

## Safeguards Statement for 2007

In 2007, safeguards were applied for 163 States with safeguards agreements in force with the Agency. The Secretariat's findings and conclusions for 2007 are reported below with regard to each type of safeguards agreement. These findings and conclusions are based upon an evaluation of all the information available to the Agency in exercising its rights and fulfilling its safeguards obligations for that year.

1. Eighty-two States had both comprehensive safeguards agreements and additional protocols in force:

- (a) For 47 of these States<sup>1</sup>, the Secretariat found no indication of the diversion of declared nuclear material from peaceful nuclear activities and no indication of undeclared nuclear material or activities. On this basis, the Secretariat concluded that, for these States, all nuclear material remained in peaceful activities.
- (b) For 35 of the States, the Secretariat found no indication of the diversion of declared nuclear material from peaceful nuclear activities. Evaluations regarding the absence of undeclared nuclear material and activities for each of these States remained ongoing. On this basis, the Secretariat concluded that, for these States, declared nuclear material remained in peaceful activities.

2. Safeguards activities were implemented for 72 States with comprehensive safeguards agreements in force, but without additional protocols in force<sup>2</sup>. For these States, the Secretariat found no indication of the diversion of declared nuclear material from peaceful nuclear activities. On this basis, the Secretariat concluded that, for these States, declared nuclear material remained in peaceful activities.

The Secretariat concluded that for 2007, declared nuclear material in Iran remained in peaceful activities. Progress was made in resolving outstanding safeguards implementation issues. Verification of the correctness and completeness of Iran's declarations remained ongoing.

3. As of the end of 2007, 30 non-nuclear-weapon States party to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) had not yet brought comprehensive safeguards agreements with the Agency into force as required by Article III of that Treaty. For these States, the Secretariat could not draw any safeguards conclusions.

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<sup>1</sup> And Taiwan, China.

<sup>2</sup> The 72 States do not include the Democratic People's Republic of Korea (DPRK), where the Secretariat did not implement safeguards and, therefore, could not draw any conclusion.

4. Three States had safeguards agreements in force that were concluded pursuant to INFCIRC/66/Rev.2, which require the application of safeguards to nuclear material, facilities and other items specified in the relevant safeguards agreement. For these States, the Secretariat found no indication of the diversion of nuclear material or of the misuse of the facilities or other items to which safeguards were applied. On this basis, the Secretariat concluded that, for these States, nuclear material, facilities or other items to which safeguards were applied remained in peaceful activities.

5. Five nuclear-weapon States had voluntary offer safeguards agreements in force. Safeguards were implemented with regard to declared nuclear material in selected facilities in four of the five States. For these four States, the Secretariat found no indication of the diversion of nuclear material to which safeguards were applied. On this basis, the Secretariat concluded that, for these States, nuclear material to which safeguards were applied in selected facilities remained in peaceful activities or was withdrawn as provided for in the agreements.

## **Background to the Safeguards Statement**

### **1. The Safeguards Conclusions**

1. The Safeguards Statement for 2007 reflects the safeguards conclusions resulting from the implementation of safeguards in accordance with the safeguards agreements concluded by the Agency. The Secretariat derives these conclusions on the basis of an evaluation of the results of the Secretariat's verification activities and of all the safeguards relevant information available to it. This section provides background to the Safeguards Statement. A detailed explanation of the Agency's safeguards system can be found on the Agency's website:

[http://www.iaea.org/OurWork/SV/Safeguards/safeg\\_system.pdf](http://www.iaea.org/OurWork/SV/Safeguards/safeg_system.pdf).

#### **1.1. States with Comprehensive Safeguards Agreements**

2. Under a comprehensive safeguards agreement, the Agency has the right and obligation to ensure that safeguards are applied, in accordance with the terms of the agreement, on all source or special fissionable material in all peaceful nuclear activities within the territory of the State, under its jurisdiction or carried out under its control anywhere, for the exclusive purpose of verifying that such material is not diverted to nuclear weapons or other nuclear explosive devices (paragraph 2 of INFCIRC/153 (Corrected)).

3. Comprehensive safeguards agreements consist of a Part I and a Part II, and definitions. The procedures for implementing the general provisions of Part I are described in Part II. These procedures include the record keeping and reporting obligations of the State with regard to nuclear material, nuclear facilities and locations outside facilities where nuclear material is customarily used (LOFs). They also include provisions related to Agency access to nuclear material, facilities and LOFs.

