

'Bombs Away'?

Britain and Nuclear Weapons under New Labour

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Introduction

AS PART OF ITS Strategic Defence Review (SDR), the results of which were announced on 8 July 1998 by Defence Secretary George Robertson, the new Labour government in the UK conducted a thorough re-examination of Britain's nuclear posture. Although the UK already has the smallest nuclear force of the five recognized nuclear-weapon states, the Review announced further cuts in its size and readiness. As part of its commitment to increased international control of fissile material, Britain has become the first nuclear-weapon state to declare the total size of its own defence stock of unsafeguarded fissile material. Perhaps of greatest long-term significance, the government has stated its support for the eventual goal of 'global elimination of nuclear weapons':¹

The challenge is to create the conditions in which no state judges that it needs nuclear weapons to guarantee its security. The radical improvements in European security in recent years have shown that this is not an impossible objective.²

The Nuclear Issue and Labour Politics

Controversy over possession of nuclear weapons was the most politically divisive issue in British defence policy for much of the Cold War. It played a particularly influential part in shaping the worldview of liberal and socialist politicians: one that was probably as important as the trauma of Vietnam was for their Democratic counterparts in the USA.³ Perhaps most decisively for the

shape of British politics, Labour's adoption of a policy of unilateral nuclear disarmament played a key role in its disastrous divisions in the 1980s, precipitating the formation of the breakaway Social Democratic Party (led by Roy Jenkins and David Owen), and opening the way for the Conservatives to be re-elected with large majorities in 1983 and 1987.

Soon after Labour's 1987 defeat, party leader Neil Kinnock, despite his own strong personal commitment to the policy, decided that unilateralism was a vote-loser and must be dropped. The party formally voted to do so in October 1989, using the success of superpower negotiations to justify a shift in emphasis towards multilateralism.⁴ Labour was to remain committed to the long-term goal of global nuclear disarmament, and would pursue that goal more vigorously than the Conservatives. While other countries retained nuclear weapons, however, Britain would retain, and modernize, its own force.

Kinnock's successors – John Smith and Tony Blair – did not share his personal commitment to the nuclear issue. Yet both leaders remained aware of the strong anti-nuclear views that existed within the party. Resolutions calling for Trident's cancellation continued to attract large votes at the annual party conference.⁵ Nongovernmental organizations, strengthened by the upsurge of the peace movement in the 1980s, kept lobbying Labour to distance itself clearly from the cautious approach of the Conservative government.

Advocates of a distinctive Labour approach were strengthened by Tony Blair's appointment of Robin Cook as foreign affairs spokesman in 1994. Unlike his predecessors in this position (Gerald Kaufman and Jack Cunningham), Cook had been an active supporter of the Campaign for Nuclear Disarmament (CND) for many years. As a young MP, he had been one of the most vocal critics of the nuclear policies of the 1974–79 Labour government. Moreover, once appointed, Cook made clear his continuing commitment to Britain taking a lead in international disarmament negotiations. In a detailed policy statement issued on the eve of the 1995 NPT Extension Conference, Cook criticized the Conservatives for 'passing up an opportunity to take a lead at an international gathering on a world issue in which we have a leading interest'. He proposed a ten-point programme of action for a Labour government.⁶ The proposals in this programme provided the starting point for the review of nuclear policy that was ordered when Labour came to power two years later.

Nuclear Policy under the Conservatives

Labour's task was made easier by decisions of the previous Conservative government, under Prime Minister John Major, to end some of Britain's most controversial nuclear deployments. The Army's battlefield nuclear roles (using US warheads for its artillery and short-range missiles) were given up. The

Royal Navy's tactical nuclear weapons, previously the focus of unconfirmed reports of possible deployment during the 1982 Falklands war, were eliminated.⁷ It decided that the Royal Air Force's WE-177 free-fall bombs, of which 'several hundred' were in service in the late 1980s, should be withdrawn from service: a process completed with the dismantlement of the last bombs in August 1998.⁸ In addition, as a result of the INF Treaty with the Soviet Union, US-controlled cruise missiles were removed from Greenham Common, site of some of the largest anti-nuclear demonstrations in the 1980s. In 1992 the US missile submarine base at Holy Loch in Scotland was closed, leaving Lakenheath as the sole British site for US nuclear weapons.⁹

