

Safeguards Statement for 2008

In 2008, safeguards were applied for 163 States with safeguards agreements in force with the Agency. The Secretariat's findings and conclusions for 2008 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-four States had both comprehensive safeguards agreements and additional protocols in force:

- (a) For 51 of these States¹, 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 33 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 70 States with comprehensive safeguards agreements in force, but without additional protocols in force². 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 2008, declared nuclear material in Iran remained in peaceful activities. Verification of the correctness and completeness of Iran's declarations remained ongoing.

3. As of the end of 2008, 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.

¹ And Taiwan, China.

² The 70 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 based on 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 had been applied. On this basis, the Secretariat concluded that, for these States, nuclear material, facilities or other items to which safeguards had been 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 had been applied. On this basis, the Secretariat concluded that, for these States, nuclear material to which safeguards had been applied in selected facilities remained in peaceful activities or had been withdrawn from safeguards as provided for in the agreements.

Background to the Safeguards Statement and Summary

1. The Safeguards Conclusions

1. The Safeguards Statement for 2008 reflects the safeguards conclusions resulting from the Agency's activities under the safeguards agreements in force. The Secretariat derives these conclusions on the basis of an evaluation of the results of its verification activities and of all the safeguards relevant information available to it. This section provides background to the Safeguards Statement. A detailed description of the Agency's safeguards system can be found on the Agency's website: http://www.iaea.org/OurWork/SV/Safeguards/safeg_system.pdf. A summary of the status of States' safeguards agreements and other information presented below is given in Tables 1 to 5 in Section B.7.

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 nuclear 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 devices³.

3. Comprehensive safeguards agreements consist of Part I, Part II, and Definitions. Part I consists of general provisions and Part II describes the procedures for implementing those provisions. 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 procedures 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 yet reached the stage of processing where its composition and purity make it suitable for fuel fabrication or for isotopic enrichment. Nuclear material which has reached that stage of processing, and any nuclear material produced at a later stage, is 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 these declarations by the State are correct and complete — i.e. to confirm the peaceful use of all nuclear material in the State.

³ Paragraph 2 of INFCIRC/153 (Corrected).

Small Quantities Protocols

5. Many States with minimal or no nuclear activities have concluded a small quantities protocol (SQP) to their comprehensive safeguards agreement. Under an SQP based on the original standard text submitted to the Board of Governors in 1974⁴, the implementation of most of the safeguards procedures in Part II of a State's comprehensive safeguards agreement are held in abeyance as long as certain criteria are met. In 2005, the Board of Governors approved the revision of the standard text of the SQP⁵. This revision changed the eligibility criteria for an SQP, making it unavailable to a State with an existing or planned facility, and reduced the number of measures held in abeyance.

Additional Protocols

6. Although the Agency has the authority under a comprehensive safeguards agreement to verify the peaceful use of all nuclear material in a State (i.e. the correctness and completeness of the State's declarations), the tools available to the Agency under such an agreement are limited. The Model Additional Protocol⁶, approved by the Board of Governors in 1997, equips the Agency with important supplementary tools which provide the Agency with broader access to information and locations. The measures provided for under an additional protocol thus significantly increase the Agency's ability to verify the peaceful use of all nuclear material in a State with a comprehensive safeguards agreement.

State Systems of Accounting and Control

7. To enable the Agency to perform its verification activities effectively and efficiently, States need to comply with the requirements of their safeguards agreements and additional protocols. Of particular importance is the requirement under a comprehensive safeguards agreement to establish and maintain a State system of accounting for and control of nuclear material (SSAC). The effectiveness of SSACs, and the extent of their cooperation with the Agency, has a direct bearing on the effectiveness and efficiency of Agency safeguards.

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

Status of Implementation

8. As of 31 December 2008, 84 States⁷ had both comprehensive safeguards agreements and additional protocols in force. Of these, 44 States⁸ had significant nuclear activities.

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 1691 inspections, 473 design information

⁴ GOV/INF/276/Annex B.

⁵ GOV/INF/276/Mod.1 and Corr.1.

⁶ INFCIRC/540 (Corrected), Model Protocol Additional to the Agreement(s) between State(s) and the International Atomic Energy Agency for the Application of Safeguards.

⁷ See footnote 1.

⁸ See footnote 1.

verifications (DIVs) and 122 complementary accesses utilizing approximately 11 359 calendar-days in the field for verification (CDFVs)⁹ in these States.

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 ascertain that there are no indications of diversion of declared nuclear material from peaceful nuclear activities in a State, the Secretariat needs to carry 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 ascertain that there are no indications of undeclared nuclear material and activities in a State, the Secretariat needs to carry 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 particular, 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);
- performed 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 targets¹⁰. Under integrated safeguards — an optimized combination of measures under comprehensive safeguards agreements and additional

⁹ Calendar-days in the field for verification comprise calendar-days spent in performing inspections or complementary access, design information verification, inspection travel and rest periods.

¹⁰ 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.

protocols — the performance targets are those set out in the State-specific integrated safeguards approach approved for each State¹¹.

