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VERTIC BRIEF • 12 • December 2010

B R I E F

# Verification implications of the 2010 NPT review

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## Introduction

Five years after the seventh review conference of parties to the 1968 Nuclear Non-Proliferation Treaty (NPT) ended in acrimony, the eighth conference, held 3-28 May 2010, finished with some success. After four weeks of intensive debate, the conference adopted a final document containing 64 specific follow-on ‘actions’. The paper also contains a host of other recommendations addressing the NPT’s three ‘pillars’ of nuclear non-proliferation, disarmament and energy and ways to realize the long-proposed zone free of nuclear and other weapons of mass destruction in the Middle East.

The final document includes both agreed text, namely the conclusions and recommendations for follow-up actions, and ‘not-opposed text’, the President of the conference’s review of the operation of the treaty.

The President, Ambassador Cabactulan of the Philippines, spells out many issues in his 122 paragraphs. Several of them go beyond the treaty’s terms, and addresses internationally relevant issues that are on the International Atomic Energy Agency’s (IAEA) agenda. These issues range from IAEA technical cooperation, nuclear power development, multilateral approaches to the nuclear fuel cycle, to sea transport of nuclear materials.

This briefing paper seeks to extract and highlight the most significant verification-relevant parts of the final document.

## Safeguarding nuclear materials

The review conference produced a mixed, perhaps even disappointing, result in respect of strengthening IAEA safeguards. The treaty’s member states want to continue efforts to bring all non-nuclear weapon states under comprehensive safeguards. There is still resistance, however, to going beyond the requirements of the Comprehensive Safeguards Agreement (INFCIRC/153). Especially controversial for some states is the persistent call by others that the Additional Protocol (INFCIRC/540) should be viewed as the present-day verification standard. The Ad-

ditional Protocol was introduced in 1997. It obligates states to provide the IAEA with much more information on their nuclear activities. It also gives the IAEA some further inspection rights.

That all states want the IAEA to universalize the safeguards regime is reflected in action 24 of the final document. This action ‘re-endorses the call by previous review conferences for the application of IAEA comprehensive safeguards’ by all parties ‘in accordance with the provisions of Article III’ of the NPT. For states, this involves signing and ratifying INFCIRC/153 with the IAEA. For states without significant nuclear activities, a protocol designed to reduce the verification load—also known as the Small Quantities Protocol (SQP)—is available.

Getting more states to sign up to INFCIRC/153 is important for political reasons, but there is less operational need. There has been a significant increase in the number of states under safeguards. Indeed, a notable number of agreements, no less than 33, have been signed over the last decade. This means that all parties with significant nuclear activities have placed their facilities under safeguards.

While it is true that some 18 states have yet to sign up, these do not have a significant nuclear industry, and most countries belong to the least developed in the world. One could consequently argue that the additional states would simply increase the inspection workload but yield very few benefits. Another argument could be that getting the remaining states on-board would drain other resources, such as technical cooperation.

These arguments should be weighed against the political benefits of achieving a safeguards system applied on all member states. Therefore, the NPT review conference urged the remaining states to sign up ‘as soon as possible and without further delay’.

The IAEA continues to play a central role, and this is underlined in action 29 of the document. This called on the organization

to ‘further facilitate and assist’ states parties in the conclusion and entry into force of both CSAs and voluntary Additional Protocols.

Again, several states have signed up to the Additional Protocol in the last decade. In 2000, just 12 states were implementing Additional Protocols, but in May 2010 that figure had soared to 102. Worryingly, however, several states with significant nuclear activities—such as Argentina, Brazil, Egypt, Iran and Syria—are reluctant to adopt the protocol.

