



## Ballistic Missile Defence: Recent Developments

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Missile defence came back to the top of the political agenda in 2007 after the US announced that it was entering into formal negotiations with Poland and the Czech Republic over basing elements of its ballistic missile defence system in Eastern Europe. Russia's reaction to the proposals has been one of hostility, with the Russian government calling into question key Cold War treaties, subsequently suspending its participation in the Conventional Forces in Europe (CFE) Treaty, threatening to pull out of the Treaty on Intermediate-Range Nuclear Forces (INF) and suggesting that, as a retaliatory measure, it could redefine the targeting of its nuclear missiles to include European locations and deploy short range surface-to-surface missiles to the Russian enclave of Kaliningrad, close to the Polish border.

This note examines recent developments in the fielding of the US ballistic missile defence system, including the deployment of an initial phase capability and the US proposals for Eastern Europe. It also briefly looks at the prospects for missile defence under the new Democrat administration of President-elect Barack Obama. British participation in missile defence is set out in a separate Library Standard Note, SN/IA/4664, [UK Participation in US Missile Defence](#).

A history of US efforts to develop a ballistic missile defence capability and the more general debate over the merits of missile defence is also outlined in [Library Research Paper RP03/28 Ballistic Missile Defence, March 2003](#) and Library Standard Note [SN/IA/2972](#).

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## 1 Background

A history of US efforts to develop a ballistic missile defence capability is outlined in Library Research Paper RP03/28 *Ballistic Missile Defence*, March 2003.

The following is a short summary of some of the issues highlighted in that paper which are essential to assessing current developments.

### 1.1 A Guide to Basic Terminology

Missiles are categorised as 'ballistic' if, once their fuel is expended on launch they then travel under the influence of gravity and air resistance. Modern ballistic missiles share a common fundamental element in that they are launched on a precise trajectory intended to curve up into space, or the outer reaches of the atmosphere, and then descend under gravity to the target. The payload, which may comprise one or more warheads, separates from the rest of the missile in space, before it re-enters the earth's atmosphere and continues to the target.

Missile defence systems can be divided into three main categories depending on what part of the trajectory of the incoming missile the interceptor is designed to target:

- **Boost Phase** – where the defence system is designed to intercept during the boost phase of the attacking missile, in the first few minutes after it is launched and before the missile has released its warheads. Typically the boost phase ends at altitudes of 300 miles or less and within one to five minutes of flight, depending on the range of the missile.
- **Midcourse** – this follows the boost phase and is the longest phase in a missile's trajectory. The midcourse phase of an intercontinental ballistic missile (ICBM) can, for example, last for as long as 20 minutes. During the midcourse phase the warhead is intercepted after it has been released by the missile, but before it re-enters the atmosphere (exo-atmospheric).
- **Terminal Phase** – where the missile warhead is intercepted in the final stage of its trajectory, as it re-enters the atmosphere shortly before reaching its target. This is by far the shortest phase. For ICBMs this phase commonly lasts for less than 60 seconds.

A missile in its boost phase is the easiest to target because the rocket motor provides a highly visible heat signature and the missile and warhead are still together. Destroying a missile in this phase is also the most ideal solution since it precludes the deployment of any countermeasures. On the other hand, the boost phase is short. To target a missile effectively at this time would require sensors that can detect and relay launch information quickly, (relative) proximity to the launch site, and/or for the interceptor missile to attain maximum velocity in a very short space of time in order for it to catch up with an accelerating missile.

The midcourse phase is the longest and therefore offers the largest opportunity for intercepting a missile. However there is no rocket motor heat signature and the missile is at its most distant from the earth, making interception more difficult. Seeking to intercept during the extremely short terminal phase allows little margin for error in the event of a malfunction or a miss, and requires defensive systems to be deployed very close to the intended target, meaning that more interceptor sites would be required than for a midcourse-phase system.

In order to intercept incoming missiles successfully and reliably, a flawless performance by a whole range of advanced technical equipment is required. The various components required include: radar tracking devices, interceptor guidance and propulsion systems, on-board sensors and communication links. All of these individual components of the missile defence 'architecture' need to be integrated seamlessly to ensure a successful intercept.

## 1.2 US Withdrawal from the ABM Treaty

The Anti-Ballistic Missile (ABM) Treaty was signed on 26 May 1972 and entered into force in October of that year. The treaty (the full title being *Treaty between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-Ballistic Missile Systems*) represented an attempt to maintain what SIPRI termed "the stabilizing logic of mutual assured destruction" by preventing either side from gaining a significant advantage through the development of a missile shield.<sup>1</sup>

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<sup>1</sup> SIPRI Yearbook 1998, Stockholm International Peace Research Institute, p.20

As its full title suggests, the treaty did not prohibit ballistic missile defence systems, but sought to limit their development and deployment. Neither side was allowed to develop a nationwide system of missile defence, although under the original terms of the treaty they were permitted to develop two anti-ballistic missile deployment areas: one around the capital city, and a second around an inter-continental ballistic missile (ICBM) launch site. A protocol was signed in July 1974, reducing the number of permitted deployment areas to one, with an upper ceiling of 100 ABM launchers and 100 ABM missiles. The Soviet deployment area was placed around Moscow, while the US site was located around the Grand Forks ICBM complex. The defences around Moscow were upgraded during the early 1990s,<sup>2</sup> whereas the US site was dismantled in 1976 due to high costs and technical difficulties. Nonetheless, the facilities at Grand Forks continued to count as the designated US site under the ABM Treaty.

In contrast to the importance attached to the Treaty by the Clinton administration, officials from the incoming Bush administration viewed it as an anachronism, believing the Treaty would hold back their plans for an advanced missile defence programme, as had been pledged by Mr Bush during the election campaign in 2000. Consequently, in a speech on 1 May 2001 the new President declared that it was time to move beyond the old paradigm of 'mutually assured destruction' that had dominated superpower relations during the Cold War, to tackle new threats that were emerging and to stem the proliferation of weapons of mass destruction (WMD). In order to achieve this, he said it was necessary to "move beyond the constraints" of the ABM Treaty:

We need a new framework that allows us to build missile defenses to counter the different threats of today's world. To do so, we must move beyond the constraints of the 30-year-old ABM Treaty. This treaty does not recognize the present, or point us to the future. It enshrines the past. No treaty that prevents us from addressing today's threats, that prohibits us from pursuing promising technology to defend ourselves, our friends and our allies is in our interests or in the interests of world peace. This new framework must encourage still further cuts in nuclear weapons. Nuclear weapons still have a vital role to play in our security and that of our allies. We can, and will, change the size, the composition, the character of our nuclear forces in a way that reflects the reality that the Cold War is over.<sup>3</sup>

Negotiations with Russia on revising or adapting the ABM Treaty failed to find a solution, and on 13 December 2001 President Bush announced that his Government had given Russia formal notice of its intention to withdraw from the Treaty in six months, as required under Article XV (2) of the Treaty. In a statement, Mr Bush said: "I have concluded the ABM Treaty hinders our government's ability to develop ways to protect our people from future terrorist or rogue-state missile attacks." He went on to say that the decision to withdraw from the treaty would not undermine Russian security or damage the new relationship with Russia.<sup>4</sup>

### **1.3 BMD Threat Assessment**

During the course of the Clinton Presidency, there was growing support for the National Missile Defence concept, particularly after the Republicans gained control of Congress in 1994. The concept was viewed as a means of addressing the growing proliferation of ballistic missile technology to states such as Iran, Iraq, Libya and the Democratic People's

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<sup>2</sup> Although experts contend they are of questionable operational effectiveness.

<sup>3</sup> 'Speech by President George W. Bush at the National Defense University, Washington', 1 May 2001, from Acronym Institute web site at <http://www.acronym.org.uk/bush1.htm>

<sup>4</sup> 'Bush announces U.S. withdrawal from ABM Treaty', US Department of State web site, 13 December 2001, from <http://usinfo.state.gov/topical/pol/arms/stories/01121302.htm>

Republic of Korea (North Korea), which were regarded as less stable or predictable threats than Russia. Support for such a view came from a 1998 report on the ballistic missile threat to the USA, produced by a commission headed by Donald Rumsfeld<sup>5</sup> and a subsequent intelligence assessment on the *Foreign Missile Development and Ballistic Threat to the United States Through 2015*, published by the US National Intelligence Council in 1999.<sup>6</sup>

That NIC assessment was updated in December 2001 and forms the basis of current thinking in terms of strategic priorities. In line with its previous assessment, the NIC concluded that the most likely ballistic missile threats to the US will originate from the Middle East and North Korea. In summary, that assessment made the following key judgements:

**Most Intelligence Community agencies project that before 2015 the United States most likely will face ICBM threats from North Korea and Iran, and possibly from Iraq**—barring significant changes in their political orientations—in addition to the longstanding missile forces of Russia and China. One agency assesses that the United States is unlikely to face an ICBM threat from Iran before 2015.

**Short- and medium-range ballistic missiles already pose a significant threat overseas to US interests, military forces, and allies.**

- Emerging ballistic missile states continue to increase the range, reliability, and accuracy of the missile systems in their inventories—posing ever greater risks to US forces, interests, and allies throughout the world.
- Proliferation of ballistic missile-related technologies, materials, and expertise—especially by Russian, Chinese, and North Korean entities—has enabled emerging missile states to accelerate missile development, acquire new capabilities, and potentially develop even more capable and longer range future systems.

**Unless Moscow significantly increases funding for its strategic forces, the Russian arsenal will decline to less than 2,000 warheads by 2015—with or without arms control.**

- Although Russia still maintains the most comprehensive ballistic missile force capable of reaching the United States, force structure decisions resulting from resource problems, program development failures, weapon system aging, the dissolution of the Soviet Union, and arms control treaties have resulted in a steep decline in Russian strategic nuclear forces over the last 10 years.

**The Intelligence Community projects that Chinese ballistic missile forces will increase several-fold by 2015, but Beijing's future ICBM force deployed primarily against the United States—which will number around 75 to 100 warheads—will remain considerably smaller and less capable than the strategic missile forces of Russia and the United States.**

- China has three new, mobile strategic missiles in development—the road-mobile DF-31 ICBM; the longer range road-mobile DF-31 follow-on; and the JL-2 submarine-launched ballistic missile (SLBM).

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<sup>5</sup> Mr Rumsfeld served as Secretary of Defense under President Gerald Ford between 1975 and 1977 and returned to the post in President George W. Bush's administration in January 2001.

<sup>6</sup> An outline of the report's conclusions is set out in Library Research Paper RP03/28.

- These programs date from the mid-1980s and are the basis of Beijing's efforts to field a modern, more survivable strategic deterrent to the United States and Russia.

**North Korea's multiple-stage Taepo Dong-2, which is capable of reaching parts of the United States with a nuclear weapon-sized (several hundred kg) payload, may be ready for flight-testing.**

**Iran is pursuing short- and long -range missile capabilities.**

- Tehran has 1,300-km-range Shahab-3 medium-range ballistic missiles (MRBMs) that could be launched in a conflict.
- Iran is pursuing an ICBM/space launch vehicle (SLV) system. All agencies agree that Iran *could* attempt a launch in mid-decade, but Tehran is *likely* to take until the last half of the decade to flight test an ICBM/SLV; one agency further believes that Iran is unlikely to conduct a successful test until after 2015.

**Iraq, constrained by international sanctions and prohibitions, wants a long-range missile and probably retains a small, covert force of Scud-variant missiles.**

- If UN prohibitions were eliminated or significantly reduced, Iraq would be likely to spend several years re-establishing its short-range ballistic missile (SRBM) force, developing and deploying solid-propellant systems, and pursuing MRBMs.
- All agencies agree that Iraq *could* test different ICBM concepts before 2015 if UN prohibitions were eliminated in the next few years. Most agencies, however, believe that it is *unlikely* to do so, even if the prohibitions were eliminated. Some believe that if prohibitions were eliminated Iraq would be *likely* to test an ICBM masked as an SLV before 2015, possibly before 2010 if it received foreign technology.

**Several countries *could* develop a mechanism to launch SRBMs, MRBMs, or land-attack cruise missiles from forward-based ships or other platforms; a few are *likely* to do so—more likely for cruise missiles—before 2015.<sup>7</sup>**

Nonmissile means for delivering weapons of mass destruction do not provide the same prestige, deterrence, and coercive diplomacy as ICBMs; but they are less expensive, more reliable and accurate, more effective for disseminating biological warfare agents, can be used without attribution, and would avoid missile defenses.

