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REVIEW OF THE NEGOTIATION OF THE MODEL PROTOCOL ADDITIONAL TO THE AGREEMENT(S) BETWEEN STATE(S) AND THE INTERNATIONAL ATOMIC ENERGY AGENCY FOR THE APPLICATION OF SAFEGUARDS

INFCIRC/540 (Corrected)

VOLUME II/III

IAEA COMMITTEE 24
Major Issues Underlying the Model Additional Protocol (1996-1997)

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January, 2010

NOTICE

DISCLAIMER

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BROOKHAVEN NATIONAL LABORATORY

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Volume II. IAEA Committee 24: Major Issues underlying the Model Additional Protocol (1996-1997)

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REVIEW OF THE NEGOTIATION OF THE MODEL PROTOCOL ADDITIONAL TO THE AGREEMENT(S) BETWEEN STATE(S) AND THE INTERNATIONAL ATOMIC ENERGY AGENCY FOR THE APPLICATION OF SAFEGUARDS (INFCIRC/540 (Corrected))

VOLUME II. IAEA COMMITTEE 24: MAJOR ISSUES UNDERLYING THE MODEL ADDITIONAL PROTOCOL (1996-1997)

1. INTRODUCTION

Volume I of this Review traces the origins of the Model Additional Protocol. It covers the period from 1991, when events in Iraq triggered an intensive review of the safeguards system, until 1996, when the IAEA Board of Governors established Committee 24 to negotiate a new protocol to safeguards agreement. The period from 1991-1996 set the stage for this negotiation and shaped its outcome in important ways.

During this 5-year period, many proposals for strengthening safeguards were suggested and reviewed. Some proposals were dropped, for example, the suggestion by the IAEA Secretariat to verify certain imports, and others were refined. A rough consensus was established about the directions in which the international community wanted to go, and this was reflected in the draft of an additional protocol that was submitted to the IAEA Board of Governors on May 6, 1996 in document GOV/2863, *Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System - Proposals For Implementation Under Complementary Legal Authority, A Report by the Director General*. This document ended with a recommendation that, "the Board, through an appropriate mechanism, finalize the required legal instrument taking as a basis the draft protocol proposed by the Secretariat and the explanation of the measures contained in this document."

GOV/2863 contained three annexes that were essential to understanding the proposals from the Secretariat. Annex 1 contained a legal analysis that described which strengthening measures were to be pursued on the basis of existing authority and which required complementary authority. Annex 2 was an annotated outlined of the enhanced information to be provided to the IAEA in the proposed expanded declaration, and Annex 3 was the draft of the Secretariat's proposed Additional Protocol. The draft in Annex 3 served as the starting point for the deliberations of Committee 24. For convenience, the three annexes contained in GOV/2863 are reproduced in annexes to this volume.

This Volume describes in detail how the Model Additional Protocol emerged from this process.

1.1 Objectives

There are two equally important objectives of the analysis of the negotiating history of INFCIRC/540.

The first objective is to determine the correct interpretations of the protocol in terms of what each part of the protocol means, what it does not mean, and what ambiguities there are in its meaning. These interpretations are based on:

(i) Identification of each proposed change in protocol language;
(ii) The reasons, if any, given for the proposed change;
(iii) The opposition to the change and the reasons given, if any:
(iv) The position taken by the Committee 24 chairman and his reasons in respect to each proposed change; and
(v) The decisions of the Committee at various points in the development of the text, these decisions being primarily reflected in acceptance of or counter proposals to the chairman's proposed language.

The second objective is to identify considerations for further study or for further strengthening of safeguards. These include the following possibilities, not all of which are fully addressed within the scope of this study:

(1) Strengthening measures that the Secretariat has not proposed to the Board;
(2) Strengthening measures, other than those in the draft protocol, that the Secretariat has proposed to the Board but the Board has not approved or has approved only in part; and
(3) Strengthening measures proposed by the Secretariat in the draft protocol and other measures considered by Committee 24 but not fully included in INFCIRC/540.

1.2 Background

Shortly after the Director General reported to the Board in August 1991 that Iraq was in non-compliance with its safeguards agreement (GOV/2530/Add.1), the Secretariat began an intensive review of the comprehensive safeguards system that was applied in accordance with the Model Safeguards Agreement used for NPT non-nuclear-weapon states, INFCIRC/153(Corrected). It began submitting to the Board of Governors a series of GOV and GOV/INF documents on measures for strengthening safeguards. Some of the steps to strengthen safeguards that were identified could, in the view of the Secretariat, be carried out under the authority of existing INFCIRC/153 safeguards agreements and were addressed by the IAEA Board of Governors promptly. These early efforts to strengthen safeguards are traced in Volume I. However, most steps identified to strengthen safeguards, in the Secretariat's view, required additional legal authority. These proposals were refined through a process of continuing dialogue with Member States in the period 1992-1996 and were eventually included in the Secretariat's draft of a model protocol that was submitted to the Board of Governors in May 1996 in document GOV/2863, *Strengthening the Effectiveness and improving the Efficiency of the Safeguards System: Proposals for Implementation under Complementary Legal Authority.*

At its June 1996 meetings, the Board of Governors (GOV/OR.898/¶93-100) concluded that the examination of a draft model protocol would provide opportunities to find precise language striking a balance between the concerns of states and the need to ensure the efficiency and

effectiveness of the measures proposed. It decided to establish a Committee with the task of drafting a model protocol. The work of the Committee was to be based on the draft protocol contained in Annex III to document GOV/2863 and taking into account, inter alia, the explanations of the measures contained in that document and the discussions on the matter in the Board. This "Committee on Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System" was designated as Committee 24 and held its first series of meeting in July 1996.

There were six complete drafts of the protocol, and for convenience of reference in this report they are numbered 1 through 6. The first three, prepared by the Secretariat, and the second three prepared by the chairman of Committee 24 were:

Draft 1: Annex III of the "Discussion Draft" of 21 November 1995, which was considered at the December 1995 meetings of the Board of Governors.

Draft 2: Annex III of "Discussion Draft II" of 27 February 1996, considered at the March 1996 Board.

Draft 3: Annex III of GOV/2863, 6 May 1996, considered at the June 1996 Board and the July and October 1996 meetings of Committee 24.

Draft 4: GOV/COM.24/Chairman's W.P.2 Rolling Text (18 October 1996, discussed at the January 1997 Committee meetings.

Draft 5: GOV/COM.24/Chairman's W.P.2 Rolling Text/REV.1/ADD.1-4 (29 January 1997), also considered at the January meetings.

Draft 6: GOV/COM.24/Chairman's REVISED TEXT (5 February 1997) considered at the Committee's final meetings in April 1997.

The chairman also prepared several intermediate drafts of parts of the protocol that received more extensive comments.

Following completion of its work, the Committee submitted its report to the Board, which met in special session on 15 May 1997 to consider the Committee 24 report. Its discussions were straightforward with no surprises and are recorded in GOV/OR.913-914. The Board considered and adopted the Committee's recommended actions, including approval of the Model Protocol, without change (GOV/OR.914/¶66-67).

The final version was published by the IAEA as *Model Protocol Additional to the Agreement(s) between State(s) and the International Atomic Energy Agency for the Application of Safeguards* and was published in INFCIRC/540 (Corrected) in September, 1997.

1.3 Issues

The majority of issues that arose in the course of Agency efforts to strengthen safeguards can be traced in the evolution of individual articles in INFCIRC/540. However, some of the most fundamental issues involve more than one article and cannot be handled under individual articles without duplication and repetition. Examples of this are the constitutional issues of the rights of

individuals or access by IAEA inspectors to private property. One example is whether the protocol would require states to introduce laws and regulations to cover a host of private-sector activities not involving nuclear material. The solution adopted by the Committee in this case was the "every reasonable effort" approach, which appears in articles 2.b., 5.b., 5.c., and 9.

Some of the issues that encompass several articles were more technical in nature and not of fundamental importance. Nevertheless, they still raise the question of how to deal with them without excessive duplication and repetition. One example, which involved articles 2.a.(v), 2.a.(vi)(a) and 2.a.(vii)(b), is what information on nuclear material that did not require material accountancy measurements would be provided to the Agency.

The major or key issues, both those that involved only a single article and those that involved more than one article and that cannot be handled readily under a single article, are presented below. The article-by-article development of all the articles is presented in Volume III.

1.4 Format

The following format is used for each issue:

- Issue title
- Description of the issue, including relevant INFCIRC/540 (Corrected) text
- Background
- Alternative proposals
- Analysis
- Interpretation
- Considerations for further review

For each issue the development of INFCIRC/540 is traced by citations from the Secretariat documents presented to the Committee, drafts and proposals presented by the chairman and by states, and the records of the Committee discussions. The comments by states that are included are generally limited to substantive objections and suggested changes. Requests for clarification or elaboration have been omitted, although it is recognized that such comments were sometimes veiled objections.

For ease of reference, the final formulation of the text as it appears in INFCIRC/540 (Corrected) is included at the front of the discussion of each issue using a different type font. For convenience in referencing the many citations, the following conventions are used:

- Board of Governors documents are designated GOV/....., e.g., GOV/2807;
- Board of Governors information documents are designated GOV/INF/....., e.g., GOV/INF/680;
- Official records of the Board of Governors are designated GOV/OR. followed by the meeting number and paragraph number, e.g., GOV/OR.688/¶25;

- Committee 24 documents are designated by a number and title, e.g., W.P. 19, although many had only a title and were attachments to Committee ORs;
- Official records of Committee 24 are designated as OR and the meeting number and the paragraph number, e.g., OR.55/¶25, or just the paragraph number when several citations from the same OR are made. It is important to keep in mind that the ORs are summary records and do not necessarily contain complete quotes of the speaker. Moreover, the ORs do not cover the many private or informal negotiations that frequently took place between delegates and with the chairman, particularly on difficult issues.

A standard convention used in the text of the protocol is that "..." (three periods) represents unchanged text. A second convention used is that "....." (five periods) represents the name of the state. A convention used by the chairman of Committee 24 in his drafts is that text in dispute is presented in square brackets, i.e. [].

2. NEED FOR ADDITIONAL LEGAL AUTHORITY

Relevant INFCIRC/540 (Corrected) text

Foreword

This document is a model Additional Protocol designed for States having a Safeguards Agreement with the Agency, in order to strengthen the effectiveness and improve the efficiency of the safeguards system as a contribution to global nuclear non-proliferation objectives. The Board of Governors has requested the Director General to use this Model Protocol as the standard for additional protocols that are to be concluded by States and other parties to comprehensive safeguards agreements with the Agency. Such protocols shall contain all of the measures in this Model Protocol. ... In conformity with the requirements of the Statute, each individual Protocol or other legally binding agreement will require the approval of the Board and its authorization to the Director General to conclude and subsequently implement the Protocol so approved.

2.1. Description

Agency comprehensive safeguards agreements give the Agency the authority to apply safeguards measures on specified forms of nuclear material. However, the measures being considered for strengthening these safeguards extended to other forms of nuclear material, to nuclear fuel cycle activities, to non-nuclear material, and to locations not covered in these agreements. Hence, the issue arose as to whether the Agency could apply the strengthening measures under the terms of existing agreements interpreted broadly or whether additional legal authority would need to be provided to the IAEA. The foreword of INFCIRC/540 (Corrected) addresses the issue of additional legal authority.

2.2. Background

In February 1992 the Board discussed the Secretariat's proposals in GOV/2568 of 20 January 1992 for strengthening safeguards through the (1) reporting and verification of the export, import, and production of nuclear material and (2) reporting and verification of the export, import, and production of sensitive equipment and non-nuclear material. At the outset, the Secretariat proposed that these measures be implemented on a voluntary basis. However, some of them clearly went beyond the measures specified in comprehensive safeguards agreements and raised the issue of additional legal authority if they were to be required.

2.3. Alternative proposals

Although the question of the legal authority for strengthening Agency safeguards was an issue early in 1992, it was not until February 1995 that alternative approaches were well articulated. This was done by the Secretariat in GOV/2784, *Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System, A Report by the Director General*, which suggested that either existing safeguards agreements could be construed properly or new authorities could be

made explicit in a new agreement. These alternatives were set forth in paragraph 22 of GOV/2784, which defined two alternative proposals:

(1) The existence of an obligation on the Agency -- to effectively verify both the non-diversion of declared material and the absence of non-declared material -- implies that the provisions of the safeguards agreements should be interpreted so as to enable the Agency to fulfill that obligation.
(2) While there may be obligations on the Agency in safeguards agreements, the authority necessary to implement specific measures to fulfill those obligations must be explicit.

