

# VERIFICATION RESEARCH, TRAINING AND INFORMATION CENTRE

Development House, 56–64 Leonard Street  
London EC2A 4LT, United Kingdom

Tel +44 (0)20 7065 0880

Fax +44 (0)20 7065 0890

Website [www.vertic.org](http://www.vertic.org)

## ADVANTAGES OF A MULTILATERAL APPROACH TO THE VERIFICATION OF FUTURE NUCLEAR DISARMAMENT ACTIVITIES

David Cliff, Researcher

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Thank you all for coming.

To begin with, I'd like to briefly address the relationship between nuclear disarmament and warhead dismantlement. And I'd like to open with the proposition that the dismantlement of nuclear warheads underpins the concept of nuclear disarmament.

To be considered disarmed of nuclear weapons, one can make the case that a state must not be in possession of any 'usable' nuclear warheads.

Judgements over usability may be informed by a state's capability to reliably deliver such devices to a target—but dismantlement, while reversible, arguably represents the baseline for what constitutes a warhead's inability to be used (although steps can be taken that go much further).

Anything less—the dismantlement of some and de-mating of all other warheads from their delivery vehicles, for instance—and it becomes harder to assert that a state has reached the point of nuclear disarmament.

### **Setting the scene**

What, then, is warhead 'dismantlement' and how can it be verified?

According to the US Department of Energy, dismantlement refers to the separation of a warhead's high explosives from its fissile material components.<sup>1</sup>

The process for dismantling a nuclear warhead differs between states and among the type and class of the devices in question, but differences aside, all dismantlement 'chains' will necessarily entail a number of common stages.

In the most general of terms, a warhead will first need to be removed from its deployment site or delivery platform and transported—perhaps via interim storage—to the facility at which dismantlement will take place.

At such a facility, the warhead will then undergo a process of mechanical disassembly, where the inner workings of the device are exposed and the various components parts, including the fissile

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<sup>1</sup> US Department of Energy Office of Arms Control and Nonproliferation, 'Transparency and Verification Options: An Initial Analysis of Approaches for Monitoring Warhead Dismantlement', 19 May 1997, p36.

materials that form the ‘pit’ of the device and the high explosive charges, are separated from one another.

Once dismantlement is complete, disassembled warhead components must then be disposed of or dealt with in some manner. In any disarmament scenario, the fate of fissile materials removed from warheads will loom large in assessments of the ‘irreversibility’ of the act of disarming.

Ideally, ex-weapons material would be transformed as rapidly as possible into forms unsuitable for use in weapons.

### **Verifying warhead dismantlement**

In terms of verification, there are essentially two models that can apply to warhead dismantlement: what might usefully be called ‘input-output verification’ and ‘dismantlement chain verification’.

Input-output verification would involve inspectors recording items entering the dismantlement chain and items leaving it.

For instance, if inspectors were to record ten authenticated warheads entering a dismantlement facility and ten genuine fissile ‘pits’ emerging from it, they could be reasonably well assured that those ten warheads had been dismantled while out of their sight.

The second model, dismantlement chain verification, would involve inspectors tracking a warhead through every stage of the actual disassembly process. In this instance, extra care would need to be taken to ensure that no national security-sensitive information—or proliferative information, if any of the inspection team came from non-nuclear-weapon states—was revealed.

Following dismantlement, the monitoring of what happens to the fissile material components from previously-intact warheads would in all instances be of central importance in ensuring that these materials remain out of military use (pending their ultimate disposition).

### **Warhead dismantlement in treaties**

To date, warhead dismantlement has been conspicuous by its absence in nuclear arms control agreements. Although it was addressed by the US and Russia in the mid-1990s in the context of planning for a START III pact, those discussions led to nothing and none of the strategic weapons treaties between the two countries, before or since, have called for warheads to be dismantled.

Among the nuclear-weapon states of the world, warhead dismantlement has so far been a closed-off, unilateral process carried out in the privacy of states’ own weapons complexes—and for reasons of arsenal optimisation and rationalisation rather than any desire to reach zero.

Future agreements, however, may well call for verified nuclear warhead dismantlement. And on the path to a world without nuclear weapons—an aspiration that has gained increasing political attention in recent years—the verification of warhead dismantlement will play an integral role.

### **A note on baseline declarations**

It is important to note here that the verification of states’ baseline declarations and inventories will also be a critical aspect of reaching zero.

But while closely-related, baseline verification is a separate issue that this paper will not address, other than to point towards the observation of James Fuller that: ‘Accurately verifying the numbers

of warheads dismantled certainly can help reduce the margin of error and, when combined with all other technical measures and improved political cooperation, may help make the remaining uncertainties in baseline determinations less of an issue.’

