

Britain's Policy on Ballistic Missile Defence

By Dr Jeremy Stocker

Between about 1998 and 2002, Ballistic Missile Defence (BMD) was a contentious political issue in Britain. Though the topic has received less public attention since, it remains an important subject for British defence policy and our relationship with the UK's most important ally, the United States. Many BMD issues have yet to be resolved, and sooner or later, it will return to the political agenda.

BMD, despite the apparent novelty of the subject, has been around for over 60 years. For much of the Cold War it was the single most controversial topic in Western defence strategy and transatlantic security relations. Not surprisingly therefore, BMD comes with a substantial historical baggage

of attitudes and beliefs derived from the very different strategic circumstances of past decades.

The United States is devoting significant resources to the deployment of a variety of defensive systems and several other countries, including Japan, Taiwan, Russia, Germany, France, Italy and the Netherlands are making more modest efforts. NATO as a whole is moving slowly towards a new Europe-wide defence capability.

Britain currently has no plans to acquire any sort of BMD capability, despite being the first country in history to come under ballistic missile attack, and despite its close defence relationship with the United States. The UK, however, is cooperating



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closely with the US in the development of American defences and is host to two essential elements of US BMD at RAF Flyingdales and RAF Menwith Hill, both in North Yorkshire. This apparent paradox requires some explanation.

Historical background¹

The first operational use of a ballistic missile came on 8 September 1944, when a German Army V-2 rocket landed in Chiswick, west London killing two people and injuring several more. During the following six and a half months, a total of 1,115 V-2s fell on the UK, causing 2,855 fatalities.² The single worst incident was on 25 November 1944

when 160 people were killed by a single missile that struck Woolworth's in Deptford. The port of Antwerp in Belgium was subject to an even greater onslaught once it became the Allies' main re-supply base on the Continent.

Britain's experience in facing the V-2s contained many elements that were to become features of subsequent ballistic missile threats: An uncertain but improving intelligence picture, the establishment of an early warning network, a large-scale counter-force bombing campaign to destroy rockets on the ground, passive measures to ameliorate the effects of missile strikes, and

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elaborate but untested active defences to intercept missiles in flight.

The early warning system was based on existing radars. The amount of warning obtainable was insufficient to be of much use, not least because with a maximum range of only 200 miles but supersonic speed the V-2 was airborne for less than five minutes. Subsequent analysis of records did, however, enable launch sites to be pinpointed for air attack.³ RAF Bawdsey in Suffolk played a crucial role in this.

Air attacks were, however, costly, largely ineffective and a substantial diversion of air assets that otherwise would have been used to support the Allied ground offensive. Out of approximately 6,800 sorties, 450 aircraft and more than 2,300 aircrew were lost.⁴ The German Army itself later

reported that only 48 rockets had been damaged as a result of these efforts.⁵

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Whilst early warning and the bombing campaign were RAF responsibilities, trying to shoot down the V-2s was up to the Army's Anti-Aircraft Command — fighters were of no avail against a supersonic target following a ballistic trajectory. An early scheme entailed a 40km-wide barrage of gunfire in the path of an approaching rocket. An estimated 320,000 rounds of ammunition would be needed for



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each V-2. About 2% could be expected to fall back to earth unexploded — a total weight of nearly 90 tons of explosive which was likely to cause much greater damage than the one-ton warhead of the V-2 itself.⁷ The idea was clearly impracticable. Later schemes were more sophisticated, being based on better target tracking and using predicted fire rather than a crude barrage.

However, before this new plan could be tried the V-2 attacks ceased. In the end, the V-2 was defeated by the same means as Iraq's ballistic missiles in 2003 — by the advance of ground troops that, by late March 1945, had forced the V-2 launch crews to retreat out

of range of the UK.⁸ One V-2 was shot down — by a bomber. A V-2 launched from the Netherlands passed right through a formation of USAAF B-24 Liberators returning to England, and was successfully engaged by a .50 calibre machine gun.⁹

From World War Two until today, defence against ballistic missiles has been under constant consideration in Britain. The War also left another legacy. Both the Soviet and American missile programmes were initially based on German designs, components and engineers. For many years, the V-2's chief designer, Wernher von Braun, headed the US rocket programme, and early Soviet

ballistic missiles were direct copies, and then developments, of the V-2.