The Conservative government also began to address widespread criticism that the choice of Trident to replace the existing Polaris strategic nuclear force, announced in 1980 and first deployed in December 1994, would constitute an unnecessary escalation of Britain's nuclear potential. When the decision to buy Trident D5 was announced in 1982, the government had made clear that it would not deploy more than 128 warheads per submarine:¹⁰ significantly less than its full potential of 192 warheads, and equivalent to the eight warheads per missile deployed on the US Trident fleet.¹¹ In November 1993, Defence Secretary Malcolm Rifkind went further, announcing that 'each submarine will deploy no more than 96 warheads, and could carry significantly fewer.'¹² He also made clear that the total explosive power carried on each Trident submarine would not be much changed from Polaris. In May 1995, the government announced that, once Trident was fully in service, the total nuclear force would comprise fewer than 300 operationally available warheads.¹³

Nuclear Weapons and the Strategic Defence Review

In its May 1997 election manifesto, Labour promised that 'A new Labour government will retain Trident.' At the same time, it also pledged that 'Labour will conduct a strategic defence and security review to reassess our essential security interests and defence needs,' and that: 'when satisfied with verified progress towards our goal of the global elimination of nuclear weapons, we will ensure that British nuclear weapons are included in multilateral negotiations.'¹⁴

Once in office, the government found itself subject to several potentially conflicting pressures. The commitment to make a British contribution to the disarmament process, in line with promises made in opposition, remained. But the government was unwilling to press strongly for proposals that might lead to open divisions between the UK and the other two Western nuclear weapon states (NWS). These constraints led to a rejection of some of the more radical ideas proposed in opposition, including the five-power 'No First Use' agree-

ment supported by the Labour Party as recently as 1996.¹⁵ Nevertheless, the Review announced significant unilateral changes in Britain's nuclear weapons posture in three key areas: force size, operational posture and transparency.

Force Size

The Review committed the government to further reductions in the size of Britain's nuclear arsenal. Fewer than 200 operationally available nuclear warheads are to be maintained – half the level of nuclear force deployed in the 1980s, and a one-third reduction from the previous government's announced plans.¹⁶ By the end of 1999, the total stockpile of nuclear weapons will also be reduced by around a third from the previous government's plans.¹⁷ As a result, the UK is now the smallest of the five recognized nuclear powers, with half the estimated number of warheads possessed by France and China, and only a small fraction of those of the USA and Russia.¹⁸

As part of this reduction, each Trident submarine on patrol will in future carry only 48 warheads, a reduction of half compared to the ceiling of 96 warheads set by the previous government, and a smaller reduction from the 60 warheads per boat actually deployed on patrol prior to the Review announcement.¹⁹ Because the production programme was not completed, implementation of the SDR will not require the decommissioning of any warheads. But it has led to reductions in planned future warhead production and refurbishment, resulting in projected financial savings of some £22 million over the next ten years.²⁰ Further savings of some £50m were made by cancelling the last batch of seven Trident missiles, due to be ordered from the United States, leaving Britain's total purchase at 58 missiles.²¹ Once allowance is made for test firings and a processing margin, this will eventually leave Britain with only 40 missiles for deployment on the three boats in the operational cycle: not enough to fill all 16 missile tubes on each boat.²²

In determining the size of Britain's nuclear force, the Review examined 'the worst circumstances that we might face over Trident's life, however remote they seem today'.²³ The possibility of a future Russian threat is used as the key yardstick, in terms of the size and the survivability of the force. Although not explicitly stated in the SDR, the central determinant of force size remains the assumption ('the Moscow criterion') that the UK must have the ability to destroy key Russian centres of military and political power, many of which are located in and around Moscow. The decision to maintain 48 warheads on patrol at any one time (rather than a lower or higher number) results from an assessment of the minimum necessary to meet this criterion in current circumstances. If strategic circumstances change during Trident's life, for example due to the deployment of improved missile defences by a potential adversary, the stockpile of 'fewer than 200' operationally available warheads provides the potential to increase the number of weapons deployed.²⁴

The possibility of a pre-emptive attack against Britain's nuclear force, which in the foreseeable future could only come from Russia, ensures that survivability continues to be given a high priority in nuclear force planning. It explains the government's continuing commitment to maintaining a 'deterrent patrol' at sea at all times. It also explains the planning assumption that substantial conventional forces – including two attack submarines, one surface escort, one mine warfare vessel, four maritime reconnaissance aircraft and six anti-submarine warfare helicopters – must be available at short notice to protect the Trident submarine on patrol from detection and possible destruction.²⁵