4. The procedures set out in Part II of a comprehensive safeguards agreement include certain reporting requirements related to the export and import of material containing uranium or thorium which has not reached the stage of the nuclear fuel cycle where its composition and purity is suitable for fuel fabrication or for isotopic enrichment. Nuclear material which has reached that stage of the fuel cycle and any nuclear material produced at a later stage are subject to all the other procedures specified in the agreement. An inventory of such nuclear material is established on the basis of an initial report by a State, verified by the Agency and maintained on the basis of subsequent reports by the State and by Agency verification. The Agency performs its verification activities in order to confirm that the declarations by the State are correct and complete.

5. Many States with minimal or no nuclear activities have concluded a small quantities protocol (SQP) to their comprehensive safeguards agreement. For a State with an operative SQP based on the model set out in Annex B to GOV/INF/276 (22 August 1974), the implementation of most of the safeguards measures provided for in Part II of its comprehensive safeguards agreement is held in abeyance as long as the quantity of nuclear material subject to safeguards does not exceed the limits set out in paragraph 37 of INFCIRC/153 (Corr.) and there is no nuclear material in a facility. In 2005, the Board of Governors approved the modified text of an SQP, which reduces the number of measures held in abeyance and makes an SQP unavailable to a State with an existing or planned facility<sup>3</sup>.

6. While the Agency's authority to verify the correctness and completeness of a State's declarations under its comprehensive safeguards agreement derives from the agreement itself, the tools available to the Agency to do so under such an agreement are limited. The Model Additional Protocol<sup>4</sup> approved by the Board of Governors in 1997 equips the Agency with important supplementary tools which address these limitations by providing the Agency with broader access to information and locations. The measures provided for under an additional protocol significantly increase the Agency's ability to verify the correctness and completeness of a State's declarations under a comprehensive safeguards agreement.

7. To enable the Agency to perform its verification activities effectively and efficiently, the State needs to have complied with the requirements of its safeguards agreements and — if concluded — its additional protocol, including the requirement to establish and maintain a State system of accounting for and control of nuclear material (SSAC).

### **1.1.1. States with Comprehensive Safeguards Agreements and Additional Protocols in Force**

#### **Status of Implementation**

8. As of 31 December 2007, 82 States<sup>5</sup> had both comprehensive safeguards agreements and additional protocols in force<sup>6</sup>. Of these, 30 States had operative SQPs.

9. Safeguards implementation involved, as appropriate, activities carried out in the field and activities carried out at Agency Headquarters in Vienna. The latter activities, carried out for all States in this category, included the evaluation of States' accounting reports and other information required under comprehensive safeguards agreements and additional protocols and the evaluation of safeguards relevant information from other sources. In implementing in-field activities, the Secretariat carried out 1774 inspections and 107 complementary accesses utilizing approximately 12 400 calendar-days in the field for verification (CDFVs)<sup>7</sup> in these States.

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<sup>3</sup> See paragraph 47.

<sup>4</sup> INFCIRC/540 (Corrected), Model Protocol Additional to the Agreement(s) between State(s) and the International Atomic Energy Agency for the Application of Safeguards.

<sup>5</sup> See footnote 1.

<sup>6</sup> Additional protocols to existing comprehensive safeguards agreements entered into force in 2007 for Kazakhstan, Malawi, Mauritius, Niger, Nigeria and The Former Yugoslav Republic of Macedonia. A comprehensive safeguards agreement with an additional protocol entered into force for Burundi.

<sup>7</sup> Calendar-days in the field for verification comprise calendar-days spent in performing inspections or complementary access, inspection travel and rest periods.

## Deriving Conclusions

10. A safeguards conclusion that all nuclear material has remained in peaceful activities in a State is based on the Secretariat's finding that there are no indications of diversion of declared nuclear material from peaceful nuclear activities and no indications of undeclared nuclear material or activities in the State as a whole. The Secretariat draws such a conclusion only where a State has both a comprehensive safeguards agreement and an additional protocol in force and the evaluations described below have been completed.

