployment, showing the ports visited and the main exercises undertaken. Other naval deployments last year included the continuation of a patrol of two frigates plus afloat support in the Indian Ocean, available to come to the assistance of merchant shipping should free passage in and out of the Gulf be threatened. For much of last year, one of the warships was provided by the Royal New Zealand Navy. We have also continued to maintain a guardship in the Caribbean.

Force Flexibility

451. As noted in Chapter One, our capability for operations outside the NATO area is largely provided by forces whose primary commitment is to the Alliance. If we are to maintain and improve this capability, we must therefore seek ways of achieving greater flexibility and versatility of these forces. We set out in Cmnd 8758 (The Falklands Campaign: The Lessons) the additions planned for 5 Infantry Brigade in order to improve its 'out of area' and parachute capabilities, to complement the existing amphibious capability of 3 Commando Brigade Royal Marines. In November 1983, we announced a series of further planned enhancements to the brigade - including the provision of an air defence troop equipped with Blowpipe as well as further signals, medical and logistics units. We are also increasing the number of parachute posts in the brigade, providing a parachute capability in the light gun regiment, the air defence troop and the integral logistic support units, in addition to the

existing capability in the parachute battalions themselves. In view of these enhancements the Brigade has been renamed 5 Airborne Brigade. These measures will bring the Brigade's long-term strength to approximately 4,500.

452. 5 Airborne Brigade's priority role will continue to be home defence. Any additional capabilities required for "out of area" deployments will be provided by detachments from other formations assigned to NATO. In the same way, the Joint Force Headquarters which would command British forces committed to action outside the NATO area would be drawn as the need arose from the staffs of the permanent Headquarters within the United Kingdom.

453. Airlift for the Brigade will be provided by the Air Transport Force of the RAF. This will primarily be the Hercules, although the VC10 and the Tristar strategic tanker/transport - which will retain a significant passenger capacity - may also be used if a suitable airhead is available. A programme of fuselage-lengthening for half of the RAF's Hercules aircraft is well advanced; after modification a "stretched" Hercules will be able to carry nearly 50% more fully-equipped paratroops, but will still be capable of operating from short airstrips. Station-keeping equipment will be fitted to a number of "stretched" Hercules which will assist the aircraft to carry out a co-ordinated drop of the parachute force in poor weather.

454. The range and speed of deployment of our forces has been greatly increased by recent advances in our capability for air-to-air refuelling (AAR), a technique in which the RAF as a result of the Falklands conflict now has unrivalled expertise. Following decisions taken in the aftermath of that campaign, our tanker fleet has been augmented by the purchase of six Tristars

and a squadron of newly converted VC10 tankers is now entering service. As the recent record-breaking non-stop flight from the Falklands by a Nimrod aircraft demonstrated, AAR adds a new dimension to our ability rapidly to deploy our air assets and airborne forces world-wide. The benefits that AAR brings to our forces in their priority NATO roles are equally significant. It can greatly enhance the effectiveness of our fighter and AEW aircraft in the European theatre by extending the duration and range of their patrols. Our first line of defence against Soviet air attack on the United Kingdom can be pushed much further out over the North Sea. Aircraft operating in the anti-submarine role, too, can benefit greatly from AAR. If they have to rely only on the fuel with which they take off, our Nimrod aircraft patrolling the transit routes of Soviet submarines into the Atlantic spend a significant proportion of their airborne time getting to and from their areas of operation. AAR permits an enormous extension of the time they can spend actually on station, multiplying our capability in this important role many times over.

455. The Royal Navy, too, has taken further steps to complement the versatility inherent in naval forces by drawing more heavily on civil assets. In addition to the well-established procedures for taking suitable ships up from trade to support naval operations, much attention is being given to the use of commercial vessels not built to warship standards to conduct subsidiary Fleet tasks at low cost. The recent acquisition of RFA Diligence, an oil rig forward support vessel which has been converted to provide afloat support for naval vessels operating at great distances from their bases, has provided a considerable enhancement to the "out of area" capability of the destroyer/ frigate force and of conventional submarines. RFA Reliant, a commercial ship converted for a trial as a helicopter platform by the addition of

specialised container modules (the US Navy's Arapaho system), played a central role in support of the Multi-National Force and in the evacuation of British civilians from the Lebanon.

ESSAY

"TWICE A CITIZEN"

1. The volunteer spirit has always been strong in the United Kingdom. We remain one of the few NATO nations which do not employ conscription to fill the ranks of their full time forces. And that spirit is equally in evidence amongst our volunteer reserve forces, who have vital roles to play in our defence efforts.

2. In time of war, our reserves would reinforce or complement almost every aspect of the duties of our regular forces, whether adding directly to their numbers and capabilities, or taking over support functions to allow the regular troops to concentrate on the front-line. The Royal Naval Reserve undertakes essential tasks both ashore - in the Naval control of shipping organisation and in communications - and afloat, where it forms an important element of our mine countermeasures forces as well as providing a reserve of aircrew. The Royal Naval Auxiliary Service (a uniformed civilian volunteer organisation) provides local support to naval authorities in UK ports. The Royal Auxiliary Air Force contributes to the defence of airfields, movements control and aeromedical evacuation; whilst the newly-created Home Service Force guards key installations. The largest volunteer force, the Territorial Army (TA), is equipped and trained to carry out many of the same functions as the Regular Army, at

home and within NATO. These include armoured reconnaissance, air defence, artillery and anti-tank roles, as well as the more specialised tasks of the TA parachute and SAS units.

3. Paragraphs 440 to 445 describe the continuing enhancement programmes for these volunteer reserves. These programmes have already had significant effects. In the case of the TA, great strides have been made in the recent years to improve the level of training and accommodation, as well as providing modern equipment. Such measures lead to a considerable and cost-effective increase in our fighting capability, both in NATO and in defence of the United Kingdom itself. But the success of our plans will depend on three key factors: first, the dedication of the reservist himself; second, the ability of the volunteer Reserve Forces to recruit and retain enough men and women of the right calibre; and third, the measure of support which these volunteers continue to receive from the civil community in general and from employers in particular.

4. The responsibilities now placed on the volunteer reservist are increasingly onerous. The training commitment is demanding: a typical TA soldier will attend one evening a week at his local drill hall and one, or possibly two, weekends each month. This training covers basic military skills including weapon training, first aid, fitness training and Nuclear, Biological and Chemical Warfare defence. But the most important engagement of the year is the annual camp, a period of a fortnight in which the

whole unit carries out co-ordinated training for its operational task. Units whose role is the defence of the United Kingdom normally hold their camp in this country; but there are occasionally opportunities to vary this pattern by, for example, undertaking garrison duties in Cyprus or Gibraltar, or conducting exchanges with National Guard units in the USA. TA units with a NATO role regularly carry out annual training on the continent alongside BAOR units: our aim is that each unit should have this opportunity once every three years. This year such training will be linked with Exercise LIONHEART (described in paragraph 416), in which there will be large-scale TA involvement. Extended periods of training of this kind are essential if our volunteer reserves are to be properly prepared to assume crucial roles assigned to them in war.

5. A volunteer reservist must therefore be dedicated if he is to achieve and maintain the standard required of him. He also needs the unqualified support of his family and friends, and of his employers and workmates. This last point is particularly important. If a reservist feels that he does not have the goodwill of his employer he is unlikely to be fully committed; and in consequence both his work and his efficiency as a reservist may suffer. It will seldom be easy in current times for employers to grant special leave for their employees to undertake military training - especially where the man in question is a key member of staff. Many reservists recognise this and use part of their annual holidays to attend for training. But at a time when a major expansion of the

volunteer reserve forces is underway it is vital that the potential recruit, as well as those currently serving in the reserves, should feel that their employers are sympathetic to the undertaking and the training commitment required. Employer support is fundamental if a reservist is to know that his endeavour enjoys a wide measure of support from society as a whole.

6. We aim to foster in our volunteer reservists many characteristics: perhaps the three most important being self-reliance, loyalty and responsibility. These characteristics are essential in the good serviceman, and they have value in all walks of life. A good reservist makes a good employee and is a reliable and conscientious member of society. At the same time, we need the support of employers at all levels, in companies of all sizes, to help us achieve our aims of expanding our volunteer reserves, particularly the Territorial Army. In particular, we need employers to help by making special arrangements, such as granting extra leave, paid or unpaid, for reservists to attend training. A sympathetic attitude by employers in these areas will make an important contribution to a defence effort we all have an obligation to sustain.

7. Sir Winston Churchill once described the TA soldier as "twice a citizen". Today, not only our reservists but also those who cooperate in helping them discharge their tasks can fairly lay claim to the same proud title.

CHAPTER FIVE

The Services and the Community

501. The principal functions of the Armed Forces are to deter and to defend. But, capitalising upon their specialised skills and equipment, they also perform a variety of other roles within and for the civil community.