In the early post-war years there were neither the resources nor technical means to address future V-2-type threats. In 1950 the Defence Research Policy Committee (DRPC) asserted that 'No effective means of defence is in sight against long-range rockets . . .'¹⁰ However, it was becoming increasingly clear from sketchy intelligence assessments that the Soviet Union was devoting considerable resources to its missile programme,¹¹ and that in future rockets would become the preferred delivery means for atomic warheads. Accordingly, by 1954 the DRPC had recognised that 'Defence against the ballistic rocket is a vital requirement . . .'¹²

The upshot was an Air Staff Target (AST 1135) for an active defence system, issued in February 1955.¹³ This initiated a range of research projects, mainly at the Royal Aircraft Establishment in Farnborough and the Royal Radar Establishment in Malvern and was followed by a more specific Air Staff Requirement in November 1957.¹⁴ By now Russian ICBM tests followed by the launch of Sputnik — the world's first satellite — had showed how far advanced the Soviet Union was with its missile programme. A practical defence was still years away (1965 at the earliest), so 'The safety of the United Kingdom . . . depends on deterring the Russians from attacking it. This can only be achieved by the counter-threat of nuclear retaliation'.¹⁵

Whilst research into a dedicated Anti-Ballistic Missile (ABM) interceptor proceeded, a proposal was made to deploy an 'interim' system based on the Bloodhound Mk.3 surface-to-air missile.¹⁶ This was to carry a small nuclear warhead that was considered essential to intercept and destroy supersonic ballistic warheads.¹⁷ Cancellation of the Mk.3 in favour of the conventionally armed, but mobile Mk.2 in 1960, put paid to these plans.

One aspect of the defence problem was solved — early warning. A UK national requirement was merged with the need of the United States to find a third Ballistic Missile Early Warning Station

(BMEWS) in Europe. The first two sites were in Alaska and Greenland. US and UK requirements would have been met from stations in Scotland and Norfolk, respectively, so a compromise site was found in North Yorkshire. Following agreement in 1960,¹⁸ RAF Flyingdales became operational in early 1964 with the US meeting 80% of the initial cost. BMEWS provided early warning of Soviet missile attack to enable the British retaliatory force — the V-bombers — to get airborne.

A similar arrangement for a satellite warning ground station at RAF Kirkbride near Carlisle foundered as the Americans had difficulty developing the infrared sensors. A system was eventually deployed in the early 1970s, the Defense Support Program (DSP), though without any UK involvement.

By now the technical and financial challenges in developing an effective defence system were clear. The essence of the problem was that traditional notions of what constituted a worthwhile defence were no longer valid, in the face of a threat that was both numerous and nuclear. Even a 90% effective defence (if such could be devised and afforded) was to little avail if even a handful of megaton-range thermonuclear warheads were to get through. To make matters worse, it was assessed that missile decoys could completely swamp any defence.¹⁹ This latter judgement was, however, premature. No such 'penetration aids' were ever deployed on Soviet missiles (both the Russians and Americans opted for multiple warheads instead). More valid was the realisation that it was easier and cheaper to improve and enlarge the offence than the defence.

During the early 1960s, therefore, research into active defence came to a halt. Henceforth the UK would rely, to a greater extent than did either of the superpowers, on nuclear deterrence. Both the United States and the Soviet Union continued to develop active defences. The latter in particular had obvious implications for Britain's small (and in future missile-delivered) deterrent. For the next 30 years, therefore, Britain's attention to BMD would be focused on others' defences rather than her own.



