

## **Policy Forum 98-04: Will North Korea Negotiate Away Its Missiles?**

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## **NAPSNet Forum #16 -- Will North Korea Negotiate Away Its Missiles?**

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### **Northeast Asia Peace and Security Network**

## **WILL NORTH KOREA NEGOTIATE AWAY ITS MISSILES?**

#16 -- April 8, 1998

The is intended to provide expert analysis of contemporary peace and security issues in Northeast Asia, and an opportunity to participate in discussion of the analysis. The Forum is open to all participants of the [Northeast Asia Peace and Security Network \(NAPSNet\)](#) . As always, NAPSNet invites your responses to this report. Please see "[NAPSNet Invites Your Responses,](#)" below, and send your responses to the NAPSNet Coordinator at: [napsnet-reply@nautilus.org](mailto:napsnet-reply@nautilus.org) .

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# WILL NORTH KOREA NEGOTIATE AWAY ITS MISSILES?

Executive summary by David C. Wright

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### **I. Introduction**

The following is the executive summary of the article "Will North Korea Negotiate Away Its Missiles," by [David C. Wright](#) of the Union of Concerned Scientists. A summary item of news reports of this article was included in the US Section of the [Daily Report](#) for April 3. The full text of the article can be downloaded using Adobe Acrobat Reader at the [Union of Concerned Scientists](#) website.

Dr. Wright argues that recent DPRK actions belie the notion that it is actively developing long-range missiles. Rather, the available evidence would suggest that the DPRK's missile program has been suspended while the country tries to deal with its desperate economic situation. Dr. Wright argues that the US should take this opportunity to negotiate with the DPRK, with the aim being to trade improved political and economic relations for a halt to DPRK missile development.

### **II. Essay by David C. Wright**

## **1. Introduction**

The North Korean missile program is widely viewed as a major threat to international security, both because North Korea is known to have developed short-range missiles and sold them abroad--in particular to countries of concern to the United States--and is believed to be developing longer-range missiles. Concern over the program has been a primary motivation for the scale and pace of US missile defense efforts and has in many ways come to epitomize US fears about the proliferation of weapons of mass destruction and their delivery systems.

A common view of North Korea in the United States is that its leaders consider increased military strength as vital to regime survival and that its priority is therefore to pour resources into developing weapons. Another possibility, however, is that most North Korean officials have come to consider dealing with North Korea's economic crisis as their top priority. To the extent that they regard foreign investment and assistance as important, they may have begun to recognize that North Korea's military programs are a barrier to progress. They may also see their nuclear weapon and ballistic missile programs as valuable bargaining chips to be traded for an easing of sanctions or economic assistance from the international community.

## **2. The North Korean Missile Program**

North Korea is known to have produced and sold copies of Soviet Scud-B missiles with a range of about 300 kilometers for a one-ton (1,000 kilogram) payload. It subsequently built a longer-range version of the Scud, the Scud Mod-C, with a reported range of 500 kilometers with a 700-kilogram payload.

North Korea is widely reported to be developing the longer-range Nodong missile, with a range of 1,000-1,300 kilometers for a one-ton payload. So far there has been only one flight test, in May 1993, which was only to partial range (500 kilometers). Activities interpreted as preparations for a Nodong test have been observed at least twice since the 1993 test, in the spring of 1994 and fall of 1996. However, no test occurred in either case.

## **3. The Taepodong Missiles**

Press reports in March 1994 stated that US satellites had seen two missile mockups, both described as two-stage. Neither missile has been flight tested, but these mockups have generally been assumed to represent real missiles being developed by North Korea.

The smaller of the two, the Taepodong-1, reportedly has a Scud second stage on a Nodong first stage. US estimates for its range are 1,500-2,000 kilometers with a one-ton payload. However, the reported design is very long relative to its diameter, which could lead to structural problems during boost phase. If North Korea wanted to build a two-stage missile using Scud engines, a different design that matched diameters of the two stages would give greater range and a stronger structure, and would be no more difficult to build. The fact that the mockup does not have such a design calls into question whether the Taepodong-1 mockup represents a serious attempt to design a two-stage missile or whether the object seen was even a mockup of a real missile.