MILITARY AID TO THE COMMUNITY

502. In the past year the Services have again been able to assist with a variety of projects of particular social value, which have at the same time provided useful training for the personnel involved. Army units for example have helped to construct or repair bridges and footpaths, including the replacement of a 33-metre suspension footbridge on the Southern Upland Way in Scotland; and they opened up the front of a reservoir to the River Nene in order to form a dock for the Northampton Youth Clubs Association. Two Army ambulances assisted at the scene of the Harrods bombing last Christmas and assistance was also provided by staff from the RAF Specialist Renal Unit; and many units gave valuable assistance to people stranded by the heavy snowfalls in Scotland in January of this year. The Royal Air Force provided emergency assistance to the Dyfed Fire Brigade in fighting the fire at the AMOCO oil refinery at Milford Haven; and RAF helicopters provided heavy lift capability for a number of tasks including the siting of a 22,000 gallon steel water tank in an isolated location in the Quantocks, and the airlift of a renal dialysis unit for Yorkshire Health Authority. The Royal Navy

assisted in the renovation of a building in the grounds of Brodie Castle in Scotland which is to be used as a Study Centre for young people.

Protection of Offshore Resources

503. Ships of the Royal Navy Fishery Protection Squadron and RAF Nimrod aircraft regularly patrol the United Kingdom fisheries and offshore oil and gas fields on behalf of the Fisheries Departments and the Department of Energy. Officers of the Squadron board both British and foreign fishing vessels to ensure that fishing equipment and catches comply with fisheries legislation. In 1983 over 2000 boardings were carried out. In addition to their fisheries duties, both ships and aircraft carry out deterrent patrols around the offshore energy installations, at the same time keeping a close watch for infringements of their safety zones and oil spillages. The Royal Marines Comacchio Group maintain a rapid response force able to deal with any terrorist or similar threat to the offshore installations.

Search and Rescue

504. Helicopters of the Royal Navy and Royal Air Force, RAF Nimrod maritime patrol aircraft and RAF mountain rescue teams operate a permanent standby service for search and rescue missions. Aircraft of the two services were called out on 1295 occasions in 1983 and 968 people were rescued or assisted. Of these missions approximately 90% were reactions to incidents involving civilians. Much search and rescue involves international co-operation, sometimes between unlikely partners. In July 1983, RAF Nimrods, at night,

located a Spanish fishing vessel lying 30 miles west of Rockall and requiring assistance for a badly injured crewman. The Nimrod directed a Soviet fish carrier to the area, and the casualty, following an emergency amputation on the Soviet ship, was later transferred by long-range US Air Force helicopter to hospital in Glasgow. An RAF Nimrod also coordinated the rescue in December 1983 of 139 passengers and crew from the British Rail Ferry Antrim Princess after a fire had developed in her engine room on passage from Larne to Stranraer. The rescue, carried out by RAF and RN helicopters, was completed in less than two and a half hours.

505. Efforts to enhance search and rescue capability have included the formulation by Canada, France and the United States of the joint Search and Rescue Satellite Aided Tracking Project (SARSAT). The Soviet Union has embarked on a similar project and the two organisations are co-operating in many areas. These systems utilise satellites to detect transmissions from radio distress beacons and to relay the information back to ground stations. Survivors can in this way be located more quickly and pinpointed with much greater accuracy. The United Kingdom, though not one of the principal partners, is developing improved distress beacons for use with satellite systems and is assisting in the further development and evaluation of SARSAT. Although unlikely to become fully operational until the 1990s these projects have already directly contributed to the rapid rescue of survivors in distress on several occasions.

Bomb Disposal

506. Services' bomb disposal teams have been called to deal with a wide range of explosive devices and ordnance during the year. The teams, drawn from

all three Services, are on standby 24 hours a day. Bomb disposal work in Northern Ireland has already been discussed in Chapter One. On the United Kingdom mainland, teams responded to over 5,500 requests for assistance. One of the more widely-publicised incidents was the discovery in April 1983 of a 50kg air-delivered bomb of World War II vintage in the Thames in Central London; it was successfully defused on a barge. Royal Naval Clearance Diving Teams, responsible for ordnance disposal below the high water line, disposed of a total of over 52,900 explosive items during 1983. Bomb disposal teams also pressed on with the task of clearing potentially dangerous ordnance, some of it dating back to the Second World War, from many sites throughout the United Kingdom. The scale of the problem is such that it will be many years before all the presently identified areas can be cleared. Royal Engineer manpower has, however, recently been increased and this will speed up the task.

507. One area that has suffered particularly from the aftermath of war is the Falkland Islands, where the Argentinians laid extensive minefields and where many items of unexploded ordnance were left on the battlefields. The Royal Engineers have already cleared over 2 million potentially dangerous items of ordnance, allowing the Islanders to resume the use of large areas where they would previously have been at risk. But the minefields are still a problem, largely because it has so far proved impossible to find a means of detecting the FMK 1 plastic anti-personnel mine. The search for a solution is continuing; but in the meantime, in order to prevent the risk of further injury to the Engineers, it has been necessary to suspend any further attempts to clear the minefields.

Meteorology

508. The Meteorological Office serves the needs of the Ministry of Defence (of which it is a part) and, as the state meteorological service, discharges a wide range of civil responsibilities, both national and international. In addition to the familiar function of providing weather forecasts for the general public through the news media, the Office supplies the more specialist user (such as shipping, agriculture and the offshore oil industry) with detailed forecasting services on repayment terms. The Office is also a World Area Forecasting Centre for civil aviation. As part of the continuing effort to improve efficiency and value for money throughout the Department, a Resource Control Review of the Meteorological Office was conducted in 1983. The Review, whilst finding the control and deployment of resources generally satisfactory, suggested a number of ways in which improvements could be made. Implementation of these proposals has begun.

Hydrography

509. The Royal Navy's Surveying Flotilla conducts hydrographic and oceanographic surveys, not only to meet defence requirements (including the specialised needs of improved submarine, mine countermeasure and anti-submarine warfare techniques) but also, on behalf of the Department of Transport, to meet the requirements of merchant shipping. In 1983 it has been possible to give particular emphasis to the civil task. In addition to the work by the Royal Navy's ships, work has been carried out by a chartered, civilian-manned, vessel with a Royal Navy survey party embarked, and by commercial survey companies working under the supervision of the Hydrographer of the Navy.

This has enabled good progress to be made with surveys of the northwest coast of Scotland, both within the Minches and outside the Outer Hebrides, in areas where the Department of Transport are considering the introduction of further ship routeing measures for the greater safety of shipping around the Scottish coast. A harbour survey launch for inshore and shallow water work has now entered service; and we intend to place an order this year for a new coastal survey vessel, primarily for work on the programme of surveys for civil shipping. Ships of the Surveying Flotilla have also carried out work further afield - HMS Herald in largely unsurveyed waters in the South Atlantic, and HMS Hydra in the Red Sea and Indian Ocean.

THE SERVICES WITHIN THE COMMUNITY

The Defence Estate

510. We are determined that the Defence Estate should be kept to the minimum necessary size; and there is accordingly a substantial long-term programme for the disposal of surplus land and buildings, including some large individual properties, as the Services' force structure changes. The Defence Estate was reduced by 1562 hectares during the year ended 30 September 1983, with a further 3,000 hectares awaiting disposal. There will, however, be a need to acquire additional training land as it becomes available in view of the inadequacy of facilities at present available in the United Kingdom; but such acquisitions will be limited to those required for operational and other essential purposes.

511. One major reduction of the Estate recently effected was the disposal of the commercial area of Chatham Dockyard, which closed on 31 March. The Medway (Chatham) Dock Co began operating on 1 January; English Estates have taken over most of the land and buildings, and a variety of commercial enterprises have already moved in. We have announced the creation of a Trust for the historic part of the Dockyard. Some small commercial enterprises are already in operation in the former Ropery and Sail and Colour Loft. An endowment of £11 million will allow the proper maintenance of the many scheduled buildings, and the development of a "living dockyard". This will involve retaining as many buildings as possible in their original uses, converting others to suitable new activities, and opening the whole to the public.

Conservation

512. As a major United Kingdom landowner, the Department is well aware of the responsibilities that go with this position; and in November 1983 we mounted a special exhibition to publicise conservation being undertaken on the Department's land. Ministry of Defence property includes all types of habitat, supporting practically every rare and uncommon species left in Britain. The conservation task is therefore considerable. The aim is to record and monitor all wildlife, and all sites of historical, archaeological, geological and scientific importance, and on that basis make proposals for an eventual long-term land management plan. To this end, Voluntary Conservation Groups have been established involving Ministry of Defence and Property Services Agency members working at the site, and representatives from the Nature Conservancy Council and other naturalist, sporting, amenity or recreational groups. Sub-groups cover the specific interests of the particular site, such as

ornithology, botany, entomology, archaeology and deer management. There are currently 179 groups involving over 4,000 volunteers.

513. Conservation responsibilities extend to the South Atlantic, too. The Ministry of Defence Conservation Officer briefs all units deploying to the Falklands. Considerable care is being taken to minimise the ecological impact of the new Mount Pleasant Airfield. The consultant's report completed in late 1983 suggests that this impact will be small. A thorough survey of the Falklands wildlife has been undertaken, including a comprehensive report of the reindeer of South Georgia. In Ascension Island, specific arrangements have been made to protect the turtles by fencing off areas of beach where sand is to be removed for construction work. The Royal Botanical Gardens, Kew, will be conducting a survey of the plants and the three Service Bird Societies will monitor the bird species. A careful check is maintained to control all species introduced to the island.