2.4. Analysis

The earliest comment relevant to the need for additional legal authority to strengthen safeguards was in the U.S. plenary statement at the September 1991 IAEA General Conference, which included:

> States should permit the Agency to make full use of its powers. The standard safeguards agreement signed by Parties to NPT had long provided for special inspections of undeclared facilities, and States should now agree to allow the Agency to exercise its full authority. The system should be strengthened in ways that would facilitate the early detection of undeclared nuclear activities. (GC(XXXV)/OR.333/¶128-130)

Of course, at this time, the suggestion had not yet emerged that there be a new legal instrument to strengthen safeguards, and there were no specific proposals for strengthening safeguards. The U.S. plenary statements at the 1992-1994 General Conferences did not refer to the need for additional legal authority for strengthening safeguards.

In GOV/INF/680 of 10 February 1993 on *The Relevance of Certain Aspects of the Chemical Weapons Convention to Efforts to Strengthen Agency Safeguards,* the Secretariat suggested that various CWC measures could be applied under existing comprehensive safeguards agreements. At the Board that month, only Germany commented on the legal aspects, stating that the proposals contained in GOV/INF/680 would need to be examined further in the light of national legislation (GOV/OR.803/¶95).

In GOV/2657 of 14 May 1993, *Strengthening the Effectiveness and Efficiency of the Safeguards System: Report by the Director General on SAGSI's Re-Examination of Safeguards Implementation* (paragraph 4), the Secretariat reported that SAGSI had concluded that "The arrangements could draw, *inter alia,* on the provisions of Part X of the Verification Annex to the Convention on the Prohibition of Chemical Weapons." SAGSI concluded that such arrangements would not require modification of INFCIRC/153. SAGSI did not offer any judgments on the legal aspects of its more far-reaching enhancements in access to information and locations nor did the Secretariat.

At the June 1993 Board, Germany said that most of the new arrangements envisaged by SAGSI would probably not be covered by INFCIRC/153-type agreements and would involve additional

bilateral arrangements between the Agency and the states concerned (GOV/OR.816/¶19). The U.S. supported SAGSI's recommendation that, in order to secure additional rights for the Agency, the Secretariat develop new protocols to existing safeguards agreements (¶108). Argentina and Brazil felt that, although it was too early to make any detailed judgment, some of the issues examined by SAGSI had political and legal dimensions that would require detailed study on the part of the Secretariat (¶117-118).

In summing up, the chairman noted that:

(a) some Governors had stated that SAGSI's recommendations had far reaching legal, political and financial implications and also implications for their national security, since implementation of those recommendations would mean significant changes in existing legal and institutional arrangements; and

(b) most Governors agreed with the Director General's view that SAGSI's proposals required further analysis on the basis of which the Secretariat would submit to the Board concrete proposals, including their legal, financial and political implications (¶147-148).

The Secretariat's proposals for proceeding to examine the strengthening of safeguards were presented in GOV/2698 of 3 November 1993, *Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System: Report by the Director General on the Secretariat's programme for assessment, development and testing of SAGSI's recommendations on the implementation of safeguards.* Paragraph 3 stated that the assessment would include the technical, legal, financial and other implications of SAGSI's recommendations and that any strengthening measures that go beyond the scope of the safeguards agreements could only be implemented with agreement of the States concerned. After extensive discussion that included references by several states to the importance of the assessment of the legal implications but no debate on the subject, the December 1993 Board took note of the planned program (GOV/OR.828 and 829).

During 1994 the Board received two documents on progress in Programme 93 + 2 that addressed legal authority. One was GOV/INF/737, *The Secretariat's Development Programme for a Strengthened and More Cost-Effective Safeguards System: A progress report by the Director General*, 12 May 1994. Paragraph 58 of this report stated that the legal assessment to be done would: (i) address the scope of the IAEA's existing authority to carry out the measures being considered; (ii) identify the extent to which additional authority is necessary; and (iii) describe legal arrangements or instruments for securing the Agency's right to do so. At the June 1994 Board there were no substantive comments on legal aspects, and the chairman simply noted that the Board reiterated the importance of the legal aspects of the proposals being examined (GOV/OR.841/¶3-4).

The second, GOV/INF/759, *Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System: A report by the Director General*, 23 November 1994, elaborated further on legal aspects, stating (in paragraphs 90-91) that the analysis of associated legal issues was continuing. It also stated that INFCIRC/153 (Corrected) was drafted in such a way as to leave to the Agency many of the details of the implementation of safeguards and to that extent many of

the measures identified under the program may be interpreted as falling within the existing authority. This was discussed at the December 1994 Board, with a lot of rhetoric on cost savings and reducing costs but no substantive commentary on legal aspects. The chairman said that many Governors had indicated a need for states to be involved in the evaluation of the legal implications of any proposals and had stressed that the analysis of legal aspects was fundamental to some of the proposals (GOV/OR.856/¶82).

GOV/2784 of 21 February 1995, *Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System, A Report by the Director General*, stated in paragraph 22 that:

> In accordance with Article 31 of the Vienna Convention on the Law of Treaties, a treaty is to be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of the object and purpose of the treaty. In applying this general rule to the interpretation of these agreements, the view could be taken that the existence of an obligation on the Agency -- to effectively verify both the non-diversion of declared material and the absence of non-declared material -- implies that the provisions of the safeguards agreements must be interpreted so as to enable the Agency to fulfill that obligation. However, another view might be that a restrictive approach to interpreting these agreements is appropriate, that is to say, that while there may be obligations on the Agency, the authority necessary to implement specific measures to fulfill those obligations must be explicit. The legal analysis presented in this report seeks to define the authority that is explicitly or implicitly laid down in these agreements and points to instances where complementary authority seems to be necessary.

At the March 1995 Board, Sudan, speaking on behalf of the Group of 77, noted that a number of measures in document GOV/2784 went beyond existing arrangements and required complementary authority and advocated further deliberations to define appropriate legal arrangements (GOV/OR.860/¶94-95). France, speaking for the European Union, said that the new measures that went beyond those foreseen by safeguards agreements would require an additional, explicit and voluntary commitment on the part of the states concerned (GOV/OR.861/¶27). Egypt said that for legal reasons a restrictive approach should be preferred in interpreting safeguards agreements (GOV/OR.861/¶86-87).

Spain felt that one should avoid being unduly formalistic and explore other possibilities, such as the Vienna Convention on the Law of Treaties, Article 31.1 of which stated that a treaty "shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty and in the light of its object and purpose." The object and purpose of document INFCIRC/153 and of the safeguards agreements derived from it was to prevent the diversion of nuclear material to non-peaceful activities. In his delegation's view, the Director General was not proposing any measures in open contradiction with document INFCIRC/153 and the safeguards agreements derived from it but only measures that were in line with the object and purpose of INFCIRC/153. The Board now had to see whether those measures could be put into practice without formal amendments either to INFCIRC/153 or to the safeguards agreements derived from it. If agreement were reached, it might take the form of an interpretative declaration made by the Board or the General Conference (GOV/OR.862/¶13-16).

The Secretariat replied that the Board could opt to interpret the Agency's Statute and document INFCIRC/153 liberally, but the Secretariat should not read more authority into agreements than was clearly implied. Prudence was called for in interpreting safeguards agreements that unlike INFCIRC/153 were bilateral instruments and thus not open to interpretation exclusively by the Agency. The Secretariat pointed out that there was nothing to prevent states from permitting, on a voluntary basis, the application of additional measures, but there was a need for something more stable than voluntary permission, which states could withdraw. The Agency would need additional authority based on a further legal instrument to be concluded with each state (GOV/OR.862/¶54-60). The chairman summarized that the Board endorsed the general direction of Programme 93+2, while not at this stage taking a decision on any of the specific measures or on their legal basis (GOV/OR.864/¶49).

In response to the Board's request for specific proposals for a strengthened and cost-effective safeguards system the Secretariat submitted GOV/2807 of 12 May 1995 *Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System: Proposals for a Strengthened and More Efficient Safeguards System: A report by the Director General*. Paragraph 3 stated the Secretariat had prepared a document consisting of two parts. Part 1 consists of those measures which could be implemented under existing legal authority and which it would be practical and useful to implement at an early date. Part 2 consists of those measures that the Secretariat proposes for implementation on the basis of complementary authority. In paragraph 38 the Secretariat stated that the complementary authority should be on a firm legal basis, but the form of this basis (an extension of the subsidiary arrangements, an exchange of letters, or a protocol to the safeguards agreement) should be left to each state in order to take into account the legal situation of the state and its interpretation of the existing legal authority of the Agency under its safeguards agreement.

At the June 1995 Board, France stated that the European Union believed that the terms of the additional legal instruments should be identical for all States concerned, that the instruments should be legally binding and that they should have the same authority as the corresponding comprehensive safeguards agreements (GOV/OR.870/¶10). The U.S. supported the Secretariat's approach of needing complementary authority that could take different legally binding forms as long as their content was the same for all the states, which, in the U.S. view, met the different needs of different states and obviated the need for a debate on the exact limits of existing powers (GOV/OR.870/¶68).

The next document on strengthening the effectiveness and improving the efficiency of the safeguards system was the Discussion draft of 21 November 1995, the annex to which was Draft 1 of a protocol (a new legal instrument that would grant the Agency new legal authority). At the December 1995 Board only Germany addressed the legal authority aspects, stating that the legal authority granted in existing safeguards agreements, in particular the right to conduct special inspections, gave the Agency an effective means of dealing with situations where recourse to strict legal procedures was necessary. That would not require additional legal powers for the Agency, but a new kind of "safeguards culture." In such cases, the state concerned would be duty-bound to give its full support to the Agency, as stipulated in paragraph 3 of INFCIRC/153 (GOV/OR.884/¶107).

None of the first three drafts of the protocol included a foreword or any reference to the protocol as being a legal instrument or providing additional authority. Paragraph 13 of GOV/2863, which transmitted the third draft of the protocol to the Board, stated that: "The mechanism for granting this authority would be a protocol additional to comprehensive safeguards agreements between the Agency and the State or States concerned. A draft protocol is set out in Annex III. When endorsed by the Board, the protocol will be submitted to individual States for their consent. As is the case with safeguards agreements, each protocol would be submitted to the Board for its approval, and would enter into force either upon signature or subsequent notification by the State, following which formal implementation would begin, with the integration of the Part 2 measures into the safeguards system." From this point on there were no Board or Committee 24 comments on the need for additional legal authority.

The Chairman's Draft 4 of October 1996 contained a foreword that included "This document is a model of an additional protocol designed for States having a Safeguards Agreement with the Agency, willing to strengthen the effectiveness and improve the efficiency of the safeguards system. ... In conformity with the requirements of the Statute, each individual Protocol concluded on the basis of this model will require the approval of the Board and its authorization to the Director General to conclude and subsequently implement the Protocol so approved." The Chairman's Draft 5 of January 1997 added to the foreword that "The Board of Governors has requested the Director General to use this model Protocol as the basis for additional protocols or agreements to be concluded by States and other parties to comprehensive safeguards agreements with the Agency."

Neither the Committee nor the Board commented on the legal authority aspect of this language, and with only minor editorial changes it became the relevant operative language of the foreword to INFCIRC/540.

2.5. Interpretation

Although the issue of whether additional legal authority was needed for many of the proposed measures for strengthening safeguards was fundamental to many of the decisions of the Board and Committee 24, it received relatively little debate in either forum. Both the Secretariat and the member states either wanted new explicit authority or seemed prepared to proceed on the basis of an assumption of the need for additional legal authority. This would, thereby, avoid a lengthy and possibly contentious and inconclusive debate as to which measures did and which did not require additional legal authority. Although suggestions arose that would have permitted States to use different mechanisms for providing the IAEA with the necessary authorities, a consensus emerged, and is reflected in the Model Additional Protocol, that a single instrument was best. This would achieve uniformity and avoid any risk of different interpretations arising.

Although some Board actions during the period from 1991-1997 suggest that the Agency might have the legal authority to apply protocol measures in states with comprehensive safeguards agreements that have not concluded a protocol, the fact of the Additional Protocol, itself, suggests otherwise politically, if not also legally. As a result, obtaining universal adherence to Additional Protocols is the best, perhaps, the only way, to provide the Agency everywhere with the authorities contained in the Model Additional Protocol.

3. "UNIVERSALITY" (TO WHAT STATES IS THE ADDITIONAL PROTOCOL RELEVANT?)

