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Lars van Dassen

Morten Bremer Mærli

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Defence as the Best Offence? Missile Defences and Nuclear Non-Proliferation

Lars van Dassen and Morten Bremer Mærli[1]

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October 9, 2006, the nuclear club expanded its membership from eight to nine states. The North Korean nuclear test and earlier missile launches have accentuated western missile defences. Iranian nuclear developments have hardly lessened the interest: Contemporary and emerging missile threats differ fundamentally from those of the Cold War era. Missile defences are by the US, and some of its allies, now regarded as an insurance against military surprises, diplomacy breakdowns, intelligence breaches, and deterrence failures, and a way to sustain dominance and avoid coercion. Ballistic missiles may provide a way for the juvenile adversaries to attempt to achieve some degree of strategic equality, or to limit military courses of action. According to the US, this necessitates a different approach to deterrence and additional tools for defence.

Accordingly, June 13, 2002, the United States withdrew from the 1972 Anti-Ballistic Missile Treaty, which barred the development, testing, and deployment of strategic ballistic missile defences, including space-based components.[2] With formal international constraints gone, the US now freely explores its defence system. The system rests upon an evolutionary acquisition approach, with steps and capability improvements through block upgrades. European countries are increasingly becoming part of this capability expansion.

The official goals of the US missile defence is to:[3] defend against potential and emerging long-range missile threats from "irresponsible regimes",[4] to provide security to a select group of states in Europe, to seek partnerships to develop and deploy missile defence capabilities fending US and deployed forces for its allies. According to the Pentagon this is consistent with NATO's direction on missile defences, so if adopted, the US system could make a significant contribution to that objective as well. To the US, the more NATO is involved in the ongoing development, the better. An integrated NATO missile defence is a pronounced, long-term goal.[5]

Currently, NATO considers expanding its umbrella of defensive coverage, possibly to have the capability to protect deployed military forces against short- and medium-range ballistic missiles by 2010.[6] With the US Missile Defense Agency (MDA) in the lead, an extensive technical cooperation is ongoing with European NATO partners, and the United Kingdom as a forerunner. A 10.000 page feasibility study funded by NATO concluded May 2006 that a missile defence for Europe is technically and financially feasible.[7] The four-year study, on the missile threat to Europe and how to defend against it, remains classified.

Intuitively, missile shields may seem both rational and well-considered in light of evolving threats, as well as technological defensive developments and opportunities. However, the systems may interfere with international strategic balances. Both vertical and horizontal proliferation may result, and its impact on existing mechanisms to stem nuclear proliferation may be detrimental. Such considerations appear to have been kept outside the scope of the assessments conducted this far. As the final designs of the missile defences are far from being determined and as the planned and already partly implemented systems may have profound security implications, the missile defence debate should be kept alive – and broadened, much beyond the (technical) scope of current and planned feasibility studies and tests.

In particular, it should be considered whether the missile defence systems may come to act as a catalyst for the very missile threats they are supposed to counter. More so, a thorough assessment of possible impacts of the envisioned defence systems on existing arms control arrangements seems highly pertinent. Implications of the integrated missile defence system, as the one envisioned by the current Bush-administration and some NATO-allies, are thus discussed in the following. The article will do so by considering the status of the current program, as well as future plans and underlying philosophies and security thinking. Six possible problems for nuclear arms control and non-proliferation are presented, before a review of the possible impact of the missile shield on the Nuclear Non-Proliferation Treaty (NPT).[8]

The analysis shows that missile defences are incompatible with a viable and strong NPT. The defence systems hence pose fundamental questions related to the future dynamics of nuclear proliferation, as well as preferred countermeasures.

The State of Missile Defence Affairs

The US missile defence is envisioned as a combination of systems that find, target and destroy ballistic missiles in any of their three flight periods – the initial boost phase, the midcourse phase and the descent phase – from defences arrayed on the ground, at sea or even in the air.[9] The system aims at being a layered defence, so military assets could be brought to bear at any stage in a missile's flight against the United States, its deployed forces or those of its allies.

In February 2003, the U.K. agreed to the US request to upgrade the early warning radar at Fylingdales, U.K., for missile defence purposes. A bilateral Framework Memorandum of Understanding to facilitate missile defence cooperation at Thule Air Base, Greenland, between the United States and Denmark was signed in October 2005. The agreement allowed Denmark access to US missile defence technologies, possible defence contracts; and it grants the US the right to upgrade its early warning capabilities. Currently, the United States is looking for additional ways to partner with the United Kingdom on missile defence research and development. Discussions with Spain, Turkey, Greece and Hungary are scheduled for April 2007. Outside Europe, key partners include Japan and Australia.[10]

In the US, the Missile Defense Agency continues to develop, test and deploy a multilayered national ballistic missile defence system. Originally described as a test bed, the Fort Greely, Alaska, ground-based midcourse defence missile interceptor base, is now the core of the Bush-administration's rudimentary missile defence system. Not yet fully operational, end of February 2007, a total of 16 interceptors in the national missile defence have been placed on US soil.[11]

The aim is to raise the total to roughly two dozen interceptors by the end of this year and up to 54 by 2011, including ten missiles in Europe.[12] The

testing program, however, has been criticized for being unrealistic, with no tests or experiments resembling real attacks.[13] A successful intercept by the Ground-based Midcourse Defence System September 1, 2006 gave the program a much needed boost following a series of misfires. Missile defence proponents maintained that the successful test would help step up pressure on North Korea and Iran.[14]

Hence, albeit somewhat delayed, falling back of the goal of having 20 interceptors in place by 2005, the US-program moves ahead, and expands. This year, ground-testing will involve war-fighting personnel and readiness demonstrations. Over the past two decades, the United States has appropriated more than $100 billion to these endeavours. Anti-missile programs are amongst the Bush administration's funding favourites. Now, the Pentagon is seeking approximately $10.8 billion for its various missile defence projects.[15] Compared to 2006, the funding increase nears 20%.[16]

Early 2007, funding requests were issued for deploying ten interceptors in Poland and tracking radars in the Czech Republic.[17] Space-based interceptor feasibility and demonstration experiments are, moreover, planned. For this purpose, the Missile Defense Agency will be asking $45 million in the upcoming fiscal year 2008 budget request to begin conducting "space-based interceptor feasibility and demonstration experiments".[18]
Through 2011, Pentagon foresees using nearly $570 million to develop space-based interceptors.