Heritage

514. The history of our Armed Forces is an important part of the nation's heritage. In recognition of this, the Government gives annual support of over £4 million to museums displaying the achievements and traditions of the Services, which attract some 5½ million visitors annually. Support need not mean close central control; and the National Heritage Act 1983 includes provisions enabling changes to be made in the present relationship between the Ministry of Defence and the Armed Forces Museums, aimed at giving the Boards of Trustees of the larger Service Museums greater control over the

staffing, financing and development of their museums. The provisions of the Act came into effect for the National Army Museum on 1 April 1984.

515. One project of particular interest is the development of a Maritime Heritage Area at Portsmouth in the south-west corner of the Naval Base. A number of Trusts representing historic ships such as the Warrior, (the first ironclad warship) and Henry VIII's Mary Rose and the Royal Naval Museum are involved, and will be discussing the way forward with the Ministry of Defence. There is, however, already much to see of historic interest in the Naval Base: the Royal Naval Museum and Nelson's HMS Victory, still the flagship of the Commander in Chief Naval Home Command, have long been at the heart of the complex of ancient buildings, with Victory attracting over 450,000 visitors a year. In addition, the Mary Rose Trust have now put the Mary Rose on view to the public close to the Victory, and are developing one of the boat-houses in the Heritage Area as a Tudor Ship Museum to house the various implements, from 16th century arrows to a surgeon's syringe, found in the wreck.

Relations With The Media

516. Relations with the media are an aspect of the Armed Forces' relations with the wider civil community to which we have been paying particular attention since the Falklands conflict. With the aim of minimising the problems that could arise at a time of armed conflict, members of the media were invited to participate as exercise war correspondents in the 1st Armoured Division's exercise ETERNAL TRIANGLE held in Germany in October last year. The experiment was a success and the lessons learned will be incorporated into Ministry of Defence guidelines on the subject. These guidelines will

also need to take account of the recent report (Cmnd 9112) of the Study Group on Censorship chaired by General Sir Hugh Beach. The report's recommendations are now being studied, and we shall announce decisions on them in due course.

Armed Services Youth Training Scheme

517. The purpose of the Armed Services Youth Training Scheme, like the civilian YTS which it closely parallels, is to contribute to the opportunities available for young unemployed people to gain work experience. It is open to 16 and 17 year olds. Trainees have to be eligible for the civilian YTS as well as meeting the normal entry standards of the Armed Forces. The first courses started in September and by 1 April 1984 just over 1,900 places had been made available. Over 3,000 applications had been received, of which nearly 700 had been accepted for the scheme. Trainees are taken on as members of the Armed Forces on special one-year engagements. All participants in the scheme complete a period of basic training and then go on to specialised trade training or gain work experience in the Services. Results so far achieved have been impressive, with high standards attained by many of the trainees and a low rate of drop-out.

ANNEX A

THE BALANCE OF FORCES BETWEEN EAST AND WEST

1. Drawing up an accurate picture of the military balance between the Warsaw Pact and NATO is a complex matter. A complete assessment of the global power balance would involve taking into account forces deployed world-wide; both the United States and the Soviet Union, for example, maintain substantial forces in Asia whose existence and roles are of indirect but nonetheless considerable importance to the military situation in Europe. Even if attention is confined to the European theatre, a numerical comparison of forces can never constitute a complete assessment of the military balance. Many other factors can affect NATO's capability to deter and defend, or conversely the Soviet leadership's assessment of the strength of NATO's forces. The quality of men - their morale and motivation, their standard of training, the way they are led - is both crucial and unquantifiable. Equally important is the quality of the equipments they use; factors such as range, reliability, technical sophistication and age can count for much more than bare numbers. In the case of Soviet dual-capable nuclear delivery systems, it is impossible to determine precisely what proportion might be used in the conventional and nuclear roles. A further consideration is the ability to sustain a conflict, which covers a spectrum of concerns from spares and stocks at the front to the underlying national economic and industrial base. Geography, too, cannot be ignored. The Soviet Navy has to face the handicap of widely dispersed bases and restricted egress to the high seas. Conversely, short lines of supply and reinforcement would give the Soviet Union and her Warsaw Pact allies an enormous advantage in any conflict on the continent of Europe.

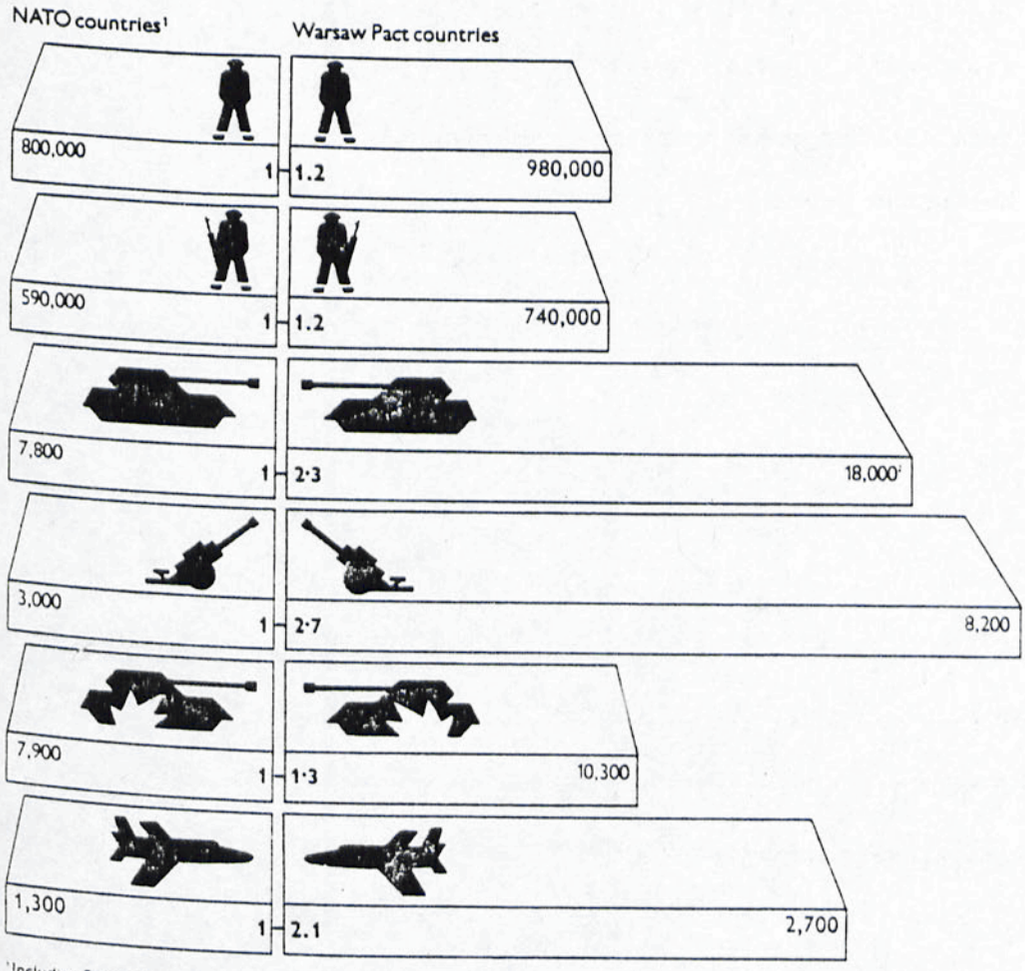
Finally, in any land conflict the attacker, despite the advantage of surprise, would normally require considerable numerical local superiority over the defender; whilst at sea it is the defender who needs the advantage of numbers. These qualifications and limitations must be borne in mind when considering the following summary of the numerical balance of forces between NATO and the Warsaw Pact.

THE CONVENTIONAL BALANCE

Land/Air Forces

2. Figure 9 shows the balance of conventional forces at the end of 1983 on the Central Front. Among the major developments in Warsaw Pact forces, an improved tank has recently appeared with the Soviet forces in Eastern Europe with enhanced firepower and protection. Most Soviet units in Eastern Europe are now equipped with T64 or T72 tanks, and the latter are also starting to appear in the non-Soviet Warsaw Pact inventories. New self-propelled artillery pieces are being introduced to the forward area. There has been a significant increase in the number of heliborne and parachute troops available for operations behind NATO lines, with a doubling in the last four years to 500 of the number of attack helicopters facing NATO in the Central Region. In the area of air power, current generation tactical aircraft have increased range, improved avionics and weapons and better performance and all-weather capabilities than previous models. Two new fighter aircraft have been developed, Fulcrum and Flanker, which have added improvements in range, thrust-to-weight ratio, manoeuvrability and avionics and represent a major step in closing the technological gap with the West. The overall picture remains of

Figure 9 The Current Balance of Forces on the Central Front



[1] Including French Forces in the Federal Republic of Germany but excluding the Berlin garrison, which is not declared to NATO

[2] Includes some Warsaw Pact tanks in training units and storage which would be available for operational use

[3] Only weapons which are, or have the capability of being vehicle or helicopter mounted are included

a significant numerical advantage to the Warsaw Pact in all major aspects of conventional arms.

