

Rigged Tests, Falsified Data and Untested Systems: Yes, But Will it Work?

“Of the 10 flight tests that have been completed, eight were intercept tests; five of the eight have been declared successful. However, all five employed the same unrealistic target missile trajectory, known in advance, and flown at low speed and altitude. The simple target missiles have been rigged with transmitters that exaggerate their signatures...for midcourse tracking. And so it remains a big question: how to hit an object travelling at 16,000 mph, especially when it is surrounded by decoys?”
Centre for Arms Control and Non-Proliferation



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What is it, and Will it Work?

In a bid to show his tough stripes, U.S. President George W. Bush said he would deploy a primitive “missile defence” system (NMD) by the fall 2004 election. The system is, of course, wholly untested, unreliable and virtually unworkable. Over the course of the summer, military planners hoped that a series of rigged tests would prove successful. The idea is to show that Bush is prepared to defend America against rogue nations, terrorists or any other creatures (aliens perhaps?) which might threaten our way of life.

This deployment of a thoroughly untested military system is literally without U.S. precedent, and leads to questions about the real nature and purpose of NMD. Deployment is also proceeding despite a real assessment that the U.S. faces no major threat for the foreseeable future.

But will missile defence work? According to no less a reliable source than the Canadian Association of Physicists, a group which has consulted with its American counterparts on the concepts of dynamics, ballistics and laws of motion which would be central to making the system work, the most optimistic answer is highly unlikely.

And the history of rigged tests which have marked the NMD scheme

hardly inspire confidence either. Indeed, individuals who have refused to falsify unsuccessful test data have been fired from their jobs at weapons contractors. Meanwhile, efforts have also been made to gag professors who have spoken up about what amounts to criminal fraud.

How Limited is the System?

So called “missile defense” is a very limited program which, at best, would be able to counter less than 1% of the missiles currently aimed at the U.S. The concept of the current system is based on an accidental or unauthorized launch of a single missile from a nuclear-armed state or a missile launched by a so-called rogue state (none of which currently has such a long-distance capacity).

It relies on an attacker that:

- (a) does not launch hundreds or even dozens of missiles and decoys,
- (b) provides a fair amount of warning,
- (c) provides its tracking information so that friendly U.S. “kill vehicles” can at least try to destroy them.

Even under the ideal, rigged conditions that have been the hallmark of NMD testing – providing decoys which are impossible to miss, placing Global Positioning System (GPS) beacons on the target missile and artificially increasing the heat source on a target so the infrared sensors cannot fail to identify their target – “hit-to-kill” technology has failed miserably.

Of course, any individual or country hoping to annihilate the U.S.

is unlikely to provide such accommodating attack conditions. In addition, NMD would be useless against the kind of attack that hit the U.S. in 2001, and would be helpless as well against a small nuclear weapon smuggled into the U.S. on a ship-borne container or in a suitcase.

How Will it Work?

According to current plans, the U.S. will rely in the short term on Defense Support Program satellites, to be replaced by 2007 with untested SBIRS (Space Based Infrared Systems). They will maintain constant vigilance from space, seeking to detect the heat which will be visible when the massive energy required to launch such a missile is spotted at its boost phase.

Assuming that one of the satellites *does* detect this massive amount of heat, that information would then be passed to earth stations to try and confirm that this is indeed an enemy missile and not, as has happened on thousands of occasions through the nuclear age, a false alert caused by the rising of the moon, a flock of seagulls, or other phenomenon of nature which are misinterpreted by radar scanners.

The boost phase normally should last about six minutes, after which the missile is separated from the main heat source (the boost rocket). Ideally, military planners would like to intercept such a missile during those first six minutes, but the technology to perform such a feat does not currently exist. Nevertheless, this “ideal” situa-

tion is the thin edge of the wedge that opens the door to placing weapons in space.

As space warfare evolves, military planners will soon be saying that weapons in space would be “defensive” mechanisms used only to shoot at missiles in their boost phases, but such technology would play an equally offensive role if required to destroy any earth target, missile or not. Indeed, the U.S. Missile Defense Agency wants to have in space by 2008 a weapons test bed “to determine the feasibility of exploiting the inherent advantages of intercepting threat missiles from space.”

Bring on the Kill Vehicles

In the absence of technology required to destroy missiles during their boost phase, much of the current focus is on the next phase of a missile’s journey, the midcourse. It lasts about 18 to 20 minutes, depending on where it is coming from. The space-based system of satellites is currently unable to track it during this period, and while such space-based tracking is a key component of any BMD system, no systems have been tested in space.

Lacking that capacity, NMD will rely on a series of ground-based and sea-based radars to track the object with the aim of shooting it down from one of the ground-based interceptors in Alaska or California.

