



Tactical Nuclear Weapons

A British view

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honor of Sir Joseph Rotblat*

Tim Hare, the former Director for Nuclear Policy in the British Ministry of Defence has recently commented on UK nuclear policy in the following terms: [\[i\]](#)

“The policy makes it clear that the role of nuclear weapons is fundamentally political and that therefore any rationale for their retention is political. The UK does not possess nuclear weapons as part of the military inventory, they have no function as war fighting weapons or to achieve lesser military objectives. ... They are indeed ‘special’ and reason enough not to put them into the hands of generals and admirals for the achievement of military goals”.

But not all nations take so dismissive a view. In July 2005 a Chinese General spoke publicly and matter-of-factly about the likelihood that if the United States interfered in a clash between China and Taiwan, nuclear weapons would be used. [\[ii\]](#) More to the point, if Hare is right, why are NATO doctrine and deployment still based on a quite different hypothesis: why are the Americans apparently moving back towards a policy of the greater usability of nuclear weapons to fulfil military objectives?

NATO nuclear doctrine and forward basing

The classical NATO nuclear policy emerged in a series of ‘guidelines’ put out between 1967 and 1972. [\[iii\]](#) The aim was to defend at three levels: direct defence (which meant conventional defence) against a non-nuclear attack for as long as possible: controlled escalation through the use of Tactical Nuclear Weapons (TNW) and finally general nuclear response if all else failed. These guidelines, under the general rubric of ‘flexible response’ coupled with the overt acceptance of ‘first use’ by NATO as a last resort, were given substance by the development of

weapons systems to match. Air forces were equipped with free-falling and guided bombs and air-to surface guided missiles. Navies, in addition to aircraft bombs, developed nuclear depth charges and anti-submarine rockets. Armies were equipped with nuclear artillery of various calibres and free-flight rockets. Ground-launched cruise missiles, land-mines and surface-to-air defence missiles were all given nuclear warheads. This force posture was developed at a time when Soviet conventional forces in western Europe outnumbered NATO's by a factor of three to one or more. [\[iv\]](#) The dismemberment of the Warsaw Pact and of the Soviet Union, followed by the expansion of NATO, has meant that the ratio of conventional forces as between Russia and NATO has been more than reversed. Most of the TNW systems have been mothballed or destroyed. It might have been expected that these facts would lead to some reconsideration of the doctrine. But no such change has taken place. Thus Mr Hoon, British Secretary of State for Defence, in a written answer to a parliamentary question on 11th July 2002, said: 'A policy of no first use of nuclear weapons would be incompatible with our and NATO's doctrine of deterrence, nor would it further nuclear disarmament objectives. We have made clear, as have our NATO allies, that the circumstances in which any use of nuclear weapons might have to be contemplated are extremely remote. Our overall strategy is to ensure uncertainty in the mind of any aggressor about the exact nature of our response, and thus to maintain effective deterrence'. [\[v\]](#) This makes it clear that NATO's policy still remains one of flexible response, involving the possibility of first use of nuclear weapons as a last resort.

Even more surprising is that, as a counterpart to this doctrine, American TNW are still held ready for use on the territory of six non-nuclear members of NATO and in the UK. These arrangements date from the late 1950s and early 1960s when bi-lateral Programs of Cooperation were concluded between these countries and the US, most of which remain in force today. The weapons are stored in specially constructed vaults on twelve airfields: three each in Germany and Turkey; two in Italy, and one each in Belgium, the Netherlands, Greece and the UK. The weapons are B-61 gravity bombs, delivered by strike aircraft. All the aircraft are dual capable, being specially equipped for nuclear munitions in addition to their normal role. The crews are trained and exercised in peacetime for their possible nuclear missions. The nuclear weapons are all owned by the US and in peacetime they remain under the sole control of the US Air Force. In most cases (but not the UK) they would be transferred to the partner nations in the event of war. The vaults have a total capacity of 360 weapons but it is believed that the holding of live

weapons is about half this, say 150-180 bombs. The vaults are being refurbished in 2005 to keep them operational till 2018. The costs to the US Air Force of providing and storing the weapons and to the allied air forces of owning and operating the aircraft are said to be 'extraordinarily high'. [\[vi\]](#)

