

# The International Scope of IAEA Safeguards

As a result of safeguards agreements under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and with States not Party to that Treaty, the Agency's safeguards coverage today is very extensive. According to the best information officially available to the Agency, there are only five States in the world besides the nuclear-weapon States that have significant nuclear activities which are not subject to Agency safeguards, namely Egypt, India, Israel, South Africa and Spain<sup>1</sup>. Nevertheless, any State that is not a Party to the NPT or the Treaty for the Prohibition of Nuclear Weapons in Latin America (Tlatelolco Treaty) is free, in the absence of treaty obligations, to build or otherwise acquire unsafeguarded nuclear plant. Furthermore, there are significant differences between the NPT safeguards agreements and those with States not Party to the NPT, not only with regard to scope (NPT agreements cover all peaceful nuclear activities in the State, which in practice means all nuclear activities, while non-NPT agreements so far only cover particular plants or supply agreements) but also in technical and legal approach (NPT agreements reflect important advances in safeguards concepts indicated in the Treaty itself).

On 31 August 1977, 100<sup>2</sup> States including three nuclear-weapon States were Party to the NPT. Table 1 lists the States Party to the NPT and also lists the States that are not Party to the NPT, but who are members of the United Nations or any of its specialized agencies.

Table 1

**PARTIES TO NPT (States shown in bold type have NPT safeguards agreements in force)**

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1. Afghanistan	15. Cyprus
2. Australia	16. Czechoslovakia
3. Austria	17. Democratic Kampuchea
4. Bahamas	18. Denmark
5. <b>Belgium</b>	19. <b>Dominican Republic</b>
6. Benin	20. Ecuador
7. Bolivia	21. El Salvador
8. Botswana	22. Ethiopia
9. <b>Bulgaria</b>	23. <b>Fiji</b>
10. Burundi	24. <b>Finland</b>
11. <b>Canada</b>	25. Gabon
12. Central African Empire	26. Gambia
13. Chad	27. <b>German Democratic Republic</b>
14. Costa Rica	28. <b>Germany, Federal Republic of</b>

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<sup>1</sup> The unsafeguarded plants in India consist of two fuel fabrication plants, three reactors and two reprocessing plants, in Israel of a large research reactor and a pilot reprocessing facility, and in South Africa of a pilot enrichment plant. In Egypt there is a small unsafeguarded research reactor and in Spain an unsafeguarded power reactor operated jointly with France. Egypt has signed the NPT.

<sup>2</sup> In addition, Taiwan has ratified the NPT. The Socialist Republic of Viet Nam is reviewing its position with regard to the NPT.

**PARTIES TO NPT (States shown in bold type have NPT safeguards agreements in force)**

- |                                      |                                       |
|--------------------------------------|---------------------------------------|
| 29. Ghana                            | 66. Nigeria                           |
| 30. Greece                           | 67. Norway                            |
| 31. Grenada                          | 68. Panama                            |
| 32. Guatemala                        | 69. Paraguay                          |
| 33. Haiti                            | 70. Peru                              |
| 34. Holy See                         | 71. Philippines                       |
| 35. Honduras                         | 72. Poland                            |
| 36. Hungary                          | 73. Republic of Korea                 |
| 37. Iceland                          | 74. Romania                           |
| 38. Iran                             | 75. Rwanda                            |
| 39. Iraq                             | 76. Samoa                             |
| 40. Ireland                          | 77. San Marino                        |
| 41. Italy                            | 78. Senegal                           |
| 42. Ivory Coast                      | 79. Sierra Leone                      |
| 43. Jamaica                          | 80. Singapore                         |
| 44. Japan                            | 81. Somalia                           |
| 45. Jordan                           | 82. Sudan                             |
| 46. Kenya                            | 83. Surinam                           |
| 47. Lao People's Democratic Republic | 84. Swaziland                         |
| 48. Lebanon                          | 85. Sweden                            |
| 49. Lesotho                          | 86. Switzerland                       |
| 50. Liberia                          | 87. Syrian Arab Republic              |
| 51. Libyan Arab Jamahiriya           | 88. Thailand                          |
| 52. Luxembourg                       | 89. Togo                              |
| 53. Madagascar                       | 90. Tonga                             |
| 54. Malaysia                         | 91. Tunisia                           |
| 55. Maldives                         | 92. USSR                              |
| 56. Mali                             | 93. UK                                |
| 57. Malta                            | 94. United Republic of Cameroon       |
| 58. Mauritius                        | 95. USA                               |
| 59. Mexico                           | 96. Upper Volta                       |
| 60. Mongolia                         | 97. Uruguay                           |
| 61. Morocco                          | 98. Venezuela                         |
| 62. Nepal                            | 99. Yugoslavia                        |
| 63. Netherlands                      | 100. Zaire                            |
| 64. New Zealand                      | [101. Taiwan]                         |
| 65. Nicaragua                        | [102. Socialist Republic of Viet Nam] |