Overall Conclusions for 2008

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 2008 for 51 States¹² — Armenia, Australia, Austria, Bangladesh, Belgium, Bulgaria, Burkina Faso, Canada, Chile, Croatia, Cuba, the Czech Republic, Denmark¹³, Ecuador, Estonia, Finland, Germany, Ghana, Greece, the Holy See, Hungary, Indonesia, Ireland, Italy, Jamaica, Japan, Jordan, Kuwait, Latvia, Libya¹⁴, Lithuania, Luxembourg, Madagascar, Mali, Malta, Monaco, the Netherlands¹⁵, New Zealand¹⁶, Norway, Palau, Peru, Poland, Portugal, the Republic of Korea, Romania, Slovakia, Slovenia, Spain, Sweden, Uruguay and Uzbekistan. For 4 of these States — Burkina Faso, Germany, the Libyan Arab Jamahiriya and Madagascar — 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 33 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 Afghanistan, Azerbaijan, Botswana, Burundi, Cyprus, the Democratic Republic of the Congo, El Salvador, Fiji, Georgia, Guatemala, Haiti, Iceland, Kazakhstan, Malawi, the Marshall Islands, Mauritius, Mongolia, Nicaragua, Niger, Nigeria, Panama, Paraguay, the Seychelles, Singapore, South Africa, Switzerland, Tajikistan, The Former Yugoslav Republic of Macedonia, Turkey, Turkmenistan, Uganda, Ukraine, and the United Republic of Tanzania.

¹¹ 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.

¹² See footnote 1.

¹³ This conclusion is drawn with regard to only 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.

¹⁴ The Agency reported Libya to the Board of Governors for the first time in 2003 and several progress reports were submitted thereafter. The latest report (GOV/2008/39) includes the Agency's assessment that the issues which had been reported to the Board were no longer outstanding.

¹⁵ This conclusion is drawn with regard to only 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.

¹⁶ This conclusion is drawn with regard to only that part of New Zealand which is covered by INFCIRC/185 and INFCIRC/185/Add.1; it is not drawn for the Cook Islands and Niue, which are covered by INFCIRC/185, but not by INFCIRC/185/Add.1.

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

Status of Implementation

17. As of 31 December 2008, safeguards were implemented for 70 States¹⁷ in this category, 17 of which had significant nuclear activities. 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 212 inspections and 143 DIVs utilizing approximately 1595.5 CDFVs in the States of this category.

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 agreement¹⁸ 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, without the measures provided for in the Model Additional Protocol being implemented, the Agency is not able to provide credible assurance of the absence of undeclared nuclear material and activities for the State as a whole.

Overall Conclusions for 2008

20. On the basis of the evaluation performed and as reflected in paragraph 2 of the Safeguards Statement, the Secretariat concluded that for the 70 States¹⁹ 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, 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, the Solomon Islands, Sri Lanka, Sudan, Suriname, Swaziland, the Syrian Arab Republic, Thailand, Tonga, Trinidad and Tobago, Tunisia, Tuvalu, the United Arab Emirates, the Bolivarian Republic of Venezuela, Vietnam, Yemen, Zambia and Zimbabwe.

¹⁷ See footnote 2.

¹⁸ Such measures include the early provision of design information, environmental sampling and the use of satellite imagery.

¹⁹ In addition, this conclusion is drawn for those territories of Denmark, the Netherlands and New Zealand referred to in footnotes 13, 15 and 16 for which the broader conclusion is not drawn – i.e. Greenland; the Netherlands Antilles and Aruba; and the Cook Islands and Niue respectively.

1.2. States with no Safeguards Agreements in Force

21. As of 31 December 2008, 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 2008

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, Comoros²⁰, the Republic of the Congo, Djibouti, Equatorial Guinea, Eritrea, Gabon, Guinea, Guinea-Bissau, Kenya, Liberia, Mauritania, the Federated States of Micronesia, Montenegro, Mozambique, Qatar²¹, Rwanda, São Tome and Principe, Saudi Arabia²², Sierra Leone, Somalia, Timor-Leste, Togo and Vanuatu.

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 2008, 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. In 2008, the Board of Governors approved an INFCIRC/66/Rev.2-type safeguards agreement for India for the application of safeguards with respect to India's civilian nuclear facilities. The Secretariat carried out 47 inspections and 13 DIVs utilizing approximately 435 CDFVs in these States.

Deriving Conclusions

25. The conclusion described in paragraph 4 of the Safeguards Statement is reported 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 operations.

Overall Conclusions for 2008

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.

²⁰ A comprehensive safeguards agreement with a modified SQP entered into force for Comoros on 20 January 2009.

²¹ A comprehensive safeguards agreement with a modified SQP entered into force for Qatar on 21 January 2009.

²² A comprehensive safeguards agreement with an SQP entered into force for Saudi Arabia on 13 January 2009.