Relevant INFCIRC/540 (Corrected) text

Title: Model Protocol Additional to the Agreement(s) between ..... and the International Atomic Energy Agency for the Application of Safeguards

Preamble paragraph 1:
WHEREAS ….. (hereinafter referred to as "…..") is a party to (an) Agreement(s) between ….. and the International Atomic Energy Agency (hereinafter referred to as the "Agency") for the application of safeguards [full title of the Agreement(s) to be inserted] (hereinafter referred to as the "Safeguards Agreement(s)"), which entered into force on …;

Foreword:

This document is a model Additional Protocol designed for States having a Safeguards Agreement with the Agency, in order to strengthen the effectiveness and improve the efficiency of the safeguards system as a contribution to global nuclear non-proliferation objectives.

The Board of Governors has requested the Director General to use this Model Protocol as the standard for additional protocols that are to be concluded by States and other parties to comprehensive safeguards agreements with the Agency. Such protocols shall contain all of the measures in this Model Protocol.

The Board of Governors has also requested the Director General to negotiate additional protocols or other legally binding agreements with nuclear-weapon States incorporating those measures provided for in the Model Protocol that each nuclear-weapon State has identified as capable of contributing to the non-proliferation and efficiency aims of the Protocol, when implemented with regard to that State, and as consistent with that State's obligations under Article I of the NPT.

The Board of Governors has further requested the Director General to negotiate additional protocols with other States that are prepared to accept measures provided for in the Model Protocol in pursuance of safeguards effectiveness and efficiency objectives.

In conformity with the requirements of the Statute, each individual Protocol or other legally binding agreement will require the approval of the Board and its authorization to the Director General to conclude and subsequently implement the Protocol approved.

3.1. Description

One of the issues that engaged members of Committee 24, especially the non-nuclear weapon states (NNWS), was universality, i.e., whether, and to what extent, the Model Additional Protocol would apply to the five NPT nuclear weapon states (NWS) with voluntary offer safeguards agreements and to states with INFCIRC/66 safeguards agreements, particularly India, Israel, and Pakistan. There was general agreement that the additional protocol was being developed primarily for states with comprehensive safeguards agreements and would apply in its entirety to them. However, just as in the case when the NPT was being negotiated, NNWS wished to ensure that the NPT NWS, especially, would not be exempted from its requirements entirely. As a result, Committee 24 devoted a significant amount of attention to the issue of universality. The issue arose repeatedly in considering the title, the first paragraph of the preamble, and the foreword. It is safe to say that without the commitments made by the five NPT NWS at the meeting of the Board of Governors in 1997 that approved the Model Protocol, a consensus could not have been reached on that approval.

3.2. Background

The titles of the Secretariat's first three drafts of the protocol referred only to safeguards agreements pursuant to the Treaty on the Non-Proliferation of Nuclear Weapons and the Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean, i.e., comprehensive safeguards agreements. This was also the case for the first paragraph of the preamble. There was no foreword in these first three drafts. There were no references to states with non-comprehensive safeguards agreements, i.e., states with INFCIRC/66-type agreements and nuclear-weapon states with voluntary offer agreements, in any of those drafts. There were general calls for universality during the Board discussions leading up to the establishment of Committee 24, and the debate began in earnest during the first meetings of the Committee in July 1996, when the Committee began discussion of the third draft. Protocol language that explicitly addressed universality appeared first in proposals by states during and following the July 1996 meetings of the Committee (reproduced in COM.24/3) and was debated at the October 1996 meetings.

3.3. Alternative proposals

As with many of the issues, there were some proposals that were not taken seriously by the Committee and not pursued. The following three proposals emerged regarding how the additional protocol would apply to states:

(1) The model protocol should apply only to states with comprehensive safeguards agreements (India at the March 1995 Board, GOV/OR.861/¶14).
(2) The model protocol should also apply to non-INFCIRC/153 states, each of which would select the provisions relevant to its safeguards agreement (Spain in OR.5/¶32).
(3) The model protocol should apply to all states (Egypt in OR.5/¶10).

3.4. Analysis

At the March 1995 Board, India stated that "document GOV/2784 (Strengthening the effectiveness and improving the efficiency of the safeguards system: "Programme 93+2") only applied to INFCIRC/153-type agreements, and that his country was not a party to such an agreement and could not accept the hint in paragraph 1 of the document that the proposed measures might subsequently be extended to apply also to other types of agreement" (GOV/OR.861/¶14). This view was reflected in the first three protocol drafts prepared by the Secretariat, the titles of which referred to the Treaty on the Non-Proliferation of Nuclear Weapons and the Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean. In their first comments on the title Argentina, Brazil, Germany, and Greece proposed deleting reference to any specific type of agreement in the title, thereby expanding the potential applicability of the protocol to states with other agreements in force (W.P. 12, 14, 10 and 9, respectively). At the October 1996 meetings, the great majority of states supported omission of the agreement type from the title, while the nuclear-weapon states joined India in arguing that the title should refer to comprehensive safeguards agreements (OR.21/¶17, 20, 31, 34 and 42).

By the January 1997 meetings most of the nuclear-weapon states had decided that they would accept some of the protocol measures, and Russia and the UK supported omission of reference to comprehensive safeguards agreements in the title. The title in the Chairman's draft of January 1997 omitted reference to agreement type and was eventually adopted by the Committee. Only Cuba, India, and Pakistan expressed reservations (OR.49/¶35-38).

The development of the first paragraph of the preamble closely paralleled that of the title. At the July 1996 meetings of the Committee, Egypt proposed adding the following paragraph to the preamble: "Convinced of the need to ensure that the Agency's safeguards system, including the measures contained in this Protocol, should be applied in a universal and non-discriminatory manner" (OR.5/¶10). This concept, for which there were considerable expressions of hope and support among states with comprehensive safeguards agreements, was to leave open the possibility for states currently without comprehensive safeguards agreements to adopt, at some indefinite future time, the protocol in its entirety. However, in calling for universality, speakers were often unclear as to whether they were proposing this concept or one allowing states to select the protocol measures relevant to their non-comprehensive safeguards agreements.

At the same meeting, Spain made the following points:

- the preamble to the draft protocol was inextricably linked with the question of the universality of Programme 93+2;
- as had been recognized by the Board in June, all countries with safeguards agreements had to assume responsibilities under Programme 93+2;
- clearly those obligations would depend on the different commitments of states under their respective safeguards agreements;
- by definition, the possibility of detecting clandestine materials and activities could only arise in countries with INFCIRC/153-type agreements and such countries were the main focus of Programme 93+2;

- however, detection in those countries required the active co-operation of other countries; and countries that did not have INFCIRC/153-type agreements clearly had an obligation to implement any measures under Programme 93+2 that were applicable to them (OR.5/¶32-33).

The Chairman's first draft (Draft 4) contained three alternative formulations for preamble paragraph 1:

> [WHEREAS ..... (hereinafter referred to as ".....") is a party to a Comprehensive Safeguards Agreement (hereinafter referred to as the "Safeguards Agreement") with the International Atomic Energy Agency (hereinafter referred to as the "Agency"), which entered into force on .....;]
> **OR**
> [WHEREAS ..... (hereinafter referred to as ".....") is a party to the Agreement between ..... and the International Atomic Energy Agency (hereinafter referred to as the "Agency") for the Application of Safeguards (hereinafter referred to as the "Safeguards Agreement"), which entered into force on .....;]
> **OR**
> [WHEREAS ..... (hereinafter referred to as "....") is a party to the Agreement between ..... and the International Atomic Energy Agency (hereinafter referred to as the "Agency") for the application of safeguards [full title of the Agreement to be inserted] (hereinafter referred to as the "Safeguards Agreement"), which entered into force on .....;]

These alternatives were discussed at the January 1997 meetings of the Committee. India asserted that it could accept only the first option and added that no effort had been made to specify which provisions in the protocol would be applicable to countries with only INFCIRC/66/Rev.2-type agreements (OR.41/¶48 and 54). Ecuador and Syria preferred the second option (¶36 and 46). The U.S., Germany, Finland, Sweden, Czech Republic, South Africa, Algeria, Ecuador, Iran and Chile preferred the third option (¶14-16, 35, 37, 41, 42, 44 and 47). There was no substantive difference between the second and third options, as the Secretariat pointed out that irrespective of which option was chosen, each protocol would have to specify the safeguards agreement to which it was additional, giving the title and date of entry into force (¶43). In concluding the discussion, the chairman stated that the third option seemed to enjoy the greatest support and was the most appropriate (¶53).

At the July 1996 meetings, Spain introduced the idea that separate model protocols be designed for all non-INFCIRC/153 states that would also be subject to Committee examination and Board approval, although Spain thought the best approach would be to have a single framework protocol to be used as a model by all countries in developing their own protocols (OR.5/¶34). At the October 1996 meetings Spain proposed that the model protocol should also apply to non-INFCIRC/153 states, which would select the provisions relevant to them (OR.21/¶28); and that footnotes accompany each of the articles that would not be applicable to nuclear-weapon states (OR.21/¶38).

As previously noted, no foreword was included in the first three drafts of the protocol. The idea of a foreword dealing with this issue was first tabled by Belgium at the October 1996 meetings of the Committee. Belgium proposed that the following be inserted before the preamble:

> This document is a model of Additional Protocol designed for States having a Safeguards Agreement with the Agency, willing to strengthen the effectiveness and improve the efficiency of the safeguards system. Nuclear-weapon States shall identify the measures they can apply without undermining their obligation under Article I of the Treaty on the Non-Proliferation of Nuclear Weapons. Other States having a non-comprehensive Safeguards Agreement shall identify the measures they can apply on the basis of their safeguards policy and obligations (OR.22/¶91 and attachment 1).

This idea was supported in whole or in part by Brazil (¶9), the U.S. (¶93), Germany (¶94), Argentina (¶95), Japan (¶96), Spain (¶97), Korea (¶101), Australia (¶103), the UK (OR.23/¶1), Austria (¶3:) and France (¶4). It was opposed by China (OR.23/¶2), Brazil, which objected to the pick-and-choose approach (¶104), and India, because it did not make clear that implementation of the protocol and of the strengthened safeguards system could only apply to countries having comprehensive safeguards agreements (¶105).
For discussion at the January 1997 meeting, the chairman proposed including a foreword in Draft 5 that read:

> [This document is a model of an Additional protocol designed for States having a Safeguards Agreement with the Agency, willing to strengthen the effectiveness and improve the efficiency of the safeguards system. Nuclear-weapon States shall identify the measures they can apply without undermining their obligation under Article I of the Treaty on the Non-Proliferation of Nuclear Weapons. Other States having non-comprehensive Safeguards Agreements shall identify the measures they can apply on the basis of their safeguards policy and obligations.] [In conformity with the. requirements of the Statute, each individual Protocol concluded on the basis of this model will require the approval of the Board and its authorization to the Director General to conclude and subsequently implement the Protocol so approved.]

The subsequent discussion regarding universality is analyzed separately in the following paragraphs dealing respectively with (i) states with comprehensive safeguards agreements, (ii) nuclear-weapon states and (iii) non-nuclear-weapon states with non-comprehensive safeguards agreements.

States with comprehensive safeguards agreements

At the January 1997 meetings, Belgium proposed the addition of a second sentence reading, "The model shall be used as the standard text of additional protocols to be concluded between the Agency and parties to comprehensive Safeguards Agreements" (OR.40/¶6 and attachment 1). There were no other substantive proposals on this part of the foreword at the January meetings.

In his Draft 5 of January 1997, the chairman revised the part of the foreword dealing with comprehensive safeguards agreements to read "The Board of Governors has requested the Director General to use this model Protocol as the basis for additional protocols or agreements to be concluded by States and other parties to comprehensive safeguards agreements with the Agency. Such protocols or agreements shall contain all of the measures in this model Protocol." In the ensuing discussion there was editorial debate, and suggestions were made that the new

third sentence could be deleted, but there was no challenge to its substance or proposals to the contrary. The chairman concluded the discussion by stating that "basis" should be replaced by "standard" and the third sentence should be left unchanged (OR.43/¶35). There were no further substantive comments on this part of the foreword.

It is noteworthy that the first sentence of the January draft replaced the phrase "willing to" by "in order to," a changed proposed by Algeria (OR.40/¶56) without elaboration or commentary by anyone else, and which also appears in the adopted text. The second sentence of the adopted text of the protocol states that:

> The Board of Governors has requested the Director General to use this Model Protocol as the standard for additional protocols that are to be concluded by States and other parties to comprehensive safeguards agreements with the Agency.