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## NON-PARTIES TO NPT – Member of United Nations or any specialized UN agency

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1. Albania	28. Israel**
2. Algeria	29. Kuwait
3. Angola	30. Liechtenstein
4. Argentina**	31. Malawi
5. Bahrain	32. Mauritania
6. Bangladesh	33. Monaco
7. Barbados	34. Mozambique
8. Bhutan	35. Nauru
9. Brazil**	36. Niger
10. Burma	37. Oman
11. Cape Verde	38. Pakistan**
12. Chile**	39. Papua New Guinea
13. China**	40. Portugal**
14. Colombia**	41. Qatar
15. Comoros	42. Sao Tome and Principe
16. Congo	43. Saudi Arabia
17. Cuba	44. Seychelles
18. Democratic People's Republic of Korea	45. South Africa**
19. Democratic Yemen	46. Spain**
20. Egypt**	47. Sri Lanka
21. Equatorial Guinea	48. Trinidad and Tobago
22. France**	49. Turkey**
23. Guinea	50. Uganda
24. Guinea-Bissau	51. United Arab Emirates
25. Guyana	52. United Republic of Tanzania
26. India**	53. Yemen Arab Republic
27. Indonesia**	54. Zambia

\*\* States that have significant nuclear activities

The NPT requires each non-nuclear weapon State Party to it to conclude a safeguards agreement with the Agency covering all of the State's peaceful nuclear activities. Fifty-one States<sup>3</sup> have done so and have safeguards agreements in force. Seven of them (Belgium, Denmark, Federal Republic of Germany, Ireland, Italy, Luxembourg and the Netherlands) have concluded the safeguards agreement jointly with the IAEA and the European Atomic Energy Community in accordance with Article III.4 of NPT. States not Party to NPT that have significant nuclear activities are marked by a double asterisk (\*\*) in Table 1.

Although NPT safeguards agreements with Japan, Switzerland and Venezuela are not yet in force, all nuclear activities in these States are already under safeguards as a result of the operation of other agreements: this also applies in Taiwan. Negotiations are in train with most of the NPT countries that have not yet concluded their safeguards agreements.

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<sup>3</sup> In 24 cases, the application of safeguards has been held in abeyance because the State concerned does not yet have any significant nuclear activities. Full application will begin as soon as the State concerned acquires nuclear material or plant requiring the application of safeguards.

Except in the four cases mentioned, the NPT safeguards agreements that have not yet entered into force are solely with States that do not yet have any significant nuclear activity (i.e. an activity involving nuclear material in an amount that would call for the application of safeguards under that Treaty).

To sum up, the Parties to NPT that have not yet concluded the required safeguards agreement are listed in Table 2.

## STATES NOT PARTY TO NPT

The Agency applies safeguards in the following 12 States that are not Party to the Treaty: Argentina, Brazil, Chile, Colombia, India, Indonesia, Israel, Pakistan, Portugal, South Africa, Spain, Turkey.

In eight of these States all significant nuclear activities in the State are under safeguards; the exceptions, as noted above, being India, Israel, South Africa and Spain.

## NUCLEAR FACILITIES AND NUCLEAR MATERIALS

Table 3 shows the number of nuclear facilities in non-nuclear-weapon States subject to safeguards, and also an estimate of non-safeguarded facilities. Of the 197 facilities presently under non-NPT safeguards, the following will come under NPT safeguards upon entry into force of NPT safeguards agreements: Japan – 133; Switzerland – 9; Venezuela – 1.

