

The IAEA Additional Protocol after the 2010 NPT Review *Status and Prospects*

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Developments from 1997 through 2010

The general negotiating history of the Additional Protocol (AP) is well-known:¹ The AP was born from the lessons learned at the International Atomic Energy Agency (IAEA) Department of Safeguards following the first Gulf War against Iraq in 1991, concerning inherent limitations of routine material balancing and accounting in conducting verification of states' peaceful-use commitments. In May 1997, the IAEA Board of Governors approved the Model AP (INFCIRC/540) to permit the IAEA to enhance its capability to verify the non-proliferation commitments of states that are subject to full-scope safeguards agreements under the model protocol for those agreements (INFCIRC/153).

The Model AP has two principle features: first, an "expanded declaration" provided to the IAEA by the state subject to the AP containing an array of information concerning certain activities that might be relevant to the development of nuclear arms but not subject to reporting requirements under INFCIRC/153; and second, broader IAEA rights of "complementary access" to undeclared locations in a state "to assure the absence of undeclared nuclear material and activities". The AP provides the IAEA additional verification tools beyond INFCIRC/153, but it should not be described as a mechanism affording the IAEA unlimited inspection and surveillance rights.

The Final Document of the 2000 NPT Review Conference followed up the 1997 approval of the AP by the Board of Governors noting that the IAEA Secretariat and member states "consider ... a possible plan of action to promote and facilitate the conclusion and entry into force of ... additional protocols, including for example, specific measures to assist states with less experience in nuclear activities to implement legal requirements".² The safeguards resolution passed during the 2000 IAEA General Conference included a recommendation that the IAEA Secretariat, the Board of Governors and member states "intensify efforts" to support the AP including "providing their knowledge and technical expertise necessary to conclude and implement ... APs".³ The adoption of the General Conference resolution was thereafter "welcomed" by the United Nations General Assembly.⁴

1 See <<http://cns.miis.edu/npr/pdfs/113hirsch.pdf>>.

2 NPT/CONF.2008/28, para. 47.

3 GC(44)/RES/19.

4 A/RES/55/33R(2000).

These above developments provided the diplomatic framework for an AP support programme at the IAEA Secretariat funded by extra-budgetary contributions of member states. Under this, the IAEA Secretariat has conducted outreach activities on behalf of the AP, including, for example, a safeguards seminar held in Rabat in 2005 for states that had signed APs and were looking forward to ratification and entry into force, and a seminar held in Vienna in 2007 for states without safeguards agreements. A comprehensive overview of IAEA outreach and support activities is given in the IAEA safeguards Action Plan for the period 1 July 2010 through 30 June 2011.⁵

Not all Additional Protocols are equal

The relationship of the five nuclear-weapon states (NWS) to the AP is relevant for the NPT review process looking toward 2015. The Model AP approved by the IAEA Board of Governors in 1997 was meant for application in non-nuclear-weapon states (NNWS). Informed by the need to demonstrate goodwill to many NPT NNWS that were highly critical of the AP during the seven years it was under negotiation, the United States in 1998 agreed to conclude an AP with the IAEA. President George W. Bush opened the AP to ratification (through enacting legislation in the Congress) in 2004 but congressional opposition and lack of support within the administration during Bush's second term of office delayed entry into force of the AP until 2009, following the election of Barack Obama as President and after congressional elections resulted in a Democratic majority in both houses of Congress.

The US AP amends the US bilateral safeguards agreement with the IAEA ("voluntary offer") from 1980. In the same manner that under the "voluntary offer" the United States does not submit to IAEA safeguards installations and materials significant to national security, the US AP provides for a "national security exclusion", and explicitly includes a subsidiary arrangements agreement with the IAEA that defines specific limitations on IAEA "managed access" to locations and materials in the United States that are significant to national security. During the negotiation of this agreement, the Bush administration communicated to the IAEA that it would exercise its right under its AP to restrict IAEA access to US materials and locations, and set forth the understanding that the purpose of application of IAEA safeguards in the United States was explicitly to facilitate the development and application of IAEA safeguards in NNWS—not to account for nuclear materials or nuclear activities in the United States.