This text adds the phrase "that are" before "to be concluded." Both of these changes imply an obligation on the part of states with comprehensive safeguards agreements to accept an additional protocol. However, the only explicit suggestion to this effect was made by the Spanish representative, who stated, albeit in the debate on states with non-comprehensive safeguards agreements, that "all States with safeguards agreements could - and should - contribute to the strengthening of Agency safeguards" (OR.43/¶14). There was no follow-up to this suggestion, and there were no proposals for the introduction of such an obligation or debate on this issue.

Nuclear-weapon states

Underlying the proposal by Belgium at the October meetings that nuclear-weapon states should accept some of the protocol measures was the recognition that there was a relationship between acceptance of the additional protocol by nuclear-weapon states and acceptance by key non-nuclear-weapon states, such as Germany and Japan. This relationship did not become explicit until the opening session of the January 1997 meetings at which the chairman made the following statement (OR.24/¶21):

1. At the last two sessions of this Committee, a number of States with comprehensive safeguards agreements expressed an interest in how other States, including in particular the nuclear-weapon States, might be prepared to contribute to the aims of the Protocol, subject to their non-proliferation commitments.
2. I understand that during consultations that have taken place since our October session the nuclear-weapon States have been looking at two issues:
   (a) The substance - that is to say, what measures that will be accepted by States with comprehensive safeguards agreements they, the nuclear-weapon States, will be prepared to adopt; and
   (b) The procedures for ensuring that commitments on the part of both the nuclear-weapon States and the non-nuclear-weapon States proceed with a certain degree of parallelism.
3. This means that the meeting of the Board that would be called upon to approve the report of the Committee (including the Protocol) would take a decision on the Protocol in light of an understanding of the positions of the nuclear-weapon States.

4. This would be achieved by the nuclear-weapon States setting out their positions before the Board so that the Board could take account of this information in approving the Protocol.
5. This Board meeting may also be an appropriate moment for any other country that might wish to indicate its position to do so.
6. As already indicated, this is my understanding of the procedure discussed by the nuclear-weapon States.
7. Since the title, foreword and preamble are the parts of the Protocol directly linked to this issue, I think it would be best to take them up after there has been the opportunity for further informal consultations. I would therefore propose that we start our discussion with the substantive articles and leave the title, foreword and preamble to the end. I hope that this will meet with the approval of the Committee.

The foreword in the chairman's Draft 4 also included, "Nuclear-weapon States shall identify the measures they can apply without undermining their obligation under Article I of the Treaty on the Non-Proliferation of Nuclear Weapons. This draft provided the basis for a more specific debate on the extent to which the model protocol would be relevant to nuclear-weapon states.

At the January 1997 meetings the UK proposed the following replacement for the part of the foreword dealing with nuclear-weapon states, noting that the proposal was the result of consultations among the five NWS and the second paragraph represented the limit of what those states were prepared to accept:

> The Board of Governors has also requested the Director General to negotiate additional agreements with nuclear-weapon States incorporating those measures provided for in the model Protocol that each nuclear-weapon State has identified as capable of contributing to the non-proliferation aims of the Protocol, when implemented by a nuclear-weapon State, and as consistent with that State's obligations under Article I of the NPT (OR.40/¶9-10 and attachment 2).

The UK text was supported by the U.S., which added that it represented the maximum that could be agreed upon by all five NWS and attempts to improve on it would fail; that the U.S. would make clear at the time when the text of the Protocol was approved by the Board what obligations it would assume and hoped that the other NWS would do the same (OR.40/¶11-17) and by France, which added that the second paragraph made clear that the Protocol-related measures to be applied in the NWS should be capable of contributing to the non-proliferation aims of the Protocol and consistent with each NWS's obligations under Article I of the NPT. France added that these criteria acknowledged the joint responsibility of the NWS to help develop the international non-proliferation regime still further and would not result in uniform Protocol-based agreements with the NWS, because the voluntary-offer safeguards agreements of the five NWS were all different, reflecting differences between their nuclear programs, where civilian and military aspects were separated in some cases but overlapped in others (OR.40/¶18-20). In an earlier comment, Russia had pointed out that it was unrealistic to include NWS because of the tremendous cost burden that would be associated with monitoring and conducting inspection activities in the vast number of nuclear-related facilities in NWS (OR.21/¶48).

For the most part, INFCIRC/153 states were amenable to the UK text, although some objected to the criterion whereby the measures to be applied in nuclear-weapon states would be selected. Australia proposed addition of the phrases "in consultation with the Agency," after "has

identified," so that the Agency would have the right to indicate which measures it considered the most useful and "and efficiency" in the second sentence of the UK text (OR.40/¶48-50). These two additions were included in the foreword of the chairman's Draft 5.

China and Russia requested deletion of the phrase "after consultations with the Agency" (OR.43/¶38 and 41), and France requested its retention (OR.43/¶44), as did Australia (¶50). These same two additions were retained in Draft 6. Again, China requested deletion of the phrases "after consultations with the Agency" and "and efficiency" (OR.50/¶21). The U.S., Japan, UK, and France indicated that they could go along with the deletion of "after consultations with the Agency" but opposed deletion of "and efficiency" (¶29, 31-32 and 36-40). Australia also opposed deletion of "after consultations with the Agency," as that phrase was proposed to convey the hope that the NWS would as far as possible take into account the Agency's views, based on technical considerations (¶33). The inclusion of "and efficiency" was important because it covered such specific protocol measures as designation of inspectors and issuance of their visas and, more generally, any of the others measures that might reduce the costs of safeguards, a matter of considerable concern to many states.

The chairman's April 2, 1997 text (W.P. 26) of this third paragraph of the foreword omitted the phrase "after consultations with the Agency" and retained "and efficiency" and read:

> The Board of Governors has also requested the Director General to negotiate additional protocols or other legally binding agreements with nuclear-weapon States incorporating those measures provided for in the model Protocol that each nuclear-weapon State has identified as capable of contributing to the non-proliferation and efficiency aims of the Protocol, when implemented with regard to that State, and as consistent with that State's obligations under Article I of the NPT.

Japan expressed disappointment with the deletion of the phrase "after consultations with the Agency," but stated its understanding that the Agency would always be free to initiate relevant consultations with the nuclear-weapon states (OR.52/¶6). Mexico urged retention of that phrase (¶7). The chairman agreed that the phrase was useful but felt it was not essential (¶8).

At its final meetings on April 3, 1997, the Committee considered the chairman's draft of its report transmitting the Draft Model Protocol to the Board (W.P.22/Rev.1 of 2 April 1997). Paragraphs of this draft report relate directly to the parts of the foreword dealing with states with non-INFCIRC/153 safeguards agreements and were as follows:

> 1. In agreeing to submit the draft Model Protocol for the Board's consideration, participating States took into consideration the declaration made by the Chairman of the Committee at the opening meeting of its session of January 20-31, 1997. In that statement, the Chairman inter alia indicated his understanding that the Nuclear Weapon States "*had been looking at two issues:*
>
> *(a) the substance, that is to say, what measures that will be accepted by States with comprehensive safeguards agreements that they, the Nuclear Weapon States, will be prepared to adopt; and,*
>
> *(b) the procedures for ensuring that commitments on the part of both the NWS and NNWS proceed with a certain degree of parallelism."*

2. The Chairman went on to note that *"this means that the meeting of the Board that would be called upon to approve the report of the Committee (including the Protocol) would take a decision on the Protocol in light of an understanding of the positions of the NWS. This would be achieved by the NWS setting out their positions before the Board so that the Board could take account of this information in approving the Protocol. The Board meeting may also be an appropriate moment for any other country that might wish to indicate its position to do so."*

3. The Committee recommends to the Board that in its consideration of the draft Model Protocol it take account of the foregoing statement by the Chairman and such developments as relate to it.

Japan, supported by Germany stated that it attached great importance to the Chairman's reference to "a certain degree of parallelism" as regards commitments on the part of NWSs and NNWSs and to his statement that the Board would take a decision on the Protocol in May in the light of an understanding of the positions of the NWSs (OR.53/¶7 and 9).

The Board met in special session on 15 May 1997 to consider the Committee 24 report. Its discussions were straightforward with no surprises and are recorded in GOV/OR.913 and 914. By prior arrangement each of the five nuclear-weapon states made a statement outlining the provisions of the Model Protocol that it was prepared to accept.[1] The Board took note of all of the statements made by States not having comprehensive safeguards agreements (GOV/OR.913/¶76).

Non-nuclear-weapon states with non-comprehensive safeguards agreements

The foreword in the chairman's Draft 4 of October 1996 also included "Other States having non-comprehensive Safeguards Agreements shall identify the measures they can apply on the basis of their safeguards policy and obligations." This draft provided the basis for a more specific debate on the extent to which the model protocol would be relevant to states with non-comprehensive safeguards agreements.

[1] The U.S. delegation read a letter from President Clinton that stated that, "Last September, I said that '... the United States stands ready to accept the new safeguards as fully as possible in our country consistent with our obligations under the NPT.' The United States intends to do so by accepting the Protocol in its entirety and applying all of its provisions except where they involve information or locations of direct national security significance to the United States. It is our intention to make the Protocol legally binding."

France and the UK issued detailed position papers, which took the perspective that Protocol measures would be applied when non-nuclear-weapon States were involved in the activities concerned. Their Protocols would be legally binding, include measures to improve efficiency, issuance of visas, for example, and provide for complementary access.

Russia and China made similar offers linked to non-nuclear weapon state activities but without complementary access.

India and Pakistan continued to express reservations, while Cuba and Israel expressed intentions to consider implementation of some measures.

In its first statement on this issue at the January meetings, India said it could not go along with any proposal aimed, however indirectly and in however neutral a manner, at bringing about the application of provisions of the protocol in countries with INFCIRC/66/Rev.2-type safeguards agreements (OR.40/¶35). India, Cuba, and Pakistan regularly restated their position that references to such states in the protocol should be deleted, a position just as regularly rejected by the large majority of other states. The majority shared the views expressed by Germany that, while it was clear that states with only INFCIRC/66/Rev.2-type safeguards agreements had no legal obligation to declare all their nuclear activities, the aim was not to compel those states to make the sacrifices which would have to be made by states with comprehensive safeguards agreements but rather to enlist their support in making the safeguards system as a whole more effective and efficient (¶46-47) and by Australia that the participation of other states in the implementation of the protocol would help to achieve its objectives (¶48-50).

The foreword of the chairman's Draft 5 of January 1997 included: "The Board of Governors has similarly requested the Director General to consult and negotiate additional agreements with other States that are ready to accept to the extent possible measures provided for in the Model Protocol in accordance with their non-proliferation and safeguards commitments and policies, and in pursuance of safeguards effectiveness and efficiency objectives." This differed little in substance from the language in the chairman's Draft 4. Egypt, Syria, Tunisia, Morocco and Iran requested deletion of "in accordance with their non-proliferation and safeguards commitments and policies," because it would give the states too much leeway in deciding what provisions to accept (OR.43/¶53-55, 58 and 61).

This deletion was reflected in the chairman's Draft 6, which read "The Board of Governors has further requested the Director General to negotiate additional protocols with other States that are prepared to accept measures provided for in the model Protocol in pursuance of safeguards effectiveness and efficiency objectives." This language does not appear to be any more demanding on the states involved than the January text. The dispute between Cuba, India, and Pakistan and the rest of the Committee on the inclusion of this provision continued without change.

The chairman's April 2 draft of the foreword retained this sentence without change (W.P.26). Egypt, Syria, and Jordan recalled the proposal to delete "that are prepared" in this sentence, expressed regret that the phrase appeared in the revised text, and requested that mention of the proposal be made in the Committee's report to the Board (OR.52/¶12-13). India, facing something of a dilemma in wanting the sentence to be deleted but also wanting to keep it as painless as possible, opposed deletion of "that is prepared" (¶14-15). The decision to retain the phrase "that are prepared" is important because it shows clearly and explicitly that the Committee accepted, albeit reluctantly on the part of many, that acceptance of protocol measures by non-nuclear-weapon states with non-comprehensive safeguards agreements was to be voluntary.