Common sense would suggest that both the policy and practice of 'nuclear sharing' are out of date and should be scrapped. Why has this not happened? It seems clear that the continued presence of American TNW in Europe is due more to institutional paralysis than to logic: the desire to demonstrate America's continued commitment to European security, some vague concept of risk and burden sharing among NATO allies, or, most absurdly, adherence to the simplistic concept 'no nukes, no troops'. As Mr. Hoon said, in a written answer to the House of Commons on 1st February 2002: "Some US nuclear weapons remain based in the UK in accordance with long-standing NATO policy. Nuclear forces based in Europe and committed to NATO provide an essential political and military link between the European and North American members of the Alliance". [\[vii\]](#) It would be more rational to argue that Europe and the US share a common interest in reducing the thousands of tactical nuclear warheads in Europe left over from the cold war. Nearly all of these are Russian. As long ago as 1997, in Helsinki, Russia and the US mooted further measures to reduce tactical nuclear systems, but nothing has come of them. If the six non-nuclear members of NATO who currently train for a tactical nuclear role were ready to give this up it could open the way for repatriating all the remaining American TNW. This would meet Russia's long-standing wish to rid European territory of nuclear weapons within range of her territory. It could act as an important confidence building measure, and encourage further mutual reductions in TNW. In view of America's acute reluctance to enter into fresh treaty commitments, an exchange of unilateral announcements might be the best method. Meanwhile increased transparency in this area is a necessary first step.

The US Nuclear Policy

Great concern has been aroused by the American Nuclear Posture review (NPR) submitted to Congress on 31 December 2001, of which excerpts have become publicly available. [\[viii\]](#) It establishes a New Triad consisting of:

- Offensive strike systems, both nuclear and non-nuclear
- Defences, both active and passive; and

- A revitalised defence infrastructure

bound together with enhanced command, control and information systems. In his covering letter to Congress Secretary of Defence Donald Rumsfeld said that the result would be to make the US less dependent than it has been in the past on nuclear forces to provide its offensive deterrent capability. But several of the proposals in the report suggested, on the contrary, a greater emphasis on nuclear weapons.

1. The report gave examples of 'immediate contingencies' for which the US must be prepared in setting requirements for nuclear strikes. These included a North Korean attack on South Korea or a military confrontation over the status of Taiwan. It listed also Iran, Syria and Libya among countries that could be involved in such contingencies, on the grounds that all sponsored or harboured terrorists and all had active programmes to develop weapons of mass destruction and missiles.

2. Under the heading of an 'Advanced Concepts Initiative' proposals were made for modifying existing nuclear weapons to provide additional yield flexibility, improved earth penetrating weapons and reduction of collateral damage.

Taken together these clearly implied a renewed willingness to regard nuclear weapons as useful and indeed usable weapons.

Even more alarmingly, a draft document, the Doctrine for Joint Nuclear Operations JP 3-12, appeared on the Pentagon web site in the summer of 2005. [\[ix\]](#) This relates specifically to the use of nuclear weapons within a theatre, i.e. tactically. It says that such use requires that nuclear and conventional plans must be coordinated to the greatest extent possible. And it gives examples of conditions under which theatre commanders can request Presidential authority to use nuclear weapons. These include:

- an adversary using or intending to use WMD against US or allied forces or civilian populations
- imminent attack from adversary biological weapons that only nuclear weapons can safely destroy
- attacks on adversary installations including WMD, deep hardened bunkers containing chemical or biological munitions or the command infrastructure required to attack the US or its allies
- to counter potentially overwhelming adversary conventional forces including mobile and area targets (troop concentrations)
- for rapid and favourable war termination on US terms

- to ensure success of US and multinational operations
- to demonstrate US intent and capability to use nuclear weapons to deter adversary use of WMD
- to respond to adversary-supplied WMD use by surrogates against US or allied forces or civilian populations.

It appears that negotiations within the Pentagon are still in progress and the draft may well be modified before final clearance by the Secretary for Defence. [\[x\]](#) The point, however, is that this document represents an explicit and internally coherent doctrine for the tactical use of nuclear weapons, which has found favour at a senior level. Those who regard this as a disastrous way of thinking have focussed on two projects in particular: ‘bunker-busting’ and ‘mini-nukes’.