There is no chance of a Polaris A3 payload surviving a successful intercept. This was of critical importance as the Soviet Galosh ABM system defended the one target of real interest to Britain — Moscow

Real intelligence (as opposed to speculation) about Soviet BMD efforts was not obtained until the mid-1960s. Work on countering defences had been underway in Britain since the late '50s, initially on the later to be cancelled *Blue Streak* IRBM. Once the *Polaris* programme was under way, but even before it entered service, intelligence estimates suggested that all its three warheads, which separated by a distance of only 10 miles, would be vulnerable to a single megaton-range exoatmospheric nuclear burst. By 1970 the assessment was that '... there is no chance of a *Polaris* A3 payload surviving a successful intercept'.²⁰ This was of critical importance as the Soviet *Galosh* ABM system defended the one target of real interest to Britain — Moscow.

After much deliberation over many years and two changes of government, the result was the *Chevaline* *Polaris* Improvement Programme. Drawing initially on earlier American work (*Antelope*) that was never fully developed, *Chevaline* finally became operational in 1982.²¹ It substituted a sophisticated Penetration Aid Carrier (PAC) with over 40 decoys for one of the three *Polaris* A3 warheads. The remaining two warheads were hardened and made stealthier.

Chevaline remains to this day the only comprehensive system of 'penaids' ever deployed on a ballistic missile, and gives the UK a unique insight into the challenges inherent to developing an effective means of overcoming missile defences — a topic of much controversy in later years.

Until the mid-1960s, interest in missile defence had been confined to the Ministries of Defence, War, Air and Supply. Soon after the Labour Government under Harold Wilson came to power in 1964, the Foreign Office took up the subject, becoming concerned about the implications of American efforts to develop an ABM system. The FO quickly identified the potential for transatlantic difficulties over the issue, something that would remain true for the next four decades. Now that the UK had given up on the attempt to provide a defence (about which the FO was hitherto oblivious),²² it became a staple of British foreign policy that others should, so far as possible, be persuaded to do

likewise. There were several reasons for this, and all have been enduring features of British attitudes towards missile defence.

Whilst defences might not negate the large offensive arsenals of the superpowers, they could pose a real threat to the much smaller nuclear forces of a country like Britain. Arms control was high on the new government's international agenda, and defence systems could only complicate efforts to secure limitations in offensive weapons.²³ The US nuclear 'umbrella' was the ultimate guarantor of Western security, and the British view was that transatlantic solidarity rested on a shared vulnerability. If America and the Soviet Union felt themselves invulnerable, Europe might once again become 'safe' for large-scale conventional warfare or even a 'limited' nuclear war.

Many of these concerns were actually shared by the US Administration itself, especially the Defense Secretary Robert McNamara. Nonetheless, Congressional pressure forced McNamara to announce a limited ABM deployment in September 1967, though the *Safeguard* system did not become operational (and then only briefly) until 1975.

By 1970 arms control talks between the United States and the Soviet Union were well underway, and it was clear that ABMs were top of the agenda. British worries therefore largely subsided, and in 1972 the Anti-Ballistic Missile (ABM) Treaty limited America and Russia to just two ABM sites each, which was further reduced to one each by a Protocol two years later. The ABM Treaty underpinned several succeeding agreements on offensive weapons. It also ensured that Soviet defences would not become so numerous as to negate Britain's own nuclear deterrent, but by allowing the defence of Moscow gave the final impetus to the development of the *Chevaline* system. Though Britain was not a signatory of the ABM Treaty, it became a bedrock of British policy for the next 30 years.

Whilst the *Chevaline* project proceeded in secrecy during the 1970s, the BMD issue went very quiet, although both the United States and the Soviet



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A Russian SS-20 missile being launched

Union did continue research. Moscow by now had an operational defence system, though the Americans' equivalent was decommissioned almost as soon as it entered service, on grounds of cost and operational effectiveness.²⁴

All this changed on 23 March 1983. In a now-famous speech President Ronald Reagan identified a need to '... break out of a future that relies solely on offensive retaliation for our security ...'²⁵ He went on to initiate an ambitious research and

development programme into a space-based defence system (the Strategic Defense Initiative, known to its detractors as 'Star Wars') which would eventually render offensive nuclear weapons obsolete.

