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## Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System Including Implementation of Additional Protocols

Report by the Director General

#### Summary

• This report describes the progress made since the fifty-first regular session of the General Conference in strengthening the effectiveness of the safeguards system and improving its efficiency, including implementation of additional protocols.

### Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System Including Implementation of Additional Protocols

Report by the Director General

#### A. Introduction

1. The General Conference in resolution GC(51)/RES/15, Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System and Application of the Model Additional Protocol<sup>1</sup>, requested the Director General to report to the fifty-second regular session on the implementation of the resolution. This report describes the steps undertaken in fulfilling the request of the General Conference.

#### **B.** Implementation and Further Development of Safeguards Strengthening and Efficiency Measures

2. The Agency's Safeguards Analytical Laboratory (SAL) in Seibersdorf is essential to nuclear material verification and environmental sample analysis. In November 2007 at the meeting of the Board of Governors, two potential improvements of the IAEA's analytical capabilities at SAL — the acquisition of an ultra-high sensitivity secondary-ion mass spectrometer and upgrading of the aging technical infrastructure of the nuclear material laboratory — were discussed. The Board of Governors expressed its support for independent and timely analysis of both environmental and nuclear material samples, and requested additional information on options, and the corresponding funding requirements, in order to arrive at cost-effective, accurate and timely proposals for solutions. The Board also encouraged Member States to provide extra budgetary support and recommended that the funding requirements be considered in the context of the Agency's Programme and Budget and longrange planning. A technical meeting for representatives of Member States was conducted by the Secretariat in February 2008 to provide additional details on options and funding requirements. To further advance the issue of the future of SAL, the Secretariat has established an interdepartmental project entitled, Enhancing Capabilities of the Safeguards Analytical Services, to ensure that the safeguards analytical services provided by SAL and the Agency's Network of Analytical Laboratories

<sup>&</sup>lt;sup>1</sup> The text of the Model Protocol Additional to the Agreement(s) between State(s) and the International Atomic Energy Agency for the Application of Safeguards is contained in document INFCIRC/540 (Corr.).

(NWAL) will continue to provide the necessary analytical support for nuclear material and environmental samples in a cost-effective, timely and reliable manner.

## **B.1. Drawing Safeguards Conclusions: The Further Development of the State Evaluation Process**

3. As reported in the Safeguards Statement of the Agency for  $2007^2$ , safeguards were applied during that year for 163 States with safeguards agreements in force with the Agency<sup>3</sup>. The Secretariat's findings and safeguards conclusions for 2007 derive from an evaluation of all the information available to the Agency in exercising its rights and fulfilling its safeguards obligations. The conclusions were reported by type of safeguards agreement and corresponding safeguards obligations.

4. The Secretariat has continued to develop the State-level concept for the implementation and evaluation of safeguards. In the State-level concept, safeguards implementation and the evaluation of that implementation are based on a State-level approach developed for each State and the annual implementation plan derived therefrom. State-level approaches are developed on a non-discriminatory basis using safeguards verification objectives that are common to all States with comprehensive safeguards agreements (CSAs). They also enable State-specific features, such as the State's nuclear fuel cycle and the effectiveness of its State or regional system of accounting for and control of nuclear material, to be factored into the Agency's verification activities. As of June 2008, State-level integrated safeguards approaches were being implemented for 26 States.

5. In GC(51)/RES/15, the General Conference welcomed efforts to strengthen safeguards, including the Secretariat's activities in verifying and analysing information provided by Member States on nuclear-related supply and procurement, taking into account the need for efficiency, and invited all States to cooperate with the Agency in this regard. Obtaining information on the procurement and supply of sensitive nuclear technology enables the Agency to increase its understanding of covert transnational nuclear trade activities for safeguards purposes. The Secretariat has continued to analyse nuclear trade-related information provided by Member States with a view to contributing to the State evaluation process. This information is provided on a voluntary basis in the context of the Agency's procurement outreach programme, launched in 2006, and it covers procurement enquiries and export denials of nuclear-related equipment, material and technology. Such information, analysed by technology experts and trade analysts, may provide early proliferation indicators, thus strengthening the safeguards State evaluation process.