‘Bunker-busting’

The case for developing a nuclear warhead specifically for the defeat of hardened and deeply buried targets (HDBTs) rests on the alleged existence of over 1400 underground facilities, known or suspected, for use by potential enemies as command centres, refuges or stores for missiles and nuclear, biological or chemical weapons. We are told that the depth of these structures, together with their steel and concrete reinforcement, call for highly accurate intelligence and precise weapon delivery. They may defeat any attack by conventional weapons. [\[xi\]](#) In 1997 the US added an earth-penetrating version of the B61 bomb to its nuclear arsenal. But tests have shown that it could penetrate only about 20 feet into dry earth when dropped from 40,000 feet. This means it could not destroy very deeply buried bunkers or caves. Nor is there any prospect that the radioactivity of the weapon’s nuclear burst could be contained. [\[xii\]](#) According to one well-founded calculation, a weapon twice the length of the B61, even if accelerated by a rocket, could not penetrate more than about 80 feet. The fallout produced by a one-kiloton warhead at that depth would kill everyone on the surface within a radius of about half a mile in still air. Wind could carry it for tens of miles. [\[xiii\]](#) The new warhead would apparently be designed ‘with a much lower yield ... producing less fallout by a factor of ten or twenty’. [\[xiv\]](#) But immense lethal fallout would still be bound to result.

In any case the notion of ‘bunker-busting’, is beset with practical difficulties. How is one to determine the location of such bunkers with the necessary pinpoint accuracy - unless of course our own troops are already there, in which case better methods suggest themselves? What is to be done if the bunkers have been thoughtfully located under schools, hospitals or apartment

blocks? How can one be sure which bunkers are occupied anyway? If the target to be attacked is believed to contain chemical, biological or nuclear weapons material, how can one be sure of incinerating it all, rather than distributing it in active form over a large area. It is therefore welcome news that funding for this project has been dropped from the Fiscal 2006 budget at the request of the National Nuclear Security Administration of the Energy Department. It looks as though this project may now be dead since the statement added that the Defence Department will now focus its research into earth-penetrating technology using conventional weaponry.[\[xv\]](#)

‘Mini-nukes’

The case for ‘mini-nukes’ is less well defined. The Pentagon is said to be seeking a completely new warhead design with a yield of 5 kilotons or less. This could address one or more of the requirements set out in the NPR ‘to attack mobile and re-locatable targets, to defeat chemical or biological agents, to improve accuracy and limit collateral damage’. [\[xvi\]](#) It is said that to rely on high-yield strategic weapons for such purposes would be self-detering and the development of mini-nukes could ensure flexibility in decision making. In particular, America has wanted to keep its opponents guessing as to how it would respond to chemical or biological attack. As an official explained in 1996: ‘we think the ambiguity involved in the issue of nuclear weapons contributes to our own security, keeping any potential adversary who might use either chemical or biological [weapons] unsure of what our response might be’. [\[xvii\]](#) More recently it seems that the veil of ambiguity has been to some extent set aside. According to a report in The Washington Times (31st January 2003) a classified document signed by President Bush on September 14th 2002 said: “The United States will continue to make clear that it reserves the right to respond with overwhelming force - including potentially nuclear weapons - to the use of [weapons of mass destruction] against the United States, its forces abroad, and friends and allies”. The Presidential request for Funding in the Financial Year 2006 included a sum of around \$10 million a Reliable Replacement Warhead (mininuke), but as at the time of writing this project remains to be agreed in Congress and its future is uncertain.[\[xviii\]](#)

Is the increased usability of NW for real?

During the hey-day of tactical nuclear planning in NATO (during the 1950s and 60s) target analysis for TNW concentrated on the blunting of dangerous enemy thrusts, the attack of troop

concentrations (where the ability of neutron flux to penetrate armour and dug-in infantry positions with overhead cover was particularly useful), the destruction of bridges and the blocking of defiles (all but impossible by conventional weapons before the arrival of precision guidance) and the attack of dispersed relatively soft targets such as formation headquarters, anti-aircraft sites, supply dumps and communication nodes. [\[xix\]](#) The draft doctrine quoted above seems to be harking back to Cold War as critics have been quick to point out.