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 2008, 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 and additional protocol declarations, since no facilities were selected in 2008 from Russia's list of eligible facilities. By the end of 2008, additional protocols were in force²³ for China, France, the Russian Federation and the United Kingdom. The Secretariat carried out 85 inspections and 11 DIVs utilizing approximately 732 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 2008

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 had been applied in selected facilities remained in peaceful activities or had been withdrawn as provided for in the agreements. In three of these States there were no such withdrawals from the selected facilities.

1.5. Islamic Republic of Iran

31. During 2008, the Director General submitted four reports to the Board of Governors on the implementation of Iran's comprehensive safeguards agreement and relevant provisions of United Nations Security Council resolutions (GOV/2008/4, GOV/2008/15, GOV/2008/38 and GOV/2008/59). Iran provided the Agency with access to declared nuclear material and provided the required nuclear material accounting reports in connection with declared nuclear material and facilities. The Agency was able to verify the non-diversion of the declared nuclear material in Iran in 2008.

²³ An additional protocol with the United States of America entered into force on 6 January 2009.

32. Since March 2007, Iran has not implemented the modified text of its Subsidiary Arrangements General Part, Code 3.1, on the early provision of design information. Iran has continued to object to the Agency's carrying out of design information verification (DIV) at the Iran Nuclear Research Reactor (IR-40) and did not permit the Agency to carry out the DIV scheduled for October 2008 at that facility.

33. In 2008, Iran and the Agency continued to address issues related to Iran's past nuclear activities. At the end of 2008, there remained a number of outstanding issues that need to be clarified since they give rise to concern about possible military dimensions to Iran's nuclear programme. These issues relate to the alleged studies on the green salt project, high explosives testing and the design of a missile re-entry vehicle; the circumstances of the acquisition of the uranium metal document; procurement and research and development (R&D) activities of military related institutes and companies that could be nuclear related; and the production of nuclear equipment and components by companies belonging to defence industries. Iran has not provided substantive information or access to relevant documentation, locations or individuals that would have allowed the Agency to make progress on these issues.

34. Unless Iran implements the above transparency measures and the Additional Protocol, as required by the Security Council, the Agency will not be in a position to provide credible assurance about the absence of undeclared nuclear material and activities in Iran.

35. Contrary to the decisions of the United Nations Security Council, Iran did not implement the additional protocol and did not suspend its enrichment related activities in 2008, having continued with the operation of the Pilot Fuel Enrichment Plant and the construction and operation of the Fuel Enrichment Plant at Natanz. Iran also continued its work on heavy water related projects, including the construction of a heavy water moderated research reactor at Arak. There was no indication of reprocessing related activities at any declared facilities in Iran in 2008.

1.6. Syrian Arab Republic

36. In November 2008, the Director General submitted a report to the Board of Governors on the implementation of the NPT safeguards agreement in Syria.

37. In April 2008, the Agency was provided with information alleging that an installation destroyed by Israel at Dair Alzour in Syria in September 2007 had been a nuclear reactor under construction. According to this information, the reactor was not yet operational and no nuclear material had been introduced into it. In June 2008, the Agency held discussions with Syria in Damascus and visited the Dair Alzour site, where it took environmental samples. Syria informed the Agency that the Dair Alzour site was a military site and was not involved in any nuclear activities.

38. In 2008, the Agency analysed all information available to it as a result of the visit to the Dair Alzour site and its discussions with Syria and also analysed information from other sources.

39. As indicated in the report, while it cannot be excluded that the destroyed building was intended for non-nuclear use, the features of the building, along with the connectivity of the site to adequate pumping capacity of cooling water, were similar to what may be found in connection with a reactor site. By the end of 2008, Syria had not provided the requested documentation in support of its declarations concerning the nature or function of the destroyed building.

40. Analysis of environmental samples from the Dair Alzour site revealed a significant number of natural uranium particles. The analysis indicated that the uranium was anthropogenic, i.e. had been produced as a result of chemical processing. By the end of 2008, the Agency was still investigating Syria's explanations about the possible origin of the uranium particles and had requested Syria to provide further access to the Dair Alzour site and any other locations where the debris and equipment from the building had been stored, for the purpose of taking samples. Also, the Agency suggested — as a matter of transparency — a visit to three other locations that might help it in its verification activities. At the end of 2008, the Agency's verification work in Syria was continuing.

41. For 2008, the Agency found no indication of the diversion of declared nuclear material in Syria. Therefore, the Agency was able to conclude for Syria that all declared nuclear material remained in peaceful activities.

1.7. Arab Republic of Egypt

42. Following Agency enquiries, Egypt, between 2004 and 2005, disclosed past undeclared nuclear activities and material to the Agency, as reported to the Board in February 2005 and in the Safeguards Implementation Report for 2005. The results of the Agency's investigation since the issuance of these reports, and the Agency's current assessment thereof, are described below.

43. Between 2004 and 2006, Egypt made available to the Agency nuclear material that it had failed to report. Egypt characterized and provided information about the material and submitted design information for three additional facilities located at the Nuclear Research Centre of Inshas (the Nuclear Chemistry Building, the Hydrometallurgy Pilot Plant, and the Radioisotope Production Facility). Egypt also gave the Agency access to information, such as logbooks and operating records, and access to personnel and locations related to its conversion and irradiation experiments and its preparatory activities related to reprocessing.