**Foreign nonstate actors—including terrorist, insurgent, or extremist groups that have threatened or have the ability to attack the United States or its interests—have expressed an interest in chemical, biological, radiological, or nuclear (CBRN) materials.<sup>8</sup>**

More recently, and in light of the reaction to US proposals to locate a third interceptor site and ground based radar in Poland and the Czech Republic respectively (see below), the

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<sup>7</sup> In 2004 the Missile Defence Agency noted that at least 24 countries around the world were in possession of ballistic missile technologies and that not only was the pace of proliferation increasing but that the maturity of existing capabilities was also developing at a fast pace. An outline of the capabilities of those 24 countries is available at: <http://www.mda.mil/mdalink/pdf/BM2004.pdf>

<sup>8</sup> National Intelligence Council, *Foreign Missile Development and the Ballistic Missile Threat Through 2015*, December 2001. A copy of the unclassified summary is available online at: <http://www.fas.org/irp/nic/bmthreat-2015.htm>

Bush administration has sought to reiterate the conclusions of those previous threat assessments and outline what it considers to be the strategic priorities for the US BMD system. In an opinion piece first published by *The Daily Telegraph* on 26 April 2007 the US Secretary of State, Condoleezza Rice, and US Defense Secretary, Robert Gates, stated:

Despite our best efforts [...] weapons of mass destruction and missile capabilities continue to proliferate. We sincerely hope that the diplomatic efforts underway will succeed in addressing the challenges we face from states like North Korea and Iran [...]

However we cannot guarantee success ... we need to be clear that the missile threat from Iran is real and growing, and it is a threat not just to the United States, but to Europe and Russia as well. Looking a few years ahead, other such missile threats will likely emerge as well.

It is with these realities in mind that we are developing and deploying modest missile defences. Our goal is to field systems capable of protecting not only the United States and our forces, but also friends and allies like those in the transatlantic community [...]

The system we have in mind is limited, and the missiles have no warhead at all. It is oriented against a potential enemy with a small arsenal, attempting to blackmail our people, sow chaos and sap our collective will.

Development of such a limited system is realistic. Critics of this approach should also be realistic: this system is of no use against a huge nuclear and ballistic missile arsenal, such as that possessed by Russia. Talk of a new "arms race" with Russia is anachronistic and not grounded in reality.<sup>9</sup>

In the last year and a half developments in Iran's ballistic missile programme have been highlighted by the US as specific justification for pursuing its extensive and ambitious missile defence plan.<sup>10</sup> In a Pentagon news briefing in July 2008 the Head of the US Missile Defense Agency, General Obering, noted these developments:

We all know that the ballistic missile threat has continued to proliferate around the world. Access to these weapons has increased over the past many years. And, in fact, two countries that we are very much concerned about, specifically North Korea and Iran, and the developments that they are continuing to make in their missile programs.

According to our own Defense Intelligence Agency, Iran is working on an extended-range version of the Shahab 3 and a new 2,000 kilometer medium-range ballistic missile which they term the Ashura.

In addition, in February of this year, Iran claimed that it had successfully launched an exploratory space vehicle [...] and then in November, and then just this past week, Iran orchestrated launches of several short-and medium- range ballistic missiles capable of striking Israel and US bases in the Middle East.<sup>11</sup>

In November 2008 Iran was reported to have test-launched that new medium-range ballistic missile. An article in *Jane's Defence Weekly* commented:

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<sup>9</sup> "Rice, Gates outline US strategy on missile defense", Office of the Embassy of the United States of America, London, 26 April 2007

<sup>10</sup> An outline of Iran's conventional military capabilities, and specifically its ballistic missile programme, is set out in Library Standard Note SN/IA/4264, *Iran: Conventional Military Capabilities*.

<sup>11</sup> US Department of Defense Press Briefing, 15 July 2008

With a purported range of 2,000km the missile brings Moscow, Athens and Italy within striking distance from Iran. It is this kind of threat that has spurred the US development of a missile defence shield in Europe.<sup>12</sup>

However in an article in *RUSI Journal* in October 2008 General Obering sought to reiterate that:

What we are building is not just tailored to Iran and North Korea. We need to be concerned about the access others may have to emerging technologies. A concern on the emerging threat is that some nations view ballistic missiles as their future air forces.<sup>13</sup>

In terms of the threat to the UK, the British Government currently believes that there is “no immediate significant ballistic missile threat to the UK”,<sup>14</sup> but has argued that a number of states are seeking to acquire ballistic missile technology which could be used to target UK territory or British forces deployed abroad. The ability of Iran, for example, to strike locations in Cyprus and large parts of Saudi Arabia was highlighted during Oral Questions in the House of Lords on 28 February 2007.<sup>15</sup>

However it is not just the proliferation of ballistic missile technology among rogue states that is pertinent to the BMD debate, but also the capability of those nations to arm those missiles with chemical, biological, radiological or nuclear warheads. Further information on the threat assessment of those countries with such capabilities is set out in Library Research Paper RP06/53, [The Future of the British Nuclear Deterrent](#) and Library Standard Note SN/IA/3817, *State Possession of Nuclear Weapons*.

#### 1.4 US BMD Proposals

The current US plans for the deployment of an integrated, multi-layered ballistic missile defence capability were announced by the Bush administration in December 2002. Those proposals built upon plans for a National Missile Defence (NMD) system that were initially set out by the Clinton administration in 1999.<sup>16</sup> Those initial proposals envisaged the three-stage deployment of a ground-based midcourse system and supporting elements designed to intercept an incoming missile while still in space. The system was to use a method known as ‘hit-to-kill’, using kinetic energy rather than an explosive warhead to destroy the incoming missile on impact.<sup>17</sup>

The Bush proposals have been considered more ambitious, a situation that has developed, in part, as a result of the latitude given to the US following its withdrawal from the ABM Treaty. In addition to the deployment of a midcourse interceptor system, largely intended to defend the continental US, the Bush proposals also envisaged the eventual deployment of an inherently more complex, fully integrated<sup>18</sup> and multi-faceted system capable of defending the US homeland, globally deployed US forces and US allies against a ballistic missile attack

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<sup>12</sup> “Iranian missile launch marks capability leap”, *Jane’s Defence Weekly*, 19 November 2008

<sup>13</sup> “US Missile Defence: Interview with General Obering”, *RUSI Journal*, October 2008

<sup>14</sup> *Missile Defence: A Public Discussion Paper*, 9 December 2002, p.10, available on the MoD web site at: <http://www.mod.uk/NR/rdonlyres/9DA4A026-DB01-466D-B5B3-EA6C64A2D85F/0/missiledef.pdf>

<sup>15</sup> HL Deb 28 February 2007, c1599

<sup>16</sup> Details of these proposals are set out in Library Research Paper RP03/28.

<sup>17</sup> The limitation of this type of system is that an interceptor missile requires great precision in order to be successful.

<sup>18</sup> All capabilities would be integrated by a command, control, battle management and communications network that would allow BMD sensors to share missile tracking data with any other system component.



at any point during the three phases of the incoming missile's trajectory, and against all types and ranges of ballistic missile.

Under these proposals the intention was to deploy an initial-phase missile defence capability by 2004-05. In summary, those capabilities included:

- Up to 20 ground-based interceptors (GBI) capable of intercepting and destroying intercontinental ballistic missiles during the midcourse phase of flight using kinetic hit-to-kill technology. The GBIs would be located at Ft. Greely, Alaska (16 interceptors) and Vandenberg Air Force Base, California (4 interceptors).<sup>19</sup>
- Up to 20 sea-based hit-to-kill interceptors employed on existing Aegis destroyers in the US fleet, to intercept ballistic missiles in the first few minutes after they are launched, during the boost and ascent phases of flight.
- Deployment of air-transportable Patriot Advanced Capability-3 (PAC-3) systems to intercept short and medium-range ballistic missiles during the terminal phase.
- Land, sea and space-based sensors, including existing early warning satellites, an upgraded radar now located at Shemya, Alaska; a new sea-based X-band radar; upgraded existing early warning radars in the UK and Greenland<sup>20</sup> and use of radars and other sensors now on Aegis cruisers and destroyers.<sup>21</sup>

Further phases in the development of BMD would focus on the deployment of multiple capabilities, by 2015, in order to achieve the fully integrated and multi-layered system envisaged. Significantly, the US administration acknowledged at the time that achieving a system of this nature which could address all potential threat scenarios (outlined above), would require the establishment of a third interceptor site and additional early warning radar outside of the continental US. In addition, achieving full BMD capability would include the deployment of a number of other assets, including:

- Deployment of additional ground and sea-based interceptors and PAC-3 units.
- Deployment of the Terminal High Altitude Area Defense (THAAD)<sup>22</sup> system to intercept short and medium-range missiles at high altitude.
- Use of the developmental Airborne Laser aircraft that would use directed energy to destroy a ballistic missile in the boost phase.
- Deployment of a common family of boost phase and midcourse interceptors for land and sea basing.
- Deployment of enhanced radars and other sensor capabilities.

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<sup>19</sup> A map of the envisaged BMD system is available in Appendix One.

<sup>20</sup> The Danish government and the Home Rule Government of Greenland gave its approval to the upgrade of the radar in Thule in August 2004. A further Framework MOU on missile defence co-operation between the US and Denmark was also signed in October 2005

<sup>21</sup> US Department of Defense Press Release, 17 December 2002. This is available online at: [http://www.defenselink.mil/news/Dec2002/b12172002\\_bt642-02.html](http://www.defenselink.mil/news/Dec2002/b12172002_bt642-02.html)

<sup>22</sup> The Terminal High Altitude Area Defense (THAAD) system is a ground-based missile defence system which represents the upper tier of a two-tiered missile defence system for protecting forces in theatre (Theatre Missile Defence). Systems such as Patriot form the lower tier of the overall system.

- Development and testing of space-based defences, specifically space-based kinetic energy (hit-to-kill) interceptors and advanced target tracking satellites.<sup>23</sup>

Beyond the deployment of an initial system, the timeframe for additional capability development was initially established in incremental two year acquisition 'blocks'. Each 'block' was intended to continue developing existing capabilities, whilst also providing new capabilities to those already fielded. Following criticisms that the funding and fielding of new capabilities lacked transparency and accountability under the "block" system, in December 2007 the MDA established a new structure for the agency's future programme of work. Thus far the MDA has defined five blocks, each representing a discrete programme of work and based on fielded BMD capabilities:

- Block 1.0: Defend the United States from Limited North Korean Long-Range Threats
- Block 2.0: Defend Allies and Deployed Forces from Short- to Medium-Range Threats in One Region/Theatre
- Block 3.0: Expand Defence of the United States to Include Limited Iranian Long-Range Threats
- Block 4.0: Defend Allies and Deployed Forces in Europe from Limited Iranian Long-Range Threats and Expand Protection of U.S. Homeland
- Block 5.0: Expand Defence of Allies and Deployed Forces from Short- to Intermediate-Range Threats in Two Regions/Theatres.

Future blocks will be added once significant new capabilities are expected to be fielded on the basis of technological maturity, affordability and need. The main advantage of the new system is that each block will be assigned a specific schedule, budget and performance baseline. Consequently work on specific capabilities will not be deferred from one block to another.

The BMDS programme is funded at \$8-10 billion per annum. According to the US Government Accountability Office (GAO), continued development and fielding under the MDA's work programme is estimated to require an additional \$50 billion between fiscal years 2008 and 2013.

A map setting out the eventual architecture of the BMD system is included in Appendix One, while progress in deploying the BMDS against this new structure is examined below.

## **2 Status of the US Deployment and Testing Programme**

Under the proposals set out in 2002 the deployment of an initial BMD system was outlined for 2004-05, with additional capability incrementally fielded in two-year blocks until acquisition of a fully integrated system by approximately 2015. Under MDA plans that two-year block structure has been altered and from 2008 onwards blocks of work will be based on fielded capabilities (see above).

As set out below, an initial operational BMD capability was achieved by the end of 2005 and in July 2006 the BMD system was temporarily activated when North Korea conducted its tests of the Taepo Dong 2 ballistic missile.<sup>24</sup>

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<sup>23</sup> US Department of Defense Press Release, 17 December 2002

However, those capabilities have been fielded before operational testing and evaluation has been completed.<sup>25</sup> As such, many commentators have continued to question the effectiveness and indeed utility of a system that remains largely unproven.

## 2.1 Status of the Testing Programme

The status of the US testing programme, as of March 2004, is set out in Library Standard Note SN/IA/2972. In the last four and a half years the success of the testing programme has continued to be mixed with some systems, such as the PAC-3 and THAAD, which have evolved from already proven theatre missile defence technologies, achieving a greater state of maturity than other elements, such as the ground-based midcourse system and additional capabilities such as the Airborne Laser programme.

In evidence to the Strategic Forces Subcommittee of the House Armed Services Committee in March 2007 General Obering set out his assessment of the testing programme for the ground-based midcourse defence element:

Coming off the very successful fly-out of the operational configuration long-range interceptor in December 2005, we conducted a long-range intercept test last September [2006] that exceeded our expectations. That complex test involved an operational interceptor launched from an operational silo at Vandenberg Air Force Base, operational sensors and operational crews manning fire control consoles. The test demonstrated the functionality of the Exo-Atmospheric Kill Vehicle and the ability to engage a threat-representative target using the upgraded Early Warning Radar at Beale Air Force Base in California. After the kill vehicle acquired the target launched out of the Kodiak Launch Complex in Alaska nearly 3,000km away from the engagement zone, it successfully intercepted it [...] This was our most operationally realistic, end-to-end test of the system involving the ground-based midcourse defence element to date.<sup>26</sup>

Despite the conclusion of the first successful intercept test of the GBI system in four years, members of Congress, analysts and the media alike continued to question the feasibility and effectiveness of the midcourse system. Indeed at the time of the September 2006 test, it had been the only successful 'end-to-end' test of the system conducted by the MDA since the inception of the programme. Previous successful tests had focused on specific aspects of the GBI system, rather than the system as a whole. A follow-up test to the September firing was subsequently delayed in December 2006 due to software problems and then aborted in May 2007 because the target failed to reach the intercept area and the missile based at Vandenberg subsequently did not launch. A test of the system using an operationally-configured long-range interceptor was, however, successfully concluded in September 2007.