The announcement took the British Government (and most of the US Administration) completely by surprise. Though its public reaction was muted, Margaret Thatcher's government was deeply suspicious of anything that might undermine a condition of stable deterrence between East

and West.²⁶ At a series of meetings with Reagan, Thatcher was able to secure agreement that the US would continue to abide by the ABM Treaty (which forbade the deployment of country-wide defences, but not research and development), and a renewed commitment to nuclear deterrence.

The Foreign Secretary Sir Geoffrey Howe enunciated the Government's worries: *'Deterrence has worked; and it will continue to work. It may be enhanced by active defences. Or their development may set us on a road that diminishes security . . .'*²⁷ British and American views on SDI were never fully reconciled: *'Whereas Britain viewed the SDI programme as research to help decide whether to proceed with BMD, the Reagan Administration tended to see it as research on how to proceed.'*²⁸

As a further twist, in 1985 Allied countries were invited to participate in SDI research, partly as a means of winning international support for the project. This offered Britain two advantages. First, it would allow British companies and research institutions to bid for American contracts, and second, it would give Britain an inside view of SDI's technological possibilities. The UK was therefore the first country to sign a Memorandum of Understanding (MoU), in December 1985, and it also set up an SDI Participation Office (SDIPO) within the MoD. By the end of the decade, about \$100 million-worth of work had been awarded to Britain. The other objective behind participation was also met. It became a consistent view within the SDIPO that SDI had little chance, for the foreseeable future, of defeating a large-scale attack. Nuclear deterrence remained intact.

NATO was also taking a fresh look at BMD, though from a different standpoint. It was expected that a new generation of more accurate Soviet missiles such as the SS-20, -21 and -23 would be used in the opening phase of a future offensive. Their invulnerability to NATO air defences meant they could be used tactically to destroy those defences to open up the way for subsequent attacks by manned aircraft.²⁹ The ABM Treaty did not prohibit defence against these 'theatre' threats, and the UK completed an Architecture Study on behalf of NATO and the US SDI Office. One option

considered was a UK purchase of Patriot missiles to replace the venerable Bloodhound system.³⁰

All these efforts were soon overtaken by events. By 1987 the Cold War was easing, as exemplified by the signing of the Intermediate Nuclear Forces (INF) Treaty. Within two years the Cold War was over, soon followed by the disintegration of the Soviet Union itself. The rationale for SDI was gone, though many would argue that the pressure that SDI put on the Soviet Union contributed to the latter's demise. The first Bush Administration scaled-back missile defence efforts considerably, and re-focused them against small-scale accidental or unauthorised strikes. This was to be the Global Protection Against Limited Strikes (GPALS). This too was short-lived, as in January 1993 Bill Clinton replaced Bush in the White House. Strategic missile defences were once again off the agenda.

After the Cold War

No sooner had the Cold War come to an end, than a new type of BMD came to the fore. By now over 30 countries were operating ballistic missiles, most of the shorter-range 'theatre' variety. About 650 had already been used in the 1980s Iran-Iraq War.³¹ More conspicuously, during the 1991 Gulf War Iraq fired 82 *Al Hussein* missiles at targets in Israel and Saudi Arabia. These were locally modified versions of the venerable *Scud* first introduced into service by the Soviets in the late 1950s and widely exported since. One missile hit a US barracks in Dhahran, killing 28 servicemen (20% of all US combat deaths in the war), whilst another narrowly missed the USS *Tarawa* alongside in Al Jubayl. The attacks on Israel featured on nightly news broadcasts around the world.

American BMD efforts were therefore quickly re-directed away from defence of North America against long-range ICBMs (though some work did continue), towards the 'theatre' defence of regional allies and deployed forces overseas against shorter-range threats like the ubiquitous *Scud* and its several derivatives. Also significant was that ballistic missiles were being used to deliver conventional warheads, which during the Cold War had been considered (within NATO at least) as both uneconomic and unlikely.