The idea of using nuclear weapons against such targets today is highly implausible. This is not because the wars of today do not present such targets. The Taleban blocking approaches to Kabul, and the Iraqi Republican Guard defending Baghdad could certainly have been suitable for attack by F-15 or F-16 aircraft using B61 bombs; or by the mini-nukes said to be under consideration for attacking mobile and re-locatable targets, with improved accuracy and less collateral damage. But in every such case modern precision weapons coupled with carpet bombing by B-52s, tank-busting runs by A-10 and the use of C-130 gun-ships offer a far more cost-effective solution, 'minus the fallout'. And it need hardly be pointed out that the capture of a city that is being defended from house to house is as unsuitable a task for TNW as it is possible to imagine.

Still more implausible is the notion of using TNW in response to enemy use, or intending use, of chemical or biological weapons. If the aim were to retaliate upon the source of these weapons one would either have to trace the missile launchers (a notoriously difficult task) or, in the case of bombs or crop-spray aircraft, to attack their bases, which are not a lucrative target for TNW. If, more plausibly, the aim is simply to punish the regime by 'making the strongest possible response' then of course anything goes. There is no call for accuracy or minimal fallout - why not a megaton strike on the seat of government or the power base of the ruler?

But simply to say this is to show why such a concept lacks all contact with reality. Frank von Hippel has pointed out that American presidents have in the past threatened to use nuclear weapons in situations which did not threaten the existence of the nation: Truman to force an armistice in Korea; Eisenhower to stop Chinese bombardment of islands in the Taiwan strait; Nixon to obtain a face-saving exit from the war in Vietnam. In the end they all realised that the political costs of breaking the nuclear taboo 'vastly outweighed the military benefits from nuclear weapon use'. [\[xx\]](#) Today these political costs would be certain to include converting the whole of the third world into violent revulsion against the US; greatly encouraging recruitment

into anti-American terrorist organisations; destroying NATO; discrediting the United Nations beyond repair and fatally undermining the nuclear non-proliferation regime as more and more countries came to regard a nuclear insurance policy as indispensable in a world become radically more unpredictable. As many people have pointed out ‘Nukes are the only weapon that could pose a threat to US survival. Why would you want to open Pandora’s box? [\[xxi\]](#)

The UK

These arguments apply all the more strongly to the UK. The Ministry of Defence, in its Report and Accounts, 2004-5, says:

‘The UK’s nuclear weapons have a continuing use as a means of deterring major strategic military threats, and a continuing role in guaranteeing the ultimate security of the UK.’ [\[xxii\]](#)

The reference to ‘major strategic military threats’ carries a whiff of cold-war thinking, in line with the ossified NATO doctrine referred to above. No one can pretend to foresee with any precision the geo-political context of the mid-twenty first century, but even as a worst case it is hard to envisage any power but Russia able to pose such a threat. Be that as it may, the ‘use’ and ‘role’ foreseen in this statement clearly refer to a deterrent at the political level rather than as a means of fighting a war. The British Government has not, since the end of the cold war, claimed any military use for its nuclear weapons. All battlefield or theatre nuclear weapons in British hands have been disposed of. The government then announced a ‘sub-strategic’ role for Trident in the following terms:

‘The ability to undertake a massive nuclear strike is not enough to ensure deterrence. An aggressor might, in certain circumstances, gamble on a lack of will ultimately to resort to such a strike. We also need the capability to undertake nuclear action on a more limited scale in order to demonstrate our willingness to defend our vital interests to the utmost, and so to induce a political decision to halt aggression without inevitably triggering strategic nuclear exchanges’. [\[xxiii\]](#)

Malcolm Rifkind, then Defence Secretary, made it plain that this involved no concept of fighting and winning a war. It remained a question of deterrence, albeit at a slightly lower level than all-out retaliation. [\[xxiv\]](#) As Richard Hatfield, then MOD Director of Policy explained, [the substrategic role] ‘is a form of deterrence, not necessarily a specific weapon’. [\[xxv\]](#) This concept has much in common with the French notion of ‘Pre-Strategic’ use, as a shot across the bows of

any intending aggressor or last-but-one resort. As General Henri Bentégeat, French Chief of Defence Staff, has explained:

‘Deterrence has been adapted to remain credible within the enduring framework of a non-use [non-emploi] policy. Nuclear weapons are not battlefield weapons for us ... as the force de frappe is a political deterrent’. [\[xxvi\]](#)