According to the MDA's list of key accomplishments, in 2007 five successful tests of the Aegis BMD system and three successful tests of THAAD were also conducted. The level of maturity achieved in the latter programme has led to the MDA's expectation that US deployed forces can begin fielding THAAD capabilities in 2009.<sup>27</sup> Progress has also been made in the testing programme of developmental capabilities such as the Airborne Laser (ABL), the Kinetic Energy Interceptor (KEI) and the space tracking and surveillance system

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<sup>24</sup> Further information on the North Korean tests is available in Library Research Paper RP07/03, *North Korea: the nuclear issue and prospects for change*, 10 January 2007.

<sup>25</sup> The MDA is not currently subject to DoD acquisition policies which therefore allow the MDA to field capabilities which are still in their developmental stage, without any legal implications.

<sup>26</sup> Statement of Lieutenant General Obering, Director of the Missile Defence Agency, to the Strategic Forces Subcommittee of the House Armed Services Committee, 27 March 2007

<sup>27</sup> Missile Defense Agency, *Fiscal year 2009: Budget Estimates*, January 2008

(STSS).<sup>28</sup> The successful destruction of a failed US reconnaissance satellite in February 2008, using capabilities that were designed and originally fielded for the Aegis BMD architecture, has also been considered by many analysts as an active demonstration of the sea-based BMD system. Dr Daniel Goure of the Lexington Institute, for example, commented:

This event demonstrates that missile defense has come of age. [It] was not merely a demonstration of the ability of the SM-3 to intercept a target. It showed the ability of the missile defense architecture as a whole to function effectively in a real world scenario.<sup>29</sup>

Giving evidence to the House Armed Services Committee at the end of February 2008 the Commander of US Strategic Command, General Chilton, denied that this had been the intention of the Pentagon however and sought to emphasize that:

The recent successful operation to intercept the decaying satellite was not a test of our missile defense system. Some components of the system underwent a one time modification to facilitate accomplishment of this mission. However, these components are being returned to their original configurations to continue defending against the ballistic missile threat.<sup>30</sup>

During that Committee session General Chilton also went on to provide an update on the overall progress of the BMD testing programme. He stated:

The Missile Defence Agency had an excellent year. In 2007, MDA conducted five successful Aegis Standard Missile flight tests (one in conjunction with the Japanese Maritime Self Defense Force) and four Terminal High Altitude Area defense (THAAD) flight tests. Additionally, the conducted one Near-Field Infrared Experiment (NFIRE) test on-orbit, and one Network Centric Airborne Defense Element (NCADE) air-to-air test. In September 2007 a successful ground-based midcourse intercept test was conducted using operational crews. In July 2007, the early warning radar at Fylingdales Royal Air Force base completed a major hardware and software upgrade to improve detection, object classification, and precision tracking of ballistic missiles launched against the US. This site, along with the site at Beale AFB is now equipped with the Upgraded Early Warning Radar making both sites critical components of the BMDS. These modernisations contribute significantly to the accuracy, and hence effectiveness, of missile defence tracking information and provide a single configuration that will enhance the sustainability of these radars.

The BMDS was exercised extensively throughout 2007. Between April and August, operational war-fighters exercised missile defence operations in six joint and combined combatant command level exercises. These efforts dramatically increased the level of operational war-fighter involvement in the development and fielding of the BMDS.<sup>31</sup>

With regard to prospects for 2008 General Chilton went on to state:

In the coming year, multiple BMDS exercises and tests, complemented by the development of the global integrated missile defense concept of operations will serve

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<sup>28</sup> See MDA, "Missile defense agency accomplishments throughout 2007", 14 January 2008

<sup>29</sup> "Finally, missile defense that works", *The Lexington Institute*, 3 March 2008

<sup>30</sup> Statement of General Kevin Chilton, Commander, United States Strategic Command before the Strategic Forces Subcommittee of the House Armed Services Committee, 27 February 2008

<sup>31</sup> Statement of General Kevin Chilton, Commander, United States Strategic Command before the Strategic Forces Subcommittee of the House Armed Services Committee, 27 February 2008

to validate our ability to ensure the efficient, coordinated, and prioritized use of limited missile defense resources [...]

As our missile defense system continues to mature, it will continue to influence our adversaries' perception of the economic and political cost they must incur to pursue missile technologies. While missile defense as a defensive shield is important, its ability to assure allies, dissuade competition, and deter adversaries is equally vital.<sup>32</sup>

He also acknowledged that the merits, and cost effectiveness, of incorporating cruise missile defence capabilities into the eventual BMD architecture were currently being considered.<sup>33</sup>

As part of its Congressional annual reporting process, in February 2008 the US Government Accountability Office (GAO) released its report on BMD activity during 2007 and expressed concern over the progress of the testing programme. That report commented:

Most test objectives were achieved during 2007, although several BMDS programs experienced setbacks in their test schedules. The MKV, KEI, and Sensors elements were able to execute all scheduled activities as planned. The Aegis BMD, THAAD, ABL, STSS and C2BMC [command, control, battle management and communications] elements experienced test delays but all were able to achieve their primary test objectives. GMD successfully completed an intercept with an operationally representative interceptor and a radar characterization test. A second intercept test employing the SBX radar has been delayed because a target malfunction delayed the execution of the first intercept test. The SBX capability is important as it is a primary sensor to be used to engage ballistic missiles in the midcourse phase of flight. As of yet, this capability has not been verified through flight testing.<sup>34</sup>

The GAO went on to conclude:

Information is not sufficient to assess whether MDA achieved its revised performance goals. First, MDA uses a combination of simulations and flight tests to determine whether performance goals are met. However, too few flight tests have been completed to ensure the accuracy of the models and simulations predictions. Second, confidence in the performance of the BMDS is reduced because of unresolved technical and quality issues in the GMD element. For example, the GMD element has experienced the same anomaly during each of its flight tests since 2001. This anomaly has not yet prevented the program from achieving any of its primary test objectives, but to date neither its source nor solution has been clearly identified [...] Finally, tests of the GMD element have been of a developmental nature, and have not included operationally representative test geometries in which GMD will perform its mission. MDA has added operational test objectives to its developmental test program, but the objectives are mostly aimed at proving that military personnel can operate the equipment. The lack of data has limited the operational test and evaluation Director's annual BMDS assessment to commenting on aspects of tests that were operationally realistic and thus has prevented the Director from determining whether the system is suitable and effective for the battlefield.<sup>35</sup>

## 2.2 Deployment of First Phase Capabilities

In March 2006 the GAO conducted an assessment of the MDA's achievements in fielding an initial operational capability against the agency's original goals as set out in the Block 2004

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<sup>32</sup> *ibid*

<sup>33</sup> *ibid*

<sup>34</sup> US Government Accountability Office, GAO-08-506T

<sup>35</sup> US Government Accountability Office, GAO-08-506T

development plan. The GAO acknowledged that a limited BMD capability had been fielded, although it could not verify system performance because of delays in the flight test programme.

The objectives of block 2006 were primarily focused on enhancing the capability of the four fielded capabilities: GMD, Aegis, Sensors and C2BMC. During the 2006 fiscal year, however, the MDA revised its cost, fielding and performance goals for that block (see table below). Work on block 2006 was concluded in December 2007. In its full assessment report for Congress in March 2008 the GAO set out its evaluation of the success of the MDA in meeting its Block 2006 objectives, including where those objectives were exceeded:

During Block 2006, MDA increased its inventory of BMDS assets while enhancing the system's performance. The agency fielded 14 additional Ground-based interceptors, 12 Aegis BMD missiles designed to engage more advanced threats, 4 new Aegis BMD destroyers, 1 new Aegis BMD cruiser, as well as 8 C2BMC Web browsers and 1 C2BMC suite. In addition, MDA upgraded half of its Aegis BMD ship fleet, successfully conducted four Aegis BMD and two GMD intercept tests, and completed a number of ground tests to demonstrate the capability of BMDS components. Considering assets fielded during Blocks 2004 and 2006, MDA, by December 31, 2007, had cumulatively fielded a total of 24 Ground-based interceptors, 2 upgraded early-warning radars, an upgraded Cobra Dane surveillance radar, 1 Sea-based X-band radar, 2 Forward-Based X-Band Transportable radars, 21 Aegis BMD missiles, 14 Aegis BMD destroyers, and 3 Aegis BMD cruisers. In addition, MDA had fielded 6 C2BMC suites; 46 warfighter enterprise workstations with situational awareness; BMDS planner and sensor management capabilities; 31 C2BMC Web browsers, 13 with laptop planners; and redundant communications node equipment to connect BMDS elements worldwide [...]

Although MDA did not meet its original block fielding goals, it was able in nearly all instances to meet or exceed its revised goals. Of the four elements delivering assets during Block 2006, one—Sensors—was able to meet its original goal. However, two elements—GMD and C2BMC—were able to exceed their revised fielding goals.<sup>36</sup>

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<sup>36</sup> US Government Accountability Office, GAO-08-448

Fielded capabilities at the end of Block 06 (December 2007) were thus:

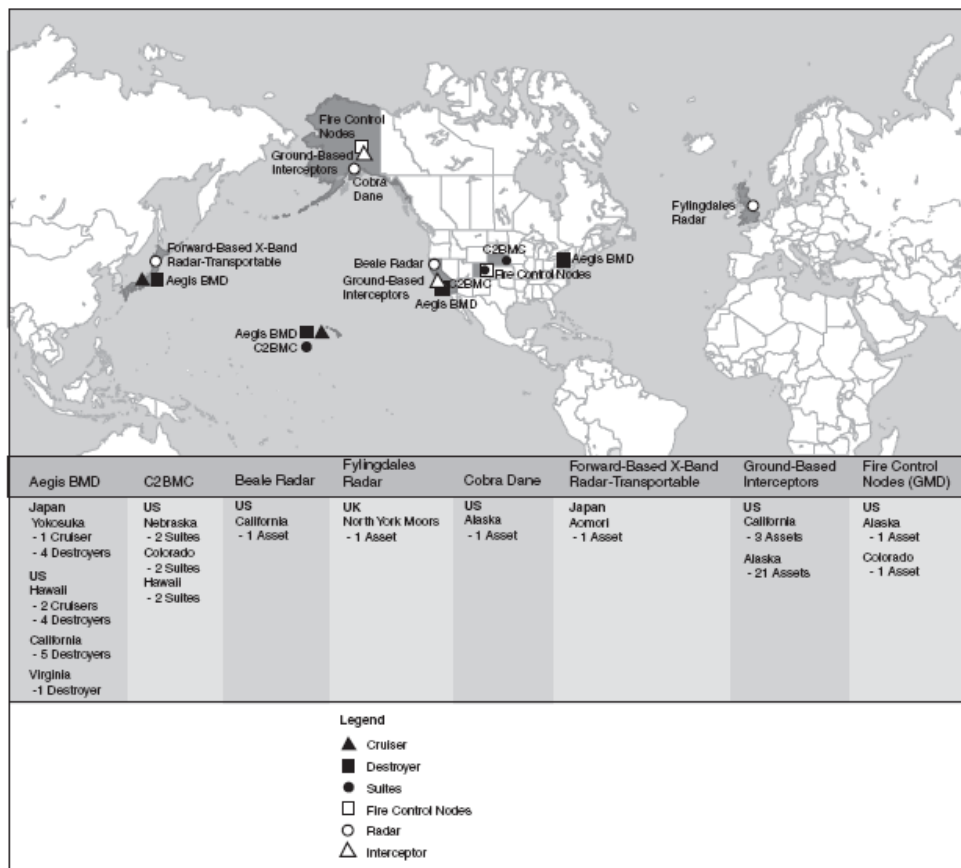
**Table 2: BMDS Block 2006 Deliveries and Total Fielded Assets**

BMDS element	Original goal as of March 2005	Goal as of March 2006	Block 2006 assets as of December 31, 2007	Total assets available (cumulative total for Block 2004 and Block 2006)
GMD	Up to 15 interceptors Thule Interim Upgrade Early Warning Radar	Up to 12 interceptors Deferred to Block 2008	14 interceptors	24 interceptors
Sensors	1 Forward-Based X-Band-Transportable Radar (FBX-T)	1 Forward-Based X-Band-Transportable Radar	1 Forward-Based X-Band-Transportable Radar	2 Forward-Based X-Band-Transportable Radars <sup>a</sup>
Aegis BMD	19 SM-3 missiles 4 new destroyers; long-range surveillance and tracking (LRS&T) only 8 upgraded destroyers for the engagement mission 1 new cruiser	15 SM-3 missiles 4 new destroyers (LRS&T-only) 7 upgraded destroyers for the engagement mission 1 new cruiser	12 SM-3 missiles 4 new destroyers 7 upgraded destroyers; all perform the engagement mission 1 new cruiser; that engages and performs LRS&T	21 SM-3 missiles 14 destroyers; 7 perform LRS&T only and 7 engage and perform LRS&T 3 cruisers; all engage and perform LRS&T
C2BMC	3 suites	Suites deferred; replaced with 3 Web browsers	1 suite; 8 Web browsers/planners	6 suites 31 Web browsers 46 enterprise workstations

Source: MDA data.