In the light of the Iraqi attacks and in view of the prominence now being given to Theatre Missile Defence (TMD) by the United States, the UK Defence Secretary Malcolm Rifkin confirmed in 1994 that 'We are considering whether there might be a need for a Ballistic Missile Defence system in future'.³² This was done by means of a Pre-Feasibility Study (PFS), led by British Aerospace (now BAE Systems).³³ The PFS examined 16 possible scenarios including a variety of ballistic missile threats, and devised a series of missile defence architectures to meet them. The US *Patriot* system again featured in many of them, although the MoD's Staff Target 1235 for a medium-range SAM system to replace Bloodhound was allowed to lapse. A British development with BMD potential was the Multi-Function Electronically Scanned Adaptive Array (MESAR) radar, an operational derivative of which would later be selected for the Royal Navy's future Type 45 air defence destroyers.

Whilst the Study was underway a junior Defence Minister told the *Times* that 'there is a *prima facie* case for having a ballistic missile defence system . . .'.³⁴ The PFS was completed in 1996, recommending that the Government move to the next stage, a Feasibility Study which would imply a firm commitment to procure some form of TMD system. However, a General Election was approaching.

After coming to power in May 1997, the new Labour Government embarked on the Strategic Defence Review (SDR). It was clear early on that BMD was not on the new government's agenda.³⁵ When published in July 1998,³⁶ the SDR made only scant references to the subject at all. It did state that:

'A number of systems intended to destroy ballistic missiles are under development, notably in the United States. These may play a role within a balanced spectrum of capabilities to counter the risks posed by chemical and biological weapons and their means of delivery. But technologies in this area are changing rapidly and it would, at this stage, be premature to decide on acquiring such a capability. We will, however, monitor developments in the risks posed by ballistic missiles and in the technology available to counter them,

participate in NATO studies and work closely with our allies to inform future decisions.' [p5-15]

The Review concluded that:

' . . . we do not need to procure a new ground launched medium or long-range air defence missile. We...have established a technology development programme to keep this option open...if a new ballistic missile threat to this country were to emerge.' [p.38]

SDR was therefore linking BMD policy to the future emergence of a (non-Russian) threat to the UK itself, rather than the need to protect expeditionary forces deployed overseas. The thinking behind this was elaborated by soon after by the MoD's Director of Defence Policy. Deterrence remained the best response to nuclear threats. Conventionally armed ballistic missiles, the Gulf War experience notwithstanding ' . . . do not in themselves pose a sufficiently serious threat to justify specific countermeasures'.³⁷ The ballistic threat was therefore refined down to a chemical and biological one, which was unlikely 'in the near to medium term'. This approach was widely criticised, including by the Labour-dominated Commons Defence Select Committee.³⁸

Nonetheless, SDR did initiate a new set of studies, the Technology, Readiness and Risk Assessment Programme (TRRAP). In contrast to the SDR itself, the TRRAP examined the threats to deployed forces and defensive technological issues to enable the MoD to act as an 'intelligent customer' in any future procurement decisions. It concluded in February 2002 that ' . . . ground-based interceptors employing hit-to-kill are a feasible mechanism to counter Theatre Ballistic Missile systems'.³⁹ Kinetic energy had now replaced nuclear explosions as the preferred 'kill mechanism' for BMD.

The Government's policy remained unchanged, however, the Defence Secretary repeatedly stating that:

*'The Strategic Defence Review concluded that the technologies related to ballistic missile defence are changing rapidly and it would be premature to decide on acquiring such a capability. This remains our policy.'*⁴⁰

Within the MoD, protection of deployed forces was becoming uncontroversial, and following TRRAP TMD was passed to the Directorate of Equipment Capability for Theatre Airspace [DEC(TA)] as a potential procurement item. But with air defence generally assuming a lower priority, the prospects for acquisition of any active defence system were no greater than before.