The other NPT NWS also have protocols with the IAEA: China (EIF 2002), France (2004), Russia (2007), and United Kingdom (2004). These APs are similar to that for the United States in that they are governed by restrictions of IAEA access to nuclear installations and materials.

In light of the limited utility of conducting verification in NWS, the IAEA has not devoted resources to conducting safeguards activities in NWS unless that would result in other benefits, such as gaining experience in safeguarding activities related to specific processing technologies. In recent years there has been some internal discussion as to whether the

5 See <www.iaea.org/OurWork/SV/Safeguards/documents/sg_actionplan.pdf>.

IAEA Secretariat would revisit that policy, but so far, given resource constraints, there are no plans to intensify safeguards activities in NWS.

NPT Review Conference and the AP

The NPT 2010 Review Conference did not endorse proposals from a number of states to identify the AP as an essential component of IAEA Comprehensive Safeguards Agreements (CSAs) or otherwise to make conclusion and entry into force of an AP a legal obligation for states with CSAs. The Review Conference Action Plan, which was approved by consensus, did include two specific references to the AP:

- Action 28: The Conference encourages all States parties which have not yet done so to conclude and bring into force additional protocols as soon as possible and to implement them provisionally pending their entry into force.
- Action 29: The Conference encourages the IAEA to further facilitate and assist States parties in the conclusion and entry into force of comprehensive safeguards agreements and additional protocols. The Conference calls on States parties to consider specific measures that would promote the universalization of the comprehensive safeguards agreements.

Under Director General Yukiya Amano, the Director General's Office for Policy has prioritized the achieving of continual incremental progress in the universalization of the AP among NPT NNWS. When Amano became Director General in December 2009, 94 states had brought an AP into force. The IAEA has set the general goal of getting all NNWS with CSAs to conclude an AP with the IAEA. Currently there are 171 states with CSAs in force, plus an additional 14 states that have concluded CSAs that are not yet in force, bringing the total number to 185.⁶

Following the 2010 NPT Review Conference, in July 2011 the IAEA Secretariat compiled a report for the 2011 IAEA General Conference pertaining to efforts to support implementation of the AP.⁷ It states that as of 30 June 2011, 109 states had APs in force. As of 20 February 2012, the number of APs in force has increased to 115.⁸

In September 2010, the IAEA Secretariat reported to the Board of Governors and the General Conference on activities related to promotion of the conclusion and implementation of APs.⁹ That report commended Japan for supporting the AP (Japan has been commended for several years running as a consequence of its contribution to extra-budgetary support for AP-related work) and noted that the following activities had been carried out by the Secretariat between 1 July 2010 and 30 June 2011 in that regard:

- three outreach events, two held in Singapore for six states in South Asia and South-East Asia with significant nuclear activities, and a briefing for permanent missions in Geneva;

6 The states that have concluded CSAs that are not yet in force are Benin, Cape Verde, Djibouti, Equatorial Guinea, Eritrea, Guinea, Guinea Bissau, Liberia, Micronesia, Sao Tome and Principe, Somalia, Timor-Leste, Togo and Vanuatu.

7 See <www.iaea.org/About/Policy/GC/GC55/GC55Documents/English/gc55-16_en.pdf>.

8 See <www.iaea.org/OurWork/SV/Safeguards/documents/AP_status_list.pdf>.

9 See <www.iaea.org/OurWork/SV/Safeguards/documents/sg_actionplan.pdf>.

- bilateral consultations on APs, CSAs and small quantities protocols in Berlin, Geneva, New York and Vienna; and
- during the 2012 NPT PrepCom meeting in Vienna in April there will be a side event on NPT safeguards that will include attention to the AP.

Additional activities planned by the IAEA through 2012 include outreach events in the Caribbean and Pacific regions, and participation in national seminars and meetings of states parties to nuclear-weapon-free zones. The Caribbean and Asian states have been targeted in part because all of these have CSAs, but many are not members of the IAEA, have no missions to international organizations in Vienna or Geneva, but do have missions to the United Nations in New York. It is anticipated that the IAEA will draw attention on the need to address the development needs of these states through the IAEA programme on technical cooperation as a means to encourage participation in the AP. Given that a commitment to the AP will require expenditure of scarce resources, many developing countries will be more receptive to the AP if they perceive that the IAEA serves their overall national development agendas. Separately, they will be more receptive if they perceive that the NWS are addressing their concerns on NPT article IV and article VI.