A defensive offensive logic?

In the 1980s and early 1990s, there was much written and said on how to device military weapons systems and strategies in a manner where they would be "non-offensive" and thus useable for defensive purposes only. The thinking was intended as a way out of the cataclysmic arms races, dynamics and spirals of the Cold War. The problem, of course, was that most weapons systems could serve both offensive and defensive purposes.

Missile defences add new dimensions to this non-offensive thinking. The limited, scaled-down version of the current US system – consisting of

various land or sea-based batteries of missile interceptors in order to hit incoming missiles – is among the few weapon systems that probably could count as purely defensive and non-offensive. As offensive means directed towards other states, the interceptors are useless. Besides, according to current plans the interceptors will be installed without explosives. Their efficiency rest upon the kinetic impact when colliding with an incoming ballistic missile. As a response system, the shield could – ideally – render missiles superfluous as credible, offensive weapons. If the missile defence qualifies as the ultimate non-offensive weapon system there would be good reasons to cheer its development and arrival. Indeed, to the current US administration missile defence is an essential component of America's goal to support international non-proliferation efforts.[19]

However, the current system runs the risk of upsetting strategic balances. In Russia reactions have been particularly strong, with concerns that second-strike capabilities will be lost or limited. Foreign Minister Sergei Lavrov claimed that "any unilateral anti-missile projects would fundamentally alter the [European] continent's geo-strategic landscape", adding that it was "unacceptable for anyone to use Europe as their own strategic territory".[20]

US officials on their behalf have repeatedly stressed that Russia's strategic nuclear deterrent is not the intended target of the planned European ballistic missile interceptors. Brushing such worries aside, Secretary of State Condoleezza Rice has insisted that the interceptors are far too few to upset a cooperative relationship between the United States and Russia.[21] Possible ways to cooperate with Russia on a missile defence have been put forward. Moreover, the plan to deploy elements of a missile defence system in Central Europe has been the subject of ongoing high-level consultations and meetings of technical experts of the two nations dating back to the spring of 2006, in the NATO-Russia Council and elsewhere. Discussions continue.

Yet, as the United States is openly seeking primacy in every dimension of modern warfare, the missile defence may be seen as potential component of a future offensive weapon system. These are the fears nurtured in

Moscow, Beijing and other capitals, and these are the threat perceptions that may come to govern international security relations in the coming decades. The Bush-administration refuses to enter negotiations or even less formal discussions on a ban on space weaponization. Indeed, as space has become an increasingly important component of US economic, national and homeland security, President Bush has signed a new National Space Policy that rejects future arms-control agreements that might limit US flexibility in space.[22] Specifically, the new policy calls on the Pentagon to "provide space capabilities to support…multi-layered and integrated missile defences. The policy asserts that "freedom of action in space is as important to the United States as air power and sea power," and insists on a right to deny access to space to anyone "hostile to US interests".

Star Wars I & II

In the early 1980s, US President Reagan formulated and initiated the development of a space-based system of lasers that would be able to destroy nuclear missiles fired by the Soviet Union. The Space Defence Initiative, SDI, or, "Star Wars" (as it soon was baptized, with reference to the Spielberg movies) and the ensuing research and development efforts could literally have undermined the entire deterrence rationale that reigned the Cold War: It threatened the ability of the Soviet Union to strike and harm with its nuclear weapons in the same manner as the US could.

Later it has been maintained that the SDI more than anything else was the reason for the Cold War to end and the Soviet Union and Eastern Block to collapse. This interpretation probably exaggerates the historical importance of the SDI. First of all, the system was never developed and the prospects of it ever being completed and becoming operational were all the time uncertain. Secondly, the Soviet options were never exhausted with respect to either developing similar or different defensive systems, or simply refining their nuclear arsenals so that the missiles would be faster and harder to detect and shoot down.

Finally, the extreme risks taken with the SDI may have been neglected or forgotten: The SDI could have increased the first-strike temptation of the Soviet Union. If the Soviet Union remained exposed to a US nuclear attack

and would have lived on to see its strategic potential gradually being undermined and becoming impotent, it may have made some sense to make use of its nuclear missiles in a comprehensive surprise attack. In the extreme end, if it had been further developed and had become a credible defence structure, the SDI-system might thus have ended up as a catalyst of nuclear war – not an inhibitor. In the future, opened archives will give us more knowledge on how the Soviet leadership reasoned with regards to the SDI.

As the Cold War thawed, SDI was put to rest, at least in the political speeches, and the focus switched to disarmament issues. Here, the Soviet and US leaders achieved successful leaps and milestone treaties. The first achievement was the INF Treaty in 1987, where the US and the USSR agreed to abolish an entire category of intermediate-range nuclear missiles that had been deployed in Europe throughout the previous decade and a half. Later came the START I Treaty and the drastic reductions in the strategic nuclear arsenals.

Toward the mid-1990s, however, the missile defence was resurrected in a somewhat milder and modest variant where it would be an earth-based and not space-based system. The particular reason was the Gulf War in 1991, when Iraq had been able to fire Scud missiles on Israel and Saudi Arabia. The countermeasure then was the US Patriot missile that was placed in several states that were threatened by Iraq. The Patriot was only partially successful in actually hitting Iraqi missiles, yet broadly publicized as an efficient defender against the rampant threat posed by missiles that were or could be tipped with weapons of mass destruction.[23]

In December 1993, the NATO Council created the second step toward a revitalization of the old system when NATO agreed to introduce "counter-proliferation" as part of the means the Alliance would make use of in order to create protection against weapons of mass destruction. Instead of relying on the political, economic, diplomatic and ultimately military means that could be made use of multilaterally in the framework of the NPT, it was decided that NATO or its members could act proactively and eradicate threats from weapons of mass destruction before they materialized.

In the US, under the Clinton Administration, the missile defence box hence was re-opened, primarily to meet possible WMD-threats from so-called "rouge states". The national missile defence considered and research work done remained inconclusive with respect to whether the system would be technically feasible. It remained, however, an opportunity that took stock of the technological development, as well as of the possible missile threats to the USA. During the last Clinton years, this was the careful base line for the system's possible conception; birth and growth at a later stage. When George W. Bush took office in 2001 things soon changed. The missile defence was no longer a potential system for the future, if the future developed in a certain manner: It was to be a full-blown structure; if possible a system that could and would shape international relations.