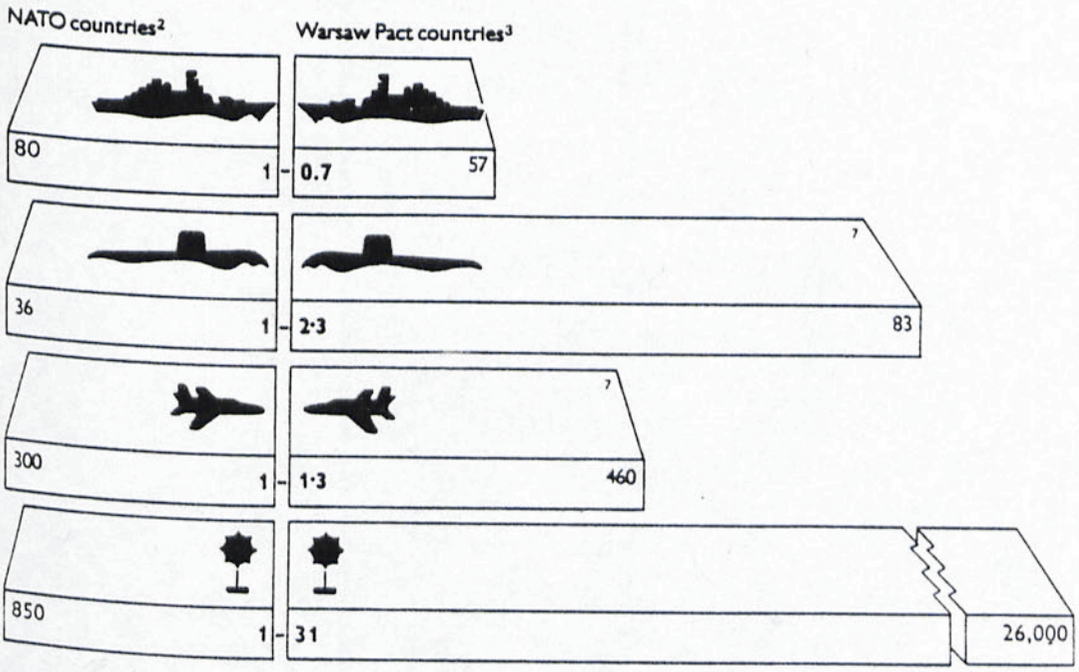
3. To the main categories of armaments should be added chemical weapons. The Soviet Union has a major capability in this field. Continuing research and development and production of chemical weapons is adding to their stockpile, already assessed to include over 300,000 tons of nerve agent. Moreover, Soviet forces are comprehensively equipped and trained to operate in a contaminated environment. Among NATO members only the United States has chemical weapons; but its stocks are much smaller, aging and not declared to NATO.

Maritime Forces

4. Figure 10 illustrates the balance of ready maritime forces in the Eastern Atlantic. Warsaw Pact forces comprise Northern Fleet surface ships, submarines and maritime aircraft and Baltic Fleet maritime aircraft. The figures for NATO include French forces but exclude US Navy ships from the Strike Fleet Atlantic because their availability in the Eastern Atlantic cannot be assumed at the outbreak of hostilities. NATO retains a small numerical superiority in major surface combatants over the Soviet Union in this area. But this advantage, already off-set by Soviet superiority in submarine numbers, is being eroded by the rate of Soviet naval production.

5. Major Soviet surface warships under construction include four new classes of heavily-armed missile cruisers and destroyers, as well as the Kiev class aircraft carriers. Over the past year a second Kirov class nuclear-powered

Figure 10 The Current Balance of Ready Maritime Forces in the Eastern Atlantic[1]



Notes

[1] For the purposes of this diagram the Eastern Atlantic comprises the NATO command areas CHANNEL, EASTLANT and IBERLANT. British Forces normally operate in CHANNEL and EASTLANT but also on occasion in the more southerly IBERLANT

[2] Includes French maritime Forces

[3] Warsaw Pact Forces comprise Northern Fleet surface ships, submarines and maritime aircraft and Baltic Fleet maritime aircraft

[4] Surface ships of frigate size and above

[5] Excludes SSBNs and certain submarines not formally committed to the Eastern Atlantic

[6] Includes helicopters

[7] The threat to NATO is increased by the Warsaw Pact's capability to deploy a total of 350 anti-ship missiles with a range of over 200 km in its ready maritime forces. NATO has no equivalent capability

Figure 11 The Balance of Nuclear Forces[1][2]

Strategic Systems[3]

USSR
- ICBMs: SS11, 13, 17, 18, 19
- SLBMs: SS-N-5, 6, 8, 17, 18, 20
- Bombers: Bear Bison Backfire

NATO[5]
- ICBMs: Titan II, Minuteman 2 & 3
- SLBMs: Poseidon, Trident Polaris (UK)
- Bombers: B52, FB111

Longer Range[4] INF in Europe

USSR
- Aircraft: Badger Blinder
- Missiles: SS4, SS20

NATO[5]
- Aircraft: F111
- Missiles: Pershing II GCLM

Shorter Range[4] INF in Europe

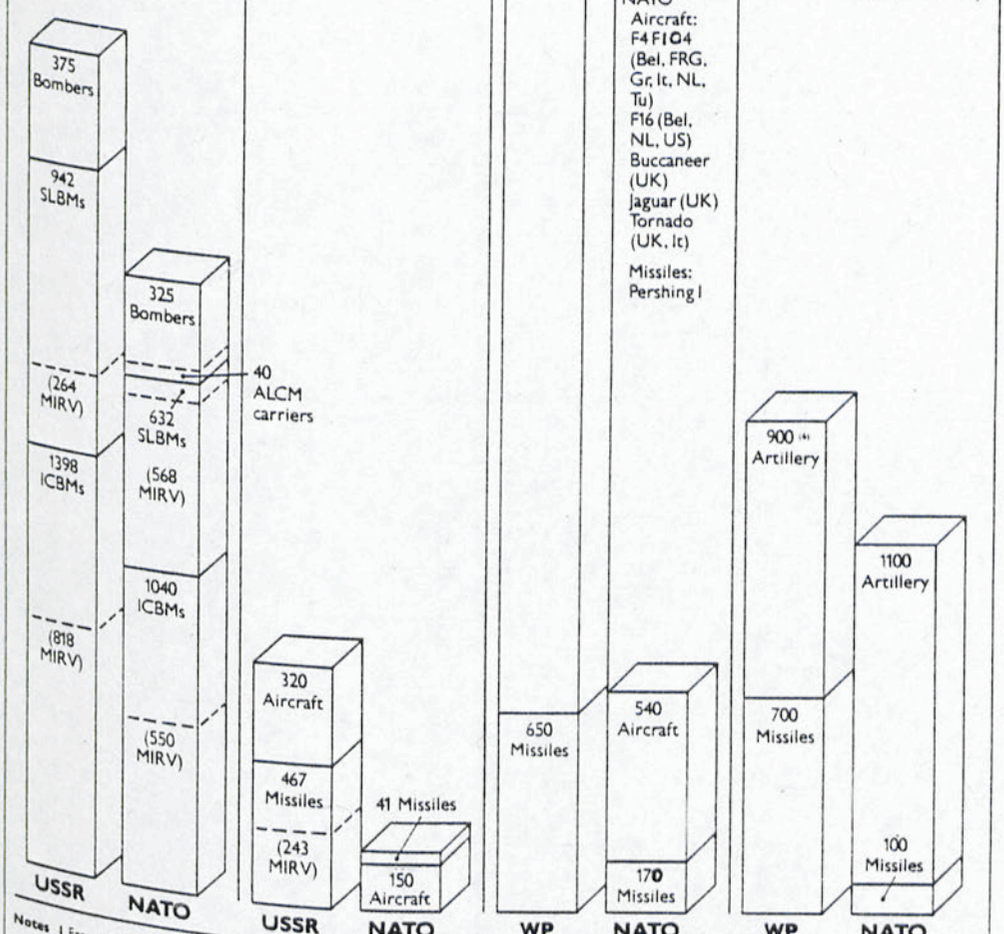
Warsaw Pact
- Aircraft: Fitter Fishbed Flogger Fencer
- Missiles: Scaleboard SS22 Scud/SS23

NATO[5]
- Aircraft: F4 F104 (Bel, FRG, Gr, It, NL, Tu) F16 (Bel, NL, US) Buccaneer (UK) Jaguar (UK) Tornado (UK, It)
- Missiles: Pershing I

Short Range Forces[4] in Europe

Warsaw Pact
- Missiles: Frog/SS21
- Artillery: 203/152/240 mm

NATO[5]
- Missiles: Lance (Bel, FRG, It, NL, UK, US) Honest John (Gr, Tu)
- Artillery: 155 mm (Bel, FRG, Gr, UK, US) 8 in (Bel, FRG, Gr, It, NL, Tu, UK, US)



Notes

1 French systems are not included in this diagram. They comprise 64 SLBM, 18 S3 missiles, 36 Mirage IV bombers and shorter range Mirage IIIA and Jaguar aircraft, and Pluton missiles.