<sup>a</sup>The second FBX-T radar is currently located at Vandenberg Air Force Base. It is available for use, but no decision has been made as to where it will be located.

**Figure 1: Deployed BMDS Assets as of December 31, 2007**



Source: MDA (data); GAO (presentation), map (Map Resources).

As outlined above, changes to the block structure were implemented by the MDA in December 2007. From 2008, therefore, blocks of work will be defined on the basis of fielded capabilities.

### **2.3 Congressional Funding**

The majority of the additional capabilities envisaged for the BMD system continue to be at a research and developmental stage or are still the subject of political debate as to their utility. As such the support of Congress for the BMD concept is currently proving vital. In the last few years those elements of the system that have achieved relative design maturity and have seen success in their respective testing programmes have largely been supported by both Houses of Congress, with funding in some cases (the PAC-3, Aegis systems and THAAD systems for example) being increased. In contrast, next generation BMD capabilities that are considered immature and unproven, such as the Airborne Laser, have subsequently had their budgets cut.<sup>37</sup>

#### ***Fiscal Year 2008***

During their mark-up of the *Defense Authorization Bill for Fiscal Year 2008* in early May 2007 the Subcommittee on Strategic Forces of the House Armed Services Committee, for example, recommended cutting the overall budget for BMD by \$706m from an administration request of \$10.4bn. The Committee highlighted that it had cut funding for the programmes which were considered “either less mature or higher risk”, while funds had been diverted into “programmes that offer near-term warfighter benefits.”<sup>38</sup> The Senate version of the Bill also recommended a cut in the overall BMD budget to \$9.9bn. Comparable to the House version of the bill, funds for proven technologies such as PAC-3, THAAD and Aegis were increased, while funds for “far term, lower priority” programmes such as ABL were decreased.<sup>39</sup> The final version of the bill recommended a cut in the overall BMDS budget of £331m.

#### ***Fiscal Year 2009***

In January 2008 the MDA submitted its budget estimates for the agency’s programme of work over the next few years. Based upon the new block structure the MDA’s budget estimates for research, development, test and evaluation (RDT&E), military construction (Milcon) and base realignment and closure (BRAC) between FY2008 and FY2013 were identified by the MDA as follows:

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<sup>37</sup> Although the Airborne Laser programme has conducted some successful tests, installation of the laser aboard an aircraft is not expected to start until late 2007 and a first test involving a ballistic missile target is not scheduled until mid-2009.

<sup>38</sup> “US House panel cuts funds for missile defence, new warhead”, *Defense News*, 3 May 2007

<sup>39</sup> [http://democrats.senate.gov/dpc/dpc-new.cfm?doc\\_name=lb-110-1-108](http://democrats.senate.gov/dpc/dpc-new.cfm?doc_name=lb-110-1-108)



PE Title	PE Number	FY08	FY09	FY10	FY11	FY12	FY13	FY08-13 Total
<b>RDT&amp;E</b>								
Technology	0603175C	108.4	118.7	115.2	120.2	127.0	130.4	719.9
Terminal	0603881C	1,045.3	1,019.1	795.7	719.8	548.3	439.8	4,567.9
Midcourse	0603882C	2,243.2	2,076.7	1,748.1	1,385.3	946.4	1,103.5	9,503.2
Boost	0603883C	510.2	421.2	423.9	652.6	799.8	991.8	3,799.7
Sensors	0603884C	586.1	1,077.0	1,116.7	1,099.6	1,077.6	823.6	5,780.7
System Interceptors	0603886C	340.1	386.8	501.0	708.8	815.4	553.1	3,305.3
Test and Targets	0603888C	621.9	665.4	664.4	682.5	700.5	710.7	4,045.4
System Core	0603890C	413.9	432.3	482.9	605.2	561.9	571.5	3,067.8
Special Programs - MDA	0603891C	196.9	288.3	304.2	538.1	818.1	786.3	2,932.0
Aegis BMD	0603892C	1,126.3	1,157.8	1,234.2	1,078.5	1,066.7	1,102.5	6,766.1
STSS	0603893C	231.5	242.4	266.5	560.1	735.7	938.2	2,974.5
Multiple Kill Vehicle	0603894C	229.9	354.5	488.3	649.6	708.6	879.4	3,310.3
System Space Program	0603895C	16.6	29.8	41.6	56.2	133.9	157.5	435.6
C2BMC	0603896C	447.6	289.3	287.2	270.8	256.8	259.2	1,810.8
Hercules	0603897C	52.5	56.0	55.3	56.4	51.9	52.8	324.8
Joint Warfighter Support	0603898C	49.4	70.0	74.0	77.2	80.2	81.9	432.7
MDIOC	0603904C	78.6	96.4	100.4	100.4	101.5	102.8	580.1
Regarding Trench	0603906C	2.0	3.0	5.0	5.0	8.9	8.9	32.8
SBX	0603907C	165.2	-	-	-	-	-	165.2
Pentagon Reservation	0901585C	6.0	19.7	5.0	5.3	5.4	5.5	46.9
Management Headquarters	0901598C	80.4	86.5	70.4	69.9	69.9	69.9	446.8
<b>RDT&amp;E Total</b>		<b>8,552.1</b>	<b>8,890.7</b>	<b>8,780.1</b>	<b>9,441.4</b>	<b>9,614.6</b>	<b>9,769.4</b>	<b>55,048.4</b>
<b>MILCON</b>								
BMDs European Interceptor Site		-	132.6	528.8	-	-	-	661.4
BMDs AN/TPY-2 #3		-	29.6	-	-	-	-	25.5
BMDs European Mid-Course Radar		-	108.6	67.5	-	-	-	176.1
Unspecified Minor Construction		-	3.5	3.5	3.7	3.7	3.7	3.5
MILCON Planning & Design		-	10.8	5.0	4.8	4.8	4.8	14.9
<b>MILCON Total</b>		<b>0.0</b>	<b>285.0</b>	<b>604.9</b>	<b>8.5</b>	<b>8.5</b>	<b>8.5</b>	<b>915.3</b>
<b>BRAC</b>								
BRAC	0207998C	103.2	159.9	61.9	8.7	0.0	0.0	333.8
<b>BRAC Total</b>		<b>103.2</b>	<b>159.9</b>	<b>61.9</b>	<b>8.7</b>	<b>0.0</b>	<b>0.0</b>	<b>333.8</b>
<b>TOTAL</b>		<b>8,655.3</b>	<b>9,335.7</b>	<b>9,446.9</b>	<b>9,458.6</b>	<b>9,623.1</b>	<b>9,777.9</b>	<b>56,297.6</b>
Defense-Wide Resources	0904903D	0.0	0.0	-1,487.8	-1,529.2	-1,561.2	-1,592.5	-6,170.6
<b>MDA Total Less Defense-Wide Resources</b>		<b>8,655.3</b>	<b>9,335.7</b>	<b>7,959.2</b>	<b>7,929.5</b>	<b>8,061.9</b>	<b>8,185.4</b>	<b>50,127.0</b>

**Table 17**  
**Funding by Appropriation and Program Element by Year**  
**FY 08 – 13 (\$ millions, then year)**

Source: Missile Defense Agency, Fiscal Year 2009 Budget Estimates, 23 January 2008

The Bush administration's FY09 budget request to Congress was subsequently presented on 4 February 2008.<sup>40</sup> Among its provisions was a request for \$10.4bn for the continued development, testing and fielding of the BMDs architecture, including \$720m for the development of the third missile defence site in Eastern Europe.<sup>41</sup> However, as the Center for Arms Control and Non-Proliferation has identified, if programmes such as the Patriot PAC-3 which is funded directly by the services, is taken into account, then the total funding

<sup>40</sup> A copy of that budget request is available at: <http://www.whitehouse.gov/omb/budget/fy2009/pdf/budget.pdf>

<sup>41</sup> *Overview of the President's 2009 Budget*, 4 February 2008

request for missile defence related programmes actually equates to \$12.2bn.<sup>42</sup> The specific breakdown of the Pentagon's FY09 budget request is available at: <http://www.defenselink.mil/comptroller/budget.html>

The Strategic Forces Subcommittees of the House and Senate Armed Services Committees examined the principles of the FY09 budget request during hearings on 27 February 2008 and 12 March 2008 respectively.<sup>43</sup> During her opening statement the chair of the House Subcommittee, Ellen Tauscher, set out some of the Committee's general concerns:

During the past year, we've had vigorous discussions here and abroad over the U.S. proposal to install missile defense interceptors in Poland and a radar in the Czech Republic. I have traveled to Europe several times over the past year to show our European allies how seriously we take our shared security interests.

I have urged the administration to work through NATO to establish a joint U.S.-European missile defense capability. I have urged them to "NATO-ize" the shield and focus on the threat posed by short- and medium-range missiles pointed at Europe and our forward-deployed troops.

Our key concern about missile defense is that the Bush administration's budget request appears to delay the use of a very important system for defeating short- and medium-range missiles -- THAAD. In that regard, we are particularly interested in the warfighter's perspective on the requirements for these and other systems designed to defeat the threat posed by short- and medium-range missiles.

In line with the budget cuts made to missile defence in the FY2008 authorisation bill, further cuts have been made for FY2009. Overall Congress has approved \$9.02 billion in funding for missile defence during 2009. However, that expenditure was again prioritised on near-term programmes such as ground-based missile defence, Aegis and the Theater High Altitude Defence programme. As a result funding for longer-term, technologically immature projects such as the Kinetic Energy Interceptor programme, the Airborne Laser, the Multiple Kill Vehicle was cut.

### **3 US Proposal for an Eastern European Interceptor Site**

As outlined above, the need to establish a third interceptor site outside of the continental US was identified in 2002 when the Bush administration expanded the scope of the National Missile Defence proposals to incorporate the defence of globally deployed US forces and US allies into the missile defence architecture. Establishing such a capability is considered vital for fielding a multi-layered system capable of addressing a missile threat at any point in its flight trajectory.

The first formal indications that an interceptor site could possibly be located in Eastern Europe were put forward during a speech by the Director of the Missile Defence Agency, General Obering, to a missile defence conference in the US in March 2006. Speaking at that conference General Obering stated:

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<sup>42</sup> Center for Arms Control and Non-Proliferation, *Fiscal Year 2009 Pentagon Spending Request Briefing Book*, February 2008

<sup>43</sup> Transcripts of these hearings are available from the US Government Printing Office: <http://www.gpo.gov/index.html>

We have not only had discussions with several countries in Europe, but we've also had teams on site to evaluate a specific site for the positioning of an interceptor, as well as a large radar in the region.<sup>44</sup>

The premise that ballistic missile threats will primarily originate in the Middle East has been a key consideration in that decision. The flight path of a missile originating in the Middle East would, for example, traverse most of Eastern and Northern Europe during its boost and midcourse phase, before approaching the US off its north east coast. A site in Eastern Europe would allow for detection of a hostile missile launch and a sizeable window of opportunity for a possible intercept.<sup>45</sup>

At the time, MDA officials were also reported to have discussed "an alternative interceptor site in the UK because of public opposition in the Czech Republic and Poland".<sup>46</sup> Those comments were met with a degree of concern by MPs, commentators and the media in the UK more generally, who proceeded to criticise the government for a lack of consultation over the suggested proposals. However, the Government denied that any such proposal had been put forward by the US. In response to questions in the House of Lords on 29 March 2006 the MOD stated:

My Lords, the United States announced that it is,

"considering the potential of fielding a small number of interceptor missiles in Europe".

In Washington last week, the United Kingdom was mentioned as a candidate for a possible missile defence site. The US has made no request about an interceptor site in the UK. It has said that it will continue to consult allies on missile defence issues. We expect to be engaged in those discussions. No decisions on further UK participation in missile defence have been taken.<sup>47</sup>

In January 2007 consultation with Poland and the Czech Republic was put on a more formal footing after the Pentagon announced that it would open formal talks with both countries on deploying aspects of the BMD system.<sup>48</sup> Those formal negotiations began in May 2007. In summary, the intention is to deploy the following capabilities in each country:

- Poland – Up to 10 silo-based long-range interceptor missiles which would be based at a site in Slupsk-Redzikowo in northern Poland, along with the necessary electronic equipment for secure communications, missile assembly, storage maintenance and security. The missiles would have a purely defensive role.
- Czech Republic – The early warning midcourse X-Band radar currently located on the Kwajalein Atoll will be modified and relocated to a former military base at Brdy in south west Bohemia. The radar will be similar to that located at RAF Fylingdales.