Six Possible Problems for Nuclear Arms Control

The nuclear non-proliferation regime consists of the Nuclear Non-Proliferation Treaty as its corner stone with a number of principles, norms and rules for behaviour and co-operation embedded, in the pursuit of halting the spread of nuclear weapons. There are a number of interrelated issues linked to the missile defence that pose challenges, problems and obstructions to the objectives of the NPT and the nuclear non-proliferation regime. The problems may manifest themselves in direct as well as entwined manners. Before a more detailed assessment of the impact of the defence on the NPT, a set of possible problems for nuclear arms control in general are presented in the following.

Problem 1: Treaty Abandonment

In order to freely pursue a national system, US President Bush gave formal notice to Russia in December 2001 that the United States of America would withdraw from the Anti-Ballistic Missiles Treaty (ABM Treaty). The treaty was thus cancelled by one of its architects and founding fathers, the USA. President Bush then stated that the ABM Treaty was a Cold War instrument and by abolishing it there was a clear expression that the Cold War was gone. With this, the other party, the Russian Federation could only take note of the fact that the instrument that during the Cold War had – after all – limited the nuclear armaments was put to rest.

The virtues of the ABM Treaty were that it kept a lid on the deterrence and arms race kettle. Without the Treaty, the US and the USSR would probably have developed missile defence systems further. This in turn would likely have led the adversary to qualitatively and quantitatively develop its nuclear arsenal in order to conquer the missile defences. And so on. With the ABM Treaty, the US and the Soviet Union agreed that both would be better off without having to go through all these possible stages. In contrast to the mentioned Bush dictum, the nuclear rivalry between the US and Russia is still alive. Both sides retain sizable nuclear arsenals, some of which are kept on high alert levels. Russia develops new nuclear inter-continental ballistic capabilities and maintains missiles with multiple warheads (see below). There are therefore good reasons to preserve measures that reduce the risk of escalated arms races and tension between the nuclear superpowers. The ABM Treaty was such a measure and it was highly functional and helpful even after the collapse of the Soviet Union.

More so, with the abolishment of the ABM Treaty, the US made itself the first actor that permanently withdrew from a treaty that plays an important role in the international nuclear disarmament and non-proliferation regime. Just one year later, North-Korea followed suit and pulled eventually out of the NPT. February 2007, as a direct response to the planned European missile defence interceptors, the Russian army chief of staff, Yury Baluyevsky, threatened to withdraw from the 1987 Intermediate-range Nuclear Forces Treaty (INF Treaty) between Washington and Moscow.[24]

Problem 2: The Death of the START II and III Treaties

In January 1993, Presidents Yeltsin and Bush (Sr.) signed the START II Treaty. The treaty called for the elimination of "Inter-Continental Ballistic Missiles", ICBMs, with so called "MIRVs" or, Multiple Independently Targetable re-entry Vehicles (meaning that each missile can carry several nuclear warheads for individual targets) and reduction to strategic warhead limits on each side of between 3,000 and 3,500 (initially) by 2003. Immediately afterwards discussions started on how to proceed to a START III Treaty, under which the levels of nuclear weapons would be further reduced and the fissile material for the first time irrevocably controlled or eliminated. The same month, President Bush presented the Treaty to

the US Senate for ratification. Here, the Treaty was adopted one year later with an overwhelming majority of votes, whereas the Russian ratification process turned out a protracted endeavour. The Russians were dragging feet mainly due to the rejection by the US Congress to ratify the Comprehensive Test Ban Treaty, as well as US-British military strikes against Iraq in1998, and the NATO bombing campaign in Former Yugoslavia in 1999.

In April 2000, the Russian Duma finally ratified the START II Treaty, but stressed simultaneously that the ABM Treaty would have to remain in force and adopted legislation towards this end. The legislation made entry-into-force of START II dependent upon US adoption of the START II protocol and AMB Treaty-related documents. In other words, the START II reduction would only be achieved if the ABM Treaty stayed intact. To the US, this was an unacceptable clause. Hence, with the demise of the ABM Treaty the START process came to a halt. The START II disappeared and further discussions on the START III Treaty became futile.

Later, in May 2002, Presidents Putin and Bush agreed to establish the Strategic Offensive Reduction Treaty. In spite of the fact that this agreement foresees the reduction of strategic nuclear weapons to a level of between 1,700 and 2,200 warheads on each side by 2012, the SORT has to be considered as no more than an agreement for short-term disabling of nuclear weapons. There are no provisions on the destruction of the nuclear weapons and the nuclear materials, and there are no restrictions on the number of operational weapons after 2012. Moreover, there are no reciprocal verification or inspection measures embedded in the Treaty.

In short, the US withdrawal from the ABM Treaty has barred the world from the added security value that drastic and verified reductions of strategic weapons under the START II and III Treaties may have provided. As the START III was the first arms control treaty to address the elimination of the fissile material from dismantled warheads, it would also have been a significant contribution to a reduced nuclear terrorism threat: No fissile material, no nuclear bomb, no nuclear terrorism.[25]

Problem 3: A New Generation Strategic Nuclear Missiles

In November 2004, Russian President Putin announced that the Russian Federation intends to develop the world's most sophisticated nuclear missile. Putin did not specify which new nuclear systems he was referring to. However, the Russian defence industry is developing a mobile version of the Topol-M ICBM. The Bulava is a sea-launched ballistic missile that will also have a land-based version and a re-entry vehicle that will become a component of a new nuclear missile system, according to reports in the Russian press.[26] The development of a new generation of Russian nuclear missiles is the first such step since the collapse of the Soviet Union.

Russia needs to take the uncertainties associated with the new strategic situation into consideration. During (possible) first-strike attacks, even a relatively modest or inefficient missile-defence system could be enough to protect against any retaliatory strikes, as the target country would have so few warheads left.[27] The new Topol M may hence be interpreted as a determination by Russia not to be intimidated by the prospects of the US developing a missile defence that would render Russia vulnerable, without it being able to saturate the missile shield and to retaliate. As a direct consequence, moreover, it would seem rational to maintain large payloads and huge warheads in order to maximize damage from those missiles actually penetrating the envisioned shield.