2 The diagram does not include defensive systems such as ABMs or air defence missiles or aircraft.

3 In accordance with NATO practice, strategic forces include operational systems fully within the definition used within SALT II plus the Soviet Backfire and US FB III aircraft which have an inherent inter-continental capability.

4 Intermediate and short-range nuclear forces are land-based systems in Europe from the Urals westward. These figures do not include some 170 aircraft of the Soviet Naval airforce based in the European theatre or some 20 aircraft of NATO airforces which have an anti-ship capability nor do they include sea-based nuclear capable systems on both sides which are normally deployed in the European theatre and which have a land attack capability, e.g. 18 SS-N-5s on Soviet Golf Class Submarines in the Baltic and about 70 A6 and A7 aircraft on US carriers in the Mediterranean.

5 All NATO systems operated by the US except where shown.

6 Includes additional equipments now assessed to have a nuclear delivery potential.

cruiser and further units of both the Udaloy and Sovremenny class destroyers have put to sea, whilst the first of the latest new cruiser type, the Slava, and the third Kiev class carrier Novorossysk both made their first deployments out of the Black Sea. Several new classes of submarines including a successor to the Victor III class attack submarine are in production and a large, nuclear-powered aircraft carrier capable of operating conventional fixed-wing aircraft is likely to appear later in the decade. Meanwhile, the centrally-controlled Soviet merchant and fishing fleets are being steadily upgraded; they are available to compensate for the Soviet Navy's relative lack of logistic support afloat, as well as for other military roles. The Soviet Navy thus continues to enhance its capability as an offensive force capable of global power projection. In response the US government have embarked upon a shipbuilding programme to increase the strength of the US Navy to over 600 ships.

THE NUCLEAR BALANCE

6. The balance of nuclear forces is shown in Figure 11. While the overall balance is not as heavily weighted against NATO as in the case of conventional forces, there are serious disparities in some areas, and the picture is again one of a steadily adverse trend.

Strategic Forces

7. At the strategic level, the Soviet Union has the advantage in numbers of delivery systems. Soviet systems are generally newer than US systems; and the Soviet Union has a considerable advantage in throw-weight (a measure

of destructive potential) and in missile warheads, although the United States retains a small advantage in total warhead numbers. Since 1972 when SALT I was signed the Soviet Union has introduced three new types of Intercontinental Ballistic Missiles (ICBMs) and four new types of Submarine Launched Ballistic Missiles (SLBMs). In the same period the US have deployed only one new SLBM and the Air-Launched Cruise Missile (ALCM). The MX ICBM which the US is planning to deploy from 1986 as part of the modernisation of its strategic nuclear forces will be its first entirely new ICBM since 1970. Other US modernisation plans include the development of the Trident D5 SLBM and procurement of 100 B1 strategic bombers. Meanwhile, the Soviet Union is continuing to modernise its nuclear forces. Delta class nuclear-powered, ballistic missile submarines (SSBNs) equipped with missiles with Multiple Independently Targetable Re-entry Vehicles (MIRVs) are still being built and are replacing the older Yankee and Hotel SSBNs which have single warhead missiles. The Typhoon submarine entered operational service in late 1983 equipped with the new multiple-headed SS-N-20 SLBM. Testing of two new Soviet ICBMs, the SS-X-24 and SS-X-25, is underway. Both could be deployed on mobile launchers. A new strategic bomber, the Blackjack, is also under development. It is similar in configuration to the US B1 bomber but is one-third larger in size.

Cruise Missiles

8. The development and deployment of long-range cruise missiles is one of the more significant developments in the past year. The US are fitting Air-Launched Cruise Missiles (ALCMs) on their strategic bombers and deployment of Sea-Launched Cruise Missiles (SLCMs) on submarines and surface ships is

expected from the middle of this year. The first US ground-launched cruise missiles in Europe have now become operational. Meanwhile, the USSR is actively engaged in a test programme to develop long-range cruise missiles for launch from ground, sea and air platforms. These will be primarily for nuclear strike and have ranges estimated at up to 3000 km. The air- and sea-launched versions have the potential for intercontinental strategic strike, depending on the platforms, while they could all complement Soviet assets in the theatre role. Initial deployments of at least the sea- and air-launched cruise missiles are likely within the next two years. The ALCM will probably be carried initially by a variant of the Bear heavy bomber, followed in the 1990s by Blackjack.

Theatre Nuclear Forces

9. In intermediate-range nuclear forces (INF) there is still a marked imbalance in favour of the Warsaw Pact despite the initial deployment by NATO of Ground-Launched Cruise Missiles (GLCMs) and Pershing II. The Soviet Union has revoked its moratorium on SS20 base construction in the Western USSR and is starting to add to the 243 SS20s at present facing Europe. It has also begun forward deployment of the Scaleboard/ SS22 in Eastern Europe and of Delta Class Strategic missile-firing submarines in the Western Atlantic. Construction of new bases has continued in the Far East and the total number of SS20 missiles now operational worldwide is 378, carrying 1134 warheads. The few remaining obsolete SS5 missiles have now been withdrawn from service but it is unclear whether the rundown of the remaining SS4 missiles will resume with new SS20 deployments or whether they will be maintained at their

present level. Major improvements are taking place in Soviet shorter-range, dual-capable missile systems, with the SS21, SS22 and SS23 missiles replacing or about to replace the older Frog, Scaleboard and Scud missiles. The new or improved missiles can cover ranges of up to 950km and have greater accuracy, better survivability and shorter reaction time than their predecessors. Improvements are also underway in Soviet battlefield nuclear artillery. 152mm guns, both self-propelled and towed, are adding significantly to this capability, as is the recent formation of additional 203 and 240mm heavy artillery brigades. The recent deployment of nuclear-capable artillery into the Forward Area will considerably increase Soviet short-range nuclear options.

ESSAY

SOVIET DEFENCE EXPENDITURE

1. Recently the UK, in consultation with its NATO Allies, completed a major review of the trends in Soviet defence spending since 1970. This essay sets out the main conclusions of the review.

2. The only information on expenditure published by the Soviet Union is a single line entry for 'defence' in the annual state budget. These figures clearly present a totally inaccurate impression of both the scale and trend of defence expenditure and are incompatible with known force levels. Because of this lack of information from Soviet sources we have to estimate the scale and trends in Soviet defence expenditure ourselves. The methodology we favour is known as the 'building-block' or 'direct-costing' approach. This requires that each principal component of defence expenditure be costed separately, whenever possible directly in roubles. To do this we require a detailed understanding of the various components that together make up the Soviet military machine. We prefer this to the main alternative methodology in which Soviet published statistics are analysed to isolate 'hidden' military expenditure. The assumptions required by this latter method are such that we consider it to be less reliable.

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3. Our studies have concluded that Soviet defence spending is some five times higher than the published figure and constitutes 14-16% of GNP. Total outlays have increased very substantially in real terms over the period 1970-1982. But since the mid-1970s the rate of increase has apparently not sustained the rapid momentum of the first half of the decade: we estimate the annual rate of growth up to the mid-1970s to have been about 4%, but in the subsequent years it was more than halved, mainly as a result of a reduction in the rate of procurement growth. (As usual, the evidence for the most recent years of the estimate is still under review).

4. We do not believe that any one factor explains the trend. But it is clear that, as in the West, the defence sector cannot be considered in isolation from the rest of the economy. It is significant that the slowdown in procurement growth coincided with a decline in the rate of growth of the Soviet economy as a whole. Soviet economic problems since the mid-1970s have been severe and it is possible that the leadership was unable entirely to isolate the defence sector from them. More recently another important factor has been the slackening in expenditure as a result of the simultaneous running-down of a large number of long-established weapons programmes, while the successor systems have not yet reached similar levels of production. Neither is there any evidence of a formal decision by the leadership to reduce the rate of growth as an

act of policy (though it is possible that the procurement of some strategic missile systems may have been reduced as a result of the ceilings specified in the SALT agreements).

5. Despite the slowdown in growth, the burden of defence spending has remained extremely high by any standards. 14-16% of GNP is at least double the figure for the United States, the highest in the Alliance. It has been estimated that military requirements absorb a third of the output of the important machine-building and metal-working sector. The defence industries thus deprive the civil sector of scarce resources, particularly highly skilled manpower. Unlike the West, there is little spin-off from technical advances in the defence sector into the civil economy, and this preemption of key resources for defence thus inhibits general economic development.

6. It is not clear whether the recent slackening in the growth of Soviet military expenditure represents a long term trend or not. The Soviet leadership may recognise that any sharp increase in expenditure could exacerbate existing economic problems, and would therefore prefer to keep the growth of defence spending in line with the rest of the economy. On the other hand, not only is there a large number of weapon systems at the research and development stage but defence production

facilities also continue to expand. On balance a re-acceleration in Soviet Defence expenditure seems to be the more likely.

7. It is important to stress that even zero growth of the present massive allocation to defence would still ensure sufficient resources for the procurement of large quantities of new military equipment, an increasing proportion of which will be accounted for by technologically more advanced systems. Annex A has described the wide range of new equipment already entering service and all sectors of the defence industry are already producing new weapons systems or preparing for their introduction. The scale of current investment in defence confirms the continuing commitment of the Soviet leadership to military power.