Although the bases in each country would remain sovereign territory, the missile defence system itself would be under the sole command and control of the US. Permission to launch an interceptor missile would not be required from the host nation. The BMD site in eastern

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<sup>44</sup> "US missile defence planners seek European interceptor site", *Jane's Defence Weekly*, 23 August 2006

<sup>45</sup> Locating the interceptor site and early warning radar nearer to a potential adversary's territory would drastically reduce both the ability to detect and track a hostile launch and the window of opportunity for a successful intercept.

<sup>46</sup> *ibid*

<sup>47</sup> HL Deb 29 March 2007, c775

<sup>48</sup> Department of Defense press release, 26 January 2007

Europe is intended to be an integral part of any future NATO-wide missile defence architecture.

The US has also not requested funding from the host nations, or any other European nation that would fall under the protective umbrella of the system. According to the MDA “this decision was made in the interest of speeding the process”.<sup>49</sup>

On present timetables the MDA is seeking to achieve initial deployment of the system in 2011, with full operational capability in 2013-2014. Both MDA and US administration officials have sought to reiterate that the basing of BMD elements in Poland and the Czech Republic, and the timetable for their deployment, is intended to counter the rogue threat from countries such as Iran which, on current threat assessments, is believed to be developing a long-range ballistic missile capability that could be deployed in the 2015 timeframe. It is not intended to address any potential threat from Russia. Under the MDA’s new block arrangements, the establishment of a European site will subsequently form part of Block 4.0 capabilities. In February 2007 General Obering, commented:

Here’s what we are concerns about. We know that rogue nations such as North Korea and Iran are very much interested in ballistic missiles and that technology, not only for the operation of these missiles, but to be able to have them for coercion and intimidation purposes [...]

These interceptors are not designed against the Russian threat. You are not going to counter the hundreds of Russian intercontinental ballistic missiles and the thousands of warheads that are represented by that fleet with ten interceptors in a field in Europe.<sup>50</sup>

However, the plans have had a mixed reception both within Congress and among other commentators. A former test official at the Pentagon, Phil Coyle, was reported in the April 2007 edition of *Strategic Comments* as commenting:

These missile defences have no demonstrated capability to defend Europe, Russia or the US from Iranian attack under realistic operational conditions. As such, claims being made by the MDA for a European missile defence site are unrealistic.<sup>51</sup>

In February 2008 General Obering also suggested that the MDA was considering deploying a mobile radar system in Europe, in addition to the static radar to be deployed in the Czech Republic, at some point in the future.<sup>52</sup>

### **3.1 Domestic Opinion in Poland and the Czech Republic**

#### **Poland**

Whilst seeking to reaffirm Poland’s pro-Atlanticist credentials, both the government’s of former Polish Prime Minister Jaroslaw Kaczynski and the current government of Donald Tusk<sup>53</sup> have consistently made it clear that any approval of the US plans would be based on tangible improvements in the country’s national security, given that participation in this programme is likely to impact on Poland’s already tenuous relationship with Russia. A number of commentators have also argued that merely housing an interceptor site would

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<sup>49</sup> Department of Defense Press Release, 26 January 2007

<sup>50</sup> Department of Defense Press Release “Missile defenses in Europe would shield against Iran, not Russia”, 22 February 2007

<sup>51</sup> “US missile defence”, *Strategic Comments*, April 2007.

<sup>52</sup> “Obering: US could place another anti-missile radar system in Europe”, *Defense News*, 13 February 2008

<sup>53</sup> Polish elections took place in October 2007.

make the country a potential target. On that basis domestic opposition in Poland has been high, in particular among the general public. According to an opinion poll conducted by GfK Polonia in August 2006 more than six in ten Poles were opposed to the establishment of a US missile defence base on Polish soil.<sup>54</sup> In a separate poll conducted by SMG/KRC in February 2007 public opposition to the missile defence plans was 50%, while 36% of respondents supported the proposals.

However, following the conflict between Russia and Georgia during the summer of 2008 support for the siting of part of the US BMD architecture in Poland reportedly soared among the Polish public. The poll, by GfK Polonia and published in *Rzeczpospolita* in August 2008, suggested that 58% of those surveyed now supported the plans, while 37% opposed them. The poll was also conducted one day after a Russian General reportedly commented that the signing of a missile agreement was leaving Poland exposed to an attack – even a nuclear one.<sup>55</sup> Kamil Tchorek, writing in *The Guardian* in August 2008 expressed the view:

Surveys show Polish public opinion has rapidly shifted from wariness about hosting the US missile shield to outright enthusiasm. The reason is simple. Russia conducted a devastating counterattack against Georgia this month, and the Poles are convinced the time for treading softly around the Russian bear has passed [...]

Until the Georgia crisis, Poles didn't want the US missile shield [...] but now, the 10 interceptor missiles headed for Poland have real power – and that power is symbolic rather than tactical. With American boots and hardware on the ground in their country, Poles feel that they cannot be let down in the way that they have been so many times before. The Kremlin's recent behaviour, and long memories in this part of the world, makes Poles want that certainty.<sup>56</sup>

## Czech Republic

Like Poland, domestic opposition to the proposals has been high over the last few years with 68% of the electorate in late 2007/early 2008 reportedly against the idea of hosting part of the US BMD system;<sup>57</sup> while 95% of residents local to the proposed site of the radar base have rejected the proposals in unofficial local referendums.<sup>58</sup> In June 2007 demonstrations were held in Prague over the possible health, safety and environmental dangers that the base may pose; while a significant number of the general public reportedly object to the concept of basing foreign troops on Czech soil so soon after decades of Soviet domination.<sup>59</sup> Further protests were held in Prague at the end of October 2008.<sup>60</sup>

Opposition politicians in the country are also opposed to the plans. The leader of the Social Democrat party, which holds the second largest number of seats in the Chamber of Deputies, suggested that hosting a US base would be “a strong intrusion on the psychology of the country, on its internal integrity”. In the past the Social Democrats have also suggested that they could push the issue to a referendum.<sup>61</sup> However, many analysts consider that a national referendum may be unnecessary as gaining Parliamentary approval may in itself prove difficult. The governing coalition of the Prime Minister Mirek Topolanek only holds half

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<sup>54</sup> “Six in ten Poles oppose US missile base in Poland: Survey”, *Agence France Presse*, 10 August 2006

<sup>55</sup> “Polish support for missile deal soars”, *Topix*, 18 August 2008

<sup>56</sup> “Poland: once bitten, twice shy”, *The Guardian*, 21 August 2008

<sup>57</sup> “US and Czechs sign missile defense deal”, *Reuters*, 8 July 2008

<sup>58</sup> “Czechs vote against US antimissile radar base”, *Radio Free Europe*, 3 June 2007

<sup>59</sup> “Bush says missile defence plan aimed at true threats, not Russia”, *Radio Free Europe*, 5 June 2007

<sup>60</sup> “Hundreds protest US missile defence plan in Prague”, *trend news Agency*, 21 October 2008

<sup>61</sup> “US presses Czech Republic on anti-missile base”, *Defense News*, 26 June 2006

of the seats in the Chamber of Deputies and as such the coalition government will require the support of at least one opposition party in order to push the proposals through the lower House.

Yet, as some analysts have pointed out, the position that Russia has been adopting on this issue (outlined below) and its recent actions in South Ossetia may go some way to soothing domestic opposition in both the Czech Republic and Poland, by reminding them “why they were lining up to get into NATO and have a closer relationship with the United States in the first place”.<sup>62</sup> Indeed an opinion poll conducted by Factum Invenio in September 2008 and reported in *Mlada fronta Dnes*, suggested Czech public opinion on the missile defence shield plans may be shifting after 38% of respondents agreed with the proposals, up 13 points from a previous poll in October 2007. The number of respondents opposed to the plans had also decreased from 68% to 55%.<sup>63</sup>

### 3.2 Current Status of the Treaties

Although co-operation with the US on missile defence has been highlighted by both countries’ governments as important for cementing the transatlantic relationship, negotiations between the US and Poland and the Czech Republic have been protracted. As outlined above, domestic opposition to the proposals, particularly in the Czech Republic has been high; while negotiations have been complicated by the overt posturing of Russia.

#### Czech Republic

Negotiations on an agreement for stationing an early warning radar on Czech territory were concluded by the US and Czech governments in April 2008. The *Ballistic Missile Defense Agreement* was subsequently signed on 8 July 2008. At the signing ceremony Czech Foreign Minister, Karel Schwarzenberg, commented:

It is a great honour and pleasure for me that I was able to sign this agreement with the United States today. This agreement is part of the consistent policy of the Czech Republic. The first task of the foreign policy of any country is to ensure security of the country. And this agreement not only increases the security of the Czech Republic, but also of Europe and of the whole Euro-Atlantic area.<sup>64</sup>

As outlined above, under that agreement the Czech Republic retains full sovereignty over the site; although command and control of the system will remain in US hands. The agreement, which has been agreed for an indefinite period, may be terminated by either Party with 12 months notice, after which time the US would have a further 12 months to withdraw its forces and assets (Article XVIII). During this period of withdrawal use of the radar would cease. Approval for visits to the radar site by government officials who are not nationals of either the US or the Czech Republic, i.e. Russian or NATO officials, would require the approval of both Parties to this agreement (Article VI). A copy of the agreement is available online at: [http://www.aic.cz/cms/Agreement\\_EN.pdf](http://www.aic.cz/cms/Agreement_EN.pdf)

Negotiations on a bilateral framework for facilitating strategic government-to-government and industry-to-industry missile defence co-operation, including in the field of research and development were also concluded in July 2008. That *Declaration on Strategic Defense Co-*

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<sup>62</sup> “As US, Russia spar over missile defense, Congress cuts funding”, *Defense News*, 4 June 2007

<sup>63</sup> “Czech opinion shifting on missile shield”, *Angus Reid Global Monitor*, 11 October 2008: [http://www.angus-reid.com/polls/view/31989/czech\\_opinion\\_shifting\\_on\\_missile\\_shield](http://www.angus-reid.com/polls/view/31989/czech_opinion_shifting_on_missile_shield)

<sup>64</sup> US Department of State, *Remarks with Czech Foreign Minister Karel Schwarzenberg at Baltic Management Development Association Signing Ceremony*, 8 July 2008

operation and a further agreement on the stationing of US forces in the Czech Republic (the Status of Forces Agreement) were subsequently signed on 19 September 2008. Copies of both agreements are available online at:

[http://www.aic.cz/press/Declaration\\_on\\_strategic\\_defense\\_cooperation.pdf](http://www.aic.cz/press/Declaration_on_strategic_defense_cooperation.pdf)

[http://www.aic.cz/press/Agreement\\_on\\_status\\_us\\_forces.pdf](http://www.aic.cz/press/Agreement_on_status_us_forces.pdf)

Both agreements now need to be ratified by the Czech parliament before they can legally enter into force. The Czech Senate approved both treaties in a vote on 27 November 2008. Although the ruling Civic Democratic party recently lost its outright majority in the Senate following significant losses in regional elections the ruling coalition as a whole retains a majority of the seats. This was reflected in the subsequent vote of 49-31 in favour of the US missile defence plans. The opposition Social Democrats and the Communist Party voted against the proposals, arguing that they would expose the country to an increased security risk.