In the United States the defence of the US itself was once again returning to the political agenda. Development of a range of Army and Navy TMD systems continued. More significantly for the UK and America's other allies, the sceptical Clinton Administration was pushed, like the Johnson Administration in the 1960s, towards deployment of a system to defend the United States itself. Pressure for this came from a Republican-dominated Congress, to which added weight was added in 1998 with the publication of the report of the Commission to Assess the Ballistic Missile Threat to the United States. Known as the Rumsfeld Commission after its Chairman Donald Rumsfeld (later George W Bush's Defense Secretary) the report concluded that:

*'A new strategic environment now gives emerging ballistic missile powers the capacity, through a combination of domestic development and foreign assistance, to acquire the means to strike the US within about five years of a decision to acquire such a capability (10 years in the case of Iraq). During several of those years, the US might not be aware that such a decision had been made.'*⁴³

The following year North Korea test-fired a long-range missile that passed over Japan, and both India and Pakistan also conducted missile firings. In July 1999 Clinton signed the National Missile Defense Act, and a missile defence budget of over \$10 billion was authorised.

All these developments took European governments somewhat by surprise. Reactions tended to reflect the concerns aroused by the ABM and SDI controversies of the '60s and '80s: differing views on the severity of the threat, the implications for stable deterrence, the effect on arms control, relations with Moscow, de-coupling of US and

European security, and Alliance consultations. There was also a good deal of scepticism about the technical feasibility and financial cost of tactical, never mind strategic, missile defence. Peter Hain, then a junior Foreign Office Minister, said 'I don't like the idea of a Star Wars programme, limited or unlimited. Unilateral moves by Washington would be very damaging,'⁴² though other Government spokesmen were more circumspect.

National Missile Defense (NMD) posed a real dilemma for the British Government. The nature of its close defence and intelligence ties made Britain more sensitive to American security concerns, and more reluctant to openly criticise US policy, than many other European states, especially France. On the other hand, Britain had real concerns about NMD and wanted to be seen, in security terms, as a 'good European'. The result was '... an official policy to have no policy ...'⁴³ It came as a relief, therefore, when Clinton announced in September 2000 that he was deferring a deployment decision, citing technological problems and the implications for relations with Russia, China and US Allies as the reasons.⁴⁴ The respite was only to be temporary.

Missile defence in the 21st century

When George W Bush entered the White House in January 2001, he was already heavily committed to missile defence in a way that his predecessor never had been. The new American President had already promised that, if elected, he would '... build effective missile defenses, based on the best available options, at the earliest opportunity'.⁴⁵ An early consequence was the scrapping of the hitherto well-understood distinction between Theatre and National Missile Defence (TMD and NMD). 'What's 'national' depends on where you live, and what's 'theater' depends on where you live.'⁴⁶ Instead, the new Administration was committed to engaging all forms of ballistic missiles in all phases of their trajectory.

The US Government's unequivocal intention to press ahead with a multi-faceted BMD strategy has forced foreign governments, especially the British, to examine the issue more closely. Once it was clear that American missile defence deployment was



A Phantom of No 43 Squadron RAF intercepts a Soviet Navy Tupolev Tu-95RT 'Bear-D' approaching UK airspace

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a question, not of 'if', but 'how' and when', the Foreign Office resolved to ensure that '... Missile Defence is pursued in a way which protects UK interests and minimises divisions within NATO',⁴⁷ How far British thinking has moved on was shown by a statement from the new Foreign Secretary, Jack Straw: '... we in this country have long recognised the case, in appropriate circumstances, for measures of missile defence'.⁴⁸ He added that 'There is an overwhelming case for missile

defence in principle... Our view is that the United States is fully entitled to want to develop systems of missile defence'.⁴⁹ This is a dramatic, if little noticed, shift in British official thinking which since the 1960s had consistently viewed missile defence as destabilising.