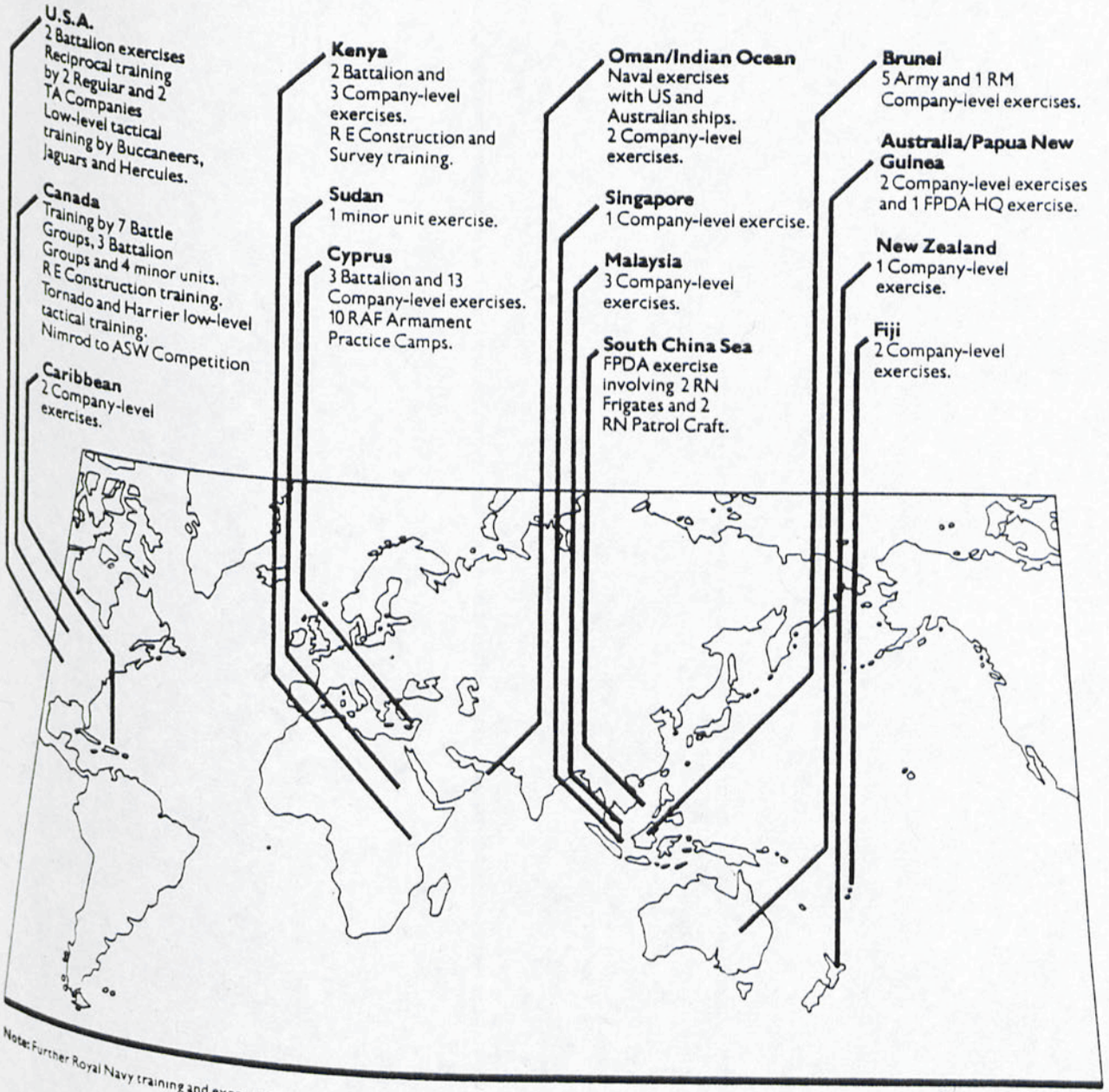
ANNEX B

EXERCISES

1. The Armed Services took part in a wide variety of training activities both within and outside the NATO area during 1983. The exercise programme includes purely national training periods as well as exercises in conjunction with our NATO allies and with other friendly countries. Exercises conducted outside of the NATO area are shown at figure 12.

2. Along with other NATO nations the United Kingdom contributes a contingent to the Allied Command in Europe Mobile Force (AMF) headquartered at Seckenheim in Germany. The AMF conducted two major exercises during 1983, with the United Kingdom land element of the AMF, plus RAF support helicopters, deploying to Turkey and to Denmark. The latter exercise included a Royal Marines Commando Group acting as an enemy force and the deployment of 2 UK-based RAF Jaguar squadrons to Danish airfields. These exercises successfully demonstrated the versatility of the AMF and its ability for rapid deployment. In Summer 1983 we contributed two carriers, eight frigates, two submarines, eleven smaller vessels and twelve squadrons of aircraft to the major NATO exercise OCEAN SAFARI, which was designed to test Alliance plans for the protection of the transatlantic sea routes. We also made a major contribution to the maritime and amphibious exercise DISPLAY DETERMINATION in the Mediterranean by providing two aircraft carriers including one with an embarked Royal Marines Commando Group, three frigates, one submarine and maritime patrol aircraft. This exercise demonstrated publicly NATO's ability to reinforce and defend the Southern Flank.

Figure12 Exercises Outside Europe in 1983



Note: Further Royal Navy training and exercises were carried out in the course of the 1983/84 task group deployment – see Fig 8

3. Our national exercises are of a varied nature. 5 Airborne Brigade's capacity for intervention operations outside the NATO area was tested in Exercise WINGED VICTORY, held in Scotland last Autumn. RAF elements participated, and a successful initial exercise was included for the Joint Force Headquarters which would command UK forces committed to action outside the NATO area. RAF Tornado aircraft practised low-level flying techniques in Canada where vast unpopulated areas and uncluttered airspace provide an excellent environment for this training. The annual Royal Navy fleet exercise SPRINGTRAIN was conducted in the East Atlantic in April and involved 12 RN vessels including HMS Invincible, and RAF Buccaneer and Nimrod aircraft. Exercise ETERNAL TRIANGLE practised BAOR's 1st Armoured Division in defensive operations; the Division was reinforced for the exercise by Territorial Army elements. The exercise also included the participation by members of the media as war correspondents (as described in paragraph 516).

4. In February - March 1983, a group of seven Royal Navy warships headed by HMS Invincible, with afloat support, deployed to the Caribbean where it exercised with the US Navy and other friendly navies as well as undertaking weapons training and a number of visits. After participating in the NATO Exercise DISPLAY DETERMINATION, HMS Hermes visited Alexandria during which she exercised with Egyptian ships and aircraft and her embarked Royal Marines Commando Group conducted joint training with the Egyptian Army. We also participated in exercises held under the auspices of the Five Power Defence Arrangements; frigates from our Indian Ocean patrol joined naval forces from Australia, Malaysia, New Zealand, and Singapore in the naval exercise STARFISH held in the South China Sea. Forces from our Garrison in

Hong Kong joined with Army units from the other partner nations in the land exercise PLATYPUS held in Australia.

ANNEX C

STRENGTH OF THE FLEET

Table 1. Ships of the Royal Navy

All ships at Serials 1 to 7, the Island class at Serial 8, and three of the Ton Class minehunters at Serial 9 are assigned to NATO. The remaining ships are under national control though available for the support of NATO operations.

Ser	Type/Class	No	Operational or engaged in preparing for service or trials or training	No	Undergoing restorative or major refit or conversion, on standby etc
1	Submarines				
	Polaris	3	Renown, Repulse, Revenge	1	Resolution
	Fleet	10	Valiant, Warspite, Churchill, Courageous, Swiftsure, Sceptre, Spartan, Splendid, Trafalgar, Turbulent*	3	Conqueror, Superb Sovereign
	Oberon Class	8	Orpheus, Oberon, Otter, Oracle, Ocelot, Osiris, Opossum, Opportune	4	Odin, Olympus, Onslaught, Onyx, Otus
	Porpoise Class	2	Sealion, Walrus		
2	ASW Carrier	2	Invincible, Illustrious		
3	ASW/Commando Carriers	1	Hermes ≠		
4	Assault Ships	1	Fearless ≠	1	Intrepid
5	Guided Missile Destroyers				
	County	3	Glamorgan, Fife, Antrim		
	Type 82	1	Bristol		
	Type 42	12	Birmingham, Cardiff, Newcastle, Glasgow, Exeter, Southampton, Nottingham, Liverpool, Manchester, Gloucester*,		

Ser	Type/Class	No	Operational or engaged in preparing for service or trials or training	No	Undergoing restorative or major refit or conversion, on standby etc
	Type 42 (Contd)		Edinburgh*, York*		
6	Frigates				
	Type 22	6	Broadsword, Battleaxe, Brilliant, Brazen, Boxer, Beaver*		
	Type 21	5	Active, Ambuscade, Arrow, Alacrity, Avenger	1	Amazon
	Leander Class	22	Leander, Ajax, Galatea, Naiad, Aurora, Euryalus, Arethusa, Cleopatra, Phoebe, Sirius, Argonaut, Minerva, Danae, Penelope, Andromeda, Charybdis, Achilles, Diomede, Apollo, Ariadne, Hermione, Jupiter	2	Scylla, Juno
	Rothesay Class	6	Rothesay, Plymouth, Yarmouth, Lowestoft, Berwick, Falmouth		
	Type 12	1	Torquay		
7	Offshore Patrol				
	Island Class	7	Alderney, Anglesey, Guernsey, Jersey, Lindisfarne, Orkney, Shetland		
	Castle Class	2	Dumbarton Castle, Leeds Castle		
8	MCMVs				
	Minesweepers Ton Class	13	Alfriston, Bickington, Crichton, Cuxton, Hodgeston, Lewiston, Pollington, Shavington, Soberton, Stubbington, Upton, Walkerton, Wotton		