US decision-makers have maintained that the national missile defence not is directed towards the Russian Federation and the strategic relationship that the two states have, based on mutual deterrence. In fact, during early (April 2000) US efforts to accomplish Russian acceptance of its system, US negotiators argued for Russia to retain a minimum strategic nuclear force, indefinitely.[28] The force, no less than 1500 warheads, should be on constant alert and large enough to penetrate the planned defence system, and hence avoid upsetting the strategic relationship between the rivals.

In parallel to its missile defence plans, the US continues to qualitatively develop and sophisticate its nuclear arsenals. March 7, 2007, the Department of Energy's National Nuclear Security Administration announced that it will proceed with the Reliable Replacement Warhead (RRW)

program. According to US officials, the RRW program, being "critical for sustaining long-term confidence in (US) nuclear deterrent" will enable a more responsive nuclear infrastructure and, ultimately, a reduced stockpile size.[29]

Could this be the contours of a new nuclear arms race amongst the two Cold War rivals? The first new nuclear warhead productions since the Cold War, may definitely be seen as a blunt negligence by both states of their commitments under article VI of the NPT. The nuclear disarmament obligations outlined herein on the part of the Nuclear Weapon States is an important part of the overall non-proliferation bargain, and one of the prerequisites for a sound and viable Non-Proliferation Treaty.

Problem 4: The Cut-Off Treaty and Strategic Relations with China

The US argues that the national missile defence aims at smaller antagonists, in particular North Korea and Iran. However, China is another actor with a small nuclear arsenal. The system may cripple China's nuclear deterrence, which currently rests on a minimal strategic nuclear force. Even today, without a fully operational missile defence, it has been maintained that the US has a first-strike capability against China.[30] With the national shield, US will definitely be able to deter China, but China may unable to reciprocate – without intensifying its nuclear force modernization.

While the Chinese nuclear capabilities generally tend to be exaggerated by western sources,[31] China is now taking steps to develop missiles that can strike deeper into the US than the couple of dozens that currently can reach only California. Another sign of the times was the successful Chinese destruction of an orbiting satellite early 2007. A ground-based, medium-range Chinese ballistic missile then knocked an old weather satellite from its low-flying orbit. As expected, international reactions were strong, not least in the US.

The US push for a national missile defence have made China hold a more restricted stance on international efforts to stem the production of fissile material. In order to maintain its minimum deterrence towards the US, China has claimed a need to keep current and future production of

fissile materials going. Indeed, in the Conference on Disarmament, China has persistently argued that a future fissile material cut-off treaty (FMCT) must be linked with negotiations on the Prevention of an Arms Race in Outer Space (PAROS). Hence, while the US claims to be in favour of the ban on further production of fissile materials for military uses, the missile defence plans serve as obstructions for a shared and genuine appreciation by all Nuclear Weapon States of a cut-off treaty. Apart from a minor intermezzo in August 1998 – when the Conference on Disarmament did manage to establish an *ad hoc* Committee for cut-off negotiations – very little has happened on the FMCT scene during the past decade.

Problem 5: Nuclear Chain Reactions in South Asia

A China on the verge of qualitatively and quantitatively improving and extending its nuclear arsenals and means of delivery is likely to have consequences beyond the US-Chinese relationship. India embarked on the nuclear weapons track after a border war with China in 1962. Since then, a prime reason for India to have nuclear weapons has been China and its nuclear weapons. To the extent that China enlarges and sophisticates its arsenal, India may be tempted or forced to do the same. April 2007, the country again successfully tested a missile capable of carrying a nuclear warhead.

India has a second nuclear antagonist, namely Pakistan. Currently, the brittle relations between the two states have stabilized and a timid dialogue over a solution to the Kashmir conflict is being carried out. To the extent the negotiations are successful can there also be a general peaceful development between India and Pakistan. However, there are limits to how prosperous talks can be where regional nuclear arms races are looming. If India thus follows suit vis-à-vis China, then this is likely to put Pakistan on a similar track.

Problem 6: Nuclear Inspiration for "the Usual Suspects"

Iran and North Korea can – rightly or wrongly – point to a nuclear threat from the USA (and Israel, for the case of Iran), as a source of inspiration for its own nuclear weapon programs. The DPRK nuclear test fuelled Japanese nuclear weapon discussions, and developments in Iran have

ramifications in other states in the neighbourhood. For instance, Pakistan borders with Iran and the two states are divided over many issues such as affiliations with the US and whom to support in Afghanistan. The South-Asian nuclear chain reactions may hence continue on to the Middle-Eastern region.

Across existing or embryonic civilian nuclear capabilities, Syria, Saudi Arabia and Egypt may develop nuclear weapons ambitions. And, they may have an easier time to justify nuclear weapons aspirations in an environment where nuclear weapons play a persistent element for perceptions of security and status. Such developments also imply that nuclear weapons continue to play a large role in international politics and security relations, more than a decade after the end of the Cold War. This has implications. As it becomes more and more evident that the Nuclear Weapon States of the NPT do not intend to abide to their full nuclear disarmament obligation in Article VI of the Treaty – but rather chose to rely on sustained nuclear capabilities and missile defences – it will become harder to point to the salience of the non-proliferation pledge of nuclear abstinence for Non-Nuclear Weapon States in Article II of the NPT.

Impact on the Nuclear Non-Proliferation Treaty

The Nuclear Non-Proliferation Treaty, NPT, constitutes the backbone of the international nuclear non-proliferation regime, together with safeguards and the export control system. The regime is enhanced by additional conventions and several agreements creating regional nuclear weapon-free zones. It may be understood as 'universal' in the sense that it refers to multilateral disarmament and non-proliferation efforts based on international norms of arms control, using legal instruments on a global basis.

The NPT has long been key in non-proliferation and disarmament activities. The Treaty is the major international legal obstacle for states seeking nuclear weapon capabilities. In retrospect, and despite setbacks, the overall impact of the NPT has been significant and gratifying. Entering into force in 1970, it aims at devaluing the political and military currency of nuclear weapons, and limiting their spread – both vertically and horizontally.[32] Due to the non-proliferation norm established by the NPT, the

long-term efforts of the USA and others to gain acceptance for it, and the international inspection regime developed under the NPT, the world now has nine nuclear weapon states. Without the treaty, this figure could have been close to thirty.[33] However, its achievements have been hard won, and increasingly contested.[34] Its continued success is by no means guaranteed.