44. The Agency was informed in 2004 by Egypt's SSAC, the Atomic Energy Authority (AEA), that it did not have the authority necessary for it to exercise effective control of all nuclear material and activities in the State. A Presidential Decree was issued in May 2006 to redefine the AEA's authority. Ministerial Decrees were issued in October 2006 for the practical implementation of the Presidential Decree. The AEA then undertook a State-wide investigation of its nuclear material holdings, during which additional, previously unreported, nuclear material was identified, including several depleted uranium items for which Egypt subsequently provided accounting reports.

45. The Agency has received relevant nuclear material accounting reports, and has been able to verify all declared nuclear material in Egypt. Egypt has also clarified issues relating to its past undeclared activities carried out at the laboratories of the AEA at Inshas and at the laboratories of the Nuclear Material Authority at El Qattamiyah. The Agency has concluded that Egypt's statements are consistent with the Agency's findings, and that the issues raised in the report to the Board are no longer outstanding.

46. In 2007 and 2008, some high enriched uranium (HEU) and low enriched uranium (LEU) particles were found in environmental samples taken at Inshas. Egypt stated that, as a result of an investigation carried out to identify the source of the particles, it believed the particles could have been brought into the country through contaminated radioisotope transport containers. Although the Agency has no indications contrary to Egypt's explanations, it has not yet identified the source of the uranium particles. It will continue, in accordance with its procedures and practices, to seek to clarify this issue as part of its ongoing verification activities; this will include taking additional environmental samples.

47. For 2008, the Agency found no indication of the diversion of declared nuclear material in Egypt. Therefore, the Agency was able to conclude for Egypt that all declared nuclear material remained in peaceful activities.

2. Other Verification Activities

Democratic People's Republic of Korea

48. 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. In the context of the ad hoc monitoring and verification arrangement as agreed between the Agency and the DPRK and foreseen in the Initial Actions agreed at the Six-Party Talks, in 2008 the Agency continued implementing monitoring and verification measures related to the shutdown of four installations located at the Yongbyon nuclear facility and one in Taechon. These activities were partially discontinued from 22 September 2008 to 13 October 2008, at the request of the DPRK. The suspension of monitoring and verification activities during this period resulted in the Agency not having access to the Radiochemical Laboratory (reprocessing plant). The DPRK also asked the Agency to remove seals and surveillance equipment from this facility. Core fuel discharge activities from the 5 MW(e) Experimental Nuclear Power Plant were suspended during this period. On 14 October 2008, the Agency resumed its activities as envisaged in the ad hoc monitoring and verification arrangements, including the reinstallation of Agency seals and surveillance equipment at the Radiochemical Laboratory and the monitoring of fuel discharge from the 5MW(e) reactor. The verification activities conducted at the Radiochemical Laboratory after 14 October 2008 revealed no indication that this facility had processed nuclear material during the period when monitoring and verification activities had been suspended.

49. The Nuclear Fuel Fabrication Plant, the 5 MW(e) Experimental Nuclear Power Plant, the 50 MW(e) Nuclear Power Plant, and the 200 MW(e) Nuclear Power Plant remained shut down in 2008. At the end of 2008, the Agency continued to monitor and verify the shutdown status of these facilities and to observe and document the disablement activities being carried out by the DPRK at the 5 MW(e) Experimental Nuclear Power Plant.

3. Factors affecting the Effectiveness of the Safeguards System

Additional Protocols

50. The implementation of additional protocols is essential to strengthen the effectiveness and improve the efficiency of the safeguards system. 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. During 2008, additional protocols entered into force for two States: Guatemala and Singapore. As of the end of the year, 88 of the 163 States with safeguards agreements in force²⁴ had additional protocols in force. Of the 75 States without an additional protocol in force, 70 have comprehensive safeguards agreements²⁵. Seventeen of these 70 States have significant nuclear activities.

Small Quantities Protocols

51. Following 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

²⁴ See footnote 1.

²⁵ Not including the DPRK.

the standard text and the change in the SQP criteria referred to in paragraph 5 above. During 2008, operative SQPs were amended to reflect the modified text for seven States: Burkina Faso, Croatia, Madagascar, Malawi, Mauritius, Monaco and Singapore; an SQP with Cyprus became non-operative; and one State, Benin, accepted the revised SQP standardized text, but had not yet brought its comprehensive safeguards agreement into force. At the end of 2008, there were 19 States with operative SQPs based on the revised text and 61 States with operative SQPs which have yet to be amended in accordance with the decision taken by the Board in September 2005. Eight States had agreed to conclude an SQP based on the revised text but had not yet brought their comprehensive safeguards agreements into force.

4. Strengthening the Effectiveness and Improving the Efficiency of Safeguards

52. In 2008, further progress was made in strengthening the effectiveness and improving the efficiency of Agency safeguards. Enhancements were made to many areas, including through the implementation of integrated safeguards, the development of safeguards approaches, procedures and technology, the analysis of covert nuclear-related trade, cooperation with State and regional systems of accounting for and control of nuclear material (SSACs/RSACs), training and quality management.