The catalyst for this shift in policy was the ABM Treaty. The Bush Administration's ambitious plans for BMD were self-evidently incompatible with

the Treaty. Until now it had underpinned Britain's entire approach to security in the nuclear age. The risks of nuclear war were to be minimised by the arms control process, at the heart of which lay the ABM Treaty. The Treaty also ensured the credibility of the UK's own small nuclear deterrent by severely limiting BMD deployments by the superpowers, and forbade the transfer of ABM systems to third parties. All this would be threatened if either Russia or the United States withdrew from the Treaty (which they were entitled to give six months' notice of doing).

In December 2001 the United States did just that. Six months later, on 13 June 2002 the ABM Treaty was no more. In the event, the Treaty went with a whimper rather than the widely expected bang. Though the Russians had vociferously opposed US withdrawal, once it was a *fait accompli* they made best of the situation and far from starting a new arms race (which they were in no position to do), reached a further agreement on nuclear arms reduction with the US.

At the end of 2002 the MoD issued a BMD 'Public Discussion Paper', at least in part to explain the change in attitude that had been forced upon it:

'The suggestion that missile defence would spark an arms race . . . needs to be taken seriously. It is possible that states in the process of developing long-range missile capabilities would seek to intensify these efforts in an attempt to overcome any defences. On the other hand . . . it is perhaps more likely that missile defence would succeed in dissuading countries from taking this ever more difficult and expensive path. Many feared that US withdrawal from the Anti-Ballistic Missile Treaty (ABMT) . . . would cause global instability, damage international relationships and create an arms race. But this has not happened.

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Britain's interest in US missile defence is not motivated purely by its wider significance for 'strategic stability'.⁵¹ Whilst acquiring defences

for the UK itself might not yet be regarded as an urgent priority, the issue of British participation in American defences has been both pressing and important. Partly because of another historical legacy, British territory is necessarily included in US plans. The subject is not, therefore, one for abstract policy debate as in many other countries.

From 1964 onwards, the BMEWS site at RAF Flyingdales performed a purely early warning role, mainly in support of US and UK nuclear retaliatory forces. But the evolution of plans for a limited defence of North America has obvious implications for BMEWS, as it would perform an essential role in alerting other elements of the system.⁵² Not only would this require permission from the British Government (noting that the station is operated by RAF personnel), but whilst it remained in force, was in contravention of Article IX of the ABM Treaty. The Foreign Office had already assessed the potential significance of Flyingdales:

*'Without the involvement of the Upgraded Early Warning Radar at RAF Flyingdales, the ability of the proposed system to meet threats to the United States from North Korea would be unaffected. But its effectiveness in meeting threats to the United States from the Middle East would be likely to be significantly impaired.'*⁵³

The issue of Flyingdales featured prominently in the MoD's Public Discussion Paper, and indeed the expectation that the US Government would soon request the use of Flyingdales for missile defence was one rationale for the Paper itself. The UK Government would ' . . . agree to a US request for the use of UK facilities for missile defence only if we believe that doing so enhances the security of the UK and the NATO alliance'.⁵⁴ Only a week after the Paper was released, the long-awaited request from the Americans arrived. In February 2003 the Government gave formal assent to the use of the station, and for the necessary hardware/software upgrades required. Geoff Hoon the Defence Secretary pointed out the potential bargain on offer:

'An upgraded radar at RAF Flyingdales would provide us, at no cost to the United Kingdom, with a vital building block on which missile defence for this country



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*and for our European neighbours could be developed if the need arose, and if that is what we decide.'*⁵⁵

The BMEWS station at RAF Flyingdales is not the only site on British soil potentially involved in American missile defence. In March 1997 the British Government agreed that the existing US National Security Agency signals intelligence site at RAF Menwith Hill, also in North Yorkshire, could be used for a European Ground Relay Station for the Space-Based Infra-Red System (High) [SBIRS(High)].

SBIRS(High) will comprise four geo-stationary satellites and a further two in a highly elliptical orbit, replacing the existing DSP system from around 2006. A second component, SBIRS(Low) will comprise

a larger number of low-orbit satellites capable of tracking ballistic missiles after booster burnout, which the current DSP cannot. SBIRS(Low) will not, however, utilise facilities in the UK.