#### **B.2.** Development and Implementation of Safeguards Approaches, Procedures and Techniques

6. Research and development (R&D) in safeguards approaches, procedures and techniques, carried out with the assistance of Member State Support Programmes (MSSPs), is essential to meeting the safeguards challenges of the future. Assistance from MSSPs has been crucial because the Secretariat lacks its own R&D capabilities. In 2007, the Secretariat conducted a review of its R&D activities and prepared the new R&D Programme for 2008–2009. It contains 23 projects in such areas as development of safeguards concepts, information processing and analysis, verification technologies,

<sup>&</sup>lt;sup>2</sup> The Safeguards Statement for 2007, Background to the Safeguards Statement and Executive Summary of the Safeguards Implementation Report for 2007 are published on the IAEA website at <u>http://www.iaea.org/OurWork/SV/Safeguards/es2007.html</u>.

<sup>&</sup>lt;sup>3</sup> And Taiwan, China.

and training. As of 30 June 2008, there were 21 MSSPs<sup>4</sup> to which the Secretariat communicates its R&D and safeguards implementation objectives through its biennial R&D Programme for Nuclear Verification. Discussion between the IAEA and Member States on R&D needs for safeguards and verification was the focus of a meeting of the MSSP coordinators in April 2008. The MSSPs are currently conducting over 300 R&D related tasks valued at over €20 million per annum.

7. The Secretariat has continued its efforts for the identification and development of effective advanced technologies for the detection of undeclared nuclear material and activities. Two tasks in the area of novel technology, i.e. laser spectroscopy and optical stimulated luminescence for safeguards applications, were initiated with the expectation that prototypes will be delivered by mid-2009. A study was also initiated on modelling releases of signature gases from nuclear fuel cycle processes. In addition, the Secretariat contributed to meetings and workshops during the past year that were specifically convened to identify the tools that would be needed by the Agency to carry out its mission in the future, including the Safeguards Technology Needs Workshop (Vienna, August 2007) and the Japan Atomic Energy Agency–IAEA Workshop on Advanced Safeguards Technology for the Nuclear Fuel Cycle (Tokai-Mura, November 2007).

#### **B.2.1. Safeguards Approaches**

8. The Secretariat has continued to develop and implement safeguards approaches for verifying spent fuel transfers that involve unattended monitoring and surveillance systems, as well as short notice and unannounced inspections, which have resulted in inspection effort savings. A number of facility specific safeguards approaches were developed or improved in 2007 and 2008. Safeguards approaches based on unannounced inspections to verify transfers of spent fuel to interim dry storage were implemented at 16 power reactors resulting in approximately 30% savings in inspection effort in 2007. The development and implementation of short notice random inspection (SNRI) schemes for depleted, natural and low enriched uranium fuel fabrication and conversion plants continued over the past year: approaches using SNRI schemes were implemented in six facilities; field trials were conducted at two facilities; and negotiations were concluded or are under way for another 12 facilities.

9. At the Japan Nuclear Fuel Ltd (JNFL) Rokkasho Reprocessing Plant (RRP), active commissioning has been largely completed and the facility is moving towards full commercial operation. The Agency and the Japanese authorities performed audits of the RRP accounting system, which led to the identification of areas for improvement. During the past year, development of a safeguards approach for the JNFL mixed-oxide fuel fabrication plant (J-MOX) continued. Several elements of an integrated safeguards approach for the site as a whole have been prepared. The basic systems necessary for safeguarding J-MOX and the arrangements for sharing the costs of these systems have been agreed upon.

10. At Chernobyl, a study on the feasibility of the installation of a safeguards site data integration system was completed in 2007. A camera system for monitoring the interior of the reactor hall at Unit 4 was tested during the year. The commencement of the conditioning of irradiated fuel for long-term storage has been delayed due to changes in the design of the conditioning facility.

#### **B.2.2. Information Technology**

11. The Agency has continued to work on the Safeguards Information System Re-engineering Project (IRP). The objective of the IRP is to increase the effectiveness and efficiency of information

<sup>&</sup>lt;sup>4</sup> Argentina, Australia, Belgium, Brazil, Canada, China, Czech Republic, European Commission, Finland, France, Germany, Hungary, Japan, Netherlands, Republic of Korea, Russian Federation, South Africa, Spain, Sweden, United Kingdom and the United States of America.

processing by replacing the current information environment with a modern, analysis friendly, integrated information system. Phase I (Solution Design) and Phase II (Foundation) have been completed. The new safeguards portal, which will become the central point of access for all safeguards information, is now being tested. Progress has been made in Phase III (Implementation) with projects to implement the new information system. The Phase III projects are expected to be completed by 2010.

