



BRINGING THE TEST BAN TREATY INTO LAW

By Andreas Persbo

Carnegie Nuclear Policy Conference, Washington, D.C

March 2011

Introduction

First, let me thank the organizers of this conference for their kind invitation to speak here today. It is a great honour to address the Carnegie Conference, and I feel privileged to be among such distinguished company.

In most countries, banning all nuclear test explosions in all environments—and for all time—is an ambition of the political mainstream. The quest to ban testing is indeed so established that (for some time now) it has been enshrined in international law. Nearly half a century ago, when atmospheric testing was finally seen as too destructive to our environment to be allowed to continue, it was banned. As we know, the 1963 Partial Test Ban Treaty (PTBT) was instrumental in driving testing underground. This, however, was not enough. The depository governments—the Soviet Union, the United States and the United Kingdom—wanted more. They sought, as reflected in the treaty text, the ‘discontinuance of all test explosions of nuclear weapons for all time.’

A comprehensive ban on nuclear testing will not solve all problems facing the non-proliferation regime. It will not abolish war, or the felt need to preserve nuclear armouries. This is as true today as it was in July 1963 when, in a television address to the American people, President John F. Kennedy said of the PTBT: ‘This treaty is not the millennium. It will not resolve all conflicts, or cause the Communists to forego their ambitions, or eliminate the dangers of war. It will not reduce our need for arms or allies or programs of assistance to others’. The same message could be delivered today.

In his speech, President Kennedy predicted that the PTBT could represent ‘a step towards reduced world tension and broader areas of agreement’. He specifically referred to the treaty’s importance for controlling and countering the spread of nuclear weaponry in general. And history has proved him right. Less than a decade later, the Nuclear Non-Proliferation Treaty was

in force. In addition, the safeguards system—which is a fundamentally important verification tool—was being put in place.

Today, some opponents of the CTBT say the treaty has no relevance for non-proliferation. They may be wrong about this. They may also be right. The treaty is, of course, chiefly directed at the nuclear-weapon states. Other states, especially those who are members of the NPT, will have breached that pact long before they lower a nuclear explosive device into a test shaft. That said, while the treaty's relevance for non-proliferation may be open for debate, the treaty itself brings many benefits on the margin. This, in itself, is reason enough to reiterate President Kennedy's position that 'the difficulty of predicting the next step is no reason to be reluctant about this step.'

Verification

I would like to turn now to the issue of verification. Today, most would say the verification regime is performing better, much better in fact, than the negotiators of the treaty foresaw some 15 years ago. And it is performing better than expected despite not yet being fully completed, and despite being operated in provisional mode. This is an achievement.

I disagree with those who say that the main treaty prohibition is too vague to be meaningful. The ambiguity was put in there for a reason. The treaty does not ban nuclear tests. It bans nuclear *explosions*: the violent, uncontrolled, release of energy. Any nuclear explosion that produces a yield, no matter how small, will violate the treaty. Only events that do not produce a yield fall outside the scope of the treaty—as they *are not explosions*. Several activities, such as computer modelling, property research of materials, or sub-critical experiments involving fissile materials, fall within this category.

The experienced nuclear-weapon states would find little use in further testing. They have a long series of test data to fall back on. The gains of illegal testing would, in other words, be slight compared to the political cost incurred by such an action. This, I think, is the primary reason why the test ban will be respected—and why the cost of signing up to it is small.

For cheating to occur, a state would need to calculate that it needs a nuclear test, but not badly enough for it to exercise its right to withdraw from the treaty. At the same time, it would probably understand that the political cost of being caught out will be high. Even a small detection likelihood may therefore serve as a capable deterrence.

And the detection likelihood is by no means small.

Let's first consider seismic capabilities. Today, the seismic component of the CTBT's International Monitoring System (IMS) can confidently detect tests below magnitude 3.6

worldwide. That's roughly 0.07 kilotons in hard rock. In most of the Western hemisphere, the sensitivity drops to about magnitude 3.4, which corresponds to about 0.05 kilotons in hard rock. This surpasses design expectations about 20 times over.

The world's oceans are also now covered by the hydro-acoustic component of the IMS. As sound spreads well through water, it will be difficult to conduct an explosion in the seas without being detected.

The infra-sound system is also surpassing design expectations, and especially so on the northern hemisphere.

The radionuclide system, for its part, proved its usefulness during the first North Korean test, in 2006, when it detected activity levels equivalent to 400 atoms - at a great distance.

What's more, the envisioned on-site inspection regime is credible. Work to iron out the details of this regime is now well underway in Vienna, and has made important progress in recent years.

Together, these verification tools form an impressive obstacle to non-compliance. Is it fool-proof? No, of course it is not. No verification regime has ever been composed that provides absolute confidence that all instances of non-compliance will be detected. It is a little more than a fools-errand to try to build one. It simply cannot be done.

Testing on the high seas—i.e. making sure that you cannot be attributed to the test—is of course a possibility. But I wonder how any state considering doing this would intend to collect the data from the test. You want to prepare for it, to carry it out under scientific conditions - you want to extract data from the test. This will be difficult to do on the high seas without leaving signs behind. And the same goes for testing in space. It's possible to test in orbit—on the far side of the moon or behind the sun—but how would you do this under scientific conditions? Also, consider the costs involved for any state considering such an evasion scenario. The same arguments were presented against the 1963 Partial Test Ban Treaty—and they were defeated.

What EIF options are available?

As for entry-into-force, we are all well aware of the hurdle that this clause represents, and how challenging it will be to get all Annex II countries on-board. It may be prudent, at some stage, to think about ways to get around the clause. This can be done in two principal ways; in fact, the problem is not so much *how to do it*, but *when to do it*.

The first route around the existing EIF clause is to provisionally apply the treaty—but that is technically difficult, and could theoretically lead to several complications.

The second alternative is to amend the treaty before it enters into force. This has been done before in respect to the 1982 UN Convention on the Law of the Sea. States here reached a separate agreement on how to implement a certain part of the convention. In the CTBT context, the separate agreement would supersede to the entry into force article, and the second annex to the treaty. This is a neat way of bypassing the entire problem of provisional application - and it could be done through diplomatic conference. It would not touch the rest of the treaty, avoiding any risk that other articles could be re-opened for discussion.

Conclusion

Some are already arguing the norm against nuclear testing is now so strong that it has become almost customary in nature. I don't agree with that proposition. For this to happen, the convention must be of 'a fundamentally norm-creating character'. So fundamental, indeed, that it would be considered as forming the basis of a general rule of law. I don't think this is the case—if it were, states would not persistently, and often, call on the treaty to enter into force.

It is therefore important to bring the treaty into law. The time to make the push for this is when the treaty enjoys widespread and representative participation. It is not advisable, however, to make this effort without the participation of most of the states whose interests are specifically affected. In this case: most, but perhaps not all, states with nuclear weapons.

The CTBT and its supporting structures comprise a functional regime. Beside its well-funded and well-equipped secretariat, it enjoys broad political support and manages a capable verification system which is now nearing completion. According to researchers at the Center for Nonproliferation Studies, the total capital investment in the CTBT so far has surpassed one billion US dollars.

Yet this money has been invested into a treaty with a very uncertain future. Without entry-into-force, the CTBTO and its extensive verification network of sensors will be confined to long-term rehearsal. While the treaty membership of over 180 countries wait for the handful of hold-out states to join, there remains a risk that the CTBTO will become an organisation in search of a mission and slowly lose its relevance—making the establishment of a legally binding, verified ban on nuclear testing even less likely.