11. To conclude that there are no indications of diversion of declared nuclear material from peaceful nuclear activities in a State, the Secretariat carries out a comprehensive evaluation of all information available to it. This encompasses the information provided by the State with regard to the design and operation of declared nuclear facilities, the State's nuclear material accounting reports and the results of the Secretariat's inspections carried out in order to verify the State's declarations. In addition, the Secretariat evaluates the information acquired through the implementation of the State's additional protocol.

12. To conclude that there are no indications of undeclared nuclear material and activities in a State, the Secretariat carries out an evaluation of the consistency of the State's declared nuclear programme with the results of its verification activities under the relevant safeguards agreement and additional protocol and with all other information available to the Agency. In order to draw this conclusion the Agency needs to have:

- conducted a comprehensive State evaluation based on all information available to the Agency about the State's nuclear and nuclear-related activities (including declarations submitted under the additional protocol, and information collected by the Agency through its verification activities and from other sources);
- implemented complementary access, as necessary, in accordance with the State's additional protocol; and
- addressed all anomalies, questions and inconsistencies identified in the course of its evaluation and verification activities.

13. When the evaluations described in paragraphs 11 and 12 above have been completed, and no indication has been found by the Secretariat that, in its judgement, would give rise to a possible proliferation concern, the Secretariat can draw the broader conclusion that all nuclear material in a State has remained in peaceful activities. Subsequently, the Secretariat implements an integrated safeguards approach for that State whereby — due to increased assurance of the absence of undeclared nuclear material and activities for the State as a whole — the intensity of inspection activities at declared facilities and LOFs can be reduced.

14. In drawing safeguards conclusions, the Agency evaluates whether the safeguards activities carried out during the year have satisfied certain performance targets. In those cases where integrated safeguards were not implemented for the whole year, the Safeguards Criteria function as the performance targets<sup>8</sup>. Under integrated safeguards — the optimum combination of measures under comprehensive safeguards agreements and additional protocols — the performance targets are those set out in the State-specific integrated safeguards approach approved for each State<sup>9</sup>.

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<sup>8</sup> The Safeguards Criteria specify the activities considered necessary by the Secretariat to provide a reasonable probability of detecting the diversion of a significant quantity of nuclear material from declared facilities and LOFs.

<sup>9</sup> A State-specific integrated safeguards approach, although based on safeguards verification objectives common to all States, takes into account the features of the individual State's nuclear fuel cycle and other relevant State specific factors.

## Overall Conclusions for 2007

15. On the basis of the evaluations described in paragraphs 11 and 12, the Secretariat drew the conclusions referred to in paragraph 1(a) of the Safeguards Statement for 2007 for 47 States<sup>10</sup> — Armenia, Australia, Austria, Bangladesh, Belgium, Bulgaria, Canada, the Czech Republic, Chile, Croatia, Cuba, Denmark<sup>11</sup>, Ecuador, Estonia, Finland, Ghana, Greece, the Holy See, Hungary, Indonesia, Ireland, Italy, Jamaica, Japan, Jordan, Kuwait, Latvia, Lithuania, Luxembourg, Mali, Malta, Monaco, the Netherlands<sup>12</sup>, New Zealand, Norway, Palau, Peru, Poland, Portugal, the Republic of Korea, Romania, Slovakia, Slovenia, Spain, Sweden, Uruguay and Uzbekistan. For 15 of these States — Armenia, Belgium, Cuba, Denmark, Estonia, Finland, Italy, Malta, the Netherlands, Palau, the Republic of Korea, Slovakia, Spain, Sweden, and Uruguay — the conclusion in paragraph 1(a) of the Safeguards Statement was drawn for the first time.

16. Because the evaluation process described in paragraph 12 had not yet been completed for 35 States, the conclusion drawn for these States related only to declared nuclear material in peaceful activities. The conclusion in paragraph 1(b) was drawn for the following States: Afghanistan, Azerbaijan, Botswana, Burkina Faso, Burundi, Cyprus, the Democratic Republic of the Congo, El Salvador, Fiji, Georgia, Germany, Haiti, Iceland, Kazakhstan, the Libyan Arab Jamahiriya, Madagascar, Malawi, the Marshall Islands, Mauritius, Mongolia, Nicaragua, Niger, Nigeria, Panama, Paraguay, the Seychelles, South Africa, Switzerland, Tajikistan, The Former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Uganda, Ukraine, and the United Republic of Tanzania.