Pity the commercial flyer whose jet may be anywhere near the vicinity of the easily confused kill vehicle. Indeed, the sea-based tracking portion will utilize the AEGIS anti-missile system, which was implicated in the mass murder of over 300 Iranian civilians in 1988, when the captain of the USS Vincennes battleship was apparently unable to distinguish between a civilian airliner and a fighter jet.

A new X-band radar, without which officials say they will be unable to track the missile during its midcourse flight, is supposed to be deployed at sea sometime in 2005.

If a midcourse interception does not occur, then an interception during the missile’s “terminal phase” (descent) would be required, but any such interceptor would need to be near the intended target.

Another untested component of

“Missile Misses Target, Officials Call it a Success.”

(CNN) – The Missile Defense Agency (MDA) conducted a missile defense test over Hawaii, and while the warhead did not strike the target, officials said they still considered the exercise a success.

“I wouldn’t call it a failed



test, because the intercept was not the primary objective,” said Chris Taylor, a spokesman for the MDA. “It’s still considered a success in that we gained great engineering data. We just don’t know why it didn’t hit.”

Source: CNN News, June 19, 2003.

the system, the command, control and communications network, will also be a key in terms of receiving and processing information from space, relaying that information to those in charge of the interceptors, and launching what’s known as an exoatmospheric kill vehicle. Traveling at 3,600 km and hour, the kill vehicle will have less than a minute to identify and destroy a target in what is likely to be a sea of decoys. It must engineer a direct hit against the incoming missile to be effective.

Given these short time periods, it will be up to operators working on the system, and not politicians, to make decisions about launching a kill vehicle. The assumption is that the missile and related debris will burn up on its way back into the atmosphere. It does not really account, for example, for how we shall deal with radioactivity that may be dispersed from such an explosion.

This whole system is also based on the assumption that it will work on the first try, and so a number of kill vehicles may need to be simultaneously launched. Given that hit-to-kill mechanisms have performed so poorly, the U.S. might also consider nuclear-tipped interceptors: if the kill vehicle cannot make a direct hit, perhaps it can explode close enough to the incoming missile to destroy it through the blast effect of a nuclear weapon.

Scud Busters Prove a Bust

Up until now, much of the Star Wars technology has been based on experiments conducted either in war-time conditions or in rigged, simulated test conditions. While the Gulf War of 1991 was supposed to be the war of “preci-

sion guided,” “surgical strike” weaponry, nothing could have been further from the truth.

In 1991, George Bush Sr. triumphantly concluded “42 Scuds engaged, 41 intercepted,” yet of 85 Iraqi scuds fired, only five were ever hit by the Patriot, an anti-missile system which is hailed as a precursor to the current NMD. In that same war, almost one-third of all Canadian laser-guided “smart” bombs missed their targets, meaning some 100 of the 361 laser-guided bombs exploded somewhere other than a designated target.

During that same conflict, “friendly fire” was also responsible for 77% of all damage to U.S. combat vehicles. Why? In modern battles, there is so much high-tech, electronic warfare going on that even in a “conventional” setting wires get easily crossed. If humans are taken out of the loop and decisions are left to computers (which we all know perform 100% perfectly at all times), it is unclear how the clean vision of an NMD defence will evolve.

Under the Clinton administration, a report commissioned by the Ballistic Missile Defence Organization (the same group in charge of the program), chaired by General Larry Welch and staffed by Star Wars enthusiasts, concluded that the program was a “rush to failure.”

According to the Welch panel, during the 17 tests of hit-to-kill interceptors, only four hit their targets. Of the crucial high altitude tests, only 14% were successful. The U.S. Army’s Theatre High-Altitude Area Defense System (THAAD) failed all four attempts, despite the fact that targets had known trajectories and characteristics.

The U.S. Navy's Upper Tier program also had four failures, during four tests.