On 3 April 1997 the Committee considered the draft (W.P.22/Rev.1 of 2 April 1997) of its report transmitting the Draft Model Protocol to the Board. Paragraph 8 of the report read "With regard to the last sentence of the Chairman's text quoted in paragraph 6, some States with INFCIRC/ 66-type agreements indicated that, in their view, the provisions of the draft Model Protocol were not

designed for them." There was extended bickering as to how many such states the sentence applied. In the end the Committee accepted the chairman's revised language, which read "all the participating States with exclusively INFCIRC/66-type agreements indicated that, in their view, the provisions of the draft Model Protocol are not applicable to them." (OR.53/¶25)

At the Board's special session on 15 May 1997 India, Cuba, Pakistan, and Israel stated that the protocol was not relevant to them. Only Israel added that it would examine the protocol for measures that might be relevant to Israel. The Board took note of all of these statements made by states not having comprehensive safeguards agreements (GOV/OR.913/¶76).

Egypt proposed the following additional paragraph to the Committee's report: "A number of delegations called upon all INFCIRC/66 States to adopt additional protocols based upon provisions contained in the Model Protocol" (OR.53/¶38). Australia proposed amending it to read "... called upon all States with exclusively INFCIRC/66-type agreements to adopt additional protocols ..." (OR.53/¶39). India and Pakistan opposed the addition and threatened to reopen the discussion of the fourth paragraph of the foreword (OR.53/¶48). The chairman stated that the proposed additional paragraph as amended by Australia was an accurate reflection of the Committee's discussions (OR.53/¶49).

The Committee's report to the Board (GOV/2914 of 10 April 1997) included paragraphs 8 and 9, which read:

> 8. With regard to the last sentence of the Chairman's text quoted in paragraph 6, all the participating States with exclusively INFCIRC/66-type agreements indicated that, in their view, the provisions of the draft Model Protocol are not applicable to them.
> 9. A number of other delegations called upon all States with exclusively INFCIRC/66-type agreements to negotiate with the Director General additional protocols containing measures provided for in the draft Model Protocol.

Although many points in the Committee's report to the Board do not appear in the protocol, they are relevant to any interpretation of it because they help establish the context in which the Committee agreed to submit the protocol to the Board and the context in which the Board, in taking note of the Committee's report, approved the Model Protocol.

3.5. Interpretation

The general consensus and ultimate decision of the Committee and the Board with regards to universality were that the Model Additional Protocol was intended for states with comprehensive safeguards agreements, nuclear-weapon states, and non-nuclear-weapon states with non-comprehensive safeguards agreements.

The Committee and Board records as well as the text of the foreword in the Model Protocol are explicit and clear that all of its measures are to be included in protocols to comprehensive safeguards agreements. There were changes made in the foreword that could be interpreted as calling upon or obligating states with comprehensive safeguards agreements to accept an

additional protocol. However, there were no proposals for the introduction of such an obligation and no debate on this issue. Any implication of an obligation is at most ambiguous.

The record as well as the text of the foreword is also explicit and clear that each nuclear-weapon state will decide which of the protocol measures it will accept. However, the language of the protocol foreword is explicit that the measures should be those that contribute to the non-proliferation and efficiency aims of the protocol. Efforts to include an obligation on nuclear-weapon states to consult with the Agency before deciding which measures to accept were not adopted, although, as Japan pointed out, the Agency is always free to make suggestions and state its views on the selections. While there is nothing in the model protocol or the Committee or Board records representing an obligation for nuclear-weapon states to accept a protocol or a requirement as to when they should do so, the record is clear that these states accepted an obligation to act with a "certain degree of parallelism" with states with comprehensive safeguards agreements in concluding protocols.

Finally, the record as well as the text of the foreword are also explicit and clear that the states for which the Model Protocol was intended includes non-NPT states with non-comprehensive safeguards agreements. This was the decision of the Committee and the Board despite the persistent and adamant objections of Cuba, India, and Pakistan, who criticized Committee members for expanding the initial mandate beyond its intended audience and insisted that the protocol would in no way be applicable or acceptable to INFCIRC/66-type states. In a telling statistic, throughout the duration of Committee 24, roughly 75 percent of this group's combined statements were in some way regarding objections to applying the protocol to INFCIRC/66 states. Although the Committee's report to the Board includes a call by some states for non-NPT states with non-comprehensive safeguards agreements to accept protocols, the record and protocol text are clear that the protocol contains no obligation on the part of these states to do so. The record and protocol text are also explicit that any protocols for these states would include measures in pursuance of safeguards effectiveness and efficiency objectives but do not indicate who would decide which such measures are.

4. PURPOSE OF THE ADDITIONAL PROTOCOL – BASIS, OBJECTIVE, AND CONDUCT OF COMPLEMENTARY ACCESS

Relevant INFCIRC/540 (Corrected) text

Foreword

This document is a model Additional Protocol designed for States having a Safeguards Agreement with the Agency, in order to strengthen the effectiveness and improve the efficiency of the safeguards system as a contribution to global nuclear non-proliferation objectives.

Preamble paragraph 2

AWARE OF the desire of the international community to further enhance nuclear non-proliferation by strengthening the effectiveness and improving the efficiency of the Agency's safeguards system;

Preamble paragraph 4

WHEREAS the frequency and intensity of activities described in this Protocol shall be kept to the minimum consistent with the objective of strengthening the effectiveness and improving the efficiency of Agency safeguards.

Article 4

The following shall apply in connection with the implementation of complementary access under Article 5 of this Protocol:

a. The Agency shall not mechanistically or systematically seek to verify the information referred to in Article 2; however, the Agency shall have access to:
   (i) Any location referred to in Article 5.a.(i) or (ii)* on a selective basis in order to assure the absence of undeclared *nuclear material* and activities.
   (ii) Any location referred to in Article 5.b. or c.** to resolve a question relating to the correctness and completeness of the information provided pursuant to Article 2 or to resolve an inconsistency relating to that information;
   (iii) Any location referred to in Article 5.a.(iii)*** to the extent necessary for the Agency to confirm, for safeguards purposes, ...'s declaration of the decommissioned status of a *facility* or of a *location outside facilities* where *nuclear material* was customarily used.

* These are any place on a *site* and any location identified by the state under article 2.a.(iv)-(viii), i.e., any location having *nuclear material* or *nuclear material* ore.

** These are, in effect, any other location in the state, including those identified by the state as having *nuclear fuel cycle-related research and development activities* not involving *nuclear material* or as being engaged in the activities listed in Annex I of the protocol and any location identified by the Agency outside a *site* which the Agency considers might be functionally related to the activities of that *site*.

*** These are any *decommissioned facility* or *decommissioned location outside facilities*

where *nuclear material* was customarily used.

Article 7

a. Upon request by ....., the Agency and ..... shall make arrangements for managed access under this Protocol in order to prevent the dissemination of proliferation sensitive information, to meet safety or physical protection requirements, or to protect proprietary or commercially sensitive information. Such arrangements shall not preclude the Agency from conducting activities necessary to provide credible assurance of the absence of undeclared *nuclear material* and activities at the location in question.

4.1. Description

The overall purpose of the protocol, as stated in the first sentence of the foreword, is to serve as the basis for legal instruments for strengthening the effectiveness and improving the efficiency of the safeguards system as a contribution to global nuclear non-proliferation objectives. This was never in question. However, a major and closely related task during the development of the protocol was formulating the Agency's rights to conduct complementary access. The basic issues, which were the most fundamental issues involved in the development of the protocol, were the basis for requesting access, whether the purposes of the protocol and in particular of complementary access would extend to providing assurance of the non-diversion of *nuclear material* and of the absence of undeclared *nuclear material* and activities or, for complementary access, would be limited to resolving questions and inconsistencies relating to information submitted by the state. A sub-issue was whether the resolution of questions dealt only with the correctness of the information provided by the state or also dealt with its completeness.

The issues of purpose were closely related and inextricably intertwined with the issue of the intensity of verification through complementary access, including the questions of verification on a "selective basis" and verification that was not "systematic or mechanistic." Accordingly, these issues are treated here collectively under the issues of purpose.

These several issues arose in the foreword, the first and fourth paragraphs of the preamble and in articles 4.a., and 7.a.

4.2. Background

At its June 1993 meetings, the Board discussed GOV/2657, *Strengthening the Effectiveness and Efficiency of the Safeguards System: Report by the Director General on SAGSI's Re-Examination of Safeguards Implementation* of 14 May 1993. SAGSI's advice included: (i) strengthen the Agency's safeguards system to provide significant confidence that no undeclared nuclear activities of proliferation relevance are being carried out in states with comprehensive safeguards agreements; and (ii) improve the cost effectiveness of the Agency's current safeguards approach.

The purpose of safeguards under comprehensive safeguards agreements, as stated in paragraph 2 of INFCIRC/153, is to verify that *nuclear material* is not diverted to nuclear weapons or other nuclear explosive devices, and paragraph 30 requires the Agency periodically (usually annually) to reach a technical conclusion for each *material balance area*. Some, and maybe even most, states felt that at times this was done too mechanistically by the Secretariat without the exercise of judgment as to the practical need or the benefits. Accordingly, these states sought language that would proscribe this kind of verification under the protocol. While the Secretariat did not incorporate such language in its proposals, it did make clear in the discussion that it had no intention of pursuing such verification under the Protocol.

In addition, under safeguards agreements, access by Agency inspectors is limited to defined *strategic points* in nuclear facilities and locations outside facilities (LOFs), except for very rare special inspections. However, under the protocol, agency inspectors would potentially have access to a large variety of locations, many or most of which would not be subject to the nuclear-related regulations applying to nuclear facilities and LOFs. As a consequence, states were apprehensive about the frequency of access, the intrusiveness of the access, and about their ability to provide the access in light of their constitutions. This was especially the case under the earlier Secretariat drafts for access for environmental sampling, which could be essentially anywhere in the state. As a result, many states, especially during the earlier days of Committee 24, were very cautious and conservative in respect of the extent of Agency access. This caution extended to the purposes for which access could be sought, since the purposes of access to a large extent determined the scope of the access.

4.3. Alternative proposals

The Committee considered five substantively different proposals for dealing with purpose:

1. Elaborate the purpose in the preamble to include providing assurance of the non-diversion of *nuclear material* to nuclear weapons or other nuclear explosive devices and assurance of the absence of undeclared nuclear material and activities (Secretariat's Draft 1).
2. Include no language in the preamble (or foreword) that would be inapplicable to states with non-comprehensive safeguards agreements (Chairman's Draft 6).
3. Complementary access not limited by purpose, i.e., no stated purpose (Secretariat's Draft 1).
4. Complementary access only for the purpose of resolving questions and inconsistencies involving the information provided by the state (Japan in OR.2/¶1 and W.P. 3 Corr.1).
5. Complementary access also to assure the non-diversion of *nuclear material* and the absence of undeclared *nuclear material* and activities where the state has indicated that *nuclear material* is present (GOV/2863/¶66, Australia in OR.2/¶8 and Chairman's Draft 4).

There were several alternative proposals relating to the intensity of complementary access:

1. The frequency and intensity of verification kept to a minimum consistent with the effective implementation of the Protocol (Secretariat's Draft 2).
2. Complementary access should not be done mechanistically or systematically (Japan in OR.2/¶1), should not be on a routine basis (chairman's Draft 4), or should be on a selective basis, such as random sampling (Germany in OR.29/¶8).
3. Complementary access "shall be carried out only for the purpose of resolving questions and inconsistencies." (Japan OR.2/¶42)

4.4. Analysis

The first formulation of purpose considered by the Committee was in the second paragraph of the preamble of the Secretariat's Draft 1, which read:

> WHEREAS ..... and the Agency are agreed to strengthen the effectiveness and improve the efficiency of the safeguards provided for in the Safeguards Agreement with a view to providing additional assurance of the non-diversion of nuclear material subject to the Safeguards Agreement to nuclear weapons or other nuclear explosive devices, including credible assurance of the absence of undeclared nuclear material and activities.

There were no comments in Board meetings on this, and it was not changed until the Secretariat's Draft 3 of May 1996, which only dropped the phrase "credible assurance of." Following a proposal by Germany (W.P. 10) to add the phrase "providing additional assurance of the non-diversion of nuclear material" and with editorial changes, the chairman issued a revised text in Draft 4 reading:

> AWARE OF the desire of the international community to strengthen the effectiveness and improve the efficiency of Agency safeguards with a view to providing additional assurance of the non-diversion of nuclear material to nuclear weapons or other nuclear explosive devices and of enhancing the Agency's capability to detect undeclared nuclear material and activities.