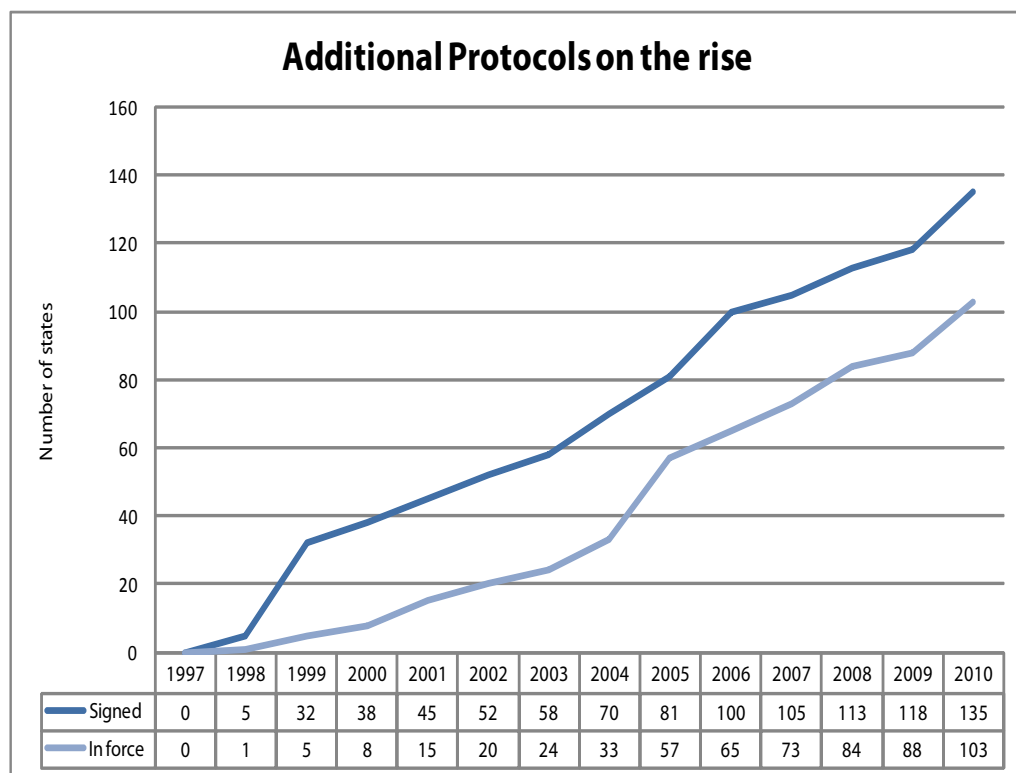
Despite this, action 28 of the final document encourages all state parties to bring into force additional protocols as soon as possible. Interestingly, it also encourages states to ‘implement them provisionally pending their entry into force’. Iran is the precedent here. It signed the protocol on 18 December 2003 and agreed to implement it provisionally pending its ratification by the Iranian parliament. Following a steady deterioration of relations with the West, however, Iran informed the IAEA on 6 February 2006 that it would no longer implement the agreement. It remains a signatory, and is so required to respect the protocol’s object and purpose.

Thus, there seems to be a wide recognition that the protocol represents an ‘enhanced verification standard’, as the final document puts it. Opinion is split, however, on whether this heightened standard should be made compulsory under article III.1 of the treaty. Many western countries argue that without the strengthening measures of the Additional Protocol, the IAEA cannot conclude that all nuclear materials, declared or otherwise, remain in peaceful use. This view is shared by the IAEA Secretariat itself (and this is consistently recorded in the organization’s annual ‘safeguards statement’).

One way to secure an uptake in Additional Protocol acceptances is to put states which does not implement it at a disadvantage. Therefore, some states argue for Additional Protocols to become a precondition for the receipt of nuclear goods. Australia, joined by the United States and other governments, argued forcefully that the Additional Protocol ‘should be established as a condition of supply for all nuclear material and equipment’.

In addition to Australia and the United States, many other governments argue that the Comprehensive Safeguards Agreements with the Additional Protocol

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should be recognized as the present-day verification standard for the NPT. What this means in practice is that there would be a legal obligation, stemming from the treaty, for all states to implement the protocol. This is an argument strongly rejected by a powerful minority of states, which is reflected in the statements of the 118-member Non-Aligned Movement (NAM).

Those on this side of the Additional Protocol divide resist any moves to tie verification to nuclear supplies and oppose all suggestions that the Protocol should be made compulsory. It was expected that these states would not change their policy at the conference to suddenly accept the additional protocol as a binding obligation.

Speaking for the NAM, for instance, Egypt’s permanent representative to the United Nations, Maged Abdelaziz, told the review conference that any outcome document should ‘acknowledge that it is fundamental to make a distinction between legal obligations and voluntary confidence-building measures, in order to ensure that such voluntary undertakings are not turned into legal safeguards obligations’. Iran made similar remarks, stating the need to underline the ‘fundamental distinction’ between legal safeguards obligations ‘as opposed to any confidence-building measures undertaken voluntarily that do not constitute a legal safeguards obligation undertaken voluntarily and that do not constitute a legal safeguards obligation’.

For its part, Brazil, which has so far refused to accept an Additional Protocol, expressed concern at the conference that countries without one may be wrongly considered non-compliant. It noted that while a CSA only deals with what has been declared to the Agency, it obliges states to declare all relevant material and that any failure to do so would violate the agreement. From that perspective, the Additional Protocol does not add any further obligations. This is undeniably the case.

Eventually, Mr. Cabactulan’s summary

noted that many states view Additional Protocols as an ‘integral part’ of the safeguards system. It also noted that agreeing to have a protocol was a sovereign decision for each state to make, although a legal obligation once in force. Mr. Cabactulan’s summary also noted the ‘measures contained in both instruments represent the enhanced verification standard for that state, ‘with the Additional Protocol representing a ‘significant confidence-building measure’.