53. Integrated safeguards were implemented during the whole of 2008 in 25 States²⁶: Australia, Austria, Bangladesh, Bulgaria, Canada, the Czech Republic, Ecuador, Ghana, Greece, the Holy See, Hungary, Indonesia, Ireland, Jamaica, Japan, Latvia, Lithuania, Mali, Norway, Peru, Poland, Portugal, Romania, Slovenia and Uzbekistan. Integrated safeguards were implemented for part of 2008 in Chile, Croatia, Finland, Italy, Malta, Monaco, Palau and the Republic of Korea. In addition, integrated safeguards approaches were developed and approved for Cuba, Luxembourg and Uruguay and were under development for Armenia, Denmark, Slovenia and Sweden.

54. The Agency continued to install digital surveillance systems and unattended monitoring systems. Significant resources were spent in 2008 to upgrade and maintain the installed systems so as to ensure a high level of reliability. The Agency also continued to expand its capabilities to transmit data directly from the field for monitoring and evaluating in HQ or regional offices. By the end of the year, 168 installed surveillance or radiation monitoring systems authorized for inspection use had such remote monitoring capabilities, an increase of 22 systems from 2007.

55. In 2008, the Secretariat continued its endeavours to develop and diversify sources of safeguards relevant information on covert nuclear-related trade. The procurement outreach initiative, launched in 2006, continued to expand and several States are now either voluntarily providing information on certain nuclear-technology-related enquiries and export denials, or actively considering doing so. The analysis of such information augments the Secretariat's knowledge of covert trade activities and can provide an early indication of undeclared nuclear activities. These analytical results complement other safeguards information and are used to support the Agency's verification activities and the State evaluation process.

56. 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

²⁶ See footnote 1.

assistance programmes such as the IAEA SSAC Advisory Service (ISSAS) and Regional Technical Meetings.

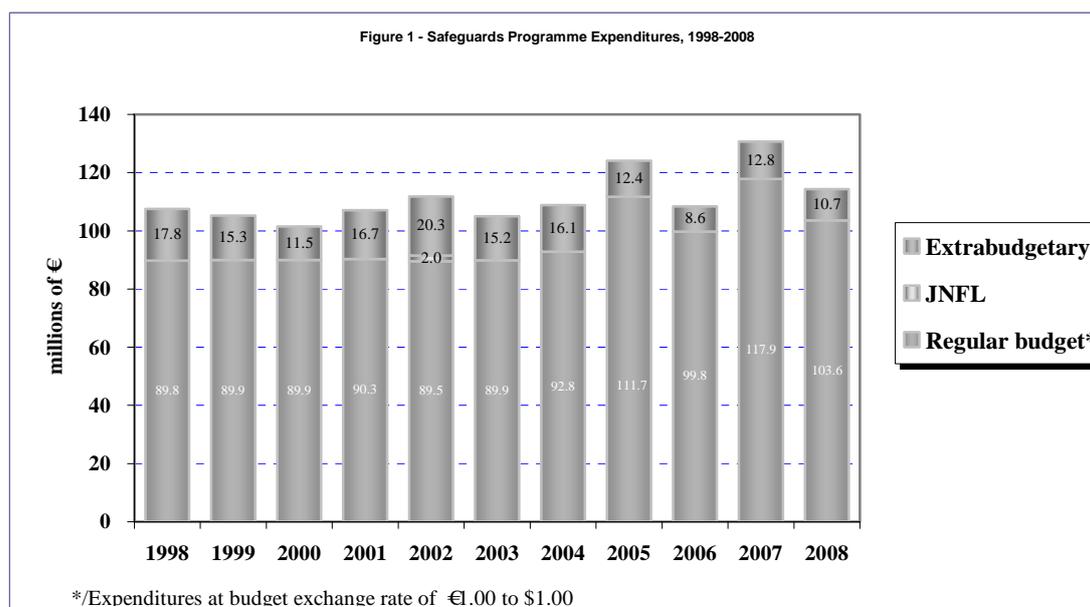
57. The Standing Advisory Group on Safeguards Implementation (SAGSI) held two plenary meetings in 2008. The main safeguards implementation issues considered by SAGSI were integrated safeguards approaches for geological repositories and centrifuge enrichment plants; State-level technical objectives; and State-level safeguards implementation and documentation.

58. The implementation of quality management in the Department of Safeguards continued in 2008 to improve the effectiveness and efficiency of work processes. Formal management review of the system was introduced, training in corrective action and continual process improvement was delivered and internal quality audits were conducted on several key processes.

5. Safeguards Expenditures and Resources

59. In 2008, safeguards expenditure from the Safeguards Regular Budget (including essential investments) amounted to €6.4 million at the UN exchange rates in 2008, which is equivalent to €103.6 million at the budget exchange rate of €1.00 to \$1.00. In addition, €10.7 million (US \$15.4 million) was spent from voluntary contributions received from Member States. Regular Budget implementation for Major Programme 4 was 90.1%, whereby €10.5 million remained unspent at the end of 2008 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 (SAL) at Seibersdorf.