12. The Department of Safeguards is exploiting new, high resolution, commercial satellite-based sensors to improve capabilities for monitoring nuclear sites and facilities worldwide. New, higher spatial resolution panchromatic imagery now provides improved capabilities for monitoring and verification activities, and high resolution radar data provide day/night and all-weather monitoring opportunities. In addition, contracts have been concluded with new imagery providers to diversify sources and allow for cross-checks with images acquired from different providers. During the past year, 260 commercial high resolution satellite images have been acquired, including 41 high-resolution radar scenes, and 94 analytical products that include satellite imagery analyses and geographic information system reports have been prepared.

13. The Agency has continued to cooperate with the European Space Agency (ESA) on the establishment and use of a secure satellite communications network for the transfer of data from safeguards equipment installed in the field to Agency Headquarters and the monitoring of the installed equipment on a near-real-time basis. Field-to-headquarters communications are conducted currently through terrestrial-based systems. The Agency and ESA have completed the planning phase for a sixmonth pilot test of such a network, involving four remote sites, to assess the performance and benefits of a space-based communications infrastructure.

#### **B.2.3. Safeguards Equipment**

14. Since last year's report to the General Conference (GC(51)/8), the development and implementation of new safeguards verification systems continued in many areas, including technical support activities for spent fuel verification and the development and upgrading of safeguards instruments and methods at centrifuge enrichment plants. Uranium enrichment measurement of small uranium hexafluoride (UF<sub>6</sub>) samples by means of a tunable diode laser spectroscopy was successfully performed. The demonstrated accuracy of these measurements was sufficient for on-site bias defect testing of UF<sub>6</sub> cylinders. Implementation of this technology may permit on-site measurement with precision comparable to mass spectroscopy analysis, thus reducing the number of samples required to be sent to SAL. In addition, a portable X ray fluorescence device was upgraded for in-situ uranium and thorium analysis of soil samples at mining locations.

15. During the past year, 26 digital surveillance systems were installed as part of the ongoing effort to replace old surveillance systems and to implement surveillance in new facilities. By the end of June 2008, the Agency had 1038 cameras connected to 576 systems operating at 241 facilities in 33 States<sup>5</sup>. In addition, remote monitoring systems continued to be installed or upgraded. By the end of June 2008, 153 surveillance or radiation monitoring systems with remote transmission capabilities were

<sup>&</sup>lt;sup>5</sup> And in Taiwan, China.

authorized for inspection use in 16 States<sup>6</sup> (in 12 States<sup>7</sup> with full transmission of safeguards data): 98 surveillance systems with 364 cameras and 55 unattended radiation monitoring systems.<sup>8</sup>

16. Since last year's report to the General Conference, the Agency made significant progress in the development of new sealing systems and containment verification techniques. Laser surface authentication has been confirmed as the key technology in the metal seal modernization programme; a prototype of a laser surface mapping instrument was field tested with promising results for verifying the integrity of MOX shipping casks. In addition, a prototype of a laser-based item identification system was developed for identifying  $UF_6$  cylinders in unattended and remote mode and was successfully demonstrated in an enrichment facility. In December 2007, the phased replacement of the older electronic variable coding seal system (VACOSS) with the new electro-optical sealing system (EOSS) began. Prototypes of the enhanced fibre-optic general purpose sealing system (COBRA) have been successfully tested at Headquarters and are expected to be in routine field use in 2009.

#### **B.2.4.** Sample Analysis

17. Environmental sampling continues to be one of the most effective and proven measures in detecting undeclared nuclear material and activities. The number of environmental samples taken has declined over the last two years from some 650 to 370, due to completion of special verification activities, a decrease in complementary access activities, and improved sample planning and collection procedures. However, delays continue to be experienced in the analysis of the samples and evaluation of the results due to current limitations of SAL's analytical capabilities and the evaluation workload. These delays affect the timeliness of follow-up on safeguards significant findings arising from the State evaluation process and the drawing of safeguards conclusions, especially when sample analysis is key to clarifying a finding or supporting a conclusion. In recognition of these problems, the Secretariat has purchased a new inductively coupled plasma mass spectrometer for the SAL Clean Laboratory that will improve the sensitivity of plutonium analysis at very low concentrations. Additionally, the Agency took action to increase its staffing to assist in solving the environmental sample evaluation workload. As noted in paragraph 2, the Secretariat has also recommended in its November 2007 report to the Board of Governors, the procurement and installation of an ultra-high sensitivity secondary-ion mass spectrometer, including an associated infrastructure upgrade as its highest priority.