Like DSP before it, development of SBIRS began independently of active missile defence. The 1997 agreement pre-dated the NMD controversy in Britain, and, as SBIRS(High) simply replaces an existing capability, no doubt seemed uncontentious at the time. More recently, however, Menwith Hill, like Flyingdales, has become caught-up in the wider NMD controversy. It has been the object of protests and a spectacular 'break-in' by 'peace activists' opposed to anything to do with missile defence. Unlike BMEWS, SBIRS has not yet been the subject of a US request to use facilities in Britain

for active defence, possibly because of delays in the programme. With a clear precedent having been set by Flyingdales, however, it seems highly unlikely that any future request would be denied.

In July 2002 President Bush formally invited other nations, including the United Kingdom, to consider joining the US missile defence programme. This did not come as a surprise to the British Government, which had long been engaged in detailed consultations with the United States.⁵⁶ There had, for some time, been speculation that the US might, in addition to asking for the use of Flyingdales, wish to position an X-Band radar and/or ground-based missile interceptors in the UK as part of its expanded plans for missile defence. If that were to happen, some sort of defensive cover would be extended to the UK.⁵⁷

The Commons Defence Committee asked Geoff Hoon in March 2002:

'is . . . the British Government keen to accept the United States' offer of that [BMD] system being used to protect the people of this country, on the assumption that the system the United States produces is capable of doing that? Is there any reason, in principle, why the United Kingdom would not accept such an offer?'
[Defence Secretary] No.⁵⁸

An MoD official later confirmed that:

*' . . . the Flyingdales radar coupled with some form of interceptor system, ground-based or sea-based, somewhere around north-western Europe would provide a capability to protect the United Kingdom. If you want a more robust, more layered system and one that is capable of defending a larger tranche of the European continent, then further installations would probably be necessary . . . in other parts of the continent.'*⁵⁹

This would come at a cost to Britain. A highly speculative figure of £5-10 billion was given by the MoD in 2002.⁶⁰ This represents expenditure on a scale comparable with other major weapons acquisition projects such as *Trident* or the *Typhoon* Eurofighter. In the words of the then Chief of the Defence Staff: 'There is no way . . . we can pay for any missile defence from within the existing [defence] budget.'⁶¹

The 2003 Defence White Paper indicated that BMD was under active consideration, but that a British decision to acquire any defence capability was still some way off:

*'Missile Defence . . . technologies are developing rapidly, [but] missile interceptors and other means of destroying missiles will only be able to deal with a limited ballistic missile threat. They are not a substitute for nuclear or other forms of deterrence. However, the addition of active missile defences may complicate the thinking of an adversary. We . . . will continue to examine, with our NATO Allies, the complex web of strategic issues to inform future political and policy decisions. Active missile defences could provide an option for meeting the threat from WMD and its means of delivery. But we will need to consider the right balance of investment between it, forces for nuclear deterrence, and other deterrent, defensive and preventive strategies.'*⁶²

The request to upgrade Flyingdales and to use it for missile defence purposes was accompanied by a proposal for a new Research, Development, Test and Evaluation Memorandum of Understanding between the two governments.⁶³ Anglo-American cooperation in BMD technical research had been continuing under the terms of the 1985 MoU. A replacement agreement, updating the existing arrangements, was signed in Brussels in June 2003.⁶⁴ To implement the new MoU, the UK has established a Missile Defence Centre (MDC) involving UK industry, the MoD and its own research laboratory, DSTL. The aim is to 'establish a lead role in Missile Defence for Europe and a significant role for UK industry in the US Missile Defence programme — at the same time as providing advice to MoD Policy staffs'.⁶⁵

The MDC's budget is, by US standards, extremely modest — about £5 million per year. In essence, it continues the TRRAP 'intelligent customer' approach, spending just enough to keep abreast of technological developments whilst avoiding any procurement commitment.

The UK has also been playing a leading role in NATO's developing policy on BMD. The first post-Cold War NATO Strategic Concept in 1991 identified ' . . . the proliferation of . . . weapons of

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