The government has been criticized for agreeing to deploy more warheads on Trident than the 32 deployed on each Polaris/Chevaline submarine.²⁶ Moreover, it has been pointed out, Trident has the ability (unlike Chevaline) to hit highly separated targets with much greater accuracy, making it 'perhaps the most discriminating and capable nuclear force (Britain) has ever possessed.'²⁷ In response, the government has argued that the total explosive power of the 48 warheads deployed on one Trident boat will be one-third less than that of the 32 warheads previously deployed on Chevaline.²⁸ Trident also lacks the array of penetration aids carried by Chevaline to allow it to overcome Soviet missile defences.²⁹ Taking these factors into account, it is argued, the ability of 48 Trident warheads to meet the 'Moscow criterion' is roughly comparable to that of the 32 Polaris/Chevaline warheads they replace.

In justifying this increase in warhead numbers, the government has also argued that it is important to compare Trident's capability with that of the combined strategic (Chevaline) and sub-strategic (WE-177) forces deployed in the 1980s. The government has retained the 'option, in extreme self-defence, of deterring further aggression through a nuclear ("sub-strategic") strike which is limited in scale and nature of target so that it could not be expected automatically to lead to a full scale nuclear exchange'.³⁰ In the past, this 'sub-strategic' role was fulfilled by the RAF's WE-177 bombs. With the withdrawal of this capability from service, Trident is being assigned this role in addition to its strategic function, and the government has stated that 'the reduced load of 48 warheads will meet both our strategic and sub-strategic requirements in current strategic circumstances.'³¹

Operational Posture

The SDR has also announced a significant reduction in the operational readiness of the nuclear force. Since 1995, when Trident first entered service, there has in practice been only one submarine on patrol at any time. The new government has introduced a significant change by publicly committing itself to having only one submarine on patrol at a time in future. The government also plans over time to reduce the number of crews from two to one per boat, releasing sailors for service on other Royal Navy ships.³²

By using the single Trident submarine on patrol in a sub-strategic strike, the government could reveal its position to an adversary, risking its destruction and thus endangering the UK's capability to respond to a strategic strike against the UK. Therefore, if a crisis arises in which it wishes to have a sub-strategic option available, the government believes that it may be necessary to 'tailor' and deploy a second vessel with a combination of warheads specifically designed to meet the technical requirements for such an option.³³

The commitment to maintain only one submarine on patrol at any time does not mean that only one is at sea. Trident submarines not on patrol may or may not be at sea and are at longer readiness to deploy to the patrol areas. If at sea they may be involved in training activities prior to deploying to their patrol area, or conducting some of the secondary tasks which the on-patrol submarine is now permitted to conduct (see below). They may also be on passage to a port visit, as in the visit of HMS Vanguard to Gibraltar in November 1998 (the first-ever port visit by an operational UK Trident submarine). Most of the time, however, submarines not on patrol are in port. The consequences to both the submarine and nearby facilities of firing such a powerful missile from port mean that the government would consider doing so only when there was not enough time to sail the submarine to a position where it could safely submerge.³⁴

Perhaps of greatest interest, the single submarine on patrol is now 'routinely at a "notice to fire" measured in days rather than the few minutes' quick reaction alert sustained throughout the Cold War.'³⁵ In order to maintain their ability to fire their missiles at their designated targets at short notice during the Cold War, UK missile submarines spent much of their time constantly updating information on their positions, using sophisticated inertial navigation systems. As a result of the move in the mid-1990s to a longer 'notice to fire', however, submarines are no longer obliged to conduct the frequent manoeuvres needed to update this information in the inertial navigation systems. Trident submarines can still fire their missiles within a few minutes of receiving an order to do so. In order to attack their designated targets with a high degree of accuracy, however, they might first have to spend several days updating their inertial navigation systems.³⁶ Since targeting of centres of military and political power remains key to UK doctrine, this constitutes a significant, albeit easily reversible, response to the improvement in strategic circumstances after the end of the Cold War.