60. Figure 1 shows the expenditures of the Safeguards programme since 1998, the year the Agency began conducting significant implementation activities related to additional protocols. To allow comparison between years throughout the period, the figures have been adjusted to 2008 prices and converted to euro²⁷.



²⁷ From January 2006, the euro has been adopted as the functional currency for the Agency's Regular Budget Fund.

6. Further Activities supporting the Nuclear Non-Proliferation Regime

61. During 2008, progress was made in the implementation of the monitoring scheme approved by the Board of Governors in 1999 regarding separated neptunium and americium. The Secretariat received information from ten States²⁸ and the European Atomic Energy Community (Euratom) about exports of neptunium and/or americium. Progress also continued in the implementation of flow-sheet verification. By the end of 2008, 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.

62. In 2008, the Agency continued to receive reports from Member States on incidents involving illicit trafficking in nuclear and other radioactive material. Sixteen events were reported to have occurred in 2008 involving relatively small amounts of nuclear material.

63. 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 Expert Group. Progress was made during the year to address the compatibility and use of the INPRO and GIF assessment methodologies with regard to proliferation resistance.

²⁸ See footnote 1.

7. Status of Safeguards Agreements (as of 31 December 2008)

64. This section contains information on safeguards agreements providing the basis for the Agency's safeguards implementation in 2008. The information is arranged in accordance with the structure of the Safeguards Statement, in the five tables below. It does not include agreements under which the application of safeguards has been suspended in the light of implementation of safeguards pursuant to another agreement. For full details see the Agency's website:

http://www.iaea.org/OurWork/SV/Safeguards/sir_table.pdf.

Table 1 – States with Comprehensive Safeguards Agreements and Additional Protocols in Force					
State	SQP	INFCIRC	Additional Protocol (date of entry into force)	Broader Conclusion drawn	Integrated Safeguards implemented
Afghanistan	X	257	19 July 2005		
Armenia		455	28 June 2004	X	
Australia		217	12 December 1997	X	X
Austria		193	30 April 2004	X	X
Azerbaijan	X(A)	580	29 November 2000		
Bangladesh		301	30 March 2001	X	X
Belgium		193	30 April 2004	X	
Botswana		694	24 August 2006		
Bulgaria		178	10 October 2000	X	X
Burkina Faso	X(A)	618	17 April 2003	X	
Burundi	X(A)	719	27 September 2007		
Canada		164	08 September 2000	X	X
Chile		476	03 November 2003	X	X*
Croatia	X(A)	463	06 July 2000	X	X*
Cuba		633	03 June 2004	X	
Cyprus		193	01 May 2008		
Czech Republic		541	01 July 2002	X	X
Dem. Republic of the Congo		183	09 April 2003		
Denmark ⁽¹⁾		193	30 April 2004	X	
Ecuador	X(A)	231	24 October 2001	X	X
El Salvador	X	232	24 May 2004		
Estonia		193	01 December 2005	X	
Fiji	X	192	14 July 2006		
Finland		193	30 April 2004	X	X*
Georgia		617	03 June 2003		
Germany		193	30 April 2004	X	
Ghana		226	11 June 2004	X	X
Greece		193	30 April 2004	X	X

Table 1 – States with Comprehensive Safeguards Agreements and Additional Protocols in Force					
State	SQP	INFCIRC	Additional Protocol (date of entry into force)	Broader Conclusion drawn	Integrated Safeguards implemented
Guatemala	X	299	28 May 2008		
Haiti	X	681	09 March 2006		
Holy See	X(A)	187	24 September 1998	X	X
Hungary		193	01 July 2007	X	X
Iceland	X	215	12 September 2003		
Indonesia		283	29 September 1999	X	X
Ireland		193	30 April 2004	X	X
Italy		193	30 April 2004	X	X*
Jamaica		265	19 March 2003	X	X
Japan		255	16 December 1999	X	X
Jordan	X	258	28 July 1998	X	
Kazakhstan		504	09 May 2007		
Korea, Republic of		236	19 February 2004	X	X*
Kuwait	X	607	02 June 2003	X	
Latvia		193	01 October 2008	X	X
Libyan Arab Jamahiriya		282	11 August 2006	X	
Lithuania		193	01 January 2008	X	X
Luxembourg		193	30 April 2004	X	
Madagascar	X(A)	200	18 September 2003	X	
Malawi	X(A)	409	26 July 2007		
Mali	X(A)	615	12 September 2002	X	X
Malta		193	01 July 2007	X	X*
Marshall Islands		653	03 May 2005		
Mauritius	X(A)	190	17 December 2007		
Monaco	X(A)	524	30 September 1999	X	X*
Mongolia	X	188	12 May 2003		
Netherlands ⁽²⁾		193	30 April 2004	X	
New Zealand ⁽³⁾	X	185	24 September 1998	X	
Nicaragua	X	246	18 February 2005		
Niger		664	02 May 2007		
Nigeria		358	04 April 2007		
Norway		177	16 May 2000	X	X
Palau	X(A)	650	13 May 2005	X	X*
Panama	X	316	11 December 2001		
Paraguay	X	279	15 September 2004		
Peru		273	23 July 2001	X	X
Poland		193	01 March 2007	X	X
Portugal		193	30 April 2004	X	X
Romania		180	07 July 2000	X	X