18. Efforts are underway to expand the capacity and capability of the NWAL for analysing safeguards samples through the qualification of additional laboratories. Currently, there are three network laboratories performing nuclear material sample analysis (including SAL) and 14 network laboratories (also including SAL) qualified to analyse environmental samples (six for bulk analysis, five for particle analysis and three for both). For nuclear material sample analysis, laboratories in Belgium and France have begun the qualification process. In addition, laboratories in Brazil and China have started the qualification process for the bulk analysis of environmental samples.

<sup>&</sup>lt;sup>6</sup> See footnote 5.

<sup>&</sup>lt;sup>7</sup> See footnote 5.

<sup>&</sup>lt;sup>8</sup> In addition, unattended monitoring systems were installed in the Democratic People's Republic of Korea (DPRK) as part of the Agency's monitoring and verification activities related to the shutdown of the nuclear installations at the Yongbyon facility. A system to monitor the defuelling of a nuclear reactor core in DPRK was developed, installed and commissioned.

# **B.3.** Cooperation with State and Regional Systems of Accounting for and Control of Nuclear Material

19. State systems of accounting for and control of nuclear material (SSACs) are fundamental to effective and efficient safeguards implementation and are required to be established and maintained by all States with a CSA in force. States need legislative and regulatory systems to exercise necessary regulatory and control functions. SSACs for States with significant nuclear activities may also need the technical and analytical ability to perform nuclear material measurements to enable them to meet their safeguards obligations. The IAEA SSAC Advisory Service (ISSAS) was initiated in 2005 to provide States with advice and recommendations on the establishment and strengthening of SSACs. ISSAS missions are conducted at the request of the Governments concerned. Since last year's report to the General Conference, ISSAS missions were conducted in Armenia, Georgia, Niger and Ukraine. In addition, the Agency has accepted a request for an ISSAS mission from Romania, which will be conducted in the second half of 2008.

20. The cooperation between the European Commission and the Agency has improved and progress has been made on the arrangements for the introduction of integrated safeguards in States party to the safeguards agreement between the non-nuclear-weapon States of the European Atomic Energy Community (EURATOM), EURATOM and the Agency (INFCIRC/193). Discussions on procedural matters continued at the High-Level Liaison Committee Meeting, with the aim of introducing integrated safeguards in the relevant States in 2008. As a result of cooperation with the Brazilian and Argentine Agency for Accountancy and Control of Nuclear Material, safeguards implementation has improved in Brazil and Argentina resulting in the introduction of unattended monitoring systems, the implementation of new safeguards approaches in bulk handling facilities and the streamlining of routine inspection activities.

21. Since July 2007, the Agency has conducted nine national, regional and interregional training courses for State personnel, assisting the States in fulfilling their obligations under safeguards agreements and additional protocols. These included an international course in the United States on SSACs for States with small quantities protocols (SQPs); an international SSAC course in Russia; an SQP seminar in Austria; a regional SSAC course in Australia; and two regional courses devoted to the establishment of a nuclear material control and accounting system at the facility level in China and Ukraine. In addition, three national training courses were held for SSAC personnel and facility operators: (a) in South Africa and Vietnam, at the request of the Governments and tailored to the specific needs of the States; and (b) at Agency Headquarters for Lebanon and Niger.

#### **B.4.** Training

22. Since last year's report to the General Conference, 58 major training courses have been conducted for safeguards staff, covering basic, refresher and advanced training. These courses included an Introductory Course on Agency Safeguards for newly recruited Agency inspectors, with a comprehensive inspection exercise in Slovakia as a final assessment; four additional protocol exercises in Finland, Hungary, Italy and the United States; three non-destructive assay training courses in Italy and the United States; a pyroprocessing training course in the United States; two proliferation indicators training courses in Vienna; one plutonium advanced measurement training course in Russia; one spent fuel verification training course in Sweden; and three advanced training courses in nuclear facilities and a bulk handling facility training course in the United Kingdom. In parallel, training also aims at developing soft skills (observation, communication and writing skills). SAL and facilities provided by Member States are key assets for the implementation of the safeguards training programme.

#### **B.5.** Quality Management

23. Further progress has been made in implementing a comprehensive quality management system (QMS) in the Department of Safeguards. These developments included: arrangements for recording non-conformities and implementing corrective actions, work related to the development of a methodology for assessing safeguards implementation costs or cost comparison of safeguards approaches, and arrangements for management review of the QMS. The internal quality audit system continued to be implemented with seven internal quality audits carried out during the period, including an audit of the audit process itself. The computerized document control system has continued to be used to provide a single point of access for all controlled documents. Implementation of different parts of the QMS was supported by training being made available on corrective action, continual process improvement and document control. This included delivery of training to staff in the Tokyo and Toronto Regional Offices. Ten staff members also received training in quality auditing techniques. In addition, two 5-day QMS workshops and two 2-day seminars for safeguards managers were held.