The SDR has further reduced the level of operational readiness by agreeing to changes in communications arrangements between ship and shore. In order to permit Trident submarines on patrol 'to carry out a range of secondary tasks, including hydrographic data collection, equipment trials and exercises with other vessels',³⁷ it is often necessary to allow them to move out of radio contact for prolonged periods. In normal circumstances, however, a submarine is still likely to be checking for new messages several times a day, keeping

abreast of world events and receiving new intelligence information that can assist it in its continuous efforts to avoid detection.³⁸

The Review examined suggestions for more radical 'de-alerting' measures, such as taking Trident boats off patrol altogether, and separating warheads from their missiles. In a foretaste of some of the problems involved in some of the proposals for multilateral de-alerting or 'virtual deterrence', however, the government has rejected such ideas, pointing to the possible implications of such a policy for crisis stability:

Ending continuous deterrent patrols would create new risks of crisis escalation if it proved necessary to sail a Trident submarine in a period of rising tension or crisis. The further step of removing warheads from missiles would also add a new vulnerability to our deterrent posture. This is a particular concern given our reduction to a single nuclear system.³⁹

The Review also examined other proposals that might allow the level of alert to be reduced without compromising the force's survivability in times of crisis. Guidance systems are often removed from individual missiles for maintenance and monitoring, and some consideration was given to removing them from all missiles simultaneously. However, the lack of adequate secure storage space on board for storing all the guidance systems separately from the missiles, together with the lack of any means of verifying whether or not these systems had been put back into the missiles at some stage of a patrol, meant that this option has not been pursued further. The proposal to remove all guidance systems from submarines and store them ashore was also considered, but this measure was not pursued given the commitment to maintaining a continuous deterrent patrol. There were also some suggestions for reducing the degree of alert maintained by 'nuclear watchkeepers' based at on-shore government and military headquarters. But these personnel also play a key role in transmitting intelligence information to strategic submarines, thus helping to ensure their invulnerability from detection. In current strategic circumstances, therefore, it is felt that economies in this area might be a step too far. While these and other ideas for reducing alert states were rejected during this Review, they could be re-examined in future if the government believes that there would be real benefits (in terms of confidence building and/or cost saving) from doing so.⁴⁰

Transparency

One of the areas of greatest innovation in the nuclear review has been the willingness to be significantly more open about Britain's nuclear programme. Arguing that 'greater transparency about nuclear programmes ... adds to international trust and security',⁴¹ the government has, as already discussed, provided significant new information on holdings and deployments of nuclear warheads. Because both the total stockpile of warheads and the total number

of operationally available warheads can vary considerably for technical reasons, it was decided not to publish the information in the SDR. But such a step has not been ruled out as a future possibility, perhaps as a contribution to a broader international transparency regime.

The government has also announced a policy of greater openness about fissile materials, building on the example set by the US Department of Energy's 1993 'Openness Initiative'. The eventual elimination of nuclear weapons will require a detailed accounting for both stocks and past production of fissile materials outside international safeguards. As a contribution to this process, Britain has broken with previous traditions of secrecy to become the first nuclear-weapon state to declare the total size of its defence stocks of fissile materials held outside international safeguards.⁴² These comprise 7.6 tonnes of plutonium, 21.9 tonnes of highly enriched uranium and 15,000 tonnes of other forms of uranium. Since much of this stock is no longer required for military purposes, the government has also declared that 4.4 tonnes of plutonium, including 0.3 tonnes of weapons-grade plutonium, and over 9,000 tonnes of non-highly enriched uranium, will now be placed under European Atomic Energy Community safeguards, and made liable to International Atomic Energy Authority inspection.⁴³ The government has also announced that it will begin a process of declassification and historical accounting 'with the aim of producing by Spring 2000 an initial report of defence fissile material production since the start of Britain's defence nuclear programme in the 1940's.'⁴⁴

Active Multilateralism

In contrast to the previous British government, which was profoundly sceptical of the desirability of a nuclear-free world, Labour ministers have repeatedly stated their commitment to the global elimination of nuclear weapons. The SDR makes it clear that 'the conditions for complete nuclear disarmament do not yet exist.'⁴⁵ But it also emphasizes that 'consideration of how best to carry forward the Government's commitment to the elimination of nuclear weapons has been a key aspect of the Review.'⁴⁶

In addition to the unilateral measures already outlined, this commitment has led to a noticeably stronger level of British support for new multilateral agreements. On 6 April 1998, the UK and France were the first two nuclear-weapon states to ratify the Comprehensive Test Ban Treaty (CTBT).⁴⁷ The new government has also been a strong supporter of proposals for a Fissile Material Cut-Off Treaty (FMCT), describing such an agreement as 'an essential step towards global elimination of nuclear weapons'.⁴⁸ In contrast, the previous government supported such a Treaty only 'on the right terms' as 'a contribution to the UK's non-proliferation objectives.'⁴⁹