### **First benefit of multilateralism: increased international validity**

The first, and likely also the most apparent, benefit of adopting multilateral approaches to dismantlement verification would be an *increased level of international validity in the outcome*.

If dismantlement verification was to involve just one party, the rest of the world will need to take the final verdict of that state at face value. Not all interested parties may be inclined to do so. Some states may distrust the technical abilities or impartiality of the inspecting party.

Alternatively, in situations where the nuclear arsenal of a disarming state causes particular regional concern, states from that region may simply want to see for themselves that warheads have been dismantled and put beyond use.

International validity could be particularly enhanced if the dismantlement of nuclear warheads was verified by a well-respected intergovernmental organisation such as the IAEA.

Although it has only limited involvement to date in disarmament verification, the IAEA is in fact an obvious candidate if multilateral approaches to warhead dismantlement verification are to be pursued in the future. The IAEA has decades of nuclear verification expertise, it is highly regarded among the international community, and its legal mandate covers the potential for involvement of the Agency in disarmament activities.

Indeed, the IAEA has previously verified the dismantlement of South Africa’s small arsenal of nuclear weapons (albeit after the dismantlement of those weapons had taken place). In addition, the 1996 Treaty of Pelindaba—which established a nuclear weapon-free zone in Africa—charges the Agency with the responsibility to verify the ‘dismantling and destruction of [any declared] nuclear explosive devices, as well as the destruction or conversion of the facilities for their production.’

As was the case with South Africa in the early 1990s, an IAEA judgement that a state’s nuclear arsenal had been dismantled would likely be sufficient to satisfy the international community (or much of it at any rate) that the process of dismantlement had been carried out fully and properly.

### **Second benefit of multilateralism: disarmament as a global collaborative endeavour**

Second, adopting multilateral approaches to dismantlement verification represents a means of *turning nuclear disarmament into a global collaborative endeavour*, particularly through the involvement of non-nuclear-weapon states and intergovernmental organisations.

After all, the consequences of the use of nuclear weapons would not be felt only by those states owning them. As the preamble to the 1968 Treaty on the Non-Proliferation of Nuclear Weapons (NPT) notes, the devastation of nuclear war would be ‘visited upon all mankind’. Everyone has a stake, and the disarmament process—slow as it may be—ought to make the fullest use of what all states can offer.

Already, some non-nuclear-weapon states (Norway in particular) are taking steps to build their own level of technical skills and capabilities relating to nuclear disarmament verification. For several years, Norway has been working with the British government on nuclear disarmament verification research as part of the so-called UK-Norway Initiative.

Through its research activities and work with the UK, Norway's ability to contribute to the disarmament debate—and its credibility as a meaningful participant in any future dismantlement verification enterprise—has increased substantially.

For its part, the IAEA should also be encouraged to develop its level of disarmament verification capabilities so that it can move into action swiftly, and with the best preparation possible, if called upon to do so.

Indeed, as noted in the IAEA's statement to this PrepCom last week, the Agency 'stands ready to cooperate in increasing confidence, improving transparency and developing efficient verification capabilities related to nuclear disarmament.'<sup>2</sup>

### **Third benefit of multilateralism: promotion of dialogue and understanding**

A third, in some ways closely-related, benefit of the multilateralisation of dismantlement verification is the opportunities it presents for the *promotion of dialogue and greater understanding among parties on the issues and complexities involved*.

This applies to nuclear-weapon states, non-nuclear-weapon states and intergovernmental organisations alike.

In a dismantlement process that was to be verified by a number of nuclear-weapon states, negotiations over verification arrangements could generate productive discussions on matters not normally discussed among these countries. Those, in turn, could lead to breakthroughs over 'sticking points' or serve to galvanise joint efforts to reach common understandings on contentious issues.

Were dismantlement verification to involve non-nuclear-weapon states or intergovernmental organisations as well, it stands to reason that by being on the inside of the process these participants would be able to better understand the concerns and complexities that verified dismantlement endeavours must come up against.

By extension, they would then be better able to tailor their own research efforts to address those areas where gaps in understanding were greatest.

Moreover, opening dismantlement verification up to the involvement of non-nuclear-weapon states, or to an organisation such as the IAEA, substantially increases the human and technological resources from where creative solutions to complex verification problems might come.

### **Possible future scenarios (1)**

One scenario that could employ multilateral verification of warhead dismantlement would be a future US-Russia arms control agreement calling for the dismantling of a certain number of each of their warheads.

In the future, the US and Russia could agree to a pact that requires a number of their strategic or tactical warheads to be taken off deployment and dismantled. A treaty could also be agreed in which the US and Russia agree to dismantle a number of the warheads that they currently have in storage. Should either of those instances arise, a multilateral verification mechanism could also be agreed.