After the conclusion of the 2010 NPT Review Conference and through 30 June 2011, APs had been brought into force with eight more states: Albania, Costa Rica, Mexico, Montenegro, Morocco, Mozambique, Swaziland and the United Arab Emirates. Since then, six more states have brought APs into force: Andorra, Bahrain, Gambia, Kyrgyzstan, Namibia and the Republic of Congo.¹⁰

“Significant” nuclear states

Until 2011 the IAEA categorically assigned the greatest priority in efforts to universalize the AP to so-called “Group 1” states with “significant nuclear activities”, as distinct from a larger number of states without APs with modest nuclear activities and the large majority of states that have little if any nuclear activities or nuclear materials. (Since 2011 the IAEA no longer uses the term “significant nuclear activities” and there is no formal definition for this term.) In practice, however, efforts to generate and sustain political support for the AP have been focused on states that have expressed few or no objections in principle to the AP and in which the estimated resource cost for implementation of the AP would not represent a significant barrier. When Chad in May 2010 became the 100th member state to bring an AP into force, reaction was subdued because little progress had been recorded in securing agreement to APs among certain states with significant nuclear activities that have expressed reservations or even opposition to the AP.¹¹

The overwhelming majority of IAEA member states, including NPT parties, with “significant nuclear activities” have concluded and brought into force an AP with the IAEA. A few of these have no AP and, absent unforeseen political developments, it is unlikely that these states will conclude APs between now and the 2015 NPT Review Conference:

10 See <www.iaea.org/OurWork/SV/Safeguards/documents/AP_status_list.pdf>.

11 See <www.iaea.org/newscenter/news/2010/strengthenverification.html>.

- **Argentina** and Brazil have a coordinated policy of not signing APs with the IAEA following from their mutual participation in the Brazil–Argentine Agency for Accounting and Control of Nuclear Materials (ABACC). In theory, Argentina, which has fewer nuclear activities and a less ambitious nuclear programme than Brazil, might agree to the AP on the basis of its nuclear policies vis-à-vis the IAEA and multilateral nuclear arrangements, but it will not do so unilaterally out of consideration for its bilateral relationship with Brazil. The key to Argentine participation in the AP would be an agreement by Brazil. While both Argentina and Brazil officially object to the AP, it is notable that Argentina very rarely articulates its position while Brazil has developed a consistent narrative expressing opposition to the AP.
- **Brazil** has reiterated opposition to the AP on political grounds, primarily in objection to lack of nuclear disarmament on the part of the five NPT NWS. Official statements on strategic defence policy issued by the Federal Ministry of Defence report that Brazil will not agree to additional commitments in non-proliferation, safeguards and verification without nuclear disarmament progress from the NWS. Observers and opinion leaders in Brazil have expressed the view that the AP would inhibit Brazil’s plan to develop a nuclear navy. The source of opposition to the AP in Brazil is the Ministry of Defence and, especially, the armed forces. Some military personnel privately voice support for Brazil retaining a nuclear weapons option, regardless of reiteration by the Ministry of Foreign Affairs that Brazil has no such ambitions. Brazil may harbour concern that entry into force of the AP in Brazil would prompt a potentially politically damaging negotiation with the IAEA over verification of nuclear legacy waste inventories on which, under the AP, the IAEA would have the right to obtain data and access. In 2008 and again in early 2012, the US government held discussions to encourage Brazil to agree to an AP. These have not borne fruit.
- The **Democratic People’s Republic of Korea** is unlikely to agree to an AP without an unforeseen comprehensive agreement with the IAEA and the permanent members of the United Nations Security Council on the future of its nuclear-weapons-related infrastructure and materials, including assets for enriching uranium that were developed clandestinely and that have never been declared to the IAEA under its safeguards agreement. The Democratic People’s Republic of Korea has declared that it has withdrawn from the NPT although some experts believe that the procedure was irregular and is not legal. No efforts are underway to persuade the Democratic People’s Republic of Korea to agree to an AP without a comprehensive settlement of outstanding verification issues.
- **Egypt** has taken the position that it will not agree to the AP without Israeli accession to the NPT. Since that would mean that Israel must give up its nuclear weapons and bring into force a CSA with the IAEA, Egypt’s position would imply that there will be no AP in Egypt for an indefinite period. Between 2004 and 2006, the IAEA found safeguards discrepancies pointing to possible undeclared nuclear material processing activities by Egypt, which without an AP the IAEA cannot verify unless Egypt explicitly provides access, for example by agreeing to a Special Inspection under INFCIRC/153.¹² Egypt in 2007 reiterated that it would not conclude an AP with the IAEA.¹³