According to the NPT, nuclear weapons are temporarily legal in five countries (the five that had tested prior to 1 January 1967); not illegal in three others (Israel, India and Pakistan, which never joined the NPT); and banned everywhere else (North Korea's *formal* nuclear status remains undefined and unclear, despite the recent test). The treaty was – not without opposition – extended indefinitely in 1995. While the Bush-administration's approach to non-proliferation accepts the NPT, it does not rely on it.[35] But, in confining the nuclear ambitions of its opponents the US has an interest in sustaining the NPT. In this regard, showing some progress on Article VI is vital to all Treaty member states. No disarmament whatsoever may be accomplishable in the absence of (or after a breakdown of) an efficient regime to curb the spread of nuclear arms.

The 2000 Review Conference of the NPT adapted by consensus thirteen practical steps for the systematic and progressive efforts to implement Article VI of the NPT. The steps operationalized the 1995 "Principles and Objectives for Nuclear Non-Proliferation and Disarmament" – one of the elements of the package introduced in conjunction with the NPT treaty-extension. By this, the NPT now encompass a series of measurable steps – steps that will be followed closely. To the extent these steps are implemented is not only a strong indicator of the strength and well-being of the nuclear non-proliferation regime. The very future and viability of the NPT rest upon their completion.

The following section assesses the status of these steps in light of existing and planned missile defence systems. The steps, as described in the 2000 NPT document, are given in *italics*. The findings are summarized in Table 1, below, and briefly discussed in the following.

	No direct negative impact	Some or indirect negative impact	High and direct negative impact
Step 1		√	
Step 2			√
Step 3			√
Step 4			√
Step 5			√
Step 6			√
Step 7			√
Step 8	√		
Step 9a			√
Step 9b		√	
Step 9c			√
Step 9d			√
Step 9e			√
Step 9f			√
Step 10			√
Step 11			√
Step 12	√		
Step 13		√	
Sum	***2***	***3***	***13***

Table 1. Missile Defence Impact on the Steps for Nuclear Disarmament and Non-Proliferation from the 2000 NPT Review Conference

Step 1

> *The importance and urgency of signatures and ratifications, without delay and without conditions and in accordance with constitutional processes, to achieve the early entry into force of the Comprehensive Nuclear-Test-Ban Treaty.*

The abandonment of the ABM-treaty, may be seen as a product of Washington's policies of nuclear exceptionalism: In an à la carte approach to nuclear arms control, the US openly dismisses some treaties as irrelevant, anachronistic or dangerously unreliable.[36]

Pending a Comprehensive Test Ban Treaty, the nuclear weapon states under the NPT maintain testing moratoria. As seen below, however, the push

for missile defences may have raised testing-incentives, hence causing a further erosion of the CTBT-foundations – as well as the NPT. Missile defence plans probably have had some, but still a somewhat uncertain influence on the first Step of the plan of action.

Step 2

> *A moratorium on nuclear-weapon-test explosions or any other nuclear explosions pending entry into force of that Treaty.*

Obviously, the rationale behind the North-Korean nuclear test October 2006 is complex and multifaceted. Officially, the DPRK was compelled to manufacture nukes by the US nuclear threat, sanctions and pressure.[37] If the North-Korean test was a response to US security policies, the missile defence is likely to be in the forefront of Pyongyang's calculations. The missile defence is part of the new US military doctrine, and since the 1998 Rumsfeld Commission, North Korea has been the primary rationale for a national missile defence in the United States.[38]

However, the test did not only alter the nuclear status of the country. It effectively made DPRK a stronger party in the intense disarmament negotiations. As such, the expectations of the missile defence proponents to "step up pressure on North Korea", [39] were fulfilled indeed – albeit with adverse effects. In short, the moratorium has been held by the US and others but broken by North Korea that also broke with the NPT. It is hard to say whether North Korea would have carried out a test had there been more benign relations with the US. But there are reasons to assume that the North Korean test is one example of how propagated needs for missile defences can become self-fulfilling prophecies. The 2nd Step has had some negative influence from the missile defence.

Step 3

> *The necessity of negotiations in the Conference on Disarmament on a non-discriminatory, multilateral and internationally and effectively verifiable treaty banning the production of fissile material for nuclear weapons*

> *or other nuclear explosive devices in accordance with the statement of the Special Coordinator in 1995 and the mandate contained therein, taking into consideration both nuclear disarmament and nuclear non-proliferation objectives. The Conference on Disarmament is urged to agree on a programme of work which includes the immediate commencement of negotiations on such a treaty with a view to their conclusion within five years.*

This issue has been discussed above, under the section on the "Cut-Off Treaty and Strategic Relations with China". The 3rd Step is directly and negatively influenced by current US missile defence plans.

Step 4

> *The necessity of establishing in the Conference on Disarmament an appropriate subsidiary body with a mandate to deal with nuclear disarmament. The Conference on Disarmament is urged to agree on a programme of work which includes the immediate establishment of such a body.*

Again, this issue has been discussed above, under the section on the "Cut-Off Treaty and Strategic Relations with China". The CD remains deadlocked, not least due to US space ambitions and missile defence plans and how China sees this as a threat to its deterrence capability. The 4th Step is negatively impacted.

Step 5

> *The principle of irreversibility to apply to nuclear disarmament, nuclear and other related arms control and reduction measures.*

As seen above, the START-process became a formal victim of the US withdrawal from the ABM. Under START III, the United States and Russia would have, for the first time, negotiated measures for the destruction

of strategic nuclear warheads, as well as other jointly agreed technical and organizational measures to promote the irreversibility of deep reductions.[40] With the death of the ABM-treaty, efforts in this direction never came into being. Irreversibility largely remains an ideal, rather than an operational principle. Hence, the 5th Step is also negatively impacted.

Step 6

> *An unequivocal undertaking by the nuclear-weapon States to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament to which all States parties are committed under Article VI.*

Impacting regional and international stability, new arms races may evolve. More so, the missile defence prioritizations may be viewed as a recipe for indefinite retention of nuclear arms. Seen this way, it is at odds with the fundamental commitments of the nuclear weapon states (NWSs), and all other parties, assumed under Article VI of the NPT, to work for the total elimination of nuclear weapons. The 6th is affected negatively as well.

Step 7

> *The early entry into force and full implementation of START II and the conclusion of START III as soon as possible while preserving and strengthening the ABM Treaty as a cornerstone of strategic stability and as a basis for further reductions of strategic offensive weapons, in accordance with its provisions.*

It has been showed above how the US withdrawal from the ABM Treaty led to the demise of the START II Treaty. And without a START II there will be no START III. The 7th Step is an obvious victim of the missile defence.