The discussion of this text at the January 1997 meetings centered around the questions of providing "additional," "credible" (U.S. in OR.41/¶79), or "additional credible" (Brazil in ¶83) assurance and whether the objective should be to "provide credible assurance of the absence of undeclared nuclear material and activities" (U.S. proposal)[1] or simply to enhance the Agency's ability to detect them (Belgian ¶91). The latter question was eliminated by the chairman in his Draft 5, and the first question was eliminated, both without further Committee discussion, in his Draft 6, which read: "AWARE OF the desire of the international community to further enhance nuclear non-proliferation by strengthening the effectiveness and improving the efficiency of the Agency's safeguards system."

The foreword of the chairman's Draft 4 read "This document is a model of an Additional protocol designed for States having a Safeguards Agreement with the Agency, willing to strengthen the effectiveness and improve the efficiency of the safeguards system." Although the

[1] This was the language that the Board of Governors had used when it decided in March 1995 that, "the safeguards system for implementing comprehensive safeguards agreements should be designed to provide for verification by the Agency of the correctness and completeness of States' declarations, so that there is credible assurance of the non-diversion of nuclear material from declared activities and of the absence of undeclared nuclear activities."

Committee accepted the addition of the phrase "as a contribution to global nuclear non-proliferation objectives," it never considered any addition to the foreword of phrases such as assurance of the non-diversion of nuclear material or of the absence of undeclared nuclear material and activities.

The preamble of the first three drafts of the protocol included language on the frequency and intensity of protocol activities and by 1996 stated that the frequency and intensity be kept to a minimum consistent with the effective implementation of the protocol and will not necessarily be a function of the scale of that program. In W.P. 10, Germany proposed replacing "the effective implementation of the protocol" with "the objective of strengthening the effectiveness and improving the efficiency of Agency safeguards" and deleting "will not necessarily be a function of the scale of that program." Slovakia, Cuba and Czech Republic also proposed this deletion (W.P. 16 and OR.22/¶83). The chairman noted that there was agreement on this deletion (¶88), and his text in Draft 4 of October 1996 read:

> [WHEREAS the frequency and intensity of activities described in this Protocol will be kept to the minimum consistent with the effective and efficient implementation of this Protocol;]
>
> **OR**
>
> [WHEREAS the frequency and intensity of activities described in this Protocol shall be kept to the minimum consistent with the objective of strengthening the effectiveness and improving the efficiency of Agency safeguards].

At the January 1997 meetings the U.S., Australia, Sweden, Argentina, and Brazil supported the second alternative (OR.42/¶42-45), and this was the text approved for INFCIRC/540.

It is a bit surprising how little commentary there was on this preambular paragraph, given the efforts by many states in the debate on complementary access to limit the intensity and frequency of access.

Many of the concerns about the consistency of domestic laws and complementary access to private sector activities outside the heavily regulated nuclear industry extended to the purpose of complementary access, since the broader the purposes were, the greater their potential impact on the private sector. Thus, a number of NNWSs sought to limit complementary access to situations where an inconsistency or a question needed to be resolved. Another approach pursued by many states was to limit the frequency of access so that it would not be on a routine basis, would not be mechanistic or systematic, would be on a random basis, or would be on a selective basis.

However, a number of other states, both NWSs and NNWSs, were equally concerned that these restrictions on access would defeat the basic purpose of strengthening safeguards, namely to deal with the potential threat of undeclared *nuclear material* and activities, particularly at locations already having *nuclear material*, as had been the case in Iraq.

All three of the Secretariat drafts specified where complementary access could be carried out but contained nothing as to the purpose of the access with the exceptions of:

(1) D*ecommissioned facilities* and *decommissioned locations outside facilitie*s at which Agency access would be "to verify that it remains in its decommissioned status;" and

(2) Any locations that had not been declared by the state at which environmental sampling could be conducted.

It was understood from the outset that environmental sampling was, as subsequently defined in article 18.f. and g., for the purpose of assisting the Agency draw conclusions about the absence of undeclared *nuclear material* or nuclear activities.

However, the main body of GOV/2863 included many explanations of the provisions in the attached draft protocol, including that: (i) complementary access is expected to contribute significantly to the assurance provided by Agency safeguards of the absence of undeclared nuclear activities, and it is essential that access be sufficient to assure that undeclared *nuclear material* and activities are not collocated with declared nuclear facilities and LOFs in order to utilize the existing infrastructure (paragraph 61); and (ii) there is no intention of proceeding with a systematic verification of the additional information (paragraph 60).

As early as the December 1995 Board several NNWSs began proposing that complementary access be only for the purpose of resolving questions and/or inconsistencies. Brazil went further than the others in proposing that the inconsistency had to be "significant" (GOV/OR.884/¶74). At the June 1996 Board, Egypt proposed that complementary access be limited to instances of inconsistencies and questions (GOV/OR.894/¶108), a proposal repeated at the July 1996 meetings of Committee 24 by Japan (OR.2/¶42) and Brazil (¶48).

Australia (OR.2/¶49), supported by Greece (¶50), Sweden (¶52), New Zealand (¶53) and Denmark (¶59) countered that access was also needed to confirm the consistency between the state's declared nuclear program and its holdings of or capacity to produce *nuclear material*. The Secretariat added that it had deliberately avoided stipulating that access be limited to resolving an inconsistency or a question, that as a number of representatives had pointed out there had been no tendency on the part of the Secretariat to abuse its rights and, in any case, the Secretariat was under the authority of the Board, which could check any tendency towards abuse of its rights (¶69).

Following the July meetings most of the same comments were submitted in working papers, with Argentina (W.P. 12) and Belgium (W.P. 14) joining those proposing that access be limited to resolving an inconsistency or a relevant question regarding the possible existence of an undeclared nuclear activity involving *nuclear material* that it has not been possible to resolve otherwise in consultations. Japan proposed a new article, "Purpose of Complementary Access," as follows: "In connection with access provided for in Articles 3 and 4, the Agency shall not proceed with systematic or mechanistic verification of the information provided under Articles 1 and 2. The said access shall be carried out only for the purpose of resolving questions and inconsistencies" (W.P. 3 Corr.1).

At the October 1996 meetings, the same differences of view continued with Cuba (OR.10/¶46) joining the restrict-access-to-inconsistencies group and Sweden reiterating its view that

complementary access not be limited to "the resolution of inconsistencies and the like" (OR.10/¶56). Although not agreeing with this restriction, a growing number of states agreed that the article on access did need to include a clear and explicit statement of the purpose of access (Nigeria in ¶55 and the UK in ¶89). Germany also agreed that access should not be limited to questions and inconsistencies but did need to have some limit and proposed that there be no systematic or mechanistic verification of information and that reasons be given for requests for complementary access (¶97).

Following the October meetings, the chairman in his Draft 4 included the first complete and explicit statement of purpose in a new article that read:

> The information provided by the state is subject to verification but shall not be verified on a routine basis, provided however, that the Agency shall have the authority to verify this information in order to assure the absence of undeclared *nuclear material* and activities where the state has indicated that *nuclear material* is present, or, where such material is not present, to resolve an inconsistency or question relating to the correctness and completeness of the information provided.

The broad acceptance of this kind of formulation probably reflected, at least in part, the facts that *sites* and locations with *nuclear material* were generally already subject to governmental nuclear regulatory controls and the other locations were generally in the private sector.

At the January 1997 meetings, Germany proposed replacing this with:

> The Agency shall not mechanistically or systematically verify the information referred to in Article 1 above, provided that the Agency may seek access to (i) any location to resolve an inconsistency or question relating to the correctness or completeness of the information referred to above; (ii) any location on a *site*, or a location where (State) has indicated that *nuclear material* is present, to verify the information referred to in Article 1 on a selective basis, such as random sampling; and (iii) any decommissioned facility or a decommissioned LOF (OR.29/¶8).

Belgium proposed that the article begin with "the purpose of complementary access is clarification" (¶14).

The U.S. declared that at nuclear sites the Agency needed largely unrestricted complementary access rights to ensure that buildings were not being used for covert nuclear activities and would be "fighting the last war" if it could not also deal with undeclared sites and be able to conduct follow-up activities (OR.29/¶18-19). Greece (¶31-32), Australia (¶34), Spain (¶38) and the UK (¶54-55) argued that complementary access should be possible at nuclear *sites* even in the absence of inconsistencies or questions. Australia proposed replacing "shall not be verified on a routine basis" with "on a selective basis" and adding "The information shall not be verified on a mechanistic basis" (OR.30/¶8 and attachment). The U.S. opposed "random sampling" as it contradicts "on a selective basis" (¶14-16).

The outcome of the considerable debate in the Committee during its January 1997 meetings was to retain from then on the phrase "assure the absence of undeclared nuclear material and activities" in respect of *sites* and other locations declared by the state to have *nuclear material*.

By the middle of the January meetings, a common ground had emerged and was reflected in the chairman's Draft 5, which combined his October text with the German text and read:

> The Agency shall not mechanistically or systematically [seek to confirm] [verify] the information referred to in Article 2, provided that the Agency may have access to: (i) Any location referred to in Article 5.a.(i) and (ii) on a selective basis in order to assure the absence of undeclared *nuclear material* and activities; (ii) Any location referred to in Article 5.b. and c. to resolve a question relating to the correctness and completeness of the information provided pursuant to Article 2 or to resolve an inconsistency relating to that information; and (iii) any location referred to in Article 5.a.(iii) to the extent necessary for the Agency to confirm, for safeguards purposes, ...' s declaration of the decommissioned status of the facility or location outside facilities where nuclear material was customarily used.

The Secretariat noted that since the information to be provided under article 2 was largely qualitative, the Agency would in any case not deal with it in a mechanistic or systematic way and that access for the purpose of assuring the absence of undeclared *nuclear material* and activities implicitly included the resolution of any questions or inconsistencies (OR.45/¶32-34 and 41).

There were no further comments on the purposes of complementary access, and the chairman's Draft 6 of February 1997 with only minor editorial changes was the same as his January draft and the same as approved for INFCIRC/540.

The first draft dealing with managed access was Draft 2, article 6 of which read: "... may make arrangements with the Agency for managed access under this Protocol due to safety reasons, or to protect proprietary or commercially sensitive information, provided that such arrangements shall not preclude the Agency from conducting activities necessary to determine the absence of undeclared *nuclear material* and activities at the location in question or otherwise resolve any inconsistency." Only Brazil sought to delete the provision for determining "the absence of undeclared *nuclear material* and activities" (W.P. 14), and the phrase was retained from then on without debate.

4.5. Interpretation

The omission in the foreword and preamble of reference to undeclared *nuclear material* and activities reflects the successful effort to make the protocol generally relevant to all states, including states without comprehensive safeguards agreements.

The omission in the foreword and preamble of reference to non-diversion of *nuclear material* is a simple recognition that paragraph 2 of INFCIRC/153 (Corrected) established the Agency's right and obligation to ensure that safeguards are applied on all source or special fissionable material in all peaceful nuclear activities for the exclusive purpose of verifying that such material is not diverted to nuclear weapons or other nuclear explosive devices. This provision is unaffected by the protocol in accordance with its article 1, since none of its articles apply to inspections (one of many reasons why the term "inspection" is not used in the protocol).

For *sites* and other locations declared by the state to contain *nuclear material* or their ores, the text and the record of article 4.a.(i) are clear that:

(1) The Agency shall not mechanistically or systematically seek to verify the information referred to in article 2. Neither the text nor the record provides a definition or explanation of "mechanistically" or "systematically," and the record shows that some states did not understand the difference, if any. A meaning can be inferred that complementary access should not be carried out like the verification of *nuclear material* accountancy data to reach statistically sound conclusions on every *nuclear material* balance. It is also clear that the protocol would apply to materials before the starting point of safeguards and after it has been determined as no longer subject to safeguards. Accordingly, it is logical that the level and kind of effort would be different than for nuclear material subject to all safeguards measures. The only insight in the protocol itself into the possible meaning of this limitation is in the fourth paragraph of the Preamble, which states "WHEREAS the frequency and intensity of activities described in this Protocol shall be kept to the minimum consistent with the objective of strengthening the effectiveness and improving the efficiency of Agency safeguards." Ultimately, as the Secretariat pointed out, if it were to abuse its rights of complementary access, the Board could take action, either through the safeguards budget or direct orders to the Director General.

(2) The Agency can carry out complementary access on a selective basis for the purpose of assuring the absence of undeclared *nuclear material* and activities. The Committee did not address the question of who would make the selections. Accordingly it can be assumed that the Secretariat will do so. Neither the text nor the record provides any guidance for the selection process, except for the Committee's rejection of selection on a random basis. The Secretariat did point out that a necessary part of assuring the absence of undeclared *nuclear material* and activities would be the resolution of any questions or inconsistencies at these locations. Otherwise, the only hint of how selections might be made was by the Secretariat in pointing out that in the event an inspector saw something he or she did not understand, complementary access would be sought. The Secretariat also said that in order to achieve cost-effectiveness complementary access at *sites* would normally be done only in conjunction with routine inspections, and paragraph 6(c) of INFCIRC/153 requires the Agency to concentrate routine inspections on *nuclear material* from which nuclear weapons could readily be made.