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<sup>2</sup> [http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/npt/prepcom12/statements/30April\\_IAEA.pdf](http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/npt/prepcom12/statements/30April_IAEA.pdf)

Multilateral verification in the case of a US-Russia dismantlement pact might include additional third-party verification by another state. Alternatively, an organisation such as the IAEA could be involved.

The IAEA has worked with the US and Russia on sensitive verification issues before—as part of the ‘Trilateral Initiative’ from 1996-2002—and so their future involvement would not be entirely without precedent.

Currently, at the request of the two countries, the Agency is looking into ways to verify the implementation of the US-Russian Plutonium Management and Disposition Agreement, which calls for each side to dispose of at least 34 metric tons of surplus weapons-grade plutonium.

Along these lines, monitoring of the fissile material taken from dismantled warheads as part of a future US-Russian arms reduction agreement would be an area in which the Agency could play a vital role (even if was not otherwise involved in verifying the dismantlement process).

It should be noted that the potential for reduction treaties involving verified warhead dismantlement is not limited to the US-Russian sphere.

Other nuclear-armed states could enter into reduction agreements with one another similar to that described above, or undertake reductions independently of any other state, with similar forms of multilateral verification for warhead dismantlement.

Alternatively, they could go further still, as explored below.

### **Possible future scenarios (2)**

Going further, multilateral verification could be adopted in the context of a unilateral disarmament undertaking by a state (i.e. going to zero). The likelihood of this taking place in the foreseeable future is slim; to the point that the most likely case is arguably the ever-unpredictable North Korea.

With regard to North Korea, it is not inconceivable to see diplomatic efforts at some stage resulting in an agreement by the North Korean regime to do away with their nuclear explosive devices in a verifiable manner.

Such an agreement—which would likely need to be sweetened by foreign powers with a package of concessions and inducements—does not appear to be on the horizon, but it could happen, and if it did, multilateral verification would be likely to play a key role.

### **Possible future scenarios (3)**

Multilateral verification of nuclear warhead dismantlement could also apply in the context of a weapons of mass destruction-free zone (WMDFZ) in the Middle East.

Within the Middle Eastern region, Israel—which remains outside the NPT—is presumed to have a nuclear arsenal of around 80 weapons.

At present, although concerns over the scope and purpose of the Iranian nuclear programme persist, Israel is also the only country thought to be in possession of nuclear weapons in the Middle East. Thus, if a Middle East WMDFZ is agreed, and if no other country in the region had developed nuclear weapons by then, dismantlement verification would necessarily centre on Israel.

The obstacles to the establishment of a WMDFZ in the Middle East are many, and they go far beyond the scope of this presentation. But if one is ever agreed, it is possible that a Middle East WMDFZ treaty will place responsibility for verifying the dismantlement of nuclear warheads in the hands of the IAEA (as with the Treaty of Pelindaba).

As noted in the previous section of this paper, if the IAEA was satisfied that all nuclear warheads and any other nuclear explosive devices under the zone had been dismantled, it is likely that such an assurance would be accepted favourably by the international community.

### **Verified warhead dismantlement and nuclear stability**

To conclude, I'd like to say a few words on the relationship between the multilateral verification of warhead dismantlement and the stability and robustness of the nuclear non-proliferation in general and the NPT in particular.

Since it opened for signature in 1968, the NPT has proved remarkably successful in preventing runaway horizontal proliferation and attracting near-universal membership within the international community. But progress towards disarmament, to which the five NPT nuclear-weapon states are legally bound by the treaty, has been—at best—erratic. As we all know, that lack of progress represents a cause of perennial disquiet among many non-nuclear-weapon states.

While not all of the scenarios mentioned above relate specifically to states under the NPT, each of the benefits of multilateral verification approaches outlined in this paper entail distinct additional benefits for the overall stability of the non-proliferation regime.

The first, *increased international validity*, is by extension a means of building confidence within the international community that states are fulfilling disarmament or reduction undertakings in good faith.

With the stakes of nuclear weapon ownership—whether by NPT or non-NPT states—being so high, the more confidence states have in their assessments of the capabilities of others, the more stable the general security environment can be.

The second, *disarmament as a global collaborative endeavour*, represents a means of generating and sustaining widespread momentum for progress towards disarmament—enabling every country to contribute in whichever ways they best can.

Within the NPT, each step towards disarmament, however incremental, helps to counter arguments that the five nuclear-weapon states are not living up to their side of the NPT 'bargain'.

And the third, *opportunities for increased dialogue and understanding*, impacts on stability as greater inclusivity creates an environment in which trust can be built among treaty partners, common ground found on issues that may have once seemed far apart, and—as above—in which nuclear-weapon states and others can work together on issues that affect all, in ways that benefit all.