

calculations of the Warsaw Pact and to provide added coupling for the US strategic systems to the defence of Western Europe, which gives the UK its special voice in the nuclear counsels of the Alliance; which could work against a weakening of US resolve in crisis or war; and which could serve as a focus of European strength and cohesion in case of any long-term decline in the US guarantee.

4. However, this purpose is underpinned by the third, the independent defence of national interests. This is the only purpose which absolutely demands the assured ability to inflict unacceptable damage on the Soviet Union. This capability also represents our insurance should collective security arrangements fail. Without the backing of such an ability, in a fully credible form, the UK's threat to employ nuclear forces in a NATO context would ultimately be a bluff that the Soviet Union could call.

5. We thus regard the second and third purposes, as stated in Part I, to be interdependent. The key quality they demand is credibility, and this is particularly critical to the ultimate deterrent threat of retaliation against a Soviet nuclear assault on the United Kingdom. Part I of the Report, rightly in our view, says that credibility resides partly in the material and organisational ability to mount an unacceptably damaging strike whatever the conditions, and partly in the will to do so. These two factors support each other; and the combination of them must sufficiently impress the Soviet Union to ensure deterrence. We would add only that Soviet leaders now, and probably in the future, are realists: while they will make due allowances for the uncertainties that surround nuclear matters, they will not be impressed - or deterred - by strategic systems that have a very

low chance of inflicting unacceptable damage against the defensive measures of the day.

6. The section of Part I headed "Political Status and Influence" does, of course, deal with politico-military matters rather than purely political ones. We think it worth recording our view that some of the objectives, such as working "in the context of general and complete disarmament, for the eventual elimination of nuclear weapons" are set too far in the future to have any realistic bearing on the medium term modernisation of UK strategic systems.

7. Our main comment on this section, however, concerns the politico-military effect of withdrawal from the strategic military scene. The shock to the Alliance and to the UK/US relationship, and the reduction in the UK's politico-military influence in Europe, are well expressed in paragraph 32 of Part I. At present the UK's leverage within the Alliance is mainly at the high-quality end of the military scale; its economic position is weak, some of its post-Imperial problems are embarrassing, its major European allies could argue that its geographical position is no more crucial than their own, and it contributes forces which, though of high quality, are not numerically large. The renunciation of the most powerful element of the UK's military strength would, therefore, have particularly important, and detrimental, effects both on the Alliance and on the UK's influence within it.

8. The effect on the structure and posture of UK forces generally is harder to predict. We think it likely that there would be an erosion of the UK's capacity to produce nuclear weapons, so that eventually independent theatre as well as strategic capacity could be lost. But we expect that the size

and shape of the other components of the British armed forces would evolve broadly in the way now planned; we would not, for example, envisage any attempt to compensate for the loss of UK strategic power and influence by the introduction of large numbers of conscript troops, but rather that the quality of conventional forces would be increased to the extent that UK's economic strength allowed. We would expect some reduction in UK higher command and staff appointments in NATO with a consequent loss of influence.

9. Our assessment can, perhaps, best be summed up by saying that given the post-war trend of UK military capability, renunciation of the strategic deterrent would probably result well before the turn of the century in a British position within the Alliance below that at present occupied by Germany and leave France as the only Western European nation with a strategic deterrent system.

CRITERIA FOR DETERRENCE

10. Part II of the Duff/Mason Report discusses criteria for the effectiveness of a UK strategic nuclear deterrent, derived from the key purposes of providing a second centre of NATO nuclear decision-making and a capability for the independent defence of UK national interests. The objective would be to deploy an independent capability which has a high probability of inflicting unacceptable damage on the Soviet Union. The unacceptability of such damage could be measured, first, by its relationship to any potential Soviet gain from aggression; and secondly, in relation to its effect on the Soviet Union's ability to compete with other superpowers. The UK could therefore threaten functions of key importance to the Soviet State; or cities as a whole; or a combination of the two. Part II derives four illustrative

options which the authors believe would be judged unacceptable.

They are:-

[a.]

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11. The damage criteria are, as Part II states, illustrative. However they do by implication become the measure against which future requirements are to be judged and it is therefore necessary that they should stand up to rigorous examination. We believe that when subjected to such examination they show certain defects.

12. It is stated in paragraph 12 of Part II that in the view of the authors any one of the options would constitute an unacceptable level of damage. If this is so, in all conceivable circumstances, then the least demanding of the options automatically becomes the governing one. In our view, the position is nothing like so simple. There will be many circumstances, particularly in situations of advanced escalation, where UK strategic forces capable only of Option 3b [] would be insufficient to deter a Soviet strike aimed at, say, knocking the UK out of a war. The Soviet Union sustained over 20 million casualties in the Second World War and inflicted almost as many on itself between 1930 and 1950; this must give at least a measure

15. Part II also examines criteria, other than those for damage, against which a UK independent deterrent should be judged. These are:

- a. True independence of the capability, sustainable for at least one year if the support of a collaborative partner were withdrawn;
- b. High assurance that it will survive a pre-emptive attack;
- c. Preferably, continuous deployment at early readiness to fire;

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We agree with Part II on these points and do not discuss them further.