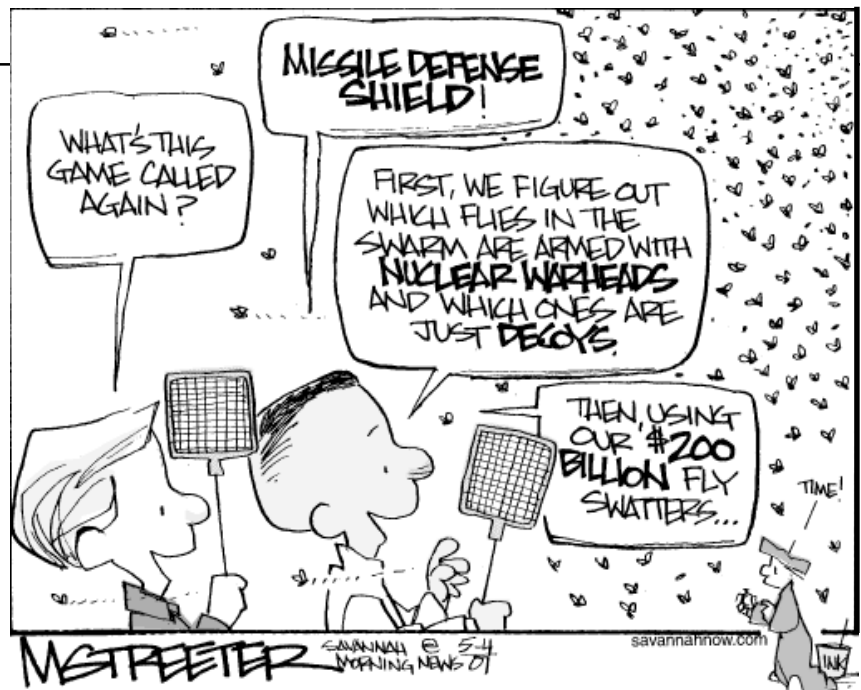
Even those numbers are deceptive, given how the military defines a "successful" test. For example, on July 14, 2001, a "successful" \$100 million test was concluded after a kill vehicle launched from Kwajalein Atoll in the Pacific smashed into a rocket sent up from Vandenberg Air Force Base in California. The successful test took place two days after the Star Wars issue was raised by Bush in Congress. What was not mentioned was that the intended target, the Vandenberg missile, had a Global Positioning System beacon (GPS) that guided the kill vehicle to it. The rocket launched one decoy, which did not have a GPS on board. In a prior test, the target had been secretly heated so that the interceptor's sensors would be able to spot it.

According to an analysis prepared by the Council for a Liveable World, the way in which Pentagon tests are analyzed allows apparent failures to be successes by the way in which a test is divided. For example, imagine the Pentagon wants to see if one kill vehicle can hit its target, but misses. The Pentagon can still claim success by claiming there are four parts of the test (launch, detection, communication, interception) and perhaps only one or two of those work. We know the U.S. knows how to launch missiles, and sometimes how to detect them. If the goal of NMD is actually stopping the missile with an interceptor kill vehicle, though, the test was an abject failure.

Most figures in the Pentagon, the press and Congress will not go through such detailed analyses, and thus are more likely to buy whatever the Pentagon is selling when it crows about "success."

Meanwhile, even those closely associated with NMD, through its various historical phases, have expressed serious doubts about whether it will ever work. Bill Clinton's Deputy War Secretary John White predicted that even with a series of 100 ground-based interceptors, they might only be able to intercept a few warheads.

"If the number of threats increases or the complexity of the threats increases then this basic system is likely to provide poor protection of



the [U.S.]... This poor protection is due partly to a lack of sufficient discrimination capability against complex threats, which will cause the interceptor inventory to be depleted by shooting at warhead decoys, allowing some real warheads to penetrate the defense... The system is not designed to protect against an unauthorized launch which may contain a large number of warheads."

Even in the 1980s, when the Star Wars concept became a major issue under President Ronald Reagan, the Pentagon's chief Star Wars scientist at the time, Richard DeLauer, said, "With unconstrained proliferation of Soviet missiles, no defensive system will work." Richard Perle, a Reagan-era military booster now in the Bush administration, then pointed out, "There will always be uncertainties about the ultimate effectiveness and vulnerability of any defense system."

The head of the SDI program in 1984, General James Abrahamson, was quick to remind Congressional funders, "Nowhere have we stated that the goal of the SDI is to come up with a 'leakproof' defense."

During 2003, four separate studies by the U.S. General Accounting Office found that none of the 10 essential technologies to make NMD work had been tested under real conditions and that 80% of the technology was not even at the development stage.

Testing the system itself could generate the kind of space debris which

will cause serious potential harm to existing civilian satellites. According to the US Space Command, there are about 8,700 objects that it keeps track of, almost all of which are space debris larger than one metre in diameter. There are also in orbit upwards of 200,000 other objects, larger than a centimetre, but those are not tracked.

Opponents of space warfare need not take comfort from the fact that the NMD program as advertised is running into such great technological barriers. After all, the hit-to-kill approach is merely a sideshow; the key technologies that are the ultimate goal of launching weapons from space remain under research and development and, as Donald Rumsfeld has pointed out, the key is to get a process started so military scientists can see what eventually develops. His acknowledgment that the system, when deployed, will look very different from what is currently planned, is his way of keeping the door open for space warfare.

Ultimately, the dreamers behind Star Wars, so-called National Missile Defence and space warfare, are hoping that the system develops a kind of bureaucratic inertia of its own. As Joseph Cirincione, in the *Bulletin of Atomic Scientists* (May/June 1998) pointed out, "Once factories start 'bending metal,' weapons systems acquire a serious constituency of subcontractors, chambers of commerce, labor unions and workers' families, not to mention congressional hearts and minds."