Step 8

> *The completion and implementation of the Trilateral Initiative between the United States of America, the Russian Federation and the International Atomic Energy Agency.*

The Trilateral Initiative, working for making excess material in Russia and the US inaccessible for future nuclear weapon production, seems to have come to a complete stand-still independently of missile defence plans. The 8th Step is one of the few steps not noticeably affected by the missile defence.

Step 9

> *Steps by all the nuclear-weapon States leading to nuclear disarmament in a way that promotes international stability, and based on the principle of undiminished security for all:*
>
> *a) Further efforts by the nuclear-weapon States to reduce their nuclear arsenals unilaterally.*

There is no real disarmament on-going for the moment. The prospects of re-negotiating and implementing START II, and agreeing on a START III, are close to zero. On the contrary, as existing treaties will expire (START I), there is a risk that others will be cancelled (INF). Step 9a is directly influenced by the dealings related to the cancellation of the ABM Treaty and the making of the missile defence.

> *b) Increased transparency by the nuclear-weapon States with regard to the nuclear weapons capabilities and the implementation of agreements pursuant to Article VI and as a voluntary confidence-building measure to support further progress on nuclear disarmament.*

Nor does the missile defence system stimulate more openness in international nuclear relations. Opponents or prospective opponents may roll-back openness as potential glitches in military capabilities and defences, now potentially may become particularly harmful. First-strike attacks may not be ruled out. And the current agreements between the two main nuclear antagonists tend to provide by far less transparency and verification provisions. Step 9b is directly harmed by the unilateral focus of the missile defence.

c) The further reduction of non-strategic nuclear weapons, based on unilateral initiatives and as an integral part of the nuclear arms reduction and disarmament process.

The missile defence may lessen arms-control interests – even so with regards to non-strategic weapons. The prospects for cuts in such arsenals seem bleaker than ever. The influence on Step 9c is direct and negative.

d) Concrete agreed measures to further reduce the operational status of nuclear weapons systems.

With the missile defence systems in place or under development, the operational status of nuclear warheads is likely to remain high. The missile defence influences Step 9d in a direct and negative manner.

e) A diminishing role for nuclear weapons in security policies to minimize the risk that these weapons ever be used and to facilitate the process of their total elimination.

There are no indications that nuclear weapons will be given a less prominent role in the future, in spite of the intension of the US to let the missile defence be a measure against proliferation. The risk is large that it will be a measure that spurs vertical and horizontal proliferation. With missile defences nuclear weapons may gain increasing roles in defence postures, and thus Step 9e is influenced negatively.

f) The engagement as soon as appropriate of all the nuclear-weapon States in the process leading to the total elimination of their nuclear weapons.

The effects from the missile defence are like rings on water. It will probably be envisaged by more and more states that something has to be done

to open the nuclear weapons elimination track. But this may be a weak force compared with the hard realities played out in the nuclear tit-for-tat games. Step 9f is influenced negatively as well.

Step 10

> *Arrangements by all nuclear-weapon States to place, as soon as practicable, fissile material designated by each of them as no longer required for military purposes under IAEA or other relevant international verification and arrangements for the disposition of such material for peaceful purposes, to ensure that such material remains permanently outside of military programmes.*

For many years it has been established that one of the key ways forward regarding nuclear disarmament, is to agree that enough is enough and that no more materials for military purposes should be produced. This has been the subject of manifold discussions and negotiations and the Conference on Disarmament has tried to table the issue more than once. Yet, nothing will happen as China states that it will need more nuclear materials for military use due to other threatening developments. In short these stem from a perceived threat that China will become vulnerable while this is not the case for the US. The 10th step takes a direct and hard hit from the US missile defence.

Step 11

> *Reaffirmation that the ultimate objective of the efforts of States in the disarmament process is general and complete disarmament under effective international control.*

The salience of nuclear disarmament as the other side of the non-proliferation coin is not disputed by many. Yet, deeds do not follow words and the best indication that the disarmament/non-proliferation relation works and needs to be furthered is to consider how well the proliferation/arms race relation works. It worked during the Cold War and it works

today albeit in more subtle manners. Signals from the US, Russia, China, India, Pakistan, North Korea point in the direction of further emphasising nuclear weapons as part of defence postures. To a large extent this chain reaction is inspired and fed by the missile defence plans and with this the noble aspirations of Art VI of the NPT are a distant mirage. In sum, the 11th step has suffered dearly from the US missile defence plans.

Step 12

> *Regular reports, within the framework of the NPT strengthened review process, by all States parties on the implementation of Article VI and paragraph 4 (c) of the 1995 Decision on "Principles and Objectives for Nuclear Non-Proliferation and Disarmament", and recalling the Advisory Opinion of the International Court of Justice of 8 July 1996.*

The willingness of nuclear weapon states to engage in stringent reporting schemes on nuclear disarmament remains low, independent of missile defence plans. In short, with the poor state of reporting affairs, the 12th step is hardly influenced noticeably by the US missile defence plans.

Step 13

> *The further development of the verification capabilities that will be required to provide assurance of compliance with nuclear disarmament agreements for the achievement and maintenance of a nuclear-weapon-free world.*

Verification measures are not as such part and parcel of the missile defence issue. Nevertheless, there is an indirect relationship as the advent of the US missile defence is an expression of a desire to let unilateral measures weight more that they did earlier on. And to let multilateral measures such as safeguards and verification by means of international organisations weigh less. This does not imply that safeguards and international verification will seize to exist. But it remains a problem when the world's leading nation is not fully willing and able to put its full weight behind

the use and reference to impartial findings by impartial inspectors and consensus-based decisions in the UN - but instead wants to refer judgment to its own methods and fight the findings by means of its own counter-measures. In short, as the missile defence signals less reliance on multilateral means for verification and transparency, the 13th step is indirectly affected by the US missile defence.

Conclusion

"Learning-by-doing" refers to the processes upon which performers learn from experience. As contemporary defence technologies do not provide the sophistication needed to ensure the required levels of protection against ballistic missile, this has become the governing pathway for the development of the US defence system. Important milestones have been set during testing. However, it remains uncertain if and when the system will operate as intended under real life conditions, at what costs.