The larger mockup, designated Taepodong-2, reportedly has a Nodong second stage on a large first-stage booster with roughly the dimensions of the Chinese DF-3 (CSS-2) missile. Official US estimates of the Taepodong-2 range are 3,500-6,000 kilometers. These estimates have caused concern in the United States, since a range of 5,000-6,000 kilometers would enable the Taepodong-2 to reach the Aleutian Islands and parts of the Alaskan mainland.

The reported design of the missile raises serious questions about the Taepodong-2. The first stage would need to be much more powerful than the Nodong and would itself represent a significant increase in North Korea's missile capability. However, North Korea does not have such a missile.

Even assuming North Korea possessed a DF-3-like missile for the first stage, the reported design of the Taepodong-2 does not make sense from an engineering standpoint. If North Korea were able to build or acquire a DF-3-like missile there are three routes to adding a second stage: (1) use a

Nodong missile, (2) use a Scud Mod-C missile, or (3) develop a second stage powered by one of the engines developed for the first stage. All three options would be comparably difficult to build. Of these three, using a Nodong makes the least sense, for several reasons.

First, the Nodong missile is so heavy that using it as the second stage would limit the missile's range relative to the other two options. Second, using a missile as long as the Nodong for the second stage would give the Taepodong-2 a large length-to-diameter ratio, which could create structural problems during boost phase. Third, since the Nodong has four engines, it would be less reliable than the single-engine Mod-C or a single-engine second stage based on the engine used for the first stage. The Taepodong-2 design that would make the most sense--in terms of range, structural strength, and reliability--would have a second stage that used one of the engines developed for the first stage and have a diameter equal to the first stage. Even if North Korea wanted to use an existing missile as a second stage, using a Scud Mod-C rather than a Nodong would result in a missile with greater range, structural strength, and reliability.

## **4. Peculiarities of the Domestic US Debate**

The US debate about North Korea's missile program has been peculiar in a number of ways. While the program has been one of the main proliferation concerns in the United States, public and Congressional discussion of this program has been surprisingly superficial. Moreover, although US intelligence agencies have studied the reported design of the Taepodong-2 missile in detail, there has been no discussion of the fact that this design does not make technical sense or what this implies for the potential Taepodong threat. Perhaps most oddly, there has been no mention of the fact that if North Korea could build the large first-stage booster required for a Taepodong-2 missile, that stage by itself would represent a significant increase in North Korea's missile capability, and would logically precede deployment of a two-stage Taepodong-2.

There are several possible explanations for these peculiarities. Perhaps a thorough official analysis of the program has not been done, or the results have not been shared with officials involved in the Congressional debate, or those officials have ignored the information. Any of these possible explanations reveals a serious problem with the US policy process.

## **5. An Alternative Perspective on the North Korean Missile Program**

While North Korea is often portrayed as single-minded in its determination to acquire long-range missiles, there are a number of indications that North Korea may instead be interested in negotiating restrictions on its missile program if the price is right. First, North Korea has agreed to discuss limiting its missile program with the United States and two sets of such talks have already taken place. In those talks North Korea reportedly discussed compensation for not carrying out missile tests--a restriction that would in fact limit missile development. It appears likely that the talks will resume in spring 1998.

Second, North Korea was engaged in similar negotiations in 1992-94 with Israel, which believed it had reached a deal in which North Korea would agree not to ship Nodong missiles to Iran. The United States, engaged in negotiations over North Korea's nuclear program at the time, apparently stepped in to stop the deal in order to increase North Korea's political isolation.

Third, North Korean agreement to limit a major weapon program has a precedent in its 1994

agreement to a verifiable halt of its production of plutonium in return for heavy fuel oil and construction of two civilian nuclear reactors. Similarly, North Korea has strong incentives to negotiate on its missile program to ease sanctions and gain foreign investment and/or economic aid. North Korea is suffering widespread famine and its economy is in severe decline.