In opposition, Robin Cook proposed a series of additional measures through which the nuclear weapon states could fulfil their obligation, under Article VI of the NPT, to 'pursue negotiations in good faith' to achieve nuclear disarmament.⁵⁰ In office, these proposals have been discussed with other nuclear-weapon states in order to determine whether there is wider agreement on the next step forward. The first modest fruit of these efforts came in April 1998 when, as a result of a British initiative, the five recognized nuclear-weapon states (NWS) issued a joint statement at the Non-Proliferation Treaty (NPT) Preparatory Committee, including a commitment to 'work together' for the success of the crucial NPT Review Conference in 2000. The government has also indicated that it would like to go further:

We are actively considering how best to follow up internationally the initiatives on nuclear disarmament set out in the Strategic Defence Review. We would not rule out the possibility that a forum of all the Nuclear Weapon⁵¹ States could make a constructive contribution to the process of nuclear disarmament.

A Five-Power Nuclear Forum would have an important symbolic effect, providing a concrete demonstration that the NWS were taking their NPT responsibilities seriously. If its credibility were to be sustained, however, it would also have to agree a substantive programme of work. Some of the proposals which the UK might want to discuss are already clear, both from suggestions made by Labour in opposition and from the unilateral initiatives announced in the Strategic Defence Review. Perhaps the most promising of these ideas are those relating to increased transparency for NWS holdings of fissile material and warheads. In September 1996, Labour proposed that

the nuclear weapons states should declare their existing inventories of plutonium and highly enriched uranium, and open to inspection their nuclear production facilities.⁵²

In government, Labour has demonstrated its commitment to progress in this area by publishing data on Britain's own total stocks: the first NWS to do so. Such a measure would be a natural follow-on to the proposed Fissile Material Cut-Off Treaty, and would provide a means through which the progress of the NWS towards nuclear disarmament could be monitored.

Robin Cook is also on record as having supported the idea of a 'nuclear weapons register', to which the nuclear-weapon states would declare their holdings on a verifiable basis.⁵³ In preparation for future progress in this area, the Defence Review announced that national capabilities to verify the reduction and elimination of nuclear weapons would be developed, drawing on specialist skills at the Aldermaston Atomic Weapons Establishment:

The aim is to ensure that, when the time comes for the inclusion of British nuclear weapons in multilateral negotiations,⁵⁴ we will have a significant national capability to contribute to the verification process.

Proposals for a bilateral nuclear transparency regime have already been made by the USA in discussions with Russia, and any proposals for a five-

power regime would have to be closely coordinated with these discussions.⁵⁵ If US/Russian agreement can be reached on such a regime, perhaps as part of START III discussions, pressure is likely to grow on the smaller nuclear powers to enter into comparable obligations.

In addition to allowing Russian concerns over the capabilities of the two European NATO powers to be discussed, a five-power forum could also provide a mechanism for talking about China's role in nuclear disarmament. Concern over China's nuclear arsenal has been a key factor in the development of India's nuclear programme, and it continues to have the potential to fuel proliferation elsewhere in Asia (for example in Taiwan, Korea and Japan). Moreover, uncertainty over the future development of China's nuclear arsenal could limit the extent to which the USA and Russia are prepared to make deep cuts in their own arsenals beyond START III. At the same time, China may now be more willing than in the past to address these concerns. A Five-Power Nuclear Forum might provide a valuable multilateral mechanism through which China could be urged to adopt confidence-building and transparency measures comparable to those now being pioneered by Britain.

Towards START IV?

The UK is now committed to including its own nuclear weapons in multilateral negotiations when it is 'satisfied with progress towards our goal of the global elimination of nuclear weapons.'⁵⁶ When this will be depends, most of all, on the progress in the START negotiations between the USA and Russia. At the time of writing this article, reports suggest that the Russian Duma may at last be prepared to ratify the START II Treaty, first signed by Presidents Bush and Yeltsin in January 1993.⁵⁷ If these expectations are fulfilled, there is a real possibility that work could then start in earnest on the details of the START III Treaty, perhaps even allowing President Clinton to sign the new treaty before his term of office ends in January 2001.