Despite this, the US aggressively pursues its missile defence outreach activities amongst its allies. Now of course, extended and integrated systems could provide an early early-warning and boost interception capabilities. A higher number of involved or interested states may, moreover, provide technical and financial synergies. However, there may also be a danger that in order to legitimize missile defence ambitions and space interests, the US needs NATO and Europe as active supporters and missile defence contributors. It should not come as a surprise that the first interceptors outside the US are to be located in what the Americans during the Iraq war termed "New-Europe".

Moreover, while an incremental – or in the Pentagon's own terminology, evolutionary - approach may be understandable and a matter of necessity from a technical perspective, it is highly worrying that the same mantra seemingly rules in political realms. A *contextual* learning-by-doing approach is likely unable to recognize the full range security ramifications of the defensive systems. Independently of US assurances and intentions, as well as actual system performances, the missile shields do stand a risk of upsetting strategic balances and spur new arms races – also in space. The proposed defences may lessen retaliatory capabilities of those states

not under the shield. A plausible reaction could be to quantitatively and qualitatively expand existing nuclear arsenals.

Moreover, with a shield, it may be (perceived) more tempting using the sword – raising questions about possible first strike incentives. Uncertainties are, in other words, introduced at all ends. Because the prospects of the defence system have led to, and may lead to more, counteractions there could be a higher propensity that the US and allies actually need their missile defence, once installed. It is striking how international relations and reactions, even at this early stage, are becoming so much more strenuous due to the missile defence activities and plans.

In other words, there is a long range of questions in the wash of proposed, planned and implemented missile defence systems that go much beyond the current technical (and financial) focus. More fundamentally, missile defenses and related thinking could deliver a final blow to the restraint mechanisms of the nonproliferation regime: To the NPT, the missile defences are a recipe for disaster. With the defence systems comes a final confirmation of indefinite retention of nuclear arms. Hence, missile defences and the 2000 NPT plan of action for nonproliferation and disarmament are simply incompatible.

One pertinent question thus is if leading nuclear weapon-states already have given up on the Non-Proliferation Treaty – well content with the thirty years of nuclear containment provided. Following from this, a second pertinent question will be whether European NATO-allies really subscribe to this view, and if they also are ready to abandon the NPT as apt tool for reducing the political and military role of nuclear weapons.

Footnotes

[1] The views expressed herein are those of the authors. The article is produced under the auspices of the project "Halting Nuclear Proliferation in the 21st Century", funded by the Norwegian Research Council.

[2] The US Missile Defense Agency has eliminated the formal distinction between so-called national and theatre missile defences. The text herein focuses on the first type (national), intended to protect US territory from attack by long-range (strategic) ballistic missiles.

[3] Personal communication with US officials, March 16, 2007 .

[4] US officials maintain that the interceptors defend against the growing missile capabilities of Iran and North Korea. As of today, neither country has a missile in service that could strike the United States or Europe from their territory.

[5] Jim Fisher-Thompson, "U.S. Invites Russian Participation in Missile Defense Program", *The Washington File*, 29. March 2007.

[6] Paula A. DeSutter, US Assistant Secretary of State for Verification, Compliance, and Implementation, Remarks Delivered at the National Defense University Foundation Congressional Breakfast Seminar Series, Washington, D.C. April 4, 2006.

[7] "BASIC Calls for Declassification of NATO's Missile Defence Study", *BASIC Media Advisory*, British American Security Information Council, May 31, 2006, www.basicint.org/pubs/Press/060531.htm

[8] The 13 practical steps for nuclear disarmament and non-proliferation from the 2000 NPT Review Conference constitute what was the international consensus of the Parties to the NPT and therefore it will make sense to study how and why these 13 steps are affected by the missile defence plans.

[9] Bureau of International Information Programs, "Missile Defense Request $9.3 Billion for 2007, Agency Head Says", The US Department of State. http://usinfo.state.gov

[10] Jacquelyn S. Porth "European Missile Defense Would Protect Against Middle-East Threats", *The Washington File*, January 9, 2007.

[11] 14 interceptors are emplaced in Alaska and another two stationed in California. Wade Boese, "Missile Defense Remains Budget Priority", *Arms Control Today*, March 2007, www.armscontrol.org/act/2007_03/MissileDefense.asp

[12] Similarly, the MDA is looking to build up its sea-based component, the Aegis defence. According to current plans, up to 18 vessels armed with a total of 83 interceptors should patrol the world's waters by 2011.Wade Boese, "Missile Defense Remains Budget Priority", Arms Control Today, March 2007, www.armscontrol.org/act/2007_03/MissileDefense.asp

[13] For instance by Senator Carl Levin (D-Mich.), the new chairman of the Senate Armed Services Committee, claiming November 2006 that Pentagon has "not done the operational testing yet that is convincing that [the system] will work". Quoted by Wade Boese, "Missile Defense Under Scrutiny", Arms Control Today January/February 2007. As of April 2007, 24 hit-to-kill intercepts in about 32 testing attempts have been successful.

[14] Nathan Hodge, "Successful Intercept Boots US Missile Defence Programme", *Janes Defence Weekly*, September 13, 2006, p. 7.

[15] Wade Boese, "Missile Defense Remains Budget Priority", *Arms Control Today*, March 2007, www.armscontrol.org/act/2007_03/MissileDefense.asp

[16] Air Force Lieutenant General Henry Obering III, in a prepared testimony for a Senate Armed

Services subcommittee April 4 2006, http://armed-services.senate.gov/statemnt/2006/April/Obering 04-04-06.pdf .

[17] "BASIC Calls for Declassification of NATO's Missile Defence Study", *BASIC Media Advisory*, British American Security Information Council, May 31, 2006, www.basicint.org/pubs/Press/060531.htm . Interceptor sites in Central Europe were chosen after a technical analysis. Splitting interceptor and radar sites is the optimal solution, as is done in Alaska. It will move the radar facility from the Marshall Islands to the Czech Republic.

[18] Wade Boese, "U.S. Nixes Arms Control in New Space Policy" *Arms Control Today*, November 2006.

[19] Paula A. DeSutter, US Assistant Secretary of State for Verification, Compliance, and Implementation, Remarks Delivered at the National Defense University Foundation Congressional Breakfast Seminar Series, Washington, D.C. April 4, 2006.