Ser	Type/Class	No	Operational or engaged in preparing for service or trials or training	No	Undergoing restorative or major refit or conversion, on standby etc
	Fleet	4	Waveney, Carron*, Helford*, Dovey*		
	Minehunters Ton Class	14	Bildeston, Bossington, Brereton, Brinton, Bronington, Gavinton, Iveston, Keddleston, Kellington, Kirkliston, Maxton, Nurton, Sheraton, Wilton	1	Hubberston
	Hunt Class	8	Brecon, Brocklesby, Cattistock, Cottesmore, Dulverton, Ledbury, Middleton*, Chiddingfold*		
	Hovercraft			1	BH7
9	Patrol Craft				
	Bird Class	4	Cygnet, Kingfisher, Peterel ≠, Sandpiper ≠		
	Loyal Class	2	Alert, Vigilant		
	20m Class	5	Attacker, Fencer, Hunter, Chaser, Striker		
	Coastal Patrol Craft	5	Beachampton, Monkton, Wasperton, Wolverton, Yarnton		
	Peacock Class	3	Peacock, Plover, Starling*		
	Falkland Islands Patrol Vessels	3	Protector, Guardian, Sentinel		
10	Support Ships				
	Submarine Tender	1	Wakeful		
	MCM Support Ship	1	Abdiel		
	Seabed Operations Vessel	1	Challenger*		

Ser	Type/Class	No	Operational or engaged in preparing for service or trials or training	No	Undergoing restorative or major refit or conversion, on standby etc
11	Royal Yacht/ Hospital Ship	1	Britannia		
12	Training Ships				
	Ex Survey Vessels	2	Waterwitch, Woodlark		
	Fleet Tenders	4	Manly, Mentor, Messina, Millbrook		
13	Ice Patrol Ship	1	Endurance		
14	Survey Ships	12	Beagle, Bulldog, Echo, Egeria, Enterprise, Fawn, Fox, Hecate, Hecla, Herald, Hydra, Gleaner		

Notes:

(i) This table includes ships due for completion or disposal during the course of 1984/85 and the numbers of each type are not therefore an accurate indication of the ships available at any one time. It does not include those ships solely engaged in harbour training duties.

(ii) Ships marked * will be under construction on 1 April 1984 and are planned to enter service during 1984/85.

(iii) Ships marked ≠ are engaged partially on trials or training.

(iv) Ships approved during 1983/84 for disposal:

Dido, Rhyl, Londonderry, Gurkha, Tartar, Zulu, St David, Venturer, Crofton, Droxford.

Table 2. Ships of the Royal Fleet Auxiliary Service - Strength at 1 April 1984

Ser	Type	No	Operational, preparing for service or engaged in trials	No	Refit
1	Fleet Tankers, Large	4	Olna, Olmeda, Tidespring, Olwen		
2	Fleet Tankers, Small	5	Green Rover, Blue Rover, Black Rover, Grey Rover, Gold Rover		
3	Support Tankers (i)	5	Bayleaf, Pearleaf, Plumleaf, Appleleaf, Brambleleaf		
4	Fleet Replenishment Ships	4	Regent, Resource, Fort Grange, Fort Austin		
5	Helicopter Support and Supply Ship	1	Reliant		
6	Helicopter Support Ship	1	Engadine		
7	Landing Ships, Logistic (ii)	5	Sir Lancelot, Sir Percivale, Sir Geraint, Sir Caradoc, Sir Lamorak,	1	Sir Bedivere
8	Forward Repair Ship	1	Diligence		

Notes:

(i) MV Balder London has been chartered and, after conversion, will replace RFA Pearleaf.

(ii) Sir Caradoc and Sir Lamorak are interim replacements for Sir Tristram and Sir Galahad.

(iii) RFA Stromness has been sold.

Table 3. Royal Marines Commando Forces

Ser	Type	No	
1	Headquarters		
	Commando Brigade Headquarters RM	1	
2	Commandos		
	RM Commandos	3	
3	Artillery		
	Commando Regiment RA	1	
4	Engineers		
	Commando Squadron RE	1	
	Commando Squadron RE (Volunteer)	1	
5	Light Helicopter Support		
	Brigade Air Squadron RM	1	
6	Logistic Units		
	Commando Logistic Regiment RM	1	
7	Special Boat Squadron		
	Squadron RM	1	
8	Raiding Squadrons		
	Squadron RM	2	
	Squadron RMR	1	

Table 4. Naval Aircraft

Ser	Type	Role	Deployment	Squadron No	No of Flights
1	Fixed Wing				
	Sea Harrier	FRS	CVS	800	
	Sea Harrier	FRS	CVS	801	
	Sea Harrier	Aircrew Training	RNAS Yeovilton	899	
2	Jetstream Mk 2	Aircrew Training	RNAS Culdrose	750	
3	Helicopters				
	Sea King Mk 5	ASW	Falklands Garrison	826	
	Sea King Mk 5	ASW	CVS	814	
	Sea King Mk 5	ASW	CVS	820	
	Sea King Mk 5 and Sea King Mk 2 (AEW)	ASW/AEW	RNAS Culdrose (ii)	824	
	Sea King Mk 2	ASW	HMS Gannet (Prestwick)	819	
	Sea King Mk 2 (iii)	Aircrew Training	RNAS Culdrose	706	
	Sea King Mk 5	Aircrew Training	RNAS Culdrose	810	
	Sea King Mk 4 (iv)	Cdo Assault	RNAS Yeovilton	846	
4	Lynx Mk 2/3	ASVW/ASW	RNAS Portland	815	
			Leander Class, Type 21 and Type 22 frigates and Type 42 and County Class destroyers		35
	Lynx Mk 2/3	Aircrew Training	RNAS Portland	702	
5	Wasp	Aircrew Training	RNAS Portland	829	
		ASW	Leander and Rothesay Classes		17
		Hydrography and Aerial Photography	Ocean Survey Ships and HMS Endurance		5
6	Wessex Mk 5 (iv)(v)	Cdo Assault	RNAS Yeovilton	845	
	Wessex Mk 5 and Seaking Mk 4	Aircrew Training	RNAS Yeovilton	707	
	Wessex Mk 5	SAR	RNAS Culdrose	771	
	Wessex Mk 5	Fleet Requirements and SAR	RNAS Portland Lee-on-Solent	772	
7	Gazelle Mk 2	Aircrew Training	RNAS Culdrose	705	

Notes:

(i) All the above aircraft, are declared to NATO.

(ii) Aircraft of this squadron will be deployed in single and multi flights as required.

(iii) These squadrons are being re-equipped with Sea King Mk 5 during 1984/5

(iv) These squadrons are available to embark as required.

(v) This squadron also provides single aircraft flights to Royal Fleet Auxiliary Fleet Replenishment Ships and maintains a detachment on Ascension Island for search and rescue.

Abbreviations:

AEW - Airborne early warning.
ASW - Anti-submarine warfare.
ASVW - Anti-surface vessel warfare.
CVS - Anti-submarine carrier.
FRS - Fighter, reconnaissance and strike.
RNAS - Royal Naval Air Station.
SAR - Search and rescue.

ANNEX D

STRENGTH OF THE ARMY

Major Combat Headquarters and Combat Arm Numbers (i)

	Regular Army				TA
	BAOR	Berlin	UK	Elsewhere	UK
Headquarters					
Corps Headquarters	1				
Armoured Divisional Headquarters	3				
Infantry Divisional Headquarters			1		
Artillery Divisional Headquarters	1				
Brigade Headquarters	8	1	16		
Field Force Headquarters				1(ii)	
Armour					
Armoured Regiments	10		3(iii)		
Armoured Reconnaissance Regiments	3		3		5(iv)
Artillery (v)					
Field Regiments (incl one Commando Regt)	9		5		2
Heavy Regiments	2				
Missile Regiments	1				
Guided Weapon Regiments			1		
Air Defence Regiments	2		1		3
Locating Regiments	1				
Engineers					
Engineer Regiments	5		4	1(vi)	7
Armoured Engineer Regiments	1				
Amphibious Engineer Regiments	1				
Infantry					
Battalions	13	3	31	3	35
Gurkha Battalions			1(vii)	5	
Special Air Service Regiments			1		2
Army Air Corps (viii)					
Regiments	3		1		
Corps Squadrons	1				
Honourable Artillery Company Regiments					1

Notes:

(i) Normal deployment locations as at 1 April 1984 are shown; no account is taken of temporary or emergency deployments.

(ii) Gurkha Field Force.

(iii) Includes 2 training regiments at Bovington and Catterick.