### 1.1.2. States with Comprehensive Safeguards Agreements but no Additional Protocols in Force

#### Status of Implementation

17. As of 31 December 2007, safeguards were implemented for 72 States<sup>13</sup> in this category, 49 of which had operative SQPs. Safeguards implementation involved activities in the field and at Headquarters, including the evaluation of States' accounting reports and other information required under comprehensive safeguards agreements and the evaluation of safeguards relevant information from other sources. The Secretariat carried out 204 inspections utilizing approximately 1620 CDFVs in the States of this category.

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<sup>10</sup> See footnote 1.

<sup>11</sup> This conclusion is drawn only with respect to that part of Denmark which is covered by INFCIRC/193 and INFCIRC/193/Add.8, i.e. Denmark and the Faroe Islands, which excludes Greenland. Denmark has concluded a separate comprehensive safeguards agreement for Greenland (INFCIRC/176), but has not yet concluded an additional protocol thereto. Denmark is encouraged to conclude an additional protocol in connection with INFCIRC/176 so that a broader conclusion can be drawn for the territory covered by that agreement.

<sup>12</sup> This conclusion is drawn only with respect to that part of the Netherlands which is covered by INFCIRC/193 and INFCIRC/193/Add.8, i.e. the Netherlands in Europe, which excludes the Netherlands Antilles and Aruba. The Netherlands has concluded a separate comprehensive safeguards agreement for the Netherlands Antilles and Aruba (INFCIRC/229), but has not yet concluded an additional protocol thereto. The Netherlands is encouraged to conclude an additional protocol in connection with INFCIRC/229 so that a broader conclusion can be drawn for the territories covered by that agreement.

<sup>13</sup> See footnote 2.

## Deriving Conclusions

18. For a State with a comprehensive safeguards agreement alone, the Agency's right and obligation are as described in paragraph 2 above. Although safeguards strengthening measures under such an agreement<sup>14</sup> have somewhat increased the Agency's ability to detect undeclared nuclear material and activities, the activities that the Agency may conduct in this regard are limited for a State without an additional protocol. Thus, the Safeguards Statement for a State with a comprehensive safeguards agreement alone relates only to the non-diversion of declared nuclear material from peaceful activities.

19. In the course of its evaluation, the Agency also seeks to determine whether there is any indication of undeclared nuclear material or activities in the State which would need to be reflected in the Safeguards Statement. However, the measures provided for in the Model Additional Protocol remain essential for the Agency to provide credible assurance of the absence of undeclared nuclear material and activities for the State as a whole.

## Overall Conclusions for 2007

20. On the basis of the evaluation performed and as reflected in paragraph 2 of the Safeguards Statement, the Secretariat concluded that for the 72 States referred to in paragraph 17 above, declared nuclear material remained in peaceful activities. This conclusion was drawn for Albania, Algeria, Antigua and Barbuda, Argentina, the Bahamas, Barbados, Belarus, Belize, Bhutan, Bolivia, Bosnia and Herzegovina, Brazil, Brunei Darussalam, Cambodia, Cameroon, Colombia, Costa Rica, Côte d'Ivoire, Dominica, the Dominican Republic, Egypt, Ethiopia, Gambia, Grenada, Guatemala, Guyana, Honduras, the Islamic Republic of Iran, Iraq, Kiribati, Kyrgyzstan, the Lao People's Democratic Republic, Lebanon, Lesotho, Liechtenstein, Malaysia, the Maldives, Mexico, Morocco, Myanmar, Namibia, Nauru, Nepal, Oman, Papua New Guinea, the Philippines, the Republic of Moldova, Saint Kitts & Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, San Marino, Senegal, Serbia, Singapore, the Solomon Islands, Sri Lanka, Sudan, Suriname, Swaziland, the Syrian Arab Republic, Thailand, Tonga, Trinidad and Tobago, Tunisia, Tuvalu, the United Arab Emirates, Bolivarian Republic of Venezuela, Vietnam, Yemen, Zambia and Zimbabwe.

### 1.2. States with no Safeguards Agreements in Force

21. As of 31 December 2007, 30 non-nuclear-weapon States party to the NPT had yet to bring comprehensive safeguards agreements into force pursuant to the Treaty.