The Chamber of Deputies began debating the agreements on 29 October 2008 after the opposition Social Democrats failed to get the debate removed from the parliamentary agenda. However, that debate is expected to be lengthy after the Czech government called for a final vote on the two agreements to be delayed until President Bush's successor takes office toward the end of January 2009 in order to gauge "the attitude of the new American administration".<sup>65</sup> It has been suggested that a final vote on the issue in the Chamber of Deputies is now not expected to occur until at least March or April 2009.<sup>66</sup>

If ratification by the Czech Parliament is opposed, while considered a "major setback", the Head of the US Missile Defense Agency, General Obering, has reportedly suggested that a "plan B" option is on the table, although the MDA has refused to be drawn on the possible alternatives.<sup>67</sup> In June 2008 the US reportedly entered into preliminary discussions with Lithuania over the possibility of hosting elements of the European BMD system, in the event that approval in either Poland or the Czech Republic is not forthcoming.<sup>68</sup>

## Poland

Since the election of a new Polish government in October 2007, negotiations between the US administration and Poland have been dominated by the introduction of a number of new conditions intended to address rising domestic concerns over the proposals. Among those conditions were the establishment of a bilateral security accord and US assistance in upgrading the Polish armed forces with a long term military aid package worth \$20bn and assistance in upgrading the country's air defence systems with either the Patriot PAC-3 or the THAAD missile defence system.<sup>69</sup> In an interview with Polish radio on 25 February 2008 Prime Minister Tusk commented that "this solution must be of benefit to Poland, not only to the United States. Either our conditions will be fulfilled...or there will be no shield".<sup>70</sup>

Despite concerns that the negotiations would stall after the failure to reach an agreement in early July 2008, only a month later agreement was reached on the deal (14 August) with US

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<sup>65</sup> "Czech government wants vote on missile shield after US election", *Agence France Presse*, 29 October 2008

<sup>66</sup> "Czech Parliament to have final vote on US radar next Spring", *BBC Monitoring European*, 3 November 2008

<sup>67</sup> "US has plan B if Czechs refuse missile defense", *Associated Press*, 31 October 2008

<sup>68</sup> "US enters missile talks with Lithuania", *Financial Times*, 17 June 2008

<sup>69</sup> "Poland-US talks on missile shield in deadlock", *Defense News*, 22 February 2008

<sup>70</sup> Reported in "Poland to get US upgrade for missile shield", *Defense News*, 26 February 2008



Secretary of State, Condoleeza Rice and Polish Foreign Minister Radoslaw Sikorski signing a formal accord for the basing of missile interceptors on Polish territory on 20 August. A *Declaration on Strategic Co-operation* between the two countries was also signed. Considered a surprise move, many observers argued that impetus had been given to the negotiations following concern over Russia's response to the crisis in South Ossetia. Indeed US Defense Secretary Robert Gates was reported to have commented that Russia's neighbours have "a higher incentive to stand with us now than they did before, now that they have seen what the Russians have done in Georgia".<sup>71</sup> However, Foreign Minister Sikorski denied that the timing of the missile deal had anything to do with the situation in Georgia during an interview with the BBC commenting that "we agreed this negotiating phase a week ago, which was before the events in Georgia".<sup>72</sup>

Under that agreement Poland will retain sovereignty over the site, while the US will have exclusive command and control of the system. Real-time information on the operational status of the system will, however, be supplied to Poland. Like the Czech agreement provision has been made for the visit of third country officials, with the express approval of both the US and Poland. Earlier this year Foreign Minister Sikorski supported the idea of Russian representatives being granted regular access to the base for inspections.<sup>73</sup> In order to meet the security concerns of Poland, the US has also agreed under this accord to the deployment of a US Army Patriot battery in Poland, possibly from 2009, with the view to establishing a US Army Patriot garrison by 2012. The agreement also sets down the commitment by the US not to conduct flight test of the BMD interceptors stationed in Poland without the express approval of the Polish government. In contrast to the Czech agreement the US-Polish accord will remain in force for an initial period of 20 years and be subsequently automatically renewed for 5-year periods. Termination of the agreement, by either party, may be achieved with two years written notification.

Under the *Declaration of Strategic Co-operation* a high-level strategic consultative group will be established in order to, among other things, share overarching strategic threat assessments, not only in relation to missile defence; consult on the development of the missile defence system; further industrial research and technology co-operation in this area; and work to strengthen the operational capabilities of each country's Armed Forces. Both governments intend under the umbrella of this declaration to conclude "a number of bilateral agreements that are intended to enhance defense and security cooperation between the United States and Poland".<sup>74</sup>

The text of the US-Polish agreement and the text on the *Declaration of Strategic Co-operation* are available online at:

<http://www.msz.gov.pl/files/docs/TARCZA/UMOWA/BMDA%20English%20version.pdf>

<http://www.state.gov/r/pa/prs/ps/2008/aug/108661.htm>

That agreement, along with a Status of Forces Agreement governing the presence of US troops in Poland, must now be ratified by the Polish Parliament. To date those agreements have yet to be debated, with ratification now uncertain before the end of 2008. The Speaker of the Polish Parliament, Bronislaw Komorowski, has commented that a vote would not be

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<sup>71</sup> "Russian relations in doubt, Gates says", *The Washington Post*, 15 August 2008

<sup>72</sup> "Russia anger at US missile deal", *BBC News Online*, 15 August 2008

<sup>73</sup> "Report: Poland may let Russia inspect missile site", *Agence France Presse*, 5 June 2008

<sup>74</sup> *Declaration on Strategic Cooperation Between the United States of America and the Republic of Poland*, 20 August 2008



rushed and that “it would be worth knowing if the election result in the US would have an influence on the US attitude towards this program”.<sup>75</sup> However, during a visit to Poland on 30 October 2008 General Obering expressed his concern over the delay in ratification suggesting “that’s probably the biggest concern I have at this point”. He went on to comment:

If we get ratification by the end of this year, we will still not be able to put an interceptor on the ground in Poland until 2012 and it will probably take us a year and a half or so to get all the interceptors in the ground. So in 2013 or 2014 it will be in operation [...] the more we delay that, the longer it takes us to have the defence, and the more opportunity there would be for Iran to emerge.<sup>76</sup>

### 3.3 Congressional Funding

Establishing a third interceptor site in Eastern Europe relies heavily on the support of the US Congress which has responsibility for approving funds for the project.

#### FY2008

During negotiations over the 2008 defense authorization bill the Strategic Forces Subcommittee of the House Armed Services Committee voted unanimously to cut the administration’s funding request for the Eastern European elements of the BMDS programme almost in half from \$310 million to \$160 million. In explaining the budget cut the chair of the Committee, Ellen Tauscher confirmed that “they deleted the money needed to start construction of the missile base in Poland” on the basis that “there had not been enough consultation with NATO allies or testing of the technology”; while increasing funding for more mature elements of the BMD programme such as the Aegis system and the Patriot PAC-3 programme.<sup>77</sup> However the Committee Chair denied that they were effectively handing Russia a victory over the issue and called for an independent study of the politics and costs of the plans to be conducted before funding is allocated.<sup>78</sup> Funding for the early warning radar in the Czech Republic was however kept intact as the Committee considered that it could alternatively be deployed in the US if necessary.<sup>79</sup> Although not as drastic as the action by the House Armed Services Committee, the Senate Committee also cut the funding request for the third interceptor site by \$85m. In its report on the 2008 authorization bill the Committee noted that “construction and deployment activities are premature” given that negotiations on detailed arrangements were still ongoing and that doubts remained over the operational effectiveness of the system.<sup>80</sup> Reluctance to fund the European proposals without formal agreements with Poland and the Czech Republic having been concluded was also expressed.

The *National Defense Authorization Act for Fiscal Year 2008* was signed into law on 28 January 2008. The final version of the legislation reduced funding for construction of the European site by \$85m. Use of the remaining funds (\$225m) for deployment activity related to the European GMD element was also limited until final approval of the plans is granted by Poland and the Czech Republic; 45 days has elapsed following the receipt of an independent report on the political, economic and technical utility of BMD in Europe including an

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<sup>75</sup> “Polish lower House Speaker refuses to rush ratification of Polish-US missile shield deal”, *Polish Business Newswire*, 20 August 2008

<sup>76</sup> “US missile chief concerned by delays to Polish base accord”, *Agence France Presse*, 30 October 2008

<sup>77</sup> “US House panel cuts East Europe missile shield funds”, *Defense News*, 2 May 2007

<sup>78</sup> *ibid*

<sup>79</sup> [http://www.larouchepac.com/pages/breaking\\_news/2007/05/03/committee\\_defense.shtml](http://www.larouchepac.com/pages/breaking_news/2007/05/03/committee_defense.shtml)

<sup>80</sup> Senate Report 110-077, 110<sup>th</sup> Congress

examination of alternative systems,<sup>81</sup> as called for by the House of Representatives; and a report is submitted to Congress by the US Secretary of Defense certifying that the proposed interceptor to be deployed as part of the European element “has demonstrated, through successful, operationally realistic flight testing, a high probability of working in an operationally effective manner”.<sup>82</sup>

## FY2009

Within the administration’s FY09 budget request for BMDS, \$720m was allocated to the development and deployment of the European missile site. Of those funds \$96m was earmarked for development; \$382.6m for fielding and \$241.2m for military construction. Total spending on the European site up to 2013 is expected to equate, in total, to \$4.78bn broken down as follows:<sup>83</sup>

Block 4.0 Defend Allies & Deployed Forces in Europe from Limited Iranian Long-Range Threats Expand Protection of U.S. Homeland (Smillions, then year)							
	FY08	FY09	FY10	FY11	FY12	FY13	Total FY08-13
Development	67.7	96.0	130.9	622.1	306.7	661.5	1,884.9
Fielding	175.7	382.6	476.3	630.5	326.7	68.1	2,059.9
MILCON	-	241.2	596.3	-	-	-	837.5
Integration	-	-	-	-	-	-	-
<b>Total</b>	<b>243.4</b>	<b>719.8</b>	<b>1,203.5</b>	<b>1,252.6</b>	<b>633.4</b>	<b>729.6</b>	<b>4,782.3</b>

In its mark-up of the FY09 legislation, however, both the Senate and the House of Representatives cut funding for the European missile defence plans, providing only \$467m of the requested funding.

The *Defense Authorization Act for 2009* was subsequently signed into law on 14 October 2008 (PL 110-417). Under section 233 of that Act the availability of funds for the procurement, construction and deployment of a missile defence architecture in Europe has been limited until host nation agreements have been ratified and signed and the Pentagon report on operational feasibility asked for in the FY2008 defense authorization act has been submitted to Congress.

### 3.4 Russia’s reaction and the threats to the CFE and the INF

The Russian leadership has been openly hostile towards the US plan, apparently viewing it as part of a wider pattern of US expansionism and unconstrained action, and warning that it will lead inevitably to a new arms race.<sup>84</sup> Moscow has rebuffed US assurances that the system is entirely defensive in nature and is neither designed, nor able, to counter Russia’s extensive strategic nuclear deterrent. It also declined Washington’s earlier offer to collaborate on missile defence testing and radar-data sharing.

In February 2007, the then Russian President Vladimir Putin hinted during a speech at a security conference in Munich that, were the US to proceed with deployment of its missile defence system, Russia might respond by pulling out of the 1987 *Treaty on Intermediate-*

<sup>81</sup> The requirements of the study are set out in section 226 (c) of the act.

<sup>82</sup> *National Defense Authorization Act for Fiscal Year 2008*, Section 226

<sup>83</sup> US Missile Defense Agency, *Fiscal Year 2009 Budget Estimates Overview*, 08-MDA-3199, January 2008

<sup>84</sup> See, for example, the [speech and comments by President Vladimir Putin](#) at the Munich Conference on Security Policy, 10 February 2007

*Range Nuclear Forces* (INF), a landmark Cold War era agreement under which the US and the then Soviet Union eliminated all their nuclear-armed ground-launched ballistic and cruise missiles with ranges of between 500 and 5,500 kilometres. He stressed Russia's continued observance of the limits imposed on strategic nuclear weapons systems, but noted that, with other states in Asia and the Middle East acquiring intermediate-range missiles, only the US and Russia were prevented from developing them.<sup>85</sup> In October 2007, Russia has sought to address that problem by proposing the globalisation of the obligations of the INF treaty. That initiative having failed to attract support, Russia proposed a new international agreement based on the INF treaty at the UN Conference on Disarmament in February 2008.<sup>86</sup> Nevertheless, analysts remain concerned that the INF could be the "next target of Moscow's assertive revisionism".<sup>87</sup>

During his February 2007 Munich speech, Mr Putin also drew attention to what he called the "pitiable condition" of the *Conventional Forces in Europe Treaty* (CFE), arguing that NATO countries had failed to ratify the Adapted Treaty agreed at Istanbul in 1999, despite Russian moves to resolve the issue of its military bases in Georgia and Moldova. He said the expansion of NATO into Eastern Europe represented a "serious provocation that reduces the level of mutual trust", asking rhetorically "against whom is this expansion intended?". On 26 April 2007, Mr Putin subsequently announced in his annual address to the Federal Assembly that Russia was declaring a moratorium on observance of the CFE Treaty, until such time as all NATO member states had ratified and implemented its provision. He accused NATO member states of not displaying "correct behaviour [...] in their attempts to gain unilateral advantage" by building up military bases along Russia's borders and planning to deploy elements of the US missile defence system in the Czech Republic and Poland. He commented:

It is time for our partners to also make their contribution to arms reductions, not just in word but in deed. At the moment, they are only increasing arms, but it is time for them to start making cutbacks, if only in Europe.<sup>88</sup>

The linkage between the US plans to expand its ballistic missile defences to central Europe and the Russian moratorium on CFE was explicitly stated by the speaker of the Russian upper house, Sergei Mironov, who said the moratorium was Russia's "first asymmetric response" to US missile defence plans.<sup>89</sup> The Russian Foreign Minister Sergei Lavrov said that the treaty had been rendered "valueless" as a result of NATO's expansion eastwards into the countries of the former Warsaw Pact.<sup>90</sup>

Mr Putin's announcement drew expressions of concern from NATO member states. Speaking after a meeting of NATO foreign ministers on 26 April, US Secretary of State Condoleezza Rice said that: "These are treaty obligations and everyone is expected to live up to treaty obligations". NATO Secretary-General Jaap de Hoop Scheffer said the alliance's foreign ministers had expressed "grave concern and regret" at Mr Putin's comments.<sup>91</sup>

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<sup>85</sup> *ibid*

<sup>86</sup> "Conference on Disarmament hears address by Foreign Minister of Russia and message from Chinese Minister for Foreign Affairs", United Nations Office in Geneva press release, 12 February 2008