[20] Sergei Levrov, "A Crucial Debate on Europe's Anti-Missile Defences", *Financial Times*, April 10, 2007.

[21] Jacquelyn S. Porth, "Proposed Missile Defenses in Europe Would Target Iranian Threat", *The Washington File*, 23. February 2007.

[22] Marc Kaufman, "Bush Sets Defense As Space Priority", Washington Post , October 18, 2006, p. A01.

[23] Georg N. Lewis and Theodore A. Postol, "Technical Debate Over Patriot Performance in the Gulf War: American Physical Society Panel Correctly Rejects Critics of Analysis Showing Patriot Failed to Destroy Scud Warheads", *Science & Global Security*, vol. 8, pp. 315-356. This article is a good summary of a long debate between various scientists and representatives from the company that produced the Patriot missiles. It concludes that the Patriot missiles had a very low success rate when it comes to actually hitting the Scud missiles.

[24] Demitri Sevastopulo and Neil Buckley, Daniel Dombey and Jan Cienski, "Russia Threatens to Quit Arms Treaty", *Financial Times*. February 15, 2007

[25] Graham Allison, How to Stop Nuclear Terror, *Foreign Affairs*, January/February 2004, http://www.foreignaffairs.org/20040101faessay83107/graham-allison/how-to-stop-nuclear-terror.html

[26] Simon Saradzhyan, "President Promises Better Nukes", *Moscow Times*, November 18, 2004.

[27] Keir A. Lieber and Daryl G. Press, "The Rise of US Nuclear Primacy", *Foreign Affairs,* March/April 2006, http://www.foreignaffairs.org/20060301faessay85204/keir-a-lieber-daryl-g-press/the-rise-of-u-s-nuclear-primacy.html?mode=print

[28] Linda Rothstein, ""Unfortunate"", *Bulletin of the Atomic Scientists*, vol. 56, no. 4, July/August 2000, p. 2, http://www.thebulletin.org/article.php?art_ofn=ja00rothstein

[29] Department of Defense, "Reliable Replacement Warhead Design Decision Announced", March 2, 2007, http://www.defenselink.mil/releases/release.aspx?releaseid=10569

[30] Keir A. Lieber and Daryl G. Press, "The Rise of U.S. Nuclear Primacy", *Foreign Affairs*, March/April 2006, http://www.foreignaffairs.org/20060301faessay85204/keir-a-lieber-daryl-g-press/the-rise-of-u-s-nuclear-primacy.html

[31]Hans Kristensen, Robert S. Norris, Matthew G. McKinzey, Chinese Nuclear Warheads and U.S. Nuclear War-Planning, Federation of American Scientists and Natural Resources Defense Council, Report November 2006, http://www.nukestrat.com/china/chinareport.htm

[32] Vertically refers to the qualitative and quantitative development of existing nuclear arsenals.

Horizontal to the further spreading of nuclear explosives, to new possessors.

[33] George Bunn, The Nuclear Nonproliferation Treaty: History and Current Problems, *Arms Control Today*, December 2003, http://www.armscontrol.org/act/2003_12/Bunn.asp

[34] See e.g. Henry D. Sokolski, *Best of Intensions. America's Campaign Against Strategic Weapons Proliferation*, Praeger Publishers, Westport CT, 2001.

[35] Steven E. Miller, "Is the NPT System Slowly Dying? Seven Challenges to the Regime", Paper prepared for the Athens Conference on Nuclear Proliferation, Athens, Greece, May 30-31, 2003, p. 14.

[36] To the extent one may talk of a linkage, the parallel dismissal of the CTBT and later the ABM, is hence likely to be ideologically – not strategically – grounded. In 1999, the US Senate rejected the CTBT. This was a blow to President Clinton's foreign policy, as well as to multilateral arms control. It was, moreover, an indication of what to follow, once the Republicans took office.

[37]See for instance official DPRK-statements under the heading "Servicepersons and Pyongyangites Hail Successful Nuclear Test"http://www.kcna.co.jp/item/2006/200610/news10/21.htm

[38] See for instance http://www.fas.org/irp/congress/1998_cr/s980731-rumsfeld.htm

[39] Nathan Hodge, "Successful Intercept Boots US Missile Defence Programme", *Janes Defence Weekly*, September 13, 2006, p. 7.

[40] See Fact sheet on START III, http://www.armscontrol.org/factsheets/start3.asp

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About the author

Mr. Lars van Dassen is a research associate of the Department of Peace and Conflict Research, Uppsala University and Deputy Head of the International Co-operation Programme of SKI, the Swedish Nuclear Power Inspectorate. Here his has special responsibility for Sweden's bilateral non-proliferation assistance to Russia, Ukraine and other states of the FSU. Prior to this he served as programme director at the Department of Peace and Conflict Research, Uppsala University. A political scientist from Århus University in Denmark, Mr van Dassen has published numerous articles on proliferation and non-proliferation issues. He is now finalizing his PhD dissertation, titled *Stepping-Stones and Stumbling-Blocks: A Theory-Based Comparison of the Evolution of the Nuclear Non-Proliferation Policies of the Nordic Countries, 1945–2001*, on the evolution of the non-proliferation policies of the Nordic countries. E-mail: lars.van.dassen@ski.se

Dr. Morten Bremer Mærli is a senior research fellow at the Norwegian Institute of International Affairs (NUPI). From 1995 to 2000 he served at the Norwegian Radiation Protection Authority, with control and protection of nuclear materials in Northwest Russia as his main area of responsibility. Bremer Mærli has been a Fulbright Science Fellow at the Center for International Security (CISAC) at Stanford University, and a visiting research scholar at Sandia National Laboratories, California. His doctoral work dealt with nuclear terrorism and best threat reducing strategies. He holds an MSc degree in nuclear physics and a BA degree in risk communication and perceptions of the risk of radiation. He has served as technical consultant to the Norwegian Ministry of Foreign Affairs, *inter alia* at the 2000 NPT Review Conference. He is the author of the monograph *Atomterrorisme* (1999, in Norwegian) and has published widely on nuclear non-proliferation and disarmament. E-mail: mbm@nupi.no

DEN NORSKE ATLANTERHAVS KOMITE
THE NORWEGIAN ATLANTIC COMMITTEE

Fridtjof Nansens plass 6
N-0160 Oslo
Tel: +47 22 40 36 00
Fax: +47 22 40 36 10

post@dnak.org
www.dnak.org