Antimissile Testing Is Rigged
To Hide a Flaw, Critics Say

By WILLIAM J. BROAD

Citing the Pentagon’s own plan, critics of the proposed antimissile
defense and even some military experts say all flight tests of the $60
billion weapon have been rigged to hide a fundamental flaw: The sys-
tem cannot distinguish between en-
emy warheads and decoys.

In interviews, they said that after
the system failed to achieve this cru-
cial discrimination goal against
mock targets in its first two flight
tests, the Pentagon substituted sim-
pler and fewer decoys that would be
cases for the antimissile weapon to
recognize.

The Pentagon’s plan was obtained
by Theodore A. Postol, an arms ex-
pert at the Massachusetts Institute
of Technology who opposes the wea-
pon. It covers the four tests that have
taken place as well as future tests up
to the system’s projected deploy-
ment in 2005.

Other technical experts who have
seen it, including both antimissile
and decoy designers, concurred with
his criticism, as did a senior govern-
ment official who has examined the
Pentagon’s testing plan.

“It is clear to me,” said the offi-
cial, who spoke on condition of an-
onymity, “that none of the tests ad-
dress the reasonable range of coun-
termasures,” or decoys that an en-
emy would use to try to outwit an
antimissile weapon.

While acknowledging the plan Dr.
Postol obtained as authentic, Pent-
gon officials strongly defended the
testing program. Lt. Gen. Ronald T.
Kadish of the Air Force, director of
the Pentagon’s Ballistic Missile De-
fense Organization, denied that his
program had engaged in any decep-
tion or dumbing down. General Ka-
dish said that the testing program
would be extremely useful and that
the resulting weapon would defeat
 crude warheads launched by inexpe-
rienced nuclear powers that might
emerge in the future, like Iran, Iraq
or North Korea.

Though unclassified, the plan is
considered sensitive. Dr. Postol said
he obtained it from a Pentagon
source he would not identify.

Dr. Postol, who is preparing a re-
port for the White House on what he
sees as the plan’s flaws, made his
argument on Monday at a meeting
of the State Department’s advisory
board on arms control, along with
another antimissile critic, Nira
Schwartz. Dr. Schwartz, a former
senior engineer at the military con-
tractor TRW, lost her job after chal-
lenging the claims the company
made about the weapon’s ability to
distinguish warheads from decoys.

Dr. Postol, who worked in the Rea-
gan administration on such issues as
antimissile defense, says that the
Pentagon has ignored earlier criti-
cism like Dr. Schwartz’s and instead
put flawed testing methods at the
heart of all its plans to develop and
build a weapon. The upshot, he says,

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is that any real attacker — no matter how inexperienced — would be able to easily outwit the weapon.

Pentagon officials "are systematically lying about the performance of a weapon system that is supposed to defend the people of the United States from nuclear attack," Dr. Postol said in an interview.

General Kadish conceded that "this technology is difficult." As a result, he said, his organization's approach "is to walk before we run, with increasingly stressful decoys to match what we expect" by way of enemy threats. "When we get to that end point," he said, "we'll have the confidence to put this on alert."

But far from increasing the complexity of future tests, the Pentagon has made them easier, military experts who examined the testing plan agreed. Two rigorous experiments in 1995 and 1996, to have the weapon simply observe the targets, they said, have been followed by interception tests designed to make discriminating between decoys and mock warheads as easy as possible.

"They did a good fox trot for the first couple of tests and then slowed down to a crawl," said Bob Dietz, a retired former designer of warhead decoys for American missiles. "You have to ask why they don't build better decoys. They've always said they'd get better with time."

Michael W. Munn, a retired scientist for the military contractor Lockheed and a pioneer in designing and testing antimissile weapons, said: "The only way to make it work is to dumb it down. There's no other way to do it. Discrimination has always been the No. 1 problem, and it will always remain that way."

He said manipulation of antimissile flight tests was nothing new. "It's always been a wicked game," Mr. Munn said.

The Pentagon itself is sharply divided on the testing issue. In February, Philip E. Coyle III, the Defense Department's director of testing and evaluation, faulted the antimissile tests as insufficiently realistic to make decisions about moving from research to building the weapon.

The 16 interception test flights called for in the development program would cost at least $1.0 billion, Pentagon experts say. So far, the two observation tests have been followed by two interception attempts, the first successful, the second a failure. Another test is scheduled in July.

The Clinton administration plans to make a decision later this year on whether to start building the antimissile system, which is to shield the United States from limited missile attacks by so-called rogue states.

Dr. Postol, a professor of science and national security studies at M.I.T. and the author of many private and federal weapon reports, was a top navy science adviser in the Reagan administration and for decades has studied enemy countermeasures to antimissile weapons.

After the 1991 Persian Gulf war, he challenged the Army's claims of success for its Patriot antimissile system, saying it had, in fact, destroyed no Iraqi missiles at all. Though the Pentagon at first denied his assertion, it later conceded that initial reports of the Patriot success had been exaggerated.

The current scientific fray centers on the interceptor's 120-pound homing device, known as a kill vehicle. Fired on a rocket, it is designed to use a telescopic sensor, a computer and jet thrusters to steer itself through space toward a warhead, destroying it by force of impact.

Dr. Postol's critique involves its hardest job, distinguishing between actual enemy warheads and the cloud of decoys considered sure to be launched to disguise them. If unable to tell decoys from warheads, a defender would be forced to fire interceptors at every threatening object, quickly exhausting a defensive force.

Dr. Postol began digging into the first antimissile flight test, in June 1997, after reviewing Pentagon data gathered by Dr. Schwartz.