## Overall Conclusions for 2007

22. As indicated in paragraph 3 of the Safeguards Statement, the Secretariat could not draw any safeguards conclusions for the referenced States. These States are: Andorra, Angola, Bahrain, Benin, Cape Verde, the Central African Republic, Chad, Comoros, the Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Gabon, Guinea, Guinea-Bissau, Kenya, Liberia, Mauritania, the Federated States of Micronesia, Montenegro, Mozambique, Qatar, Rwanda, São Tome and Príncipe, Saudi Arabia, Sierra Leone, Somalia, Timor Leste, Togo and Vanuatu.

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<sup>14</sup> Such measures include the early provision of design information, environmental sampling and the use of satellite imagery.

### **1.3. States with Safeguards Agreements based on INFCIRC/66/Rev.2**

23. Under safeguards agreements based on INFCIRC/66/Rev.2, the Agency applies safeguards in order to ensure that nuclear material, facilities and other items specified under the safeguards agreement are not used for the manufacture of any nuclear weapon or to further any military purpose, and that such items are used exclusively for peaceful purposes and are not used for the manufacture of any nuclear explosive device.

#### **Status of Implementation**

24. As of 31 December 2007, safeguards agreements based on INFCIRC/66/Rev.2 were implemented at a number of facilities in India, Israel and Pakistan. None of these States had concluded an additional protocol with the Agency. The Secretariat carried out 45 inspections utilizing approximately 480 CDFVs in these States.

#### **Deriving Conclusions**

25. The conclusion described in paragraph 4 of the Safeguards Statement is reported collectively for these three States, and relates to the nuclear material, facilities and other items to which safeguards were applied. To draw such a conclusion in respect of these States, the Agency evaluates all safeguards relevant information available, including verification results and information about facility design features and facility operations.

#### **Overall Conclusions for 2007**

26. On the basis of the results of its verification and evaluation activities, the Secretariat concluded that nuclear material, facilities or other items to which safeguards were applied in India, Israel and Pakistan remained in peaceful activities.

### **1.4. States with Voluntary Offer Agreements**

27. Under a voluntary offer agreement, the Agency applies safeguards to nuclear material in those facilities which have been selected by the Agency from the State's list of eligible facilities in order to verify that the material is not withdrawn from peaceful activities except as provided for in the agreement. In selecting facilities under voluntary offer agreements for the application of safeguards, the Agency takes into consideration factors such as: (i) whether the selection of a facility would satisfy legal obligations arising from other agreements concluded by the State; (ii) whether useful experience may be gained in implementing new safeguards approaches or in using advanced equipment and technology; and (iii) whether the cost-efficiency of Agency safeguards may be enhanced by applying safeguards, in the exporting State, to nuclear material being shipped to States with comprehensive safeguards agreements in force.

#### **Status of Implementation**

28. As of 31 December 2007, safeguards were implemented at facilities selected by the Agency in four of the five States with voluntary offer safeguards agreements in force: China, France, the United Kingdom of Great Britain and Northern Ireland (United Kingdom) and the United States of America. Safeguards activities in the Russian Federation were limited to the evaluation of accounting reports on the export and import of nuclear material since no facilities were selected in 2007 from Russia's list of eligible facilities. All five of these States have signed additional protocols with the Agency; by the end of 2007, additional protocols were in force for China, France, the Russian Federation and the United Kingdom. The Secretariat carried out 86 safeguards inspections utilizing approximately 720 CDFVs in order to verify declared nuclear material in the facilities selected in these States.

## Deriving Conclusions

29. The conclusion contained in paragraph 5 of the Safeguards Statement is reported for the four nuclear-weapon States in which safeguards were applied to nuclear material in selected facilities. To draw the safeguards conclusion, the Agency evaluates all relevant information, including verification results and information about facility design features and operations.

## Overall Conclusions for 2007

30. On the basis of the results of its verification and evaluation activities the Secretariat concluded for China, France, the United Kingdom and the United States of America that nuclear material to which safeguards were applied in selected facilities remained in peaceful activities or was withdrawn as provided for in the agreements. In two of these States there were no such withdrawals from the selected facilities.

### 1.5. Republic of Korea

31. Following Agency enquiries, in 2004 the Republic of Korea (ROK) disclosed to the Agency past undeclared activities, as reported to the Board in November 2004<sup>15</sup> and in the Safeguards Implementation Report for 2004<sup>16</sup>.