(iv) 2 armoured regiments and 3 light reconnaissance regiments.

(v) Artillery unit equipments consist of:

Field Regiments - depending on role, 105 mm light guns, 105 mm self-propelled (SP) guns, 155mm FH70 towed howitzers and 155mm SP guns.

Heavy Regiments - 175 mm SP guns and 8 inch SP howitzers.

Missile Regiments - Lance.

Guided Weapon Regiments - Blowpipe and 105 mm light guns.

Air Defence Regiments - Rapier and Blowpipe.

(vi) Queen's Gurkha Engineer Regiment. An additional Gurkha Engineer Squadron is stationed at the Royal School of Military Engineering, Chatham.

(vii) Includes two additional companies one each at the Royal Military Acadamy, Sandhurst, and at the NCO Tactics Wing, School of Infantry, Brecon.

(viii) Aircraft types are:

Beaver
Alouette
Scout
Lynx
Gazelle

ANNEX E

STRENGTH OF THE ROYAL AIR FORCE

Front Line Units (i)

Serial	Role	Aircraft or Equipment	UK	RAF(G)
1	Strike/Attack (ii)	Tornado GR1	9 Squadron 27 Squadron 617 Squadron	15 Squadron 16 Squadron
		Buccaneer	12 Squadron 208 Squadron	
		Jaguar		14 Squadron 17 Squadron 20 Squadron 31 Squadron
2	Offensive Support	Harrier	1 Squadron	3 Squadron 4 Squadron(v)
		Jaguar	6 Squadron 54 Squadron	
3	Maritime Patrol	Nimrod MR	42 Squadron 120 Squadron 201 Squadron 206 Squadron	
4	Reconnaissance	Canberra PR9	1 PRU (ii)	
5	Air Defence	Jaguar	41 Squadron	2 Squadron
		Lightning	5 Squadron (iii) 11 Squadron (iii)	
		Phantom FG1	43 Squadron 111 Squadron (iii)	
		Phantom FGR2	29 Squadron 56 Squadron (iii)	19 Squadron (iii) 92 Squadron (iii)
		Bloodhound	25 Squadron (iii) 85 Squadron (iii)	

Serial	Role	Aircraft or Equipment	UK	RAF(G)
		Rapier	27 Squadron RAF Regiment (iii) 48 Squadron (iii) RAF Regiment	16 Squadron RAF Regiment(iii) 26 Squadron RAF Regiment(iii) 37 Squadron RAF Regiment(iii) 63 Squadron RAF Regiment(iii)
6	Airborne Early Warning	Shackleton	8 Squadron	
7	Air Transport	VC10	10 Squadron	
		Hercules	24 Squadron 30 Squadron 47 Squadron 70 Squadron	
		Chinook Helicopters	7 Squadron	18 Squadron
		Wessex Helicopters	72 Squadron	
		Puma Helicopters	33 Squadron	230 Squadron
8	Tankers	Victor K2	55 Squadron 57 Squadron	
		VC10 K2/3	101 Squadron	
9	Search and Rescue	Sea King Helicopters	202 Squadron	
		Wessex Helicopters	22 Squadron	
10	Ground Defence	Light Armour /Infantry Weapons	2 Light Armour Squadron RAF Regiment 15 Light Armour Squadron RAF Regiment	1 Squadron RAF Regiment

Serial	Role	Aircraft or Equipment	UK	RAF(G)
			51 Light Armour Squadron RAF Regiment 58 Light Armour Squadron RAF Regiment 2503 (County of Lincoln) Field Squadron R Aux AF Regiment (iv) 2620 (County of Norfolk)Field Squadron R Aux AF Regiment (iv) 2622 (Highland) Field Squadron R Aux AF Regiment (iv) 2623 (East Anglian) Field Squadron R Aux AF Regiment (iv) 2624 (County of Oxford) Field Squadron R Aux AF Regiment (iv) 2625 (County of Cornwall) Field Squadron R Aux AF Regiment (iv)	

Notes:

(i) This table shows normal deployment locations as at 1 April 1984. All frontline aircraft, together with certain training and communications aircraft, are assigned to NATO or could be made available in support of NATO operations. Additionally, at 1 April 1984 normal deployment outside the NATO area was as follows:

a. Falkland Islands. Phantoms, Harriers, Hercules, Chinook helicopters, Sea King helicopters and Rapier. Victor and Hercules aircraft are also deployed to Ascension Island for the Falklands airbridge.

b. Cyprus. One squadron of Wessex helicopters and one RAF Regiment squadron.

c. Hong Kong. One squadron of Wessex helicopters.

d. Belize. One flight of Harriers, one of Puma helicopters and a half squadron Rapier of RAF Regiment.

(ii) PRU - Photo Reconnaissance Unit.

(iii) These are forces under NATO command.

(iv) R Aux AF - Royal Auxiliary Air Force.

(v) Also has Reconnaissance role.

ANNEX F

DEFENCE INDUSTRY

UK-based MOD contractors paid £5M or more by MOD for equipment 1982/3

Over £100 Million

British Aerospace PLC (Aircraft Group)
British Aerospace PLC (Dynamics Group)
British Shipbuilders
Ferranti PLC
The General Electric Co PLC
The Plessey Co PLC
Rolls Royce Ltd
Royal Ordnance Factories
Westland PLC

£50-100 Million

BL PLC
General Motors Ltd
Hunting Associated Industries PLC
Racal Electronics PLC
Thorn EMI PLC

£25-50 Million

Dowty Group PLC
Guest, Keen & Nettlefolds PLC
Lucas Industries PLC
Marshall of Cambridge (Engineering) Ltd
Oerlikon Buerle Holdings Ltd
Philips Electronic & Associated Industries PLC
Pilkington Bros PLC
Short Bros Ltd
UKAEA
United Scientific Holdings PLC
Vickers PLC

£10-25 Million

British Electric Traction PLC
BTR PLC
Cable & Wireless PLC
Cambridge Electronic Industries PLC
Dickenson Robinson Group PLC
Dunlop Holdings Ltdd
Hawker Siddeley Group Ltd
ITT (United Kingdom) Ltd
Matheson & Co Ltd
Raytheon Co
Singer Co (UK) Ltd

Smiths Industries PLC
The Weir Group Ltd

£5-10 Million

Airtech Ltd
Bell & Howell Ltd
Chloride Group Ltd
David Brown (Holdings) Ltd
Flight Refuelling (Holdings) Ltd
Goodyear Tyre & Rubber Co
Gresham Lion Ltd
Hewlett Packard
ICL PLC
Marlborough Communications Ltd
RCA Ltd
Remploy Ltd
Saft (Unitd Kingdom) Ltd
Sandbach Engineering Co
Schlumberger Ltd
Siemens Ltd
S Pearson & Co Ltd
The Throgmorton Trust Ltd
Vantona Group Ltd
Western Scientific Holdings Ltd
Wilkinson Sword Group Ltd
Yarrow & Co Ltd

Note: Within each financial bracket, contractors are listed in alphabetical order.

ANNEX G

AIRCRAFT ACCIDENTS

Accidents involving loss or serious damage to aircraft of the three services 1 January 1983 to 31 December 1983

Date	Aircraft	Parent Service	Service Casualties		Civilian Casualties	
			Killed	Serious Injury	Killed	Serious Injury
21 Jan	Sea Harrier	RN				
1 Feb	Beaver	Army				
3 Feb	Sea King	RN	1			
23 Feb	Harrier (2)	RAF	2			
7 Mar	Jaguar	RAF		1		
22 Mar	Harrier	RAF		1		
30 Mar	Jet Provost	RAF		2		
19 Apr	Jaguar	RAF		1		
20 Apr	Gazelle	RAF	2(i)			
3 May	Harrier	RAF		1		
4 May	Lynx	RN		4		
16 May	Hunter	RN				
27 May	Wasp	RN				
11 Jun	Alouette	Army		1		
14 Jun	Sea Harrier	RN				
16 Jun	Jaguar (2)	RAF				
22 Jun	Jaguar	RAF				
24 Jun	Hawk	RAF	2			
27 Jul	Beaver	Army			1(ii)	
29 Jul	Hawk	RAF				
29 Jul	Hawk (2)	RAF		2		
3 Aug	Canberra	RAF	3			
11 Aug	Buccaneer	RAF	1			
26 Aug	Lightning	RAF	1			

Date	Aircraft	Parent Service	Service Casualties		Civilian Casualties	
			Killed	Serious Injury	Killed	Serious Injury
6 Sep	Wasp	RN				
19 Sep	Jaguar	RAF				
27 Sep	Tornado	RAF	1			
29 Sep	Gazelle	Army				
14 Oct	Chipmunk	Army				
17 Oct	Phantom	RAF	2			
19 Oct	Canberra	RAF				
20 Oct	Sea Harrier	RN				
24 Oct	Gazelle	Army				
28 Oct	Harrier	RAF	1			
28 Oct	Tornado	RAF	1	1		
19 Nov	Harrier	RAF	1			
21 Nov	Jet Provost	RAF		1		
7 Dec	Wessex	RN		2		

Notes: (i) Includes 1 Commonwealth student (Brunei)
(ii) Civilian Pilot