For other locations, both those declared by the state (article 5.b.) and those specified by the Agency (article 5.c.), the text and the record of article 4.a.(ii) are clear that the Agency can carry out complementary access only in the event of a question or inconsistency and only for the purpose of resolving that question or inconsistency. Attempts by the Committee to define "questions" and "inconsistencies" were not successful, and they are defined only to the extent of the text itself in article 4.a.(ii), namely "a question relating to the correctness and completeness of the information provided pursuant to Article 2" and "an inconsistency relating to that information." Inclusion of "completeness" of the information is significant, because it involves

the issue of undeclared material and activities, and some states sought, unsuccessfully, to exclude reference to "completeness." The record is also clear that it is the Secretariat that determines whether there is a question or inconsistency, although the record is equally clear that the Secretariat is to consult with the state to the extent practical on that and related matters. Brazil's proposal that complementary access should require a "significant inconsistency" was not accepted by the Committee, not because it intended that the Secretariat expend resources on other inconsistencies but rather to avoid giving states the opportunity to challenge a request for complementary access on the basis that the inconsistency was not significant.

5. RELATIONSHIP BETWEEN THE PROTOCOL AND THE SAFEGUARDS AGREEMENT

Relevant INFCIRC/540 (Corrected) text

Article 1

The provisions of the Safeguards Agreement shall apply to this Protocol to the extent that they are relevant to and compatible with the provisions of this Protocol. In case of conflict between the provisions of the Safeguards Agreement and those of this Protocol, the provisions of this Protocol shall apply.

5.1. Description

The issues regarding the relationship between the protocol and the safeguards agreement were the most legalistic of the issues dealt with by Committee 24. They were threefold:

(1)Was the protocol to be a stand-alone legal instrument;

(2)Was it necessary or desirable to repeat in the protocol provisions of the safeguards agreement that were relevant and not in conflict with the provisions of the protocol; and

(3)Was the protocol to be an "integral part" of the safeguards agreement?

Their resolution is reflected in article 1. The issue of "integral part" involved the role of EURATOM in respect to the protocols of the EU states and, hence, was an issue primarily for these states.

5.2. Background

Although the Board established Committee 24 to develop a protocol to comprehensive safeguards agreements for the purpose of strengthening and improving the efficiency of safeguards under those agreements, the Board did not prescribe the relationship between safeguards agreements and the new protocol. Thus, throughout almost the entire life of the Committee its members struggled with both legal and political questions about this relationship. These questions began during the first meetings of the Committee in July 1996 and were still being debated until near the end of its last meetings in April 1997.

5.3. Alternative proposals

The alternative proposals for the two issues that actually arose during the Committee's discussions are:

(1) Draft the protocol as a legal instrument to be additional to a safeguards agreement rather than a stand-alone instrument (Draft 1). (There was never a counter proposal.)

(2) Include in the protocol references to or the text of paragraphs of INFCIRC/153 considered relevant to the protocol (Draft 1).

(3) Omit all such references and text, relying on their existence in the safeguards agreement (Secretariat in OR.4/¶5).

(4) Include in the protocol a statement that the protocol was "an integral part of" or was "additional and complementary to" the safeguards agreement (Draft 3 article 15 and the Netherlands in OR.35/¶55).

(5) Omit reference to "an integral part of" and "additional and complementary to" and rely on an explicit statement of the relationship as in article 1 (Brazil and the UK in OR.47/¶50).

5.4. Analysis

The question of whether the protocol was to be a stand-alone legal instrument was never a real issue. From Draft 1 onwards, the title and text always referred to safeguards agreements to which the protocol would be additional. Throughout the discussion of universality, there was never a proposal that the protocol apply to states without a safeguards agreement. There were a few references to a stand-alone document during the Committee's discussions, such as Spain's comment that the Committee needed to decide whether to produce a freestanding agreement (OR.17/¶29). However, there was never a proposal to make the protocol such a document. When the Secretariat stated (OR.47/¶55) that countries without safeguards agreements with the Agency would not be able to conclude a protocol because it would not be a stand-alone legal instrument, there was not a hint of dissent from the Committee. This did not settle, though, the issue of the relationship between the Protocol and associated safeguards agreements, for example, whether the Protocol should repeat provisions of the safeguards agreement.

This arose, for example, in the case of amendment of the Protocol. Draft 1 included an article 10 on amendment of the protocol and an article 12 on the duration of the protocol. The first comments at the July 1996 meetings raised the question of the need to repeat in the protocol provisions of the safeguards agreement, which has its own provisions for duration and amendment. Germany questioned the need for an amendment article (OR.4/¶1), Belgium suggested the addition of provisions for the settlement of disputes (OR.4/¶2), and Greece suggested the addition of provisions like those in paragraphs 18 and 19 of INFCIRC/153 dealing with verification of the non-diversion of *nuclear material* (OR.4/¶7). As often as such proposals were made, the Secretariat replied that clauses relating to amendments and the settlement of disputes, like several other final clauses in INFCIRC/153, should not be included in the protocol as they were already provided for in safeguards agreements of which the protocol would be a part, and it would be redundant to repeat them in the protocol (OR.4/¶5 and 8 and OR.17/¶13 and 19).

Nonetheless, the chairman's Draft 4 of October 1996 included a bracketed article that provided for amendment of the protocol but for the first time made an exception for amendment of annexes I and II. Draft 4 also stated that the provisions of the safeguards agreement would apply to the protocol to the extent relevant to and compatible with the provisions of the protocol, and proposed including four lists of relevant provisions of the safeguards agreement:

(i) provisions that would apply to the implementation of the protocol;

(ii) provisions that would apply, as supplemented by specified provisions of the protocol, to the implementation of the protocol;

(iii) provisions that would be superseded by provisions of the protocol; and

(iv) provisions that would not be applicable to the implementation of the protocol.

At the January 1997 meetings the U.S. asked, for the sake of flexibility, that there be no detailed listing of articles (OR.35/¶58). Fortunately, the Committee agreed with the U.S. and did not follow the Draft 4 approach, which would have involved a nightmarish review of each of the 116 paragraphs of INFCIRC/153. Had the Committee done so, the negotiating history of INFCIRC/153 might have become a best seller.

At the January 1997 meetings the U.S. said the article on amendment should be deleted and reliance placed in the amendment procedures contained in existing safeguards agreements (OR.36/¶52), but Australia pointed out that if the amendment article was deleted a new article dealing with amendments to annexes I and II would be needed (OR.36/¶57-58).

Although the issue was apparently settled, toward the end of the January meeting the Secretariat stated that under the Vienna Convention on the Law of Treaties the protocol would be "an integral part of the Safeguards Agreement" whether or not an explicit statement to that effect was in the protocol and that reference to "integral part" only clarified the relationship but did not determine it (OR.47/¶52). France, Argentina, Japan, and Iran immediately proposed deletion of the sentence on "an integral part" (OR.47/¶58). At this point Germany and Belgium protested that, if that sentence was deleted, it would be necessary to reinstate several provisions, such as those concerned with amendment and the duration of the protocol, which had been deleted on the understanding that there would be a statement that the protocol was "an integral part of the Safeguards Agreement"; such a statement was essential to make it clear that once the protocol had entered into force for a state it would remain in force as long as the safeguards agreement did (OR.47/¶59).

After a long and convoluted discussion about article 1, Germany and Belgium agreed to the omission from the protocol of the sentence on "integral part" (OR.50/¶64-71), and the Committee agreed on Draft 6, which omitted articles already covered in safeguards agreements.

The first explicit statement of the relationship between the protocol and the safeguards agreement was article 13 of the Secretariat's Draft 1, which read:

> The provisions of the Safeguards Agreement and of this Protocol shall be interpreted and implemented as a single agreement. In the event of conflict between the Agreement and this Protocol, the provisions of this Protocol shall prevail.

This was elaborated in Draft 2, which read:

> The provisions of the Safeguards Agreement and of this Protocol shall be interpreted and implemented as a single agreement, provided that: (a) for the purposes of implementing the provisions of this Protocol, in the event of conflict between the provisions of the Safeguards Agreement and of this Protocol, the provisions of this Protocol shall prevail; and (b) for the

> purposes of implementing the provisions of the Safeguards Agreement, nothing contained in this Protocol shall limit, or shall be construed as limiting, the rights and obligations of the Agency contained in the Safeguards Agreement.

In article 15 of Draft 3 this was shortened to "The Protocol shall be an integral part of the Safeguards Agreement."

Following the July meetings the U.S. proposed adding at the end of article 15 the words "and does not derogate from the rights of the Agency under the Safeguards Agreement" (W.P. 17). At the October meetings Germany opposed the U.S. addition because the content of the protocol would determine whether the provisions of the original safeguards agreement applied fully, partially or not at all (OR.17/¶39). Australia replied that the protocol should make absolutely clear that it did not derogate from the Agency's rights under existing agreements or identify provisions in existing agreements not squaring with the protocol (OR.17/¶41).

The chairman's Draft 4 included in article 17:

> This Protocol shall be considered as an integral part of the Safeguards Agreement. The provisions of the Safeguards Agreement shall apply to this Protocol to the extent that its provisions are relevant to and compatible with the provisions of this Protocol.

At the January 1997 meetings the Netherlands proposed replacing this with:

> This Protocol shall be considered additional and supplementary to the Safeguards Agreement and shall remain in force as long as the Safeguards Agreement remains in force. The provisions of the Safeguards Agreement shall apply to this Protocol to the extent that its provisions are relevant to and compatible with the provisions of this Protocol. In the event of a conflict, the provisions of the Protocol shall prevail (OR.35/¶55 and attachment 2).

Germany in turn proposed that it read:

> The Protocol shall be an integral part of the Safeguards Agreement. The general provisions of the latter shall apply to the implementation of the Protocol, and its specific provisions shall apply mutatis mutandis where appropriate. Where there is a conflict between provisions of the Protocol and those of the Safeguards Agreement which were valid prior to the entry into force of the Protocol, the provisions of the Protocol shall prevail (OR.35/¶56 and attachment 1).

This difference, "additional and supplementary to" or "integral part of," and whether either statement was needed became the gist of the argument from then on.

The U.S. accepted the "integral part of" language and the idea of making it a new article 1 but was mostly concerned with ensuring that the existing safeguards system was not impaired, and, unless there was a conflict between the protocol and the safeguards agreement, that the existing provisions of the safeguards agreement continued to apply. It proposed the following text: "The provisions of the Safeguards Agreement shall continue to apply except that, when its provisions directly conflict with provisions of the Protocol, the latter shall control to the extent of the conflict" (OR.35/¶57-58 and attachment 3). Brazil agreed with the U.S. (OR.35/¶59-60); Belgium preferred the German text (OR.35/¶62): and the UK, Austria, Denmark, Finland, Sweden, France, the Czech Republic, and Denmark preferred "additional and supplementary to" (OR.36/¶1, 21, 22, 25, and 29-31).

The Secretariat argued that whether the text referred to the protocol as "an integral part of" or as "additional and supplementary to" was merely a matter of drafting and that the legal effect would be the same (OR.36/¶34). Germany disagreed, arguing that the "additional and supplementary" would mean, for example, that the protocol article on visas would prevail over the provisions in safeguards agreements only as far as implementation of the protocol whereas clearly the intention was that it supersedes the agreement provisions and that would be made clear by the "integral part" formulation. Japan preferred "an integral part of the Safeguards Agreement" (OR.36/¶37-38).

In his Draft 5 the chairman tried to solve the disagreement by including both phrases in a new article 1 reading:

> This Protocol shall be additional to and its provisions shall be interpreted as an integral part of the Safeguards Agreement. The provisions of the Safeguards Agreement shall apply to this Protocol to the extent that its provisions are relevant to and compatible with the provisions of this Protocol. In case of conflict between the provisions of the Safeguards Agreement and those of this Protocol, the provisions of this Protocol shall apply.

