

## **The Ballistic-Missile Threat**

Any assessment of ballistic missile defense should begin with the nature of the threat posed by missiles to the United States, its allies, and its military forces deployed overseas. Two types of threats are often cited. The first emanates from North Korea and other so-called “rogue” states. The second is the possibility of an accidental or unauthorized launch from Russia.

### **Missile Threat from Rogue Nations**

Let’s start with the threat of missiles in the hands of rogue nations that are hostile to the United States and the existing international order. The mantra that “20 or 25 countries already have or may be developing ballistic missiles” does not shed much light on this problem. We should focus on potentially hostile nations that have missiles, the ranges of those missiles, and the nature of the warheads that they may be armed with.

Most of the nations that have missiles or are capable of building missiles are very unlikely to threaten U.S. interests; in fact, most of them are allies of the United States. At the risk of being tedious, let me just list ten countries that fall in this category: Israel, India, Pakistan, Saudi Arabia, South Korea, Taiwan, Egypt, Brazil, Argentina, and South Africa.

A number of somewhat less-friendly nations, such as Afghanistan, Algeria, Cuba, and Yemen, have only short-range missiles that are armed with conventional warheads. These missiles do not pose a threat to U.S. allies or troops, and these countries are unable to build or buy longer-range missiles or unconventional warheads.

When we subtract these nations, we find that the list of countries that we are really worried about is very short: North Korea, Iraq, Iran, Libya, and Syria. According to the most recent National Intelligence Estimate, none of these countries is likely to build or

otherwise acquire a ballistic missile capable of reaching the continental United States within the next 15 years. Thus, the missile proliferation threat to the U.S. boils down to few rogue states that might use missiles to threaten U.S. allies and troops.

**North Korea.** At the top of everyone's list of rouge states is North Korea. North Korea has ballistic missiles, and it probably plans to use them early in a war to attack air bases and ports that are vital for U.S. reinforcement of South Korea. North Korea has chemical weapons and it has had, and may still have, a program to develop nuclear weapons. Some people fear that North Korea might use missiles armed with unconventional warheads to hold Seoul hostage if it begins to loose the war, or to threaten Japan if it allowed the U.S. to use Japanese bases for the war effort. This combination certainly makes North Korea the strongest reason for wanting a missile defense.

But how threatening is the North Korean missile program really? North Korea has built and deployed its own versions of the Russian Scud missile. The longest range version it has deployed, Scud-C, which has a maximum range of 300 miles, allows North Korea to reach all of South Korea. North Korea has also exported this missile to Iran and Syria.

North Korea has tested a further modification of the Scud, called the No Dong in the West. Although the missile is estimated to have a maximum range of 600 miles, which would allow it to reach Japanese cities, it has been tested only once at a range of less than 400 miles. There is no evidence that this missile has been produced in quantity or deployed, but North Korea probably could deploy significant numbers in a few years after additional flight tests. Still, this is a missile that the upgraded Patriot system should be able to handle.

There are reports that North Korea may be developing two-stage missiles, called the Taepo Dong I and II in the West, that have

ranges of up to 2000 miles, but the evidence for this is thin and there have been no flight tests. There are several reasons why I am not terribly worried about the prospect of long-range North Korean missiles:

First, it's difficult to imagine what purpose such a missile would serve. Although a 2000-mile-range missile could just barely reach the outermost of the Aleutian Islands, the closest U.S. city—Anchorage, Alaska—is nearly 4000 miles from North Korea. Why would North Korea spend hundreds of millions of dollars to develop and produce intermediate-range missiles that can't hit anything interesting?

Second, North Korea's current missiles are copies of 1950s-era Russian Scuds and straightforward extrapolations. In the No Dong, they have carried this technology as far as it can go. Successfully developing long-range, multi-stage missiles requires qualitative leaps in technical know-how along several dimensions, including engine, reentry vehicle, and guidance technology. North Korea probably could not develop a missile capable of hitting a major U.S. city for at least 15 years.

Third, the North Korean economy is on the rocks. Stories of food shortages and electricity outages are common. Why would North Korea pour precious cash into a long-range program to develop missiles when other needs—other military needs—are more pressing, when existing missiles can cover all the targets in the theater, and when other means exist to deliver weapons of mass destruction (if they exist) beyond the range of current missiles?

Fourth, North Korea is trying, in its own peculiar way, to reach out to the United States. This is symbolized by the agreement to freeze and eventually dismantle its nuclear program in exchange for diplomatic recognition, lifting of economic sanctions, and light-water reactors. There is reason to hope that North Korean leaders have decided that outside investment is the only way to save their

economy, and building long-range missiles would ruin those prospects.

Fifth, the North Korean regime is mortally wounded, albeit from self-inflicted wounds. The question is when, not if, the regime will fall. Although the timing of such events is notoriously difficult to predict, knowledgeable observers believe it could happen soon—within the next year or two, and certainly within 5 or 10 years. Some fear that North Korea could go with a bang instead of a whimper, but again, it's hard to see how long-range missiles could figure in the bang, since the missiles would have to be developed, tested, produced, and deployed while the country is falling apart at the seams. It's far easier to imagine massive artillery barrages on Seoul, which the North is already ready and armed to do, and which would cause more damage than missile attacks.