Table 1 – States with Comprehensive Safeguards Agreements and Additional Protocols in Force					
State	SQP	INFCIRC	Additional Protocol (date of entry into force)	Broader Conclusion drawn	Integrated Safeguards implemented
Seychelles	X(A)	635	13 October 2004		
Singapore	X(A)	259	31 March 2008		
Slovakia		193	01 December 2005	X	
Slovenia		193	01 September 2006	X	X
South Africa		394	13 September 2002		
Spain		193	30 April 2004	X	
Sweden		193	30 April 2004	X	
Switzerland		264	01 February 2005		
Tajikistan		639	14 December 2004		
The Former Yugoslav Republic of Macedonia	X	610	11 May 2007		
Turkey		295	17 July 2001		
Turkmenistan		673	03 January 2006		
Uganda	X	674	14 February 2006		
Ukraine		550	24 January 2006		
United Republic of Tanzania	X	643	07 February 2005		
Uruguay		157	30 April 2004	X	
Uzbekistan		508	21 December 1998	X	X
General Notes:					
<ul style="list-style-type: none"> ▪ In addition, safeguards, including the measures of the Model Additional Protocol, were applied in Taiwan, China. The broader conclusion was drawn for Taiwan, China, in 2006 and integrated safeguards implemented from 01 January 2008. ▪ The safeguards agreement reproduced in INFCIRC/193 is that concluded between the non-nuclear-weapon States of Euratom, Euratom and the Agency. ▪ ‘X’ in the ‘SQP’ column indicates that the State has an operative small quantities protocol (SQP). ‘X(A)’ indicates that the SQP in force is based on the revised SQP standardized text (see paragraph 5 of this SIR). ▪ ‘X’ in the ‘Broader Conclusion drawn’ column indicates that the broader conclusion has been drawn as described in paragraph 13. ▪ ‘X’ in the ‘Integrated Safeguards implemented’ column indicates that integrated safeguards were implemented for the whole of the year. ‘X*’ in this column indicates that integrated safeguards were initiated during the course of the year. 					
Footnotes:					
(1): The safeguards agreement reproduced in INFCIRC/176 is applicable to Greenland as of 31 January 1985. No additional protocol is in force for Greenland.					
(2): The safeguards agreement reproduced in INFCIRC/229 with regard to the Netherlands Antilles is pursuant to the NPT and Additional Protocol I to the Treaty of Tlatelolco. There is an SQP to this agreement. No additional protocol is in force for the Netherlands Antilles.					
(3): The safeguards agreement reproduced in INFCIRC/185 is applicable to the Cook Islands and Niue. The additional protocol reproduced in INFCIRC/185/Add. 1, however, is not applicable to the Cook Islands and Niue.					

Table 2 – States with Comprehensive Safeguards Agreements but no Additional Protocols in Force			
State	SQP	INFCIRC	Additional Protocol
Albania		359	Signed: 02 December 2004
Algeria		531	Approved: 14 September 2004
Antigua and Barbuda	X	528	
Argentina		435	
Bahamas	X(A)	544	
Barbados	X	527	
Belarus		495	Signed: 15 November 2005
Belize	X	532	
Bhutan	X	371	
Bolivia	X	465	
Bosnia and Herzegovina		204	
Brazil		435	
Brunei Darussalam	X	365	
Cambodia	X	586	
Cameroon	X	641	Signed: 16 December 2004
Colombia		306	Signed: 11 May 2005
Costa Rica	X(A)	278	Signed: 12 December 2001
Côte d'Ivoire		309	Signed: 22 October 2008
Democratic People's Republic of Korea ⁽¹⁾		403	
Dominica	X	513	
Dominican Republic	X (A)	201	Signed: 20 September 2007
Egypt		302	
Ethiopia	X	261	
Gambia	X	277	
Grenada	X	525	
Guyana	X	543	
Honduras	X(A)	235	Signed: 07 July 2005
Iran, Islamic Republic of		214	Signed: 18 December 2003
Iraq		172	Signed: 09 October 2008
Kiribati	X	390	Signed: 09 November 2004
Kyrgyzstan	X	629	Signed: 29 January 2007
Lao People's Democratic Republic	X	599	
Lebanon	X(A)	191	
Lesotho	X	199	Approved: 24 September 2008
Liechtenstein		275	Signed: 14 July 2006
Malaysia		182	Signed: 22 November 2005
Maldives	X	253	
Mexico		197	Signed: 29 March 2004
Morocco		228	Signed: 22 September 2004
Myanmar	X	477	
Namibia	X	551	Signed: 22 March 2000
Nauru	X	317	
Nepal	X	186	
Oman	X	691	
Papua New Guinea	X	312	
Philippines		216	Signed: 30 September 1997
Republic of Moldova	X	690	Approved: 13 September 2006
Saint Kitts & Nevis	X	514	
Saint Lucia	X	379	
Saint Vincent and the Grenadines	X	400	
Samoa	X	268	