# **C.** Additional Protocol Implementation and Integrated Safeguards

#### C.1. Additional Protocol Implementation

24. Additional Protocols (APs) based on the Model Protocol Additional to the Agreement(s) between State(s) and the International Atomic Energy Agency for the Application of Safeguards in document INFCIRC/540 (Corr.) (Model Additional Protocol) are central to the Agency's ability to detect possible undeclared nuclear material and activities and to draw soundly-based safeguards conclusions with regard to their absence. An AP requires a State to provide the Agency with a wide range of information about its nuclear material, activities and plans, and to provide the Agency with complementary access (CA) to locations in the State. The Secretariat has continued its efforts to implement APs and has invested considerable resources in the analysis, evaluation and follow-up of declarations made under APs. In 2007, 1645 declarations were received from 71 States and the European Community and 107 CAs were performed.

25. In addition, to help States meet their obligations, the Secretariat has held substantive consultations on AP implementation issues with representatives of numerous States. Since July 2007, two regional technical meetings on AP implementation were conducted in Australia (for Asia and the Pacific Region) and in Botswana (for African States).

#### **C.2. Integrated Safeguards**

26. The implementation of integrated safeguards offers the best opportunity for increased effectiveness and enhanced efficiency. Particularly noteworthy in this regard, yielding both effectiveness and savings, are randomly scheduled inspections with no notice or short notice to the State. In GC(51)/RES/15, the General Conference requested the Secretariat to continue to extend the implementation of integrated safeguards on a priority basis in an effective and cost–efficient manner. As indicated in paragraph 4 above, the Secretariat has continued to develop further the State-level concept for the implementation and evaluation of safeguards, including through the preparation of annual implementation plans for those States for which the broader conclusion has been drawn. In 2007, integrated safeguards were implemented for the entire year in Australia, Bangladesh, Bulgaria, Canada, Ghana, Hungary, Indonesia, Japan, Latvia, Norway, Peru, Poland, Slovenia and Uzbekistan.

Integrated safeguards implementation has also been initiated in Austria, Chile, Czech Republic, Ecuador, Greece, Holy See, Ireland, Jamaica, Lithuania, Mali, Portugal and Romania. The Secretariat estimated that the implementation of integrated safeguards in the 14 States where integrated safeguards were implemented during the entire calendar year (excluding the verification effort at RRP) resulted in savings of approximately 500 person-days of inspection in 2007. Even with the commissioning of RRP, the total number of person-days of inspection per year overall has decreased by approximately 5% over the past two years.

27. While the figures above show a reduction of inspection effort in the field, there has been a substantial increase in activities at Headquarters related to the introduction of new facilities, evaluation of AP declarations, information analysis, including data now being transmitted to the Agency remotely, and State evaluations. This reflects the shift in the focus of safeguards implementation to an information driven system that aims at understanding and assessing the consistency of information on a State's nuclear programme as a whole in order to implement safeguards activities in the field and at Headquarters in the most effective and efficient way.

#### **D.** The Conclusion and Entry into Force of Safeguards Agreements and Additional Protocols

28. Between 1 July 2007 and 30 June 2008, CSAs pursuant to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) entered into force for one additional State<sup>9</sup> and APs for six States<sup>10</sup>. A safeguards agreement pursuant to the Tlatelolco Treaty, and the protocols thereto, entered into force for one State<sup>11</sup>. Four States acceded to the safeguards agreement between the non-nuclear weapon States of EURATOM, EURATOM and the Agency, and to the protocol additional thereto<sup>12</sup>. During the same period, two States signed a CSA<sup>13</sup> and three States signed APs<sup>14</sup>. Nine States agreed to modify their respective SQPs<sup>15</sup> and one State<sup>16</sup> agreed to rescind its SQP in keeping with the Board of Governors' decision of 20 September 2005 regarding SQPs.

29. As of 30 June 2008, 163 States had safeguards agreements in force with the Agency, 88 of which (including 84 with CSAs) also had APs in force. Thus, eleven years after the Board of Governors approved the Model Additional Protocol<sup>17</sup>, more than half of all States with safeguards agreements have brought APs into force. With regard to the 73 States which have significant nuclear activities, 61 such States have signed APs and 51 have brought APs into force.

<sup>9</sup> Burundi.