12 See <www.carnegieendowment.org/2009/06/02/iaea-reports-on-egypt-reluctantly/24r>.

13 See <www.isn.ethz.ch/isn/Current-Affairs/Security-Watch-Archive/Detail/?lng=en&id=106118>.

- **The Islamic Republic of Iran** in 2003 agreed to implement the AP on a voluntary basis after the IAEA had confirmed that the state had failed to declare numerous nuclear activities since 1985. After three years the Islamic Republic of Iran suspended implementation of the AP. In early 2012, the IAEA again urged the Islamic Republic of Iran to resume implementation of the AP. Standing in the way of this are intelligence findings provided to the IAEA by member states alleging that the Islamic Republic of Iran has failed to declare a host of nuclear activities related to development of nuclear weapons that, were the AP implemented, the Islamic Republic of Iran would have to disclose to the IAEA.
- **The Syrian Arab Republic** in recent years has taken a similar position to that of Egypt vis-à-vis Israel. In 2010, the IAEA Board of Governors cited the Syrian Arab Republic for non-compliance with its NPT safeguards obligations on the basis that it had failed to declare to the IAEA under Code 3.1 subsidiary arrangements that it had constructed a nuclear reactor that had been destroyed by Israeli aircraft in 2007. Between 2008 and 2010 the Syrian Arab Republic did not accede to requests from the IAEA to conduct inspections or visits (under a proposed regime of managed access) in country.

Nuclear Suppliers Group activities

In June 2011, the Nuclear Suppliers Group (NSG) agreed by consensus on new guidelines for export of items related to enrichment and reprocessing (ENR). During the seven-year negotiation of these guidelines, many NSG participating governments favoured requiring an AP for the recipient state for any ENR transfer. To satisfy a few states, and particularly Brazil, the final outcome instead permitted ENR exports to states without an AP provided that the recipient state has “appropriate” IAEA safeguards “including a regional accounting and control arrangement” such as ABACC.¹⁴ While interpretation of this passage was left open by NSG participating governments, Brazil has expressed the view that it is not required to have an AP in force to obtain ENR items. According to ABACC, a “note” from the Brazilian Ministry of Foreign Affairs explains that the provision for ENR under the new NSG guidelines “has the particular importance in that the NSG has begun to recognize the Quadripartite Agreement signed by Argentina, Brazil, ABACC and the IAEA as an alternative creation to the AP”.¹⁵

Some NSG participating government officials take issue with Brazil’s assertion that the guidelines imply equivalence between ABACC and the AP but they acknowledge that the NSG is blurring the issue to secure Brazil’s consent to the generally more restrictive conditions for ENR trade expressed by the new guidelines.

The outcome of NSG diplomacy on the AP should however inform discussion during the forthcoming NPT review concerning whether the AP should become mandatory for CSAs.

14 See <www.carnegieendowment.org/2011/07/28/new-global-rules-for-sensitive-nuclear-trade/4atv>.

15 See <www.abacc.org.br/?p=3846&lang=en>.

Small quantities protocol

- Action 31: The Conference encourages all states with small quantities protocols (SQP) which have not yet done so to amend or rescind them, as appropriate, as soon as possible.