32. On 23 August 2004, in its initial declaration pursuant to its additional protocol<sup>17</sup>, the ROK declared that laboratory scale experiments on uranium enrichment using atomic vapour laser isotope separation (AVLIS) had been previously carried out without having been reported to the Agency. Also, the ROK acknowledged past undeclared experiments which involved uranium conversion, chemical enrichment of uranium, and fuel irradiation followed by an experiment involving the separation of plutonium. These activities should have been reported to the Agency in accordance with the ROK's obligations under its safeguards agreement<sup>18</sup>.

33. Following the disclosure of these activities, the Secretariat established and implemented an action plan for the verification of the correctness and completeness of the ROK's declarations, including clarification of the extent of past undeclared activities. During this process, the ROK took all necessary corrective action pursuant to its reporting obligations. In order to further assist the Agency in clarifying past undeclared activities, the ROK also provided the Agency with information such as logbooks, operating records, project proposals, project progress reports and audit reports. In addition, the ROK provided the Agency with access to personnel and locations. The Agency was able to clarify all issues relating to past undeclared activities.

34. On the basis of all actions taken, and results achieved, including those from the analysis of environmental samples and other samples taken from various locations in the ROK, the Agency considers all past undeclared activities involving uranium enrichment (AVLIS and CHEMEX), conversion and plutonium separation experiments as resolved.

35. For 2007, the Agency found no indication of the diversion of declared nuclear material, and no indication of undeclared nuclear material and activities in the ROK. Therefore, the Agency was able to conclude for the ROK that all nuclear material remained in peaceful activities.

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<sup>15</sup> GOV/2004/84.

<sup>16</sup> GOV/2005/32, paragraphs 35-37.

<sup>17</sup> The additional protocol is reproduced in document INFCIRC/236/Add.1.

<sup>18</sup> The safeguards agreement is reproduced in document INFCIRC/236.

## 1.6. Islamic Republic of Iran

36. During 2007, the Director General submitted four reports to the Board of Governors on the implementation of Iran's comprehensive safeguards agreement (GOV/2007/8, 22, 48 (Corr.1) and 58). Pursuant to this agreement, Iran continued to provide the Agency with access to declared nuclear material and facilities, and provided the required nuclear material accounting reports in connection with such material and facilities. Iran also concluded a facility attachment for the fuel enrichment plant at Natanz. However, in 2007, the Agency did not receive the type of information that Iran had previously been providing pursuant to its additional protocol and as transparency measures<sup>19</sup>.

37. In March 2007, Iran suspended the implementation of the modified Code 3.1 of its subsidiary arrangements to its comprehensive safeguards agreement with regard to the early provision of design information.

38. On 21 August 2007, agreement was reached on a work plan for resolving seven outstanding safeguards implementation issues with regard to Iran's past nuclear activities<sup>20</sup>. By the end of 2007, the Agency was able to conclude that the statements by Iran with regard to its plutonium experiments were not inconsistent with the Agency's findings, and that its statements with regard to its declared past P-1 and P-2 centrifuge programmes were consistent with the Agency's findings. The Agency also received a copy of the uranium metal document. As a consequence, the Agency considered these three actions from the work plan as no longer outstanding at this stage. However, the Agency will continue, in accordance with its procedures and practices, to seek corroboration of its findings and to verify these issues as part of its verification of the completeness of Iran's declarations<sup>21</sup>.

39. The Agency was able to verify the non-diversion of the declared nuclear material in Iran in 2007. However, the Agency was not in a position to draw a conclusion and provide credible assurance regarding the absence of undeclared nuclear material and activities in Iran.

40. On 24 March 2007, the United Nations Security Council adopted resolution 1747, in which it re-affirmed that "Iran shall without further delay take the steps required" by the Board in resolution GOV/2006/14 and affirmed its decision in Security Council resolution 1737 (2006) that Iran suspend all enrichment related and reprocessing activities, including research and development, and also suspend work on all heavy water related projects, including the construction of a heavy water moderated research reactor. Also, the Security Council requested a report from the Director General of the Agency<sup>22</sup>.