<sup>87</sup> John Chipman, head of the International Institute for International Affairs, quoted in "Join Nato and we will target missiles at you, Putin tells Ukraine", *Daily Telegraph*, 13 February 2008

<sup>88</sup> Annual Address to the Federal Assembly, 26 April 2007,

<sup>89</sup> 'US and Nato dissect Putin threat', *Financial Times*, 26 April 2007

<sup>90</sup> 'Putin in threat on European arms treaty', *Financial Times*, 26 April 2007

<sup>91</sup> 'Putin in threat on European arms treaty', *Financial Times*, 26 April 2007

Commentators suggested a number of possible motives for the Russian move, not least a desire to encourage divisions between NATO allies over the US ballistic missile defence plans. Moscow may be hoping that its pressure could force a Czech or Polish reassessment about the merits of participating in US plans. A further explanation may be that Russia is seeking to use the ballistic missile defence issue as diplomatic cover for a withdrawal from treaties that it considers inconvenient or anachronistic, using the example set by the US with its withdrawal from the Anti-Ballistic Missile Treaty in mid-2002.<sup>92</sup>

Russia is also frustrated that the three new NATO member states in the Baltic – Lithuania, Latvia and Estonia – are not currently party to the CFE and can join only once the Adapted Treaty enters into force. At the present time, despite their strategic position and close proximity to Russia, they are not subject to limits or restrictions on the size of forces stationed there. In any event, as Paul Reynolds of the BBC commented, the threat to abandon the treaty altogether marks a significant upping of the diplomatic stakes and highlights a return to Cold War-style linkage between apparently unrelated security issues.<sup>93</sup>

President Putin made further comments in early June 2007, saying that the US had altered the strategic balance by unilaterally withdrawing from the Anti-Ballistic Missile (ABM) Treaty in 2002. He called for the US to reassess its plans to deploy ballistic missile defences in Europe, warning that:

If this doesn't happen, then we disclaim responsibility for our retaliatory steps, because it is not we who are the initiators of the new arms race which is undoubtedly brewing in Europe. [...]

If the American nuclear potential grows in European territory, we will have to have new targets in Europe. It is up to our military to define these targets, in addition to defining the choice between ballistic and cruise missiles.<sup>94</sup>

The comments drew sharp criticism from Western governments. The NATO Secretary General said the remarks were “unhelpful, unwelcome and frankly anachronistic”.<sup>95</sup> Mr Putin’s spokesman sought to clarify the President’s comments, saying on 16 June that:

We were not talking about retargeting missiles at European cities or other targets. What was meant was that if retargeting took place, it would only be the sites [in Poland and the Czech Republic] that would be targeted.<sup>96</sup>

A subsequent suggestion from Mr Putin that the US and Russia could cooperate on missile defence by using the former-Soviet radar base at Qabala in Azerbaijan initially received a cautious response from Washington. Mr Putin said that use of the Qabala facility would:

make it possible for us not to change our stance on the targeting of our missiles. On the contrary, this will create the necessary grounds for common work. This work should be multi-faceted with the engagement of the states concerned in Europe.<sup>97</sup>

At the end of the G8 summit President Putin was also reported to have suggested that the US should consider locating the missile interceptors in NATO member Turkey, in Iraq or even on sea-based platforms.<sup>98</sup>

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<sup>92</sup> See Section A and Library Research Paper 03/28, *Ballistic Missile Defence*, 26 March 2003

<sup>93</sup> Paul Reynolds, *'Echoes of Cold War in missile arguments'*, BBC News Online, 26 April 2007

<sup>94</sup> BBC News website, 4 June 2007

<sup>95</sup> “NATO wary on joint missile shield”, *BBC News Online*, 8 June 2007

<sup>96</sup> ‘Russia backs down over missile threat’, *Daily Telegraph*, 17 June 2007

<sup>97</sup> BBC News website, 7 June 2007

Although US officials initially described the recent Russian proposals as “interesting”,<sup>99</sup> US Defense Secretary, Robert Gates, subsequently indicated that the proposal is being viewed as an offer of additional capability and not a substitute for the Eastern Europe plan.<sup>100</sup> However, a number of members of the US Congress called for serious consideration of the proposals: the House Armed Services Committee asked the administration to investigate, and a team of military experts duly visited Azerbaijan in September 2007.<sup>101</sup> US officials have questioned the feasibility of the Azerbaijan proposal. The NATO Secretary General, whilst welcoming the move towards a constructive dialogue, suggested that the Qabala facility “is a bit close to the rogue states we are discussing”.<sup>102</sup> Armenia has also reportedly expressed concerns over the potential for Azerbaijan’s involvement to destabilise the balance of power in the Caucasus region.<sup>103</sup>

Other missile defence analysts have suggested that technical hurdles may undermine the Russian offer. John Isaacs, Director of the Center for Arms Control and Non-Proliferation has suggested that “the Azerbaijan site has the wrong kind of radar. It’s good for advance warning, but not for tracking and shooting down a missile”.<sup>104</sup> The proposal is still on the table, and was re-iterated by the Russian representative to NATO, Dmitriy Rogozin, at a conference in March.<sup>105</sup>

Talks between NATO and Russian officials during May and at an Extraordinary Conference held in Vienna from 12-15 June failed to find a resolution to the dispute. The Chief of the Russian General Staff, General Yuri Baluyevsky, announced that Russia had started steps towards implementing the moratorium and that the treaty was on the “verge of collapse”.<sup>106</sup>

On 14 July 2007 Russia announced that, as of 12 December, it would suspend its participation in the CFE Treaty and the related flank regime. A NATO statement of 16 July expressed the Alliance’s concern at Russia’s “unilateral decision”, saying that Alliance members had participated actively in the Extraordinary Conference, listened carefully to Russia’s concerns and responded by submitting proposals that sought a “positive way forward”. The statement also commented that the NATO allies:

underline that the process of exchanging information on military forces and conducting on site inspections goes to the core of the Treaty’s role in providing transparency regarding the forces of States Parties. We expect that all the States Parties will continue to implement fully all their obligations under the CFE Treaty and associated documents. NATO Allies are fully committed to do so.<sup>107</sup>

Legislation to enact the suspension was submitted to the Russian Parliament in early September and the suspension came into effect, as expected, on 12 December 2007.

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<sup>98</sup> “NATO wary on joint missile shield”, *BBC News Online*, 8 June 2007

<sup>99</sup> *ibid*

<sup>100</sup> Reported on *BBC News Online*, 26 June 2007: <http://news.bbc.co.uk/1/hi/world/europe/6239750.stm>

<sup>101</sup> “US military inspects Russian radar site in Azerbaijan”, *Agence France Presse*, 19 September 2007

<sup>102</sup> “Bush in Poland for missile talks”, *Reuters*, 11 June 2007

<sup>103</sup> “Armenia worried by plan for anti-missile system in Azerbaijan”, *Defense News*, 20 June 2007

<sup>104</sup> “Look at Azeri missile site says US lawmakers”, *Defense News*, 21 June 2007

<sup>105</sup> “Russia’s envoy to NATO advocates joint missile defence system”, *ITAR-TASS news agency*, 5 March 2008, translated by BBC Monitoring

<sup>106</sup> [‘NATO, Russia Fail To Resolve Arms Control Dispute’](#), *DefenseNews.com*, 10 May 2007

<sup>107</sup> [‘NATO response to Russian announcement of intent to suspend obligations under the CFE Treaty’](#), NATO Press Release, 16 July 2007

Responding to that decision, the Foreign Secretary, David Miliband, set out the position of the British Government in a Written Statement of 13 December 2007:

The Government regret the unilateral decision by the Russian Federation to cease compliance with its obligations under the Conventional Forces in Europe Treaty (CFE) from 12 December. Russia has sought to explain this decision principally on the grounds that members of the North Atlantic Treaty Organisation (NATO) have not ratified the adapted version of the CFE treaty. Together with our NATO allies, the United Kingdom has made a public statement (<http://www.nato.int/docu/pr/2007/p07-139e.html>).

This Russian decision is unjustified. The United Kingdom, along with NATO allies, has made clear our commitment to ratify as quickly as possible the adaptation of the CFE treaty, which would provide the basis for addressing most of Russia's concerns about the current CFE regime. But it remains right that Russia should in parallel honour its own commitments, made at the 1999 Organisation for Security and Co-operation in Europe summit in Istanbul, to regularise the status of its forces and equipment in Georgia and Moldova. The principle that host nation consent is required for the stationing of foreign forces is central to effective security and stability in Europe. NATO has engaged intensively with the Russian Federation to seek ways of overcoming differences over how to ensure both these sets of commitments are delivered.

The Government also consider that the Russian Federation's "suspension" of their obligations cannot be justified either under the provisions of the CFE Treaty or on the grounds set out in the Vienna Convention on the Law of Treaties. Accordingly, on 11 December, we sent a Note Verbale, via the Treaty Depository, to all CFE States Parties, making this clear.

We judge, however, that European security is not fundamentally or immediately threatened by this Russian action. In the short term, we understand Russia will stop exchanging data or sending notifications on the whereabouts and composition of its conventional forces, and will refuse to allow verification inspections. However, if Russia were to persist in this course of action, in the longer-term that would erode the transparency and predictability which the CFE regime contributes to overall stability in Europe.

To help maintain that stability, the United Kingdom will until further notice, along with its NATO allies, continue to honour all our obligations under the CFE Treaty, including towards the Russian Federation. We will assess the impact of any non-compliance by the Russian Federation, and consult with NATO allies on a further joint response. With NATO allies, we will also continue to promote engagement with the Russian Federation with a view to reaching an agreed way forward.<sup>108</sup>

The Russian Foreign Minister, Sergei Lavrov, subsequently held out the prospect for reviving the treaty, saying on 18 December 2007:

We did not shut a door on the CFE Treaty. We are ready to continue talks if our partners, primarily NATO member states, will take into consideration our justified concerns. Russia is interested in "reanimating, preserving, and modernizing the control regime of conventional armed forces in Europe. We are not going to build up our arms in the European part [of the country], if NATO members will show restraint."<sup>109</sup>

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<sup>108</sup> HC Deb 13 December 2007, c57-8WS

<sup>109</sup> *Interfax Russia & CIS Military Weekly*, 21 December 2007



### **Developments in 2008**

At the February 2008 Munich Security Conference, the Russian government adopted a less confrontational tone on missile defence. The First Deputy Prime Minister called for cooperation between Russia and the USA and furthermore for US-Russian 'framework' to be opened to other leading states interested in cooperation. He went on:

On the whole, I am firmly convinced that making use of Russian-American strategic heritage as a ground for creating of a modern open collective security system, also in Europe, represents a reasonable alternative to unilateral destruction of its potential.<sup>110</sup>

In front of the Russian media, however, Mr Putin continued to make sharp comments: in February he accused NATO and the west of starting a "new arms race" and said that Russia could be forced to re-target its missiles at the Czech Republic and Poland if the missile defence plan was carried out.

Defence Secretary Robert M. Gates and Secretary of State Condoleezza Rice visited President Putin in Moscow on 17 and 18 March 2008, to further the White House initiative aimed at resolving some of the problems between the two countries before the handover from Mr Putin to Mr Medvedev. U.S. and Russian officials agreed to a draft of a "strategic framework" document which contains about a dozen initiatives on difficult issues, including missile defence and strategic arms reduction treaty initiatives. Mr Gates said:

We had the opportunity to elaborate on a number of confidence building measures and measures for transparency to provide assurance to the Russian Republic that our missile sites and radars would not constitute a threat to Russia. I think both President Putin [yesterday] and our Russian colleagues today found these ideas useful and important ... and they will be studying them further.<sup>111</sup>

The election of Dmitri Medvedev has brought little change in Russia's attitude to the US' missile defence proposals. The Russian government has continued to maintain that the BMD plans are a threat to Russian national security and following the signing of the Polish agreement in August 2008 issued a statement highlighting:

Contrary to Russia's opinion and the real development of the military-political situation in Europe, the US strategic potential is persistently being brought closer to our borders. The radar tracking station in the Czech Republic will be able to scan practically the entire European part of our country, and the long-range interceptor missiles to be deployed in Poland do not have any other target other than Russian intercontinental ballistic missiles, nor will in the foreseeable future.

To us it is obvious, which the American leadership does not deny, that the so called US third GMD site in Europe will be expanded and modernized. In this case Russia will be forced to respond, not only via diplomatic demarches [...]

It should be particularly emphasized that deploying the third GMD site in Europe with a real anti-Russian potential will by no means increase the continent's security. Such actions engender distrust, and give a push to an arms race on the continent and beyond. But that is not Russia's choice.