The sensors at issue are cooled to more than 300 degrees below zero and work in the icy void of space to track targets by their heat emissions on warm targets, just as ordinary telescopes track light. They see warheads and decoys as twinkling points of light, like stars.

The June 1997 flight test, Dr. Postol asserted, showed that the infrared twinkles were random and insufficiently different from one another to let the interceptor distinguish among them, and that the Pentagon had conspired to hide this surprising discovery. The Pentagon, he said, has altered future tests to artificially heighten any differences that could be detected between warheads and decoys.

His accusation is based mainly on a detailed chart from the Pentagon's Ballistic Missile Defense Organization that gives an overview of its program for Integrated Flight Tests of the kill vehicle. Entitled "I.F.T. Targets Selections," the chart is dated May 5, 2000, and at the top is labeled "For Planning Purposes."

The chart's bottom warns, "Configuration controlled by N.M.D. J.P.O.," or the National Missile Defense Joint Program Office. "Do not alter this document."

The chart starts with the June 1997 test, lists another sensor flight and then goes through the 16 interception tests scheduled for the kill vehicle's entire development. The last flight is listed as June 2004, right before the antimissile weapon is to begin operating in 2005. In each case, the chart spells out the exact type and number of test decoys and warheads and depicts them in small pictures.

Dr. Postol said the chart shows how the initial suite of challenging decoys, the ones that twinkled a lot, making them hard to distinguish from a warhead, had been replaced by fewer and simpler decoys that twinkled as little as possible, accentuating their differences from warheads that fluctuate a lot in infrared intensity.
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Bar Reported Lowered For Missile Defense Tests

Theodore A. Postol and other critics of the proposed National Missile Defense system argue that future tests of the system are being manipulated to hide the fact that it cannot differentiate between realistic decoys and the warheads it is intended to intercept. The next test is set for July 1997 and Jan. 98 Tests: Two Tests with Credible Decoys

The Exoatmospheric Kill Vehicle (EKV) sees the signals from distant objects as fleeting points of light. The light from a rotating balloon equipped with stripes fluctuates like that of a warhead changing its orientation as it rotates and/or tumbles in space. If the balloon is not clearly brighter or darker it becomes undistinguishable from the target.

June 1997 Test:

Exist Decoys Removed From Experiments

July 2000 Test:

Decoys Removed

After the second test, the only decoys retained were those that are spherical, and substantially brighter or dimmer than target warheads, and thus easily distinguishable.

June 2003 Test:

Decoys Replaced

All new decoys are modified to be featureless spheres so there are no time-varying signals like those of the non-spherical spinning and tumbling warheads.

Long and conelike, pointy at one end, flat at the other, the warheads can wobble and shift in complex ways while tumbling through space, presenting differing heat emissions to a distant sensor. By contrast, the spherical decoy balloons have more uniform signatures.

The removed decoys, Dr. Postol said in his report, all had infrared signatures similar to the warheads.

Abandoned were spherical balloons whose stripes made their infrared emissions fluctuate, rigid decoys that looked like warheads and balloons that inflated to conelike shapes.

"These decoys," he wrote, "have brightness and time-dependent oscillating signals that can be quite similar to the signals from either warheads that are spinning around their axis of symmetry, or tumbling end over end."

The only retained decoys, he said, were spherical, uniform in materials and substantially brighter or dimmer than warheads. Their signatures, he said, "will have very uniform and controlled intensities.

All the program's interception tests, Dr. Postol said in the draft report to the White House, "have been carefully orchestrated to avoid encountering the discrimination problems." In an interview, he said he hoped to get the report, a draft of which runs to 20 pages, to the White House next week.

General Keating, whose saying the planning chart was authentic, if tentative, strongly denied that the testing program had been structured to become increasingly easy. To the contrary, he said, the decoys were selected to make the evolving tests increasingly hard.

"Complexity is increasing," he said.

Asked how a smooth balloon could be more difficult to track than a rigid decoy shaped to look like a warhead, he replied, "That's a valid technical argument," but he added that just because a decoy seemed effective "doesn't mean its credible."

The test program, he said, was structured to make the weapons flexible and robust. Testing it against decoy shapes that were too specific might allow an enemy to fool the weapon by changing them "a bit," General Radish said. "What we're after is a basic physics approach."

Previously, Pentagon officials have said they reduced the complexity of some antimissile testing when the government cut the program's goal from trying to knock out advanced warheads from countries like Russia and China to more primitive ones from rogue states.

Lt. Col. Richard Lemer of the Air Force, an antimissile spokesman, said the current testing diagram depicts provisional goals rather than a hard-and-fast plan. The only decoy configuration to date was "the one we're scheduled for next week," he said, which would be "some guy with a light."
KEEPPING TRACK

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July 2000 Test:
DECOYS REMOVED

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June 2003 Test:
DECOYS REPLACED

All new decoys are modified to be featureless spheres so they have no time-varying signals like those of the nonspherical spinning and tumbling warheads.

Source: Theodore A. Postol, M.I.T.

The New York Times
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is that any real attacker — no matter how inexperienced — would be able to spot and destroy the target.

Pentagon officials "are systematically lying about the results of the tests," a source close to the defense budget.

General Kassig said that "we're not going to have to worry about anything" in the tests if the program is not delayed.

But the critics say that the tests have been rigged to hide the fact that the system is not as effective as claimed.

The Pentagon, they say, has been "fudging" the results to make it look better than it really is.

They claim that the system is "far from ready" and that it is not as effective as claimed.

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