The framework for START III agreed at the Helsinki Summit in March 1997 would reduce levels of operational strategic warheads to between 2000 and 2500 each by December 2007.⁵⁸ Yet most of Russia's strategic nuclear forces now 'stand on the verge of obsolescence'.⁵⁹ Unless levels of new missile and submarine procurement increase considerably in years to come, Russia will be unable to maintain its forces at the currently proposed START III level. One recent analysis even predicts that Russia's economic plight will leave it with a strategic arsenal of no more than 200 weapons within ten to fifteen years.⁶⁰

In these circumstances, Russia is likely to press for further reductions in planned START III ceilings, either as part of the START III talks themselves or in subsequent negotiations. If further deep cuts in US and Russian forces are

agreed over the next decade, however, pressure for linkage with the force plans of the three smaller nuclear powers is likely to grow. In particular, both the USA and Russia will want some assurance that they are not committing themselves to legally binding ceilings that could permit China to overtake them at a future date.

However, involving the three smaller recognized nuclear powers in START IV on the same basis as the USA and Russia would create new problems. The three smaller nuclear powers are likely to resist strongly any suggestion that they should accept an agreement that legitimates permanent numerical superiority for the USA and Russia. Any suggestion of an agreement based on five-way parity, for its part, could provoke strong resistance from US and Russian leaders who wish to retain the privileged nuclear status that they have inherited from the Cold War.

Given these difficulties, five-power transparency measures might provide an alternative way for the smaller nuclear powers to support future rounds of US/Russian reductions. By making unilateral, but verifiable, commitments to cap or reduce their own arsenals at low 'minimum deterrent' levels, China, France and the UK could also help to prepare the way for future five-power agreements on fixing arsenals at low, and perhaps eventually zero, levels.⁶¹

Conclusion

The outcome of the UK nuclear review has both domestic and international significance. Domestically, it signals a new stage in the debate over Britain's possession of nuclear weapons. By adopting a 'dual track' approach of accompanying the retention of a pared-down Trident force with a much more determined pursuit of multilateral disarmament, the new government has gone a considerable way to healing the rifts on nuclear policy that have bedevilled the Labour Party, and indeed the country, since the 1950s. Those rifts could yet return, for example when the issue of a possible replacement for Trident has to be addressed. For the immediate future, however, the Review has consolidated a new consensus between the main UK political parties on nuclear policy.⁶²

The end of the Cold War has left the UK less threatened by the possibility of external attack than at any time in its recent history. It could be argued, therefore, that the initiatives announced in the Review are of little relevance to global discussions, and that the future of nuclear disarmament efforts will depend above all on the two nuclear superpowers (the USA and Russia) and the two Asian great powers (China and India). Yet Britain is not the only nuclear power whose strategic situation has been transformed as a result of recent events, and the importance of the smaller nuclear powers, relative to that of

the two old superpowers, may be increasing as a result of the move away from Cold War bipolarity. In these circumstances, it may be of some significance that one of the five recognized nuclear-weapon states has now become a more active advocate of disarmament.