In addition to the two actions relevant to the AP, the 2010 Review Conference Action Plan included the above action concerning the SQP. An SQP is a protocol for states with CSAs but with little or no nuclear material or infrastructure. The SQP holds in abeyance most of the provisions of Part II of the CSA until a time when the amounts of nuclear material would be enough to require those provisions, including IAEA inspections. There are 93 states with SQPs, and 52 of these have accepted an amendment of the SQP, calling on them to report to the IAEA and permit IAEA safeguards inspections—in effect giving the IAEA safeguards access to their nuclear activities. The IAEA's outreach programme for safeguards includes attention to the need for SQP revision in states with CSAs.

Conclusion and guidance

- Since the adoption of the NPT Review Conference in May 2010, the number of states with an AP in force has increased from 100 to 115. This is good news for the Vienna PrepCom and the 2015 Review Conference. Most new APs are in states without significant nuclear activities. The bringing into force of an AP by Namibia in early 2012 is however significant, since that country currently produces about 10% of the world's natural uranium supply, including about 4,000 tons U_3O_8 per year at the Rossing mine, which is partly owned by investors in the Islamic Republic of Iran.¹⁶
- It is likely that the IAEA will succeed in encouraging more states without significant nuclear activities to conclude APs.
- It is unlikely that progress will be made towards conclusion of APs in the above-listed states with "significant nuclear activities"—in particular the Democratic People's Republic of Korea, the Islamic Republic of Iran and the Syrian Arab Republic—without considerable political support from weighty member states towards comprehensive crisis resolution.
- Heavy-handed diplomacy will not succeed.
- Efforts should nonetheless be made in discussions with Argentina, Brazil, Egypt, Venezuela and other states that have expressed objections to the AP on broad political terms, to agree on a trial basis to confidence-building measures that could gradually result in the voluntary implementation of critical aspects of the AP without legal commitments.
- NWS must understand that most of the states without an AP will view this issue through the lens of article IV and article VI.
- Certain member states are working with the IAEA to assist in building support for the AP—in particular Australia (in the Asia-Pacific region), France, Japan and the

16 See <www.mbendi.com/indy/ming/urnm/af/na/p0005.htm#5>.

EU states (in a common EU effort to provide technical assistance to Africa). This activity is valuable, relies on extra-budgetary contributions and should continue.

- States with APs should enlist technical organizations such as the Institute of Nuclear Materials Management and national laboratories to work with ASEAN states towards the goal of getting blanket agreement on the AP in the group by 2015. Cambodia, the Lao People's Democratic Republic and Myanmar have not signed an AP; three states—Malaysia, Thailand and Viet Nam—have signed and ratified APs but not brought them into force. Particularly Viet Nam and Malaysia should be targeted since they have been negotiating terms of nuclear cooperation and technical assistance with advanced IAEA member states concerning anticipated nuclear power development.
- Both the IAEA and member states should develop industry outreach to identify areas in AP implementation to overcome (perceived?) competitive advantage obtained by not concluding an AP; they should develop and use on a voluntary basis flexible mechanisms in the AP (e.g., in article 2(b)(i)) for reporting data that is potentially commercially sensitive; and (e.g., in article 15) which spell out arrangements for protecting confidentiality of information.
- The IAEA should be supported in its efforts to obtain incremental conclusion of more APs by member states. Unspectacular but steady progress will generate political momentum towards universalization of the AP.
- NNWS should recall that the APs concluded with the IAEA by the five NWS followed from “voluntary” safeguard offers. In particular, the US AP was concluded by an administration not strongly committed to multilateral nuclear diplomacy. The current US administration may be more receptive to making some of its “voluntary” commitments more binding.

Finally, the result of NSG diplomacy during the last seven years concerning the AP should be considered by NNWS in considering again the issue whether the AP should be made mandatory and considered an essential component of the CSA. Many NSG participating governments believe that, unless all NNWS were truly willing to cooperate in the implementation of APs, a rule making the AP legally mandatory would be counterproductive. The IAEA needs the AP to reach an overall conclusion that a state's nuclear activities are exclusively for peaceful use. The value of the AP would be diminished if some states conclude that they are being forced to provide information to the IAEA.

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