SYSTEM OPTIONS AND THEIR IMPLICATIONS

16. Part III of the Duff/Mason Report first establishes the time frame in which a successor system must be brought into service. It goes on to discuss the implications of the damage criteria in terms of warheads to be delivered, and looks at these in the light of the ability of both ballistic and cruise missiles to penetrate defences. It then discusses the threat to launch platforms, concluding that all the alternatives to a submarine platform must be ruled out and that even in the submarine case there may be some growth in vulnerability in the next 30-40 years. A discussion of procurement options follows: of the alternatives of collaboration with the French or procurement from the US, the French is shown to carry more difficulties. Options for missile/platform combinations are then discussed in more detail; the best ballistic missile (BN) solution on technical and cost grounds appears to be a TRIDENT C-4 in a submarine with a modified

Poseidon-type launch system, while a cruise missile (CM) solution would require purpose-built submarine platforms. There would be elements of "UK-uniqueness" in both solutions, but that in the CM solution appears to be much greater. Part III closes with a short section on costs. It is supported by numerous technical annexes.

17. In commenting on Part III, we first point out that many of its technical assessments require further refinement and validation. Re-assessment is unlikely to alter the thrust of the report but it may change details, particularly numbers and dates. With this general reservation, we go on to discuss certain points in the order in which they arise in Part III.

Warheads to be delivered and Delivery Vehicles

18. These interrelated subjects are treated in detail in Annexes B and C of Part III. [REDACTED]

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[REDACTED] In the case of cruise missiles, the requirement for delivered warheads is relatively low for all criteria options because of the CM's accuracy. Here however great uncertainty surrounds the question of how many missiles are required to give sufficient penetration of defences.

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The area of uncertainty with which the Cruise Missile confronts us is incomparably larger. We do not know, within an order of magnitude, what its capacity to penetrate will be even in the early 1990s. The Soviet Union is accustomed to deploying Surface to Air Missiles (SAMs) in great quantity and their quality is improving; a lookdown shoot-down capability for fighter aircraft is in prospect. The survivable and readily launchable outfit of 300 CM suggested by Part III even for the least demanding damage option is a rough planning figure and in no way a guarantee of meeting the criterion. Given these wide uncertainties in the most critical area of all, we could not responsibly recommend a CM solution.

Launch Platforms

20. We agree with the arguments in Part III, Annex D, which lead to the conclusion that only submarine platforms have the survivability necessary for a sole retaliatory deterrent system. We would in particular point to the arguments against land-based mobile platforms and add that subsequent evidence from the USA has suggested that Ground Launched Cruise Missiles (GLCM) could be pre-empted by a "blanket" nuclear attack on a country as small as the UK. This would not, in theory, detract from the value of GLCM as theatre nuclear weapons, so long as an ultimate UK strategic deterrent in another form existed to deter just such a "blanket" strike.

21. While concurring in the need for a submarine-based solution, and agreeing on cost grounds that no diversification of strategic launch platforms is feasible, we draw attention to the problem of increased submarine vulnerability. No dramatic breakthrough in

ASW is likely but, in spite of further submarine quietening, detections and tracking opportunities will slowly increase over the period. Given this possibility, the need to have two submarines on patrol at all times increases, since the probability of two submarines being under trail simultaneously is and is likely to remain remote.

Procurement Options

22. We agree with the thrust of Part III in its discussion of French and US procurement options. The UK is closely meshed with the US in nuclear matters, and moreover the US has a vastly more advanced and more comprehensive nuclear technology than France. We are conscious of the risks inherent in the present nuclear relationship with the US but can see no alternative to its continuance unless the US were to offer an inadequate successor system, or one so hedged with restrictions that it was no longer truly independent.

Missile/Platform Combinations

23. Our reservations concerning CM as a sole UK strategic deterrent are reinforced when considering how they would be fitted into submarine platforms. Part III's preferred solution in this case would be a force of dedicated nuclear-powered submarines each with 80 CMs. Even this cumbersome arrangement, which would require an entirely new and almost certainly UK-unique design, would require us in our present state of knowledge to plan for four submarines at sea to meet the least demanding of the Damage Criteria. We reiterate that we would not be justified in recommending such a solution, which would be extremely expensive and carry high technical risks. Solutions consisting of a few CMs in existing submarines would be quite inadequate to meet the Damage Criteria: they would be a token "poor man's deterrent", recognised by the

Soviets as such, and they would not deter.

24. On BM systems, which thus emerge as the only candidate solutions, several alternatives exist. We consider that the Part III studies clearly show a need for MIRV technology:

This somewhat narrows the field, and it is further narrowed by the fact that the TRIDENT II D-5 missile is very large and presents submarine design and basing problems with which, in the time available, the UK probably could not cope. Candidates therefore narrow to the TRIDENT-I C-4 missile, and a re-motored and modernised POLARIS A-3 using some TRIDENT technology. For convenience we call this missile the A-4.

25. Of these two contenders, the A-4 could be an elegant solution to the POLARIS A-3 re-motoring problem which may become acute in the mid-1980s. It could also make fewer demands on logistic resources. On the other hand, the A-4 would represent a "UK-unique" solution, although it would have much commonality with C-4, and it could accommodate only 5 MIRVs which might have to be UK-designed. The C-4 is, by contrast, a going concern. It will be going out of production in the US in the mid-1980s but there are advantages in taking the last missiles off a long production line. The missile carries 8 MIRVs: moreover, the MIRV technology, which we believe to be essential to meet the damage criteria, is built in and it would be easier for the US to make such technology available in this context than in any other. We anticipate storage and logistic problems, connected with the adequacy of the facilities at Coulport; these are being studied separately.

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