NOTES AND REFERENCES

- * Dr Malcolm Chalmers is a Senior Lecturer in Peace Studies, University of Bradford. He is author of *British Nuclear Weapons Policy: The Next Steps* (International Security Information Service, May 1997), and *Defence for the 21st Century: Towards a Post-Cold War Force Structure* (Fabian Society, November 1997). The title of the present article is taken from Robin Cook, 'Bombs Away', *New Statesman and Society*, 14 April 1995.
- 1 Ministry of Defence, *Strategic Defence Review*, Cm 3999, The Stationery Office, July 1998, p. 5-1. Also available on <http://www.mod.uk/policy/sdr/index.htm>
 - 2 *Ibid.*, p. 5-9.
 - 3 According to Robin Cook, now Foreign Secretary, 'the controversy over unilateral nuclear disarmament at the turn of the fifties ... provided a historic conflict which brought many of my generation, myself included, into political activism for the first time.' *New Statesman*, 12 January 1979. For a comparative analysis of national belief systems, see Beatrice Heuser, *Nuclear Mentalities: Strategies and Beliefs in Britain, France and the FRG* (Basingstoke: Macmillan, 1998).
 - 4 Paul Anderson & Nyta Mann, *Safety First: The Making of New Labour* (London: Granta, 1997), pp. 340-351.
 - 5 Both the 1993 and 1994 conferences voted to cancel Trident, while the 1995 and 1996 conferences backed the leadership. See Anderson & Mann (note 4 above), p. 351.
 - 6 Cook, 'Bombs Away' (see asterisk note above).
 - 7 For discussion of these claims, see Paul Rogers, *Sub-Strategic Trident: A Slow Burning Fuse*, London Defence Studies 34, Centre for Defence Studies, 1996.
 - 8 Ministry of Defence, 'All WE-177 nuclear bombs dismantled by the end of August 1998', Press Release 200/98, 30 July 1998. 'Deterrence, Arms Control and Proliferation', Supporting Essay Five, in *Strategic Defence Review*, p. 5-2.
 - 9 Peter Almond, 'NATO Tactical Nuclear Weapons: Going, Going, Gone?', *Disarmament Diplomacy*, 12, January 1997, p. 9. The USA is now reported to have 'little more than 100' nuclear weapons deployed on land in the whole of NATO Europe, stored in nine storage vaults in seven countries.
 - 10 This was the level planned for Trident C-4, which Britain had originally planned to purchase. *Statement on the Defence Estimates 1982*, pp. 3-7.
 - 11 For confirmation that each Vanguard boat has a capability of 192 warheads, see *Statement on the Defence Estimates 1996*, p. 56.
 - 12 Malcolm Rifkind, Defence Secretary, *UK Defence Strategy: A Continuing Role for Nuclear Weapons?*, speech to Centre for Defence Studies, 16 November 1993.
 - 13 Ministry of Defence, *Statement on the Defence Estimates 1995*, p. 39.
 - 14 The Labour Party, *Because Britain Deserves Better*, 1997, p. 39.
 - 15 The Labour Party, *A Fresh Start for Britain: Labour's Strategy for Britain in the Modern World*, London, 1996, p. 14. Also see Cook, 'Bombs Away' (asterisk note above).
 - 16 *Strategic Defence Review*, p. 5-2. Figures for 'operationally available warheads' exclude 'missile warheads held as a necessary processing margin or for technical surveillance

- purposes.' The number of warheads held for these purposes will not increase as a result of the SDR. *House of Commons Written Answer*, 9 November 1998.
- 17 The total stockpile includes all British nuclear weapons, excluding only weapons, such as WE-177 and Chevaline, which have been withdrawn from service and are awaiting final dismantlement. *Strategic Defence Review*, p. 5-3.
 - 18 *Strategic Defence Review*, p. 5-4.
 - 19 HMS Vanguard first deployed on patrol with slightly fewer than 60 warheads, prior to Trident also assuming a sub-strategic role. The other two Trident submarines currently in service, first deployed in 1996 and 1998 respectively, typically deployed on patrol with 60 warheads. *House of Commons Written Answer*, 29 July 1998.
 - 20 *House of Commons Written Answer*, 9 November 1998.
 - 21 *House of Commons Written Answer*, 30 July 1998. This decision will involve the writing off of surplus expenditure of some £40 million, over half of which is due to advance commitments made by the previous government. The projected saving of £50 million is net of this amount.
 - 22 Six of these missiles have already been test-fired, a further eight are planned for future test-firing, and there is a processing margin of four missiles. *House of Commons Written Answer*, 30 July 1998. The second Trident boat, HMS Victorious, collected only 12 missiles from the USA in 1995, leaving four of its missile tubes empty. The third boat, HMS Vigilant, collected 14 missiles in 1997. Nicola Butler, 'Disarmament Issues in the UK Parliament', *Disarmament Diplomacy*, October 1998, p. 19.
 - 23 *Strategic Defence Review*, p. 18.
 - 24 *House of Commons Written Answer*, 9 November 1998.
 - 25 *Strategic Defence Review*, p. 6-26. The total operating cost of these 'committed' forces is around £125 million a year. *House of Commons Written Answer*, 2 November 1998.
 - 26 Robert Green, 'The SDR and Britain's Nuclear Disarmament Obligations', *Disarmament Diplomacy*, July 1998, p. 10. In a document approved by its 1996 party conference, Labour stated that 'we will ensure that Trident carries no more warheads than Polaris'. (*A Fresh Start for Britain* [see note 15 above], p. 14.) Since Britain's Polaris submarines carried 48 warheads when they first entered service, however, the government argues that the outcome of the SDR is consistent with this commitment.
 - 27 Eric Grove, 'Nuclear Implications Explained', *Disarmament Diplomacy*, July 1998, p. 9.
 - 28 *Strategic Defence Review*, p. 5-2. The government still refuses to publish figures on warhead yields.
 - 29 Michael Quinlan, 'Thinking about Nuclear Weapons', *RUSI Journal*, December 1997, p. 3.
 - 30 *House of Commons Written Answer*, 24 July 1998.
 - 31 *House of Commons Written Answer*, 9 November 1998.
 - 32 HMS Vanguard has a single augmented crew of 200, while HMS Victorious and HMS Vigilant each have two crews of 140. It is planned that each of the three Trident boats in the operational cycle will eventually have a single augmented crew of 200. *House of Commons Written Answers*, 28 July 1998. The fourth Trident is normally unarmed and in extended refit.
 - 33 Interview with senior Ministry of Defence official, January 1999.
 - 34 Interview with senior Ministry of Defence official, January 1999.
 - 35 *Strategic Defence Review*, p. 5-2.
 - 36 Interview with senior Ministry of Defence official, January 1999.
 - 37 *Strategic Defence Review*, p. 5-2.
 - 38 Interview with senior MoD official, January 1999.
 - 39 *Ibid.*, p. 5-5.