**Iran and Iraq.** Iran and Iraq are next on my list. As you all know, Iraq had a massive program to develop long-range missiles and chemical, biological, and nuclear warheads. Most of the weapons, materials, and equipment used in these programs have been identified and destroyed by UNSCOM and the IAEA, which continue to monitor Iraq, under a mandate from the UN Security Council, to detect a revival of these programs. It is tempting to say that the threat from Iraq has passed, but Saddam Hussein is still in charge, and most of the scientists and engineers that worked on these programs are still in Iraq. The potential threat from Iraq is a reason to maintain and enforce sanctions, not to build missile defenses.

Iran is also a worry. Although Iran's entire defense budget is just \$2 billion, it has a large inventory of missiles, including Scud missiles it purchased from North Korea, which would allow Iran to reach parts of Saudi Arabia and Turkey. Iran apparently tried a few years ago to buy No Dong missiles from North Korea, but no deal was struck.

**Syria and Libya.** Rounding out the standard list of rogue states are Syria and Libya, both of which are believed to have short-range missiles and stockpiles of chemical weapons. Neither country is able to produce missiles indigenously, and neither is capable of producing nuclear weapons without substantial and sustained foreign assistance. Libya's 200-mile-range Scud-B missiles are incapable of reaching Europe, but Syria's Scud-C missiles, which it purchased from North Korea, are capable of hitting Israel, empty parts of Saudi Arabia, and much of Turkey.

**Summary.** As you can see, the current and prospective missile threat from rouge states is quite limited, consisting of short-range missiles that might be used against U.S. allies and U.S. forces stationed abroad. The improved Patriot system, if it works, would be able to handle all these threats, except in the unlikely possibility that North Korea develops, tests, and deploys a long-range missile.

**Warheads.** Earlier I said that it's important to consider not just who has missiles, but what sort of warheads the missiles might be armed with. A missile by itself isn't a weapon; it's the warhead on top of the missile that counts.

To date, all of the missiles used in war have been armed with conventional, high-explosive warheads. Such warhead pose little threat to U.S. military forces. Missiles are inaccurate and they are limited in the amount of explosive they can carry. The truck bombs that exploded in the World Trade Center and in Oklahoma City each contained as much explosive as a dozen of the Scuds that Iraq launched against Tel Aviv. Conventionally armed missiles are remarkably inefficient even as terror weapons; the 11 Scuds launched before Patriot batteries were deployed to Israel resulted in no deaths or serious injuries.

We worry about ballistic missiles primarily because they might be used to deliver unconventional warheads—nuclear warheads in

particular, but also chemical and biological warheads. We are most concerned with having a defense against chemical, biological, or nuclear weapons, not missiles *per se*. But missiles are only one way—and probably not the most likely way—that such weapons would be delivered. A country with one or two nuclear devices would be reluctant to mount them on missiles. Missiles are unreliable, and they place limits on warhead weight, diameter, and safety that a primitive device might not be able to meet. And it's hard to deliver chemical or biological agents with a ballistic missile; a cruise missile, an airplane, or special operations forces would be much easier. So even if we deploy an effective ballistic-missile defense, that doesn't mean that we would be able to protect our allies or troops from attack. Indeed, the very act of deploying a missile defense would encourage adversaries to seek other means of delivery.

At this point it is worth mentioning that the type of interceptors being developed must hit warheads in order to destroy them. This type of interceptor wouldn't work against submunitions that are released before the interceptor can get to the warhead, but submunitions are the preferred way to deliver chemical and biological weapons.

### **Accidental or Unauthorized Launch**

Now let's turn to the problem of accidental or unauthorized launches from Russia. This was the main rationale for the GPALS system proposed by President Bush and the ALPS system proposed by Senator Nunn some years ago, and this threat was also cited in recent draft legislation by those who support a national missile defense.

First, let me say that I think that the threat of accidental or unauthorized launch is real. I don't think such an event is very likely today, but there are reasons to be more worried that the probability might increase in the future, especially if Russia is

plunged into political turmoil. This is a legitimate concern worth insuring against, and a missile defense could be part of an insurance policy.

The most straightforward way to reduce the risk to the United States, however, is to implement the START I and START II reductions in the number of missiles and warheads and to pursue additional reductions. This could be done faster than an effective defense could be built, and it would save, not spend, tens of billions of dollars. Even more important is reducing the alert level of nuclear forces, so that missiles are no longer poised for instant attack during peacetime. The risk of accidental and unauthorized attacks could also be reduced through other cooperative measures, such as detargeting, cooperative warning and verification of alert status, destruct-after-launch systems, and better use controls on nuclear weapons. All of these measures could be pursued in an environment of cooperation.

The problem with deploying national missile defenses to guard against the small probability missile of an accidental or unauthorized Russian launch is that it could easily backfire, and make the problem worse, not better. If Russia believed that U.S. defensive system might nullify its nuclear deterrent forces, even while it had no system to protect itself from U.S. missiles, it would almost certainly call an end to all cooperative efforts to reduce the size and readiness of its nuclear forces. China might also have a similar reaction.

So while I don't mean to dismiss the threat posed by Russian or Chinese missiles, we can't make this threat go away simply by building defenses. The most effective way to reduce the threat is to reduce the number of missiles on both sides, and to make sure that any missiles which remain are safe, secure, and aren't on a hair trigger. Missile defenses should be pursued only in ways that won't jeopardize this first line of defense.