Notably, the Acronym Institute for Disarmament Diplomacy reported during the conference that in deliberations Switzerland proposed the IAEA set in motion an internal debate on ways to improve the attractiveness of the Additional Protocol. One suggestion from the Swiss was that countries implementing both a CSA and an Additional Protocol should receive ‘concrete and immediate benefits’, which, they contended, would likely lead to a lessening of the load associated with increased verification.

Whether the Additional Protocol itself is even enough, though, is a matter for a debate of its own. There are calls from some quarters for improvements to be made. It should be noted, that most uses and processing of nuclear materials beyond the point of yellowcake falls under safeguards. Weaponization activities involving the use of nuclear materials are therefore undeniably covered by present IAEA safeguards. What fall outside safeguards are weaponization relevant activities not involving nuclear materials. The 2009 report of the International Commission for Nuclear Non-Proliferation and Disarmament (ICNND) therefore recommended the Protocol and its annexes be ‘updated and strengthened to make clear the IAEA’s right to look into possible weaponization activity’. It also recommended adding specific reference to dual-use items, reporting on export denials, shorter notice periods and the right to interview specific individuals.

NPT parties did agree at the conference on a recommendation that IAEA safeguards 'should be assessed and evaluated regularly', as they did at the 2000 meeting. But given the current state of divisions over the protocol, an improved version seems a distant way off.

### **The IAEA budget debate**

The Conference has no particular mandate to discuss the IAEA's budget and staffing. Now would it have been the appropriate forum for such discussions. About forty NPT parties are not members of the IAEA. In addition, three IAEA members are not parties to the NPT.

Despite this, on the ever-pressing issue of IAEA resources, the review conference called on all states parties to ensure the Agency 'continues' to have 'all political, technical and financial support' necessary for it to meet its safeguards needs. This is a positive statement, but one that falls short of delivering desperately needed resources.

Two years ago, the Agency's then Director-General, Mohammed ElBaradei, argued that years of zero real growth budgetary constraints had left the Agency with a 'failing infrastructure and a troubling dependence on voluntary support'. In August 2009, pressure from the Obama administration secured IAEA Board approval of a rare real budgetary increase of 2.7 per cent above inflation, but the inadequacy of Agency funding remains an issue that has yet to be satisfactorily resolved.

### **Disarmament discussions**

The slow rate of progress on disarmament has been a long-running source of tension between the treaty's nuclear armed and unarmed parties. The final document noted the conference's recognition that achieving a world without nuclear weapons 'will require openness and co-operation'. It affirmed 'the importance of enhanced confidence through increased transparency and effective verification'.

On the technical issues associated with disarmament verification, the Mr. Cabac-

tulan's summary noted that conference participants welcomed 'efforts towards the development of nuclear disarmament verification capabilities' to have taken place over the last five years. Highlighted in particular was the three-year collaborative project between the UK and Norway to study how the dismantlement of nuclear warheads can be verified without compromising proliferation-sensitive information.

In discussions of the review conference's disarmament committee, Main Committee I, Norway noted not only that verification represents an important confidence-building measure in disarmament, but that non-nuclear-weapon states should also be part of the process. After all, as the 1996 Canberra Commission on the Elimination of Nuclear Weapons noted: 'The whole global community has a direct and fundamental interest in the elimination of nuclear weapons, and the regime which manages that process and its outcome.' And arguably, if a world without nuclear weapons is to become a reality, there may well come a time when dismantlement processes will lack credibility unless signed off by at least some non-nuclear-weapon states.

A similar call was made in 2000, when conference participants called for the 'further development of the verification capabilities' that will be needed to verify compliance with disarmament agreements. Over the last ten years, much work has been done in disarmament verification research. However, if nuclear disarmament is to be effectively verified, as it surely must be, strong political leadership is needed during the current review cycle to sustain momentum and capitalize on work undertaken so far.

### **Fissile materials**

The final document also addressed the issue of fissile material verification, and the Fissile Material Cut-off Treaty (FMCT). Mr. Cabactulan's summary reflected the 'deep concern' of all parties that after more than a decade, the Geneva-based Conference of Disarmament (CD) has been 'unable to commence negotiations and substantive deliberations pursuant to

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an agreed programme of work’.

There is a widespread support for a verifiable FMCT among NPT states. All state parties agreed that negotiating the treaty is an ‘urgent necessity’. It was only a ‘necessity’ in 2000, but then, that was only two years after the formation of a short-lived FMCT negotiating committee by the CD briefly raised hopes of progress.

It has, of course, yet to be settled whether such a pact would set limits on existing stocks as well as banning future production.

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During the conference, the US noted that since the end of the Cold War it has down-blended nearly 118 tons of highly enriched uranium removed from weapons programmes to produce low-enriched reactor fuel, much of it verified by the IAEA. The Agency should also be given the responsibility to verify that states were not producing new fissile material for use in weapons, said the US—a recommendation that failed to make its way into the final document. More concretely, the US was also keen to highlight its joint agreement with Russia to dispose of some 68 tons of surplus plutonium, an effort in which, it said, the IAEA would play a critical verification role.