- 40 Interview with senior Ministry of Defence official, January 1999.
- 41 *Strategic Defence Review*, p. 19.
- 42 The USA has declared its production, current stocks and location of plutonium. US Department of Energy, *Plutonium: The First Fifty Years*, Washington DC, 1996.
- 43 *Strategic Defence Review*, p. 5-10. For a comprehensive analysis of publicly available information on fissile material stocks in nuclear-weapon states, see David Albright, Frans Berkhout & William Walker, *Plutonium and Highly Enriched Uranium 1996: World Inventories, Capabilities and Policies* (SIPRI/Oxford University Press, 1997).
- 44 *Strategic Defence Review*, p. 5-10.
- 45 *Ibid.*, p. 5-1.
- 46 *Ibid.*, p. 5-9.
- 47 The Conservative government initially opposed the Clinton Administration's support for a Test Ban, criticizing US testing restrictions announced in 1993 as 'unfortunate and misguided.' Stephen Pullinger, 'Britain's Nuclear Weapons Policy and Non-Proliferation', in J. B. Poole & R. Guthrie, eds, *Verification 1994* (London: Brassey's, 1994), p. 90.
- 48 *Strategic Defence Review*, p. 5-10.
- 49 Ministry of Defence, *Statement on the Defence Estimates 1996*, p. 16.
- 50 Cook, 'Bombs Away' (see asterisk note above).
- 51 *House of Commons Written Answer*, 30 July 1998.
- 52 Labour Party, *A Fresh Start for Britain* (see note 15 above), p. 14.
- 53 Cook (see asterisk note above). Such a Register was proposed by Germany in 1994, but rejected by the NWS. For further discussion, see Malcolm Chalmers, *British Nuclear Weapons Policy: The Next Steps* (see asterisk note above), pp. 9-10; Harald Müller & Katy Frank, 'A Nuclear Weapons Register: Concepts and Opportunities', in Malcolm Chalmers, Mitsuro Donawaki & Owen Greene, eds, *Developing Arms Transparency* (Bradford: University of Bradford/Japan Institute for International Affairs, 1997); Harald Müller, *The Nuclear Weapons Register - A Good Idea Whose Time Has Come*, PRIF Reports 51, May 1998.
- 54 *Strategic Defence Review*, p. 5-11.
- 55 Measures discussed included 'regular bilateral exchange of classified data on aggregate warhead and fissile material stockpiles ... linked to intrusive reciprocal monitoring and inspection arrangements'. Shannon Kile, 'Nuclear Arms Control', *SIPRI Yearbook 1998* (Oxford: Oxford University Press), p. 417.
- 56 *Strategic Defence Review*, p. 5-1.
- 57 William Drozdiak, 'START-3 Talks in the New Year?', *International Herald Tribune*, 10 December 1998.
- 58 Tactical nuclear weapons, nuclear-armed sea-launched cruise missiles and warheads held in reserve are not included in these proposed ceilings.
- 59 Dean A. Wilkening, 'The Future of Russia's Strategic Nuclear Force', *Survival*, vol. 40, no. 3, Autumn 1998, p. 89.
- 60 Bruce Blair, *Russia's Nuclear Collapse*, paper presented to Pugwash meeting on 'A Nuclear Weapon Free World: Steps Along the Way', 6-8 November 1998.
- 61 As part of this process, parallel arrangements would also have to be devised to cap or wind down the nuclear programmes of India, Pakistan and Israel.
- 62 An important exception to this consensus is the Scottish National Party, which is strongly anti-nuclear and supports the removal of the Trident submarines from their base at Faslane in Scotland.