**Table 2**

**Parties to NPT for which the relevant safeguards agreement required by Article III is not in force**

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|--------------------------------------|--------------------------------------|
| 1. Afghanistan                       | 25. Mali                             |
| 2. Bahamas                           | 26. Malta                            |
| 3. Benin                             | 27. Nigeria                          |
| 4. Bolivia                           | 28. Panama                           |
| 5. Botswana                          | 29. Paraguay                         |
| 6. Burundi                           | 30. Peru                             |
| 7. Central African Empire            | 31. Rwanda                           |
| 8. Chad                              | 32. Samoa                            |
| 9. Costa Rica                        | 33. San Marino                       |
| 10. Democratic Kampuchea             | 34. Senegal                          |
| 11. Ethiopia                         | 35. Sierra Leone                     |
| 12. Gabon                            | 36. Somalia                          |
| 13. Gambia                           | 37. Switzerland                      |
| 14. Grenada                          | 38. Syrian Arab Republic             |
| 15. Guatemala                        | 39. Togo                             |
| 16. Haiti                            | 40. Tonga                            |
| 17. Ivory Coast                      | 41. Tunisia                          |
| 18. Jamaica                          | 42. United Republic of Cameroon      |
| 19. Japan                            | 43. Upper Volta                      |
| 20. Jordan                           | 44. Venezuela                        |
| 21. Kenya                            | [45. Taiwan]                         |
| 22. Lao People's Democratic Republic | [46. Socialist Republic of Viet Nam] |
| 23. Liberia                          |                                      |
| 24. Libyan Arab Jamahiriya           |                                      |

Table 4 shows the quantities of nuclear material under IAEA safeguards. It is obvious that the 12 unsafeguarded facilities listed in Table 3 have produced or processed significant quantities of unsafeguarded nuclear material, but no estimate of such quantities can be provided.

#### STATES HAVING NUCLEAR ACTIVITIES AND IN WHICH NO AGENCY SAFEGUARDS ARE APPLIED

According to the best information available to the Secretariat, the only non-nuclear-weapon State which has a significant nuclear activity and where safeguards are not yet applied by the Agency is Egypt, which, however, has signed the NPT.

**Table 3**

**Nuclear facilities subject to IAEA safeguards in non-nuclear-weapon States as of August 1977**

	NPT safeguards <sup>a</sup>	Non-NPT safeguards	Non-safeguarded <sup>b</sup>
Power Plants	54	33	1
Conversion fuel fabrication	17	8	2
Enrichment	1		1
Reprocessing	2	1	2
Pilot fuel fabrication	5	6	
Pilot reprocessing	1	2	1
Research reactors and critical facilities	110	59	
Sub-critical facilities	10	2	
Research and development facilities	26	17	5
Separate storage and other locations	127	69	
<b>TOTAL</b>	<b>353</b>	<b>197</b>	<b>12</b>

<sup>a</sup> Facilities which are covered by an NPT safeguards agreement which is now in force.

<sup>b</sup> According to the best information available to the Agency.

**Table 4**

**Quantities of nuclear material under IAEA safeguards in non-nuclear-weapon States and nuclear-weapon States**

Material	Amounts by years				
	1972	1973	1974	1975	1976
<b>Plutonium (kg)</b>					
(a) Contained in irradiated fuels	2 214	2 927	4 345	6 661	11 775
(b) In other forms	686	1 443	1 955	2 374	2 778
(c) Total	2 900	4 730	6 300	9 035	14 553
<b>Uranium enriched to more than 20% (kg)</b>					
Contained in irradiated fuels:					
(a) Fissile content	988	1 157	1 275	1 445	1 245
(b) Total element	2 545	2 812	2 942	3 422	2 115
In other forms:					
(a) Fissile content	248	380	455	471	529
(b) Total element	402	556	668	791	864
<b>Uranium enriched to less than 20% (kg)</b>					
Contained in irradiated fuels:					
(a) Fissile content	19 254	27 808	36 865	44 892	47 376
(b) Total element	945 103	1 342 336	729 491	2 273 629	2 275 334
In other forms:					
(a) Fissile content	5 908	13 801	14 718	19 926	32 887
(b) Total element	229 715	519 579	571 947	817 948	1 337 763
<b>Uranium enriched Totals (tonnes)</b>					
(a) Fissile content	26	43	53	67	82
(b) Total element	1 178	1 865	2 305	3 096	3 649
<b>Source material (tonnes)</b>	2 145	3 370	3 910	4 440	5 336

## SAFEGUARDS UNDER THE TLATELOLCO TREATY

The Treaty for the Prohibition of Nuclear Weapons in Latin America, known as the Tlatelolco Treaty, requires its Parties to conclude a safeguards agreement with the Agency to cover all their nuclear activities. Seventeen of the Tlatelolco Parties are also Party to the NPT and have concluded or are negotiating safeguards agreements implementing the provisions of both Treaties.

## NUCLEAR-WEAPON STATES

Safeguards agreements pursuant to offers made by the United Kingdom and the United States have been negotiated but are not yet in force. Their purpose is to enable the Agency to apply safeguards to all nuclear installations except those related to national security. At present safeguards are also applied in these States under trilateral agreements (e.g. to cover reprocessing of irradiated fuel shipped from other States). Similarly, if material subject to safeguards is transferred to France, IAEA safeguards will also apply.