The agreement in question refers to the September 2000 Plutonium Management and Disposition Agreement (PMDA), subsequently amended in April 2010. This agreement calls for each country to dispose of no less than 34 metric tons of excess weapons-grade plutonium. The combined 68-ton total represents, according to the US State Department, enough fissile material for nearly 17,000 nuclear weapons.

The 2000 text of the PMDA stated that

plutonium disposition in both countries would take place using light water reactors, although Russia enshrined the right to use fast-neutron reactor technology as well. Implementation of the agreement was delayed, however, over Russian reluctance to devote significant resources to a project that was to be chiefly light water based.

The 2010 text doubles the US’s financial contributions to Russia’s disposition efforts (from \$200m to \$400m). It also removes ‘light water obligations’ from Russia and expands its ability to use fast-neutron reactors in the implementation of the agreement.

The text of the PMDA notes that both parties ‘shall have the right to conduct and the obligation to receive and facilitate monitoring and inspection activities’ in order to confirm that the agreement is being followed correctly. The need to involve the IAEA is reaffirmed in the 2010 version of the agreement. It states, ‘each party ... shall ... conclude appropriate agreements with the IAEA to allow it to implement verification measures with respect to each party’s disposition programme’.

Later in 2010, at the annual General Conference of the IAEA in September, Mr. Yukia Amano, the IAEA Director-General, announced the IAEA had recently received a letter ‘requesting IAEA assistance to independently verify implementation’ of the PMDA agreement. The letter, signed by US Secretary of State Hillary Clinton and Russian Minister for Foreign Affairs Sergey Lavrov, asks the Agency ‘engage in all necessary [verification] efforts...with the goal of preparing the necessary legally binding verification arrangements in 2011.

According to the State Department, disposition is set to begin at some point before 2018, ‘after the necessary facilities are completed and operating’. Given the importance of irreversibility to nuclear disarmament efforts, and the need for transparency highlighted in the 2010 final document, ensuring the PMDA is effectively verified is an important matter.

## Conclusion

Verification, as the 2010 final document shows, remains indispensable component of the NPT regime. Without it, states parties would not feel assured that their fellow treaty members are complying with their undertakings.

The most pressing need, for the near future, is to secure more parties to the Additional Protocol. It is especially important to entice the holdout states with significant nuclear activities to join. However, as noted earlier, that is a task fraught with diplomatic hurdles and political sensitivities.

Clearly, those standing on the outside would need to see 'concrete and immediate benefits', as the Swiss government put it, in joining. For some, this could include an assurance that the inspection load, and the cost associated with that, will go down once the IAEA have implemented the protocol.

The proper implementation of 'integrated safeguards', where the IAEA concentrates

inspection effort at key facilities, might be one way of ensuring this. For other states, however, Additional Protocol acceptance is hinged to regional conditions. Some in the Middle East, for instance, argue that they will only consider the protocol once Israel joins the non-proliferation regime. This, of course, is a distant prospect indeed.

Progress under the disarmament pillar might improve chances, however. Disarmament verification may also prove to be a unifying factor, as all treaty members agree on its importance. There is much work left to do in conceptualizing and implementing a viable and verifiable disarmament regime. In the meanwhile, progress is possible in respect to weapons-usable fissile material.

The negotiation and entry-into-force of a verifiable FMCT and successful implementation of the PMDA both stand as potentially significant confidence-builders as attention begins to turn to the next review conference in 2015.

The review process in perspective

Year	Parties	NWS	Outcome
1975	91	3	Final Declaration.
1980	109	3	No outcome.
1985	127	3	Final Declaration.
1990	137	3	No outcome.
1995	181	5	3 Decisions. Indefinite extension. 1 Resolution
2000	185	5	Final Document.
2005	186	5	No outcome.
2010	187	5	Action Plan.

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#### Review

VERTIC thanks the two reviewers who offered comments on a draft of this paper.

#### ISSN

1740-8083

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## About this paper

During May 2010, the state parties to the 1986 Nuclear Non-Proliferation Treaty met in New York to review the past operation of the treaty. They also sat down to iron out agreement on future actions in respect to the treaty.

This briefing paper seeks to extract and highlight the most significant verification-relevant parts of the final document.

Building trust through verification

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**Current funders** Foreign Affairs and International Trade (Canada); Joseph Rowntree Charitable Trust (JRCT); Utanriksdepartementet (Norway); Stralvarnet (Norway); Ploughshares Fund (US); Federal Department of Foreign Affairs (Switzerland); Foreign and Commonwealth Office (FCO); US Department of State.

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