## **6. A Window of Opportunity for Negotiations:**

Lack of Nodong Tests Since May 1993

There are three possible explanations for the lack of Nodong flight tests since May 1993 and the lack of tests following the 1994 and 1996 test preparations. First, the 1994 and 1996 test preparations may have been preparations for actual tests, but at the last minute North Korea discovered technical problems so severe that it was unable to conduct the test for the next several years. If true, this calls into question North Korea's ability to develop and field longer range missiles like the Taepodongs in the near future.

A second possibility is that North Korea was intending to test but changed its mind for political reasons. The third possibility is that one or both of the observed test preparations were not preparations for a real test, but were intended to be detected by the United States to send a political message. If one of the latter two explanations is correct, it would imply that North Korea is not single-mindedly pursuing its missile development program, but has other objectives.

Whatever the reason, the lack of Nodong flight tests since 1993 provides an opportunity for the United States to reach a deal with North Korea before the Nodong undergoes additional flight tests and is sold abroad. It also gives North Korea something tangible to trade in negotiations: a ban on missile flight testing would be valuable since it would seriously limit further development of the Nodong, as well as of the Taepodongs. Moreover, a flight-test ban would be verifiable by satellite.

## **7. What to Make of the Taepodong-2: A Potemkin Village?**

If the Taepodong-2 mockup represents a real missile that North Korea is developing, as is generally assumed, it would raise serious questions about the technical competence of North Korean missile engineers and would suggest that the program is not as advanced as is often asserted. A second possibility is that the Taepodong-2 mockup seen in 1994 did represent a real system in the early stages of development, but that North Korea has since improved the design.

A third possibility is that the mockup seen was not a prototype of a real system and that North Korea does not have a serious program to develop such a missile. The mockups seen in early 1994 were almost certainly displayed with the intention of having the United States see them and may well have been dummies intended to be seen by satellites to suggest significant progress in its missile program. They may have been intended to influence the negotiations over North Korea's nuclear program, as some US officials apparently assumed at the time.

## **8. A North Korean Missile Deal? Prospects for the Future**

If North Korea has begun to see its economy as its main priority, one would expect that it would not give high priority to developing its missile program. This possibility is supported by the publicly available evidence, including a range of indications that North Korea is interested in improving its

relations with the rest of the world. Its economic crisis and famine suggest that the international community may have more leverage over North Korea than is often assumed.

If North Korea is interested in negotiating in earnest, what sort of restrictions might it accept? First, it could agree to end its missile sales to other countries. Such an agreement is unlikely to satisfy the United States because it would not address domestic development. Second, North Korea could agree to eliminate its missile program altogether. North Korea would almost certainly reject such an agreement as long as South Korea retains missile development capabilities.

Third, North Korea could agree to halt its missile sales and to cap its missile program and stop future missile development, but would retain for now its existing missile capability. An important part of such an agreement would be a ban on further flight testing of missiles, which could be readily verified by US satellites. Such an agreement would limit future missile development but leave North Korea with a residual missile capability, which might address fears of military attack and its concerns about the South Korean missile program. Clearly such an agreement would not be all the United States would want, but it could be a useful step in the process of further negotiations to deal with existing missile capability. Moreover, there seems to be little to lose in agreeing to such a step en route to a more comprehensive agreement. Even if North Korea has incentives to negotiate, it will not accept a deal without terms that it sees as favorable. The United States has so far reportedly offered some easing of economic sanctions as part of a missile deal, but has apparently not yet explored in detail what North Korea's price is.

## 9. Conclusion

There is substantial evidence supporting the view that North Korea is interested in negotiating meaningful limits on its missile program. Providing incentives--economic as well as political--for North Korea to agree to measures that would place meaningful limits on its missile program and help integrate it into the international community is a good bargaining strategy that could provide long-term security benefits to the United States, Israel, and North Korea's neighbors.

### III. NAPSNet Invites Your Responses

The Northeast Asia Peace and Security Network invites your responses to this essay. Please send responses to: [napsnet-reply@nautilus.org](mailto:napsnet-reply@nautilus.org) . Responses will be considered for redistribution to the network only if they include the author's name, affiliation, and explicit consent.

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