41. In 2007, Iran continued with the operation of the pilot fuel enrichment plant and the construction and operation of the fuel enrichment plant at Natanz. Construction of the heavy water research reactor at Arak and operation of the heavy water production plant were also continuing at the end of 2007. There were no indications of reprocessing related activities at any declared facilities in Iran in 2007.

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<sup>19</sup> See paragraph 39 of GOV/2007/58.

<sup>20</sup> GOV/2007/48.

<sup>21</sup> As reported in GOV/2008/4, by the end of January 2008, the Agency was able to conclude that the statements by Iran with respect to HEU contamination were not inconsistent with the Agency's findings and that its statements with regard to the polonium-210 experiments and the Gchine mine were consistent with the Agency's findings. The one major remaining issue is the alleged studies on the green salt project, high explosives testing and the missile re-entry vehicle.

<sup>22</sup> That report (GOV/2007/22) was submitted on 23 May 2007.

## **1.7. Democratic People's Republic of Korea**

42. Since December 2002, the Agency has not implemented safeguards in the Democratic People's Republic of Korea (DPRK) and, therefore, cannot draw any safeguards conclusion.

43. In March 2007, pursuant to a request from the States in the Six-Party talks process and at the invitation of the DPRK, the Director General, along with a team of Agency experts, visited the DPRK. Following this visit, and subsequent expert level consultations, the Agency agreed with the DPRK on monitoring and verification arrangements related to the shutdown of the Yongbyon nuclear facility<sup>23</sup>.

44. On 17 July 2007, the Agency confirmed the shutdown status of the following installations at the Yongbyon nuclear facility: the Nuclear Fuel Fabrication Plant; the Radiochemical Laboratory (the reprocessing plant); the 5 MW(e) Experimental Nuclear Power Plant; and the 50 MW(e) Nuclear Power Plant. The Agency also confirmed the shutdown status of the 200 MW(e) Nuclear Power Plant in Taechon. As of 31 December 2007, these installations remained shut down.

45. On 4 November 2007, the DPRK started the disablement of the Yongbyon nuclear facilities. The Agency was able to observe and document the disabling work, including the 5 MW(e) Experimental Nuclear Power Plant core discharge activities, while conducting facility monitoring activities. The spent fuel rods from the 5 MW(e) reactor were measured by the Agency upon discharge. These fuel rods, and the remaining items in the reactor core, are under Agency containment and surveillance (C/S). The nuclear material which has been generated during the disabling activities at the Nuclear Fuel Fabrication Plant also remains under Agency C/S.

## **2. Factors affecting the Effectiveness of the Safeguards System**

### **Additional Protocols**

46. The implementation of the provisions of the Model Additional Protocol is essential to strengthen the effectiveness and improve the efficiency of the safeguards system. As of the end of the year, 77 of the 163 States with safeguards agreements in force did not have additional protocols in force or being otherwise applied. One of the greatest challenges for the Agency is to be able to detect undeclared nuclear material and activities. For States with a comprehensive safeguards agreement but no additional protocol in force, the Agency's ability to do so is limited.

### **Small Quantities Protocols**

47. In accordance with the decision taken by the Board on 20 September 2005, the Secretariat initiated, with relevant SQP States, exchanges of letters to give effect to the modifications in the standard text and the change in the SQP criteria referred to in the Director General's report to the Board of Governors in 2005. During 2007, SQPs were amended to reflect the modified text for four States: the Bahamas, Costa Rica, Honduras and Lebanon. A non-operational SQP was rescinded with Morocco. A comprehensive safeguards agreement with an SQP based on the revised standardized text entered into force for Burundi. At the end of 2007, there were 69 States with safeguards agreements in force having operative SQPs requiring amendment in accordance with the decision taken by the Board in September 2005.

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<sup>23</sup> GOV/2007/36.

### **3. Strengthening the Effectiveness and Improving the Efficiency of Safeguards**

48. In 2007, further progress was made in strengthening the effectiveness and improving the efficiency of Agency safeguards. Enhancements were made to the implementation of integrated safeguards, the development of safeguards approaches, procedures and technology, cooperation with State and regional systems of accounting for and control of nuclear material (SSACs/RSACs), training and quality management.