In replying to a parliamentary question Defence Secretary John Reid has said that the ‘Labour Party's manifesto for the 2005 general election made clear [its] commitment to retain the UK's independent nuclear deterrent. Although decisions on any replacement for Trident are likely to be taken in the current Parliament, it is too early to rule out, or rule in, any particular option’. [\[xxvii\]](#) It is clear, therefore, so far as this government is concerned, that the question is not whether to replace Trident but in what form. One such option is clearly to follow the Americans by stretching the operational life of the existing four Trident submarines and replacing the existing D5 missiles by the upgraded version known as D5A. The life of these systems could apparently be extended to 2040. An alternative solution, apparently much cheaper, might be to upgrade Tomahawk cruise missiles for long-range delivery and fit them with a new British built nuclear warhead, to be launched from aircraft. The argument in this paper has no bearing on the pros and cons of this issue save in one crucial respect. Buying a cruise missile version of the deterrent could be seen as lowering the nuclear threshold to the tactical level by giving the weapon a military function. As Michael Meacher has pointed out -reflecting what seem to be widespread misgivings in the Parliamentary labour party - ‘Frankly this is a neo-con idea for using tactical nuclear weapons rather than the massive Trident system’. [\[xxviii\]](#) The question might then become not whether ministers wish to retain an independent British deterrent but whether they agree - or even half-agree - with the developing American doctrine of usable pre-emptive nukes. [\[xxix\]](#)

In the quotation at the beginning of this article Tim Hare asserted that ‘the UK does not possess nuclear weapons as part of the military inventory, they have no function as war fighting weapons or to achieve lesser military objectives’. It is greatly to be hoped that this statement continues to hold good.

References

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- [ii] Max Hastings, 'New Weapons, Old Wars'. The Sunday Telegraph. 31 July 2005.
- [iii] Hugh Beach and Nadine Gurr, 'Flattering the Passions: Or, the Bomb and Britain's Bid for a World Role', I.B.Tauris, London, 1999, p. 78.
- [iv] Fred Mulley, 'The politics of Western Defence', Thames and Hudson, London, 1962, pp. 45 and 123.
- [v] Hansard, Column 1133W.
- [vi] Otfried Nassauer, 'NATO's Nuclear Posture Review: Should Europe End Nuclear Sharing', BITS Policy Note 02.1, April 2002. Berlin Information Centre for Transnational Security. The costs of the weapons, aircraft and bunkers are, of course, 'sunk', unless the plan to refurbish the bunkers goes ahead. Costs of training and custody are recurrent.
- [vii] Hansard, Column 602W.
- [viii] 'Nuclear Posture Review [Excerpts]'
- See www.globalsecurity.org/wmd/library/policy/dod/npr.htm
- [ix] See www.globalsecurity.org/wmd/library/policy/dod/jp3_12fc2.pdf
- [x] Walter Pincus, 'U.S. Weighs Draft Nuclear Plan', Wall Street Journal, 20th September 2005
- [xi] 'Nuclear Posture Review', (see above, note viii)) pp. 16,17
- [xii] Mark Bromley, David Grahame and Christine Kucia, 'Bunker Busters: Washington's Drive for New Nuclear Weapons', BASIC Research Report 2002.2, July 2002, p.43, <http://www.basicint.org/pubs/Research/2002BB.pdf>
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- [xvi] 'Nuclear Posture Review (see above, note viii). pp. 16-18.
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[\[xviii\]](#) Washington Nuclear Update June 29 2005.

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[\[xix\]](#) 'Flattering the Passions' (Note iii), Chapter 2, *passim*

[\[xx\]](#) Frank N. von Hippel, 'Does the US need new Nuclear Weapons' *Physics and Society*, Vol.31. No.3, July 2002, p.4.

[\[xxi\]](#) Nicholas D. Kristof, 'Flirting with Disaster: Nuclear talk harms the US', *International Herald Tribune*, 15-16th February 2003.

[\[xxii\]](#) MOD Report and Accounts 2004-5 para 75. October 2005.

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[\[xxiii\]](#) Statement on the Defence Estimates 1994

[\[xxiv\]](#) Malcolm Rifkind, 'UK Defence Strategy: a Continuing role for nuclear weapons', speech to the Centre for Defence Studies, London on 16th November 1993

[\[xxv\]](#) 'Minutes of Evidence taken before the Defence Committee' HC 138-II, of session 1998-99, p.16, para. 180.

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