Table 2 – States with Comprehensive Safeguards Agreements but no Additional Protocols in Force			
State	SQP	INFCIRC	Additional Protocol
San Marino	X	575	
Senegal	X	276	Signed: 15 December 2006
Serbia		204	
Solomon Islands	X	420	
Sri Lanka		320	
Sudan	X	245	
Suriname	X	269	
Swaziland	X	227	Approved: 04 March 2008
Syrian Arab Republic		407	
Thailand		241	Signed: 22 September 2005
Tonga	X	426	
Trinidad and Tobago	X	414	
Tunisia		381	Signed: 24 May 2005
Tuvalu	X	391	
The United Arab Emirates	X	622	
Venezuela, Bolivarian Republic of		300	
Vietnam		376	Signed: 10 August 2007
Yemen, Republic of	X	614	
Zambia	X	456	Approved: 27 November 2008
Zimbabwe	X	483	

General Notes:

- The safeguards agreement reproduced in INFCIRC/435 is that concluded between Argentina, Brazil, ABACC and the Agency.
- ‘X’ in the ‘SQP’ column indicates that the State has an operative small quantities protocol (SQP). ‘X(A)’ indicates that the SQP in force is based on the revised SQP standardized text (see paragraph 5 of this SIR).

Footnote:

(1): In a letter to the Director General dated 10 January 2003, the DPRK stated that the Government had “decided to lift the moratorium on the effectiveness of its withdrawal from the NPT” and that “its decision to withdraw from the NPT will come into effect from 11 January 2003 onwards.”

Table 3 – States party to the NPT without Safeguards Agreements in Force			
State	SQP	Safeguards Agreement	Additional Protocol
Andorra	X	Signed: 9 January 2001	Signed: 9 January 2001
Angola			
Bahrain	X(A)	Signed: 19 September 2007	
Benin	X(A)	Signed: 7 June 2005	Signed: 7 June 2005
Cape Verde	X(A)	Signed: 28 June 2005	Signed: 28 June 2005
Central African Republic	X(A)	Approved: 7 March 2006	Approved: 7 March 2006
Chad	X(A)	Approved: 22 November 2007	Approved: 22 November 2007
Comoros	X(A)	Signed: 13 December 2005	Signed: 13 December 2005
Congo, Republic of the			
Djibouti			
Equatorial Guinea	X	Approved: 13 June 1986	
Eritrea			
Gabon	X	Signed: 3 December 1979	Signed: 8 June 2005
Guinea			
Guinea-Bissau			
Kenya			
Liberia			
Mauritania	X	Signed: 2 June 2003	Signed: 2 June 2003
Micronesia, Federated States of			
Montenegro	X	Signed: 26 May 2008	Signed: 26 May 2008
Mozambique	X(A)	Approved: 22 November 2007	Approved: 22 November 2007
Qatar	X	Approved: 24 September 2008.	
Rwanda			
Sao Tome and Principe			
Saudi Arabia	X	Signed: 16 June 2005	
Sierra Leone	X	Signed: 10 November 1977	
Somalia			
Timor-Leste	X(A)	Approved: 11 September 2007	Approved: 11 September 2007
Togo	X	Signed: 29 November 1990	Signed: 26 September 2003
Vanuatu			
General Note:			
<ul style="list-style-type: none"> ▪ 'X' in the 'SQP' column indicates that the State has a small quantities protocol (SQP). 'X(A)' indicates that the SQP is based on the revised SQP standardized text (see paragraph 5 of this SIR). 			

Table 4 – States with INFCIRC/66/Rev.2-Type Agreements		
State	INFCIRC	Additional Protocol
India	211 260 360 374 433	—
Israel	249/Add.1	—
Pakistan	34 116 135 239 248 393 418 705	—

Table 5 – States with Voluntary Offer Agreements		
State	INFCIRC	Additional Protocol
China	369	In force: 28 March 2002
France ⁽¹⁾	290	In force: 30 April 2004
Russian Federation	327	In force: 16 October 2007
United Kingdom ⁽²⁾	263	In force: 30 April 2004
United States of America ⁽³⁾	288	Signed: 12 June 1998
Footnotes:		
(1): The safeguards agreement reproduced in INFCIRC/718 between France, Euratom and the Agency is pursuant to Additional Protocol I to the Treaty of Tlatelolco. There is an SQP to this agreement. No additional protocol is in force for that agreement.		
(2): The safeguards agreement reproduced in INFCIRC/175 is an INFCIRC/66/Rev.2-type safeguards agreement, concluded between the United Kingdom and the Agency, which remains in force.		
(3): The safeguards agreement reproduced in INFCIRC/366 between the United States of America and the Agency is pursuant to Additional Protocol I to the Treaty of Tlatelolco. There is an SQP to this agreement. No additional protocol is in force for that agreement.		