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<sup>110</sup> "[Where is Russia heading? New Vision of Pan-European Security](#)", Speech by Sergey Ivanov, First Deputy Prime Minister, Russian Federation, Munich Security Conference, February 2008

<sup>111</sup> "U.S., Russian Officials Agree to Create Strategic Framework Document", *American Forces Press Service* news article, 18 March 2008

And the last point. The timing of the signing of the American-Polish agreement, affecting the security of many European states, was not accidental. We have taken notice of the remarks of Polish officials that the events in the Caucasus had hastened Poland's decision.<sup>112</sup>

The Russian Armed Forces Deputy Chief of Staff, General Anatoly Nogovitsyn, stepped up the rhetoric, however, and suggested during an interview with a Russian news agency that the signing of the missile agreement between Poland and the US could leave Poland open to retaliation, and even the possibility of a nuclear strike.<sup>113</sup> In his State of the Nation address on 5 November 2008 President Medvedev also announced that the Russian Armed Forces would deploy the Iskander short-range surface-to-surface missile system to the Russian enclave of Kaliningrad in order to neutralise "if necessary" the BMD system being deployed in Poland and the Czech Republic. The deployment of Russian naval assets, most likely to the Baltic Sea, will also reportedly be considered for the same purpose. President Medvedev also announced that Russia would use assets also deployed in Kaliningrad to electronically jam any new elements of the US BMD architecture.<sup>114</sup>

In response to recent Russian comments, US Acting under Secretary for International Security and Arms Control, John Rood, stated:

I think the Russian government understands the limited capabilities of this system. We have had unprecedented discussions that have explained the technical capabilities of the system. I think, on the face of it, they understand 10 interceptors in Poland would have no impact on the Russian strategic offensive forces. They know the capability system and they know it doesn't pose a threat to Russia.

Their rhetoric is disappointing [...] Russia has made strong statements in the past, and so it's regrettable that there are additional strong statements that in our eyes are not – don't have merit. And so in that sense, these statements don't go that much beyond previous ones.<sup>115</sup>

### 3.5 NATO's response

Although US missile defence plans in Eastern Europe do not require the formal approval of NATO allies, the Bush administration has gone to great lengths to underline the importance of co-operation in this area, and by doing so, seek tacit approval from the European members of the Alliance. Despite American overtures, some of the more pro-European Alliance members have reportedly remained sceptical of the proposals, albeit relatively privately. The basis of their concern has largely been over the operational capability of the system and whether ties between NATO and Russia are being unnecessarily compromised for a system that has not been satisfactorily fielded and has proven expensive.<sup>116</sup> The German government has called for the issue to be dealt with through NATO after some German officials were initially critical over what they regarded as a lack of consultation with both the Alliance and with Russia. An article in *The Economist* in March 2007 suggested that France had, however, offered "discreet support" for the US proposals.<sup>117</sup>

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<sup>112</sup> Ministry of Foreign Affairs of the Russian Federation, Press statement, 20 August 2008

<sup>113</sup> "Russian general says Poland open to nuclear strike", *The Times*, 15 August 2008

<sup>114</sup> <http://www.javno.com/en/world/clanak.php?id=200209>

<sup>115</sup> "US Department of State, *Briefing on Missile Defense Agreement Between the US and Poland*, 25 August 2008

<sup>116</sup> See for example "Defending Europe from missile attack", *European Security Review*, May 2007

<sup>117</sup> "A few interceptors, a big gap", *The Economist*, 29 March 2007



In contrast, some of the more pro-Atlanticist states including Denmark, the UK and the central and Eastern European states have openly expressed their support for the plans. Some countries such as Bulgaria have also reportedly pressed for inclusion in the US proposals over concerns that the majority of Bulgarian territory could fall outside of the range of any missile shield.

NATO Defence Ministers discussed the proposals in greater detail when they met on 14 June 2007. In the final communiqué of that meeting Ministers agreed to conduct an assessment of the implications of the US' missile defence plans in Eastern Europe; while pursuing consultation with Russia through the framework of the NATO-Russia Council. In commenting on the agreement, the NATO Secretary General made it clear that the possibility of incorporating NATO's theatre missile defences into the overall BMD architecture envisaged by the US would be addressed during that review. However, he stressed that any incorporation would have to ensure coverage of all Alliance territory and that there "could not be 'A' or 'B' NATO members in terms of protection from missile threats".<sup>118</sup>

Following on from the Defence Ministers meeting, the US Secretary of Defense, Robert Gates, issued a press release stating that:

There were no criticisms from Allies on the US missile defense proposal or of the United States moving forward with its plans to place radar systems in the Czech Republic and interceptor missiles in Poland.<sup>119</sup>

The outcome of that review was subsequently discussed at the NATO Heads of State and Government Summit in Bucharest on 2-4 April 2008. NATO Leaders concluded:

Ballistic missile proliferation poses an increasing threat to Allies' forces, territory and populations. Missile defence forms part of a broader response to counter this threat. We therefore recognise the substantial contribution to the protection of Allies from long-range ballistic missiles to be provided by the planned deployment of European-based United States missile defence assets. We are exploring ways to link this capability with current NATO missile defence efforts as a way to ensure that it would be an integral part of any future NATO-wide missile defence architecture. Bearing in mind the principle of the indivisibility of Allied security as well as NATO solidarity, we task the Council in Permanent Session to develop options for a comprehensive missile defence architecture to extend coverage to all Allied territory and populations not otherwise covered by the United States system for review at our 2009 Summit, to inform any future political decision.

We also commend the work already underway to strengthen NATO-Russia missile defence cooperation. We are committed to maximum transparency and reciprocal confidence building measures to allay any concerns. We encourage the Russian Federation to take advantage of United States missile defence cooperation proposals and we are ready to explore the potential for linking United States, NATO and Russian missile defence systems at an appropriate time.<sup>120</sup>

NATO has sought to reiterate its support for the US' European missile defence plans in recent weeks following comments from French President Nicholas Sarkozy, in the aftermath of the November 2008 EU-Russia Summit, that the system would do "nothing to bring security and complicates things".<sup>121</sup> President Sarkozy's comments came amid efforts to

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<sup>118</sup> NATO press release, 14 June 2007

<sup>119</sup> Department of Defense, "NATO allies discuss US missile defense proposals", 14 June 2007

<sup>120</sup> Bucharest Summit Declaration, 3 April 2008: <http://www.nato.int/docu/pr/2008/p08-049e.html>

<sup>121</sup> "Sarkozy urges US, Russian missile freeze", *Reuters*, 14 November 2008

engage both Russia and the US in the development, during 2009, of a pan-European security framework. As part of that proposal Sarkozy has stated that “no missiles should be deployed until the new geopolitical conditions of pan-European security had been discussed”.<sup>122</sup> However, both the Czech Republic and Poland accused Mr Sarkozy of overstepping his mandate as President of the EU. Polish Prime Minister, Donald Tusk was reported to have commented “I don’t think third countries, even such good friends as France, can have a particular right to express themselves on this issue”. The Deputy Prime Minister of the Czech Republic, Alexandr Vondra, meanwhile said “France did not discuss this viewpoint with us... As far as I know the French presidency mandate for the EU-Russia summit did not contain a position on the US missile defence system”.<sup>123</sup>

NATO spokeswoman, Carmen Romero, also sought to point out that the Alliance’s position on this issue had not changed. She stated that “the decision taken at Bucharest is very clear and we are continuing to analyse different options relating to missile defense”.<sup>124</sup>

#### **4 The Future of Missile Defence under a Democrat Administration**

The election of Barack Obama as George W. Bush’s successor as US President on 4 November 2008 has led many analysts to question the future scope and extent of the US’ missile defence plans. Although originally a concept re-ignited by the Democrat administration of Bill Clinton,<sup>125</sup> the deployment of the current integrated, multi-layered BMD architecture, which is more extensive and technologically ambitious, has been pioneered by the Bush administration, and largely as a result of the latitude given to the US following its withdrawal from the ABM Treaty in 2002.

In contrast, Barack Obama’s attitude to missile defence has largely been in keeping with the minimalist approach originally proposed by the Clinton administration. While supportive of certain elements of the proposals he has expressed scepticism over the cost and technological feasibility of the programme. The Democrat election campaign literature commented:

In a world with nuclear weapons, America must continue efforts to defend against the mass destruction of its citizens and our allies. But past efforts were both wasteful and ineffective, pursued with neither honesty nor realism about their costs and shortfalls. We must seek a nuclear missile defense and demand that those efforts use resources widely to build systems that would actually be effective. Missile defense requires far more rigorous testing to ensure that its is cost-effective and, most importantly, will work [...] Finally, our deployment of missile defense systems should be done in a way that reinforces, rather than undercuts, our alliances, involving partnership and burdensharing with organizations such as the North Atlantic Treaty Organization.<sup>126</sup>

While therefore potentially supportive of deploying a third missile site in Eastern Europe, the ongoing question over the technological feasibility of the program could possibly delay the proposals for several years if funds are diverted away from the ground-based interceptor programme and into more proven technologies such as the Patriot PAC-3 and Terminal High Altitude Defense (THAAD) systems, both terminal phase capabilities. Indeed, it has been

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<sup>122</sup> French Presidency Website, *Main results of the EU-Russia Summit*, 14 November 2008:

[http://www.eu2008.fr/PFUE/lang/en/accueil/PFUE-11\\_2008/PFUE-14.11.2008/CR\\_Sommet\\_UE\\_Russie](http://www.eu2008.fr/PFUE/lang/en/accueil/PFUE-11_2008/PFUE-14.11.2008/CR_Sommet_UE_Russie)

<sup>123</sup> “France overstepped mandate on missile shield moratorium”, *EU Observer*, 17 November 2008

<sup>124</sup> “NATO still backs plan for US missile shield”, *Reuters*, 17 November 2008

<sup>125</sup> Under the National Missile Defence proposals of 1999

<sup>126</sup> Barack Obama and Joe Biden on Defense issues: <http://www.barackobama.com>

widely reported that during a conversation with President Kaczynski on 7 November 2008 Mr Obama had “reiterated his long-standing position supporting the deployment of the missile shield but only when the technology is proved to be workable” leaving officials in Warsaw with the impression that “the chances of the project going ahead now stood at no more than 50 per cent”.<sup>127</sup>

Yet, many analysts have argued that the election of Obama will have minimal effect on current plans as a Democrat-controlled Congress has already supported, approved and costed the BMD plans (see above). On that basis General Obering has expressed the view that “there will continue to be support”.<sup>128</sup> Acting Under Secretary for International Security and Arms Control, John Rood, also expressed this opinion during a press briefing on 25 August 2008:

I think in general, missile defense has enjoyed broad bipartisan support. The reason I say that is in terms of the funding requested by the President for the missile defense program, the vast majority of it has been provided. I think in the last year's spending bills, both authorization and appropriations bills adopted by the congress, which at the moment, is led by the Democratic Party, we received – I want to say all but three or four hundred million of the over \$9 billion request that the President put forward.<sup>129</sup>

Tomas Valasek of the Centre for European Reform has also commented:

Although Senator Obama is surrounded by people who have expressed doubts about parts of the missile defence system, they do not question its philosophy as a whole. In addition, it is more difficult for a politician to defend a milder stance on security when faced with the basic argument of ‘why we should protect our people less sufficiently’.<sup>130</sup>

In the longer term, however, Dr Michael Rance, an Associate Fellow of RUSI concluded:

There is no evidence that the policies of the Bush administration will be repudiated quickly [...] Obama does not give the impression of a man tempted by precipitate decision making.

There is an expectation that Congress will concentrate on acquiring already developed missile defence systems, such as Aegis and THAAD, perhaps at the expense of R&D and the development of advanced systems, such as MKV and the Air Borne Laser. Significant but not swingeing missile defence budget cuts in the 2010 fiscal year would appear to be inevitable; perhaps of the order of \$1 billion. This might be the start of a longer term downward trend [...]

The arguments on missile defence about the third site and in NATO are likely to continue for some years. The only action from an Obama government that would change all this would be if it decides to give up on the third site.<sup>131</sup>

An article in the *Bulletin of Atomic Scientists* has also pointed out that:

If the Obama administration decides not to deploy interceptors and radar in Europe, it opens itself to a charge of yielding to Russian pressure – especially from the Republicans, for whom missile defense is a signature issue. The plan to deploy missile

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<sup>127</sup> “Barack Obama throws US missile shield into doubt”, *The Daily Telegraph*, 11 November 2008

<sup>128</sup> “US missile chief concerned by delays to Polish base accord”, *Agence France Presse*, 30 October 2008

<sup>129</sup> US Department of State, *Briefing on the Missile Defense Agreement between the US and Poland*, 25 August 2008

<sup>130</sup> “Financial crisis should not delay US missile shield”, *EU Observer*, 29 October 2008

<sup>131</sup> “The prospects for missile defence in an Obama administration”, *RUSI*, November 2008

defense in Europe also has supporters in Poland and the Czech Republic; both governments seem to believe that the presence of US personnel on their soil would provide them a security guarantee far stronger than NATO membership. Finally, Russia isn't exactly interested in seeing the issue disappear: the system presents no threat whatsoever, but the controversy allows the Kremlin to score lots of rhetorical points.<sup>132</sup>

## 5 Appendix One – Map of Proposed BMD System

The enlarged US Ballistic Missile Defense System network



Based on a map supplied by the US Missile Defense Agency

<sup>132</sup> "Barack Obama's missile defense challenge", *Bulletin of the Atomic Scientists*, 11 November 2008