<sup>&</sup>lt;sup>10</sup> Burundi, Guatemala, Malawi, Mauritius, the Russian Federation, Singapore.

<sup>&</sup>lt;sup>11</sup> France.

<sup>&</sup>lt;sup>12</sup> Cyprus, Hungary, Lithuania, Malta; as a result of these States' accession to INFCIRC/193, the implementation of safeguards pursuant to their bilateral CSAs and APS was suspended.

<sup>&</sup>lt;sup>13</sup> Bahrain, Montenegro.

<sup>&</sup>lt;sup>14</sup> Dominican Republic, Montenegro, Vietnam.

<sup>&</sup>lt;sup>15</sup> The Bahamas, Benin, Burkina Faso, Croatia, Honduras, Lebanon, Madagascar, Malawi , Singapore.

<sup>&</sup>lt;sup>16</sup> Morocco.

<sup>&</sup>lt;sup>17</sup> In May 1997.

30. Thirty non-nuclear-weapon States party to the NPT have not yet brought into force CSAs. Regarding the conclusion of APs, 105 States, including 22 States with significant nuclear activities<sup>18</sup>, have not yet brought APs into force. The latest update of the status of safeguards agreements and APs is published on the IAEA website<sup>19</sup>.

# **D.1.** Action to Promote the Conclusion of Safeguards Agreements and Additional Protocols

31. In operative paragraph 24 of resolution GC(51)/RES/15, the General Conference "notes the commendable efforts of some Member States, notably Japan, and the IAEA Secretariat in implementing elements of the plan of action outlined in resolution GC(44)/RES/19 and the Agency's updated plan of action (September 2008), and encourages them to continue these efforts, as appropriate and subject to the availability of resources, and review the progress in this regard, and recommends that the other Member States consider implementing elements of that plan of action, as appropriate, with the aim of facilitating the entry into force of CSAs and APs". Among the elements of the plan of action proposed in GC(44)/RES/19, are:

- Intensified efforts by the Director General to conclude safeguards agreements and APs, especially with those States that have significant nuclear activities;
- Assistance by the Agency and Member States to other States on how to conclude and implement safeguards agreements and APs; and
- Reinforced coordination between Member States and the Secretariat in their efforts to promote the conclusion of safeguards agreements and APs.

The latest update of the Agency's Plan of Action is published on the IAEA website<sup>20</sup>.

32. Guided by the relevant resolutions of the General Conference and decisions of the Board of Governors, the Agency's updated Plan of Action and the Agency's Medium Term Strategy<sup>21</sup>, the Secretariat has continued to encourage and facilitate wider adherence to the strengthened safeguards system.

33. In order to facilitate the conclusion and implementation of APs and the implementation of the Board's decision on SQPs, the Secretariat convened three outreach events during the past year: an interregional *Seminar on the Role of State Systems of Accounting for and Control of Nuclear Material in Implementing Safeguards in States with Comprehensive Safeguards Agreements and with Small Quantities Protocols*, conducted in Vienna in February 2008; and two briefings on the conclusion of NPT safeguards agreements and the Agency's strengthened safeguards system, respectively, held in Geneva in May 2008 in the margins of the second session of the Preparatory Committee for the 2010 Review Conference of the Parties to the NPT. In addition, consultations on the amendment of SQPs and the conclusion of APs were held throughout the year with representatives from Member and non-Member States in Geneva, New York and Vienna; during the international course on SSACs for States with SQPs, held in the United States in May 2008; and during the regional technical seminars on AP implementation that were conducted in Gaborone and Sydney in the second half of 2007. At the request of the Government of Vietnam, the Agency co-hosted a national seminar on the AP in Hanoi

<sup>&</sup>lt;sup>18</sup> Algeria, Argentina, Belarus, Brazil, Colombia, DPRK, Egypt, India, Iraq, Islamic Republic of Iran, Israel, Malaysia, Mexico, Morocco, Pakistan, Philippines, Serbia, Syrian Arab Republic, Thailand, United States of America, Venezuela, Vietnam.

<sup>&</sup>lt;sup>19</sup> http://www.iaea.org/OurWork/SV/index.html.

<sup>&</sup>lt;sup>20</sup> http://www.iaea.org/OurWork/SV/Safeguards/sv.html.

<sup>&</sup>lt;sup>21</sup> Contained in document GOV/2005/8.

in July 2007. Overall, the Secretariat held bilateral consultations with over 60 States on the conclusion of safeguards agreements and APs and/or on the amendment of SQPs.