49. Integrated safeguards were implemented during the whole of 2007 in Australia, Bangladesh, Bulgaria, Canada, Ghana, Hungary, Indonesia, Japan, Latvia, Norway, Peru, Poland, Slovenia and Uzbekistan. During 2007, integrated safeguards implementation was initiated in the Czech Republic, Ecuador, Jamaica, Lithuania, Mali and Romania. In addition, integrated safeguards approaches were developed and approved for Austria, Greece, Ireland and Portugal.

50. The Agency continued to install digital surveillance systems and unattended monitoring systems and to expand remote monitoring capabilities. Significant resources were spent in 2007 to upgrade and maintain the installed systems so as to ensure surveillance reliability. By the end of the year, 146 installed surveillance or radiation monitoring systems authorized for inspection use had remote monitoring capabilities.

51. In 2007, the Secretariat continued to analyse safeguards relevant information on possible covert nuclear trade. The procurement outreach programme, launched in 2006, is the mechanism the Agency is using for gathering safeguards-relevant information provided to it, on a voluntary basis, on 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 indications, thus strengthening the safeguards State evaluation process.

52. The effectiveness and efficiency of Agency safeguards depend, to a large extent, on the effectiveness of SSACs and RSACs, and on the level of their cooperation with the Agency. The Secretariat continued to work with SSACs and RSACs on safeguards implementation issues such as the quality of operators' systems for the measurement of nuclear material, the timeliness and accuracy of State reports and declarations, and support for the Agency's verification activities. Emphasis was placed on training and on the implementation of Agency assistance programmes such as the IAEA SSAC Advisory Service (ISSAS).

53. The Standing Advisory Group on Safeguards Implementation (SAGSI) held two plenary meetings in 2007. The main safeguards implementation issues considered by SAGSI were the State evaluation process; the physical model and its use in information analysis and in trade and technology analysis; the 20/20 Vision study and long term strategic planning; and proliferation resistance and its impact on safeguards.

54. The Advisory Committee on Safeguards and Verification within the Framework of the IAEA Statute (Committee 25) met twice in 2007 and concluded its work of considering ways and means to strengthen the Agency's safeguards system. The documentation and clarification provided by the Secretariat at the request of the Committee described measures to improve the effectiveness and efficiency of the Agency's safeguards system in several areas and aimed at increasing the Member States' understanding and awareness in this regard. In June 2007, the Chair of the Committee presented a report (GOV/2007/27) on its conclusions to the Board of Governors and the Board took note of it.

#### **4. Safeguards Expenditures and Resources**

55. In 2007, safeguards expenditure from the Safeguards Regular Budget amounted to €10.6 million (including expenditures of €8.4 million which were funded from the 2006 budget carried over to 2007). In addition, €2.8 million (US \$18.1 million) was spent from voluntary contributions received from Member States. Regular Budget implementation for Major Programme 4 was 98%, whereby €1.9 million remained unspent at the end of 2007 due to delays in some projects. Significant additional resources are required to address urgent needs, including the replacement of equipment and upgrading of infrastructure at the Safeguards Analytical Laboratory at Seibersdorf, and to offset the reduction in value of extrabudgetary contributions due to the decline in value of the US dollar against the euro.

#### **5. Further Activities supporting the Nuclear Non-Proliferation Regime**

56. The Secretariat continued to experience difficulties in obtaining information directly from States under the monitoring scheme approved by the Board of Governors in 1999 regarding separated neptunium and americium. More consistent reporting by States in this regard would improve the Agency's ability to assess the quantities of separated neptunium and americium and the associated proliferation risk. However, progress was made in the implementation of flow-sheet verification. As of the end of 2007, evaluation of the information that had been obtained under the monitoring scheme and from open and other sources had not indicated any issue of proliferation concern.

57. In 2007, the Agency continued to receive reports from Member States on incidents involving illicit trafficking in nuclear and other radioactive material. Thirteen events were reported to have occurred in 2007 involving relatively small amounts of nuclear material.

58. The Secretariat continued to support the Agency's International Project on Innovative Reactors and Fuel Cycles (INPRO) and the Generation IV International Forum (GIF) Proliferation Resistance and Physical Protection (PR&PP) Expert Group. Contributions were made to the development and testing of assessment methodologies to evaluate innovative nuclear energy systems, with proliferation resistance as an important component. In 2007, additional guidance on use of the INPRO methodology in the form of an INPRO manual was completed and the manual was approved for publication.