It did not work. Syria, Saudi Arabia and Turkey objected to the "an integral part of the Safeguards Agreement" language (OR.47/¶46). Australia, the UK, Greece, Sweden and Denmark proposed adding "and supplementary" after "additional" (OR.47/¶47). The U.S. stated that the U.S. would be treating the protocol as an integral part of its safeguards agreement (OR.47/¶49). Brazil and UK noted that the relationship between the protocol and the safeguards agreements to which it would be additional was determined in the second and third sentences and that the first sentence could therefore be dispensed with (OR.47/¶50). The Secretariat confirmed this and added that the protocol would be "an integral part of the Safeguards Agreement" whether or not an explicit statement to that effect was included in it; the U.S. would be free to interpret the protocol as an integral part of its safeguards agreement even if the first sentence of article 1 was deleted, and no legal problems would arise if some countries treated the protocol as "an integral part of the Safeguards Agreement" and others did not (OR.47/¶51, 52, 54 and 57).

It was at this point that Germany and Belgium introduced their famous argument that if the statement that the protocol was "an integral part of the Safeguards Agreement" was deleted, it would be necessary to reinstate the protocol provisions for amendment and duration (OR.47/¶59). Then the U.S. stated its view as to what the disagreement was really about, namely the concern that the wording of the article would affect the allocation of responsibilities among the member states of EURATOM and that it might help to resolve the issue, and enable the Committee to move forward, if the Committee's report to the Board were to include a statement to the effect that the protocol did not prejudge how states and international organizations, such as EURATOM, to which they are parties decided on signature or responsibility for implementation of the Protocol (OR.48/¶15). Japan added that the Secretariat had made it quite clear that the particular problems of a group of countries or international organizations should be dealt with outside article 1, yet those delegations which advocated the deletion of the words "integral part" still appeared to be trying to solve their problems in the context of article 1; the U.S. suggestion should help meet their concerns (OR.48/¶27).

The chairman proposed that the first sentence of article 1 be deleted, that article 1 contain the second and third sentences, and that two statements be included in the official record, in the

Committee's report to the Board and in the Board's resolution: the first would state that in adopting article 1 the Committee had taken note of the interpretation provided by the Secretariat and the second statement would be along the lines of the U.S. proposal to the effect that the text did not prejudice the way in which states and other parties (or international organizations) decided on signature or responsibility for implementation of the protocol (OR.48/¶34 and 36 and OR.49/¶6). With several mostly editorial changes suggested by Committee members the chairman distributed Draft 6, article 1 of which read:

> The provisions of the Safeguards Agreement shall apply to this Protocol to the extent that they are relevant to and compatible with the provisions of this Protocol. In case of conflict between the provisions of the Safeguards Agreement and those of this Protocol, the provisions of this Protocol shall apply.

Germany (OR.50/¶64-70), supported by Belgium (OR.50/¶71), restated its preference to retain the "integral part" concept but agreed to accept the Draft 6 text if:

(1) The Secretariat confirmed that, even without the words "integral part," article 1 would, on the basis of a correct interpretation of international legal doctrine, lead to the conclusions that the provisions of original safeguards agreements would apply - or apply *mutatis mutandis* - as long as they were relevant to and not in conflict with the provisions of the additional protocols;

(2) These understanding were reflected in the record of the current meeting;

(3) These understandings were reflected in the Committee's report to the Board; and

(4) The Board's resolution approving the protocol included a direct reference to these understandings.

The Secretariat confirmed that the German understanding was correct (OR.50/¶76-78) and, in response to a statement by the UK and France (OR.51/¶1-7), confirmed that article 1 did not prejudge the question of prospective parties or the modalities for their adherence and that this was for a state or group of states to decide for themselves in the light of their rights and obligations under their respective safeguards agreements and non-proliferation treaties (OR.51/¶8). The chairman then proposed that article 1 in Draft 6 be left as it stood (OR.51/¶9).

The chairman's Draft 6 had also included an "Understanding Recorded by the Committee Concerning the Interpretation of Article 1 as far as the Manner of Adhering to the Protocol and the Responsibility for its Implementation is Concerned," which read "1. In adopting Article 1, the Committee took note of the Interpretation provided by the Secretariat at the meeting of the Committee on 31 January 1997; and 2. This text does not prejudge with what legal modalities States and international institutions of which these States are members decide on adherence to the Protocol or on the division responsibilities in its implementation." With a few editorial changes suggested by Committee members the chairman issued a revised understanding as Chairman's W.P. 27 (3 April 1997) Understanding Recorded by the Committee Concerning the Interpretation of Article 1 as far as the Manner of Concluding Additional Protocols and the Responsibility for their Implementation, which read:

1. In adopting Article 1, the Committee took note of the Interpretation provided by the Secretariat at the meeting of the Committee on 31 January 1997; and

2. For States that are members of international institutions that are party to safeguards agreements with the IAEA, this text does not prejudge the legal modalities which these States and international institutions adopt regarding the conclusion of additional protocols or the division of responsibilities in their implementation.

On 3 April 1997 this was accepted by the Committee.

In its report to the Board (GOV/2914 of 10 April 1997) the Committee drew the attention of the Board to the statement by Mr. ElBaradei, Assistant Director General, Division of External Relations, on 31 January 1997 setting out the Secretariat's interpretation of the relationship between the Additional Protocol and the relevant safeguards agreement.

> The Committee took note of the Secretariat's interpretation and also wished to place on record its understanding concerning its interpretation of Article 1 as far as the manner of concluding additional Protocols and the responsibility for their implementation are concerned. The Committee reverted to this matter in its final meeting and confirmed the earlier interpretation. Attached to this report are the Secretariat's Interpretation of 31 January 1997 and the Committee's Understanding of 3 April 1997. In the light of the foregoing, the Committee recommends that the Board endorse the understandings reached in the Committee on the relationship between additional protocols and the respective safeguards agreements.

At its meeting on 15 May 1997 the Board endorsed the understandings reached in the Committee on the relationship between protocols and the respective safeguards agreements (OR.914/¶67).

5.5. Interpretation

The record and protocol text are clear that (1) only states with a safeguards agreement, regardless of type, can conclude a protocol, and (2) states without any safeguards agreement cannot do so, because the protocol is not a stand-alone legal instrument.

The record and the protocol text are clear that where there are any conflicts the provisions of the protocol apply and that provisions in a safeguards agreement that are relevant to and not in conflict with the provisions in a protocol additional to that agreement, apply to that protocol even though not repeated in that protocol. Thus, for example, once a protocol has entered into force, its duration is determined by the duration provision of the agreement to which the protocol is additional.

The record of the Committee is clear that the protocol, once in force, can be treated as an integral part of the safeguards agreement to which it is additional. The record is also clear that for states that are members of a multinational organization that is party to a safeguards agreement with the IAEA, the protocol does not prejudge the legal modalities that these States and the organization adopt regarding (1) the conclusion of additional protocols or (2) the division of responsibilities in their implementation.

6. CONSTITUTIONAL AND LEGAL LIMITATIONS

6.1. Description

Two types of limitations and qualifications on the rights of the Agency and the obligations of states during development of the provisions of the protocol were proposed. The more fundamental one involved limitations arising from the constitutions and legislations of states. The other, a more pragmatic qualification but also legal, arose as a result of provisions affecting private-sector activities not under the kinds of government regulation already in force for activities involving nuclear material. Altogether they were among the more complex of the issues facing Committee 24.

The issue of limitations and qualifications arose in several contexts. There was recognition from the outset by the Secretariat and Committee members that some kinds of limitations or qualifications would be needed. The debate centered on the nature and scope of the limitations for the three aspects of the issue. These were:

(1) What kind of general limitation should be reflected in the preamble;

(2) What qualifications should there be on the obligation to report information under article 2.a.(i) and (x) and 2.b.; and

(3) What limitations should there be on complementary access by the Agency in articles 5 and 9?

(The issue also arose tangentially in articles 9 and 12, but these are covered in the article-by-article development in Volume III.) Put starkly, the issue came down to choosing between either (1) a significant compromise in the capacity of the protocol to strengthen the effectiveness and improve the efficiency of the safeguards system; or (2) a substantial expansion of a state's legislation controlling activities in the private sector. In the end, the Committee was able to adopt compromises that avoided both extremes.

There were significant differences in how the Committee approached and handled the issue. This was due, at least in part, to the procedure adopted by the Committee for reviewing each paragraph separately each time a new draft was taken up. Although by the end of the Committee's work, there was consistency and much commonality in the resolution of the various facets of the issue, for practical reasons in drafting this report, the analyses for each of the three aspects of the issue are presented separately.

6.2. Background

INFCIRC/153 (Corrected) safeguards agreements do not contain any explicit limitations arising from the constitution or legislation of states. This reflects the fact that States generally are required to submit to the Agency only information involving highly regulated nuclear activities. Very early in considering the draft protocol, the Secretariat and states recognized that key provisions in the draft protocol extended beyond the regulated nuclear industry and involved many activities not involving *nuclear material* or not under sufficient government regulations to allow the government to require information or to ensure Agency access. Thus, in Draft 1 of the

protocol, the Secretariat proposed that complementary access take into account states' obligations under their constitutions. Early in the work of Committee 24, states proposed language that would even more broadly qualify their obligations and the Agency's rights under the protocol by taking into account their constitutions and legislations. Given the wide variations in how laws are adopted or constitutions revised, there were real concerns that a general exception could effectively nullify the substantive provisions.

6.3. Alternative proposals for Preambular paragraph 3

Relevant text from INFCIRC/540 (Corrected)

Preamble

> RECALLING that the Agency must take into account in the implementation of safeguards the need to avoid hampering the economic and technological development of ….. or international co-operation in the field of peaceful nuclear activities; respect health, safety, physical protection and other security provisions in force and the rights of individuals; and take every precaution to protect commercial, technological and industrial secrets as well as other confidential information coming to its knowledge;

The Committee's debate regarding a general limitation in the preamble can be encapsulated in the following three alternatives:

1) No general qualifications on a state's obligation or the Agency's rights from the constitution or legislation of a state (Secretariat's Drafts 1, 2 and 3).
2) The obligations of the state and the rights of the Agency should be generally qualified by taking into accounts the state's constitution (Egypt in W.P. 19).
3) A general qualification that the rights of individuals should be respected (Germany in W.P. 10).

The Committee considered a variety of proposals for dealing with the obligations of states to submit information. They can be consolidated into the following two:

1) No constitutional or legislative qualifications on the information reporting obligations of states, relying instead on the qualifications "to the extent known to the state" and "best effort by the state" (in essence the Secretariat's approach in Draft 1).
2) A general qualification that the information reporting obligations of states be subject to the state's national laws or in accordance with its constitution (Belgium in OR.1/¶48).

The Committee considered a variety of proposals for dealing with limitations on the rights of the Agency to carry out complementary access. They can be encapsulated in the following three:

1) No qualifications on access to locations with nuclear material and a qualification that access for all other locations should take into account "any constitutional obligations [the state] may have with regard to proprietary rights or searches and seizures" (Secretariat's Draft 1).

2) A qualification that access for all locations should take into account the state's constitutional obligations vis-à-vis individuals (Argentina in W.P. 12).

3) No qualifications on access to locations with nuclear material and a qualification that access for all other locations should be based on "every reasonable effort" with no reference to constitutional obligations or the rights of individuals (UK in OR.20/¶83-84).

6.4. Analysis

(a) General limitation (Preamble paragraph 3)

The general issue evolved into that of respecting the rights of individuals (as provided for in states' constitutions), which was accepted by the Committee. There were no references to this or any other aspects of constitutions or legislations in the drafts of the preamble prepared by the Secretariat. The only phrasing in the adopted preamble that relates to the constitutional issue is "respect ... the rights of individuals" in paragraph 3. The language "to act in accordance with ... the rights of individuals" was first proposed by Germany following the July 1996 meetings of the Committee (W.P. 10). The U.S. and UK (OR.22/¶67 and ¶70) initially opposed the German proposal, and Brazil (¶68), Korea (¶69) and Nigeria (¶71) supported it.

Also following the July 1996 meetings, Egypt proposed a new paragraph after paragraph 5 reading:

> Taking into account any existing constitutional obligations and the demands of sovereignty of ..... (W.P. 19).

This was the earliest proposal to make a general reference to states' constitutions and appeared to include a political element, namely the state's sovereignty. As there were no comments on it at the October 1996 meetings the chairman included it in his October 1996 Draft 4.

This draft included two alternative texts for the third paragraph of the preamble, the first containing nothing relative to a state's constitution and the second reading in part: "[WHEREAS the Agency is obliged to avoid hampering economic and technological development, ... to act in accordance with health, safety, physical protection and other security provisions in force and with the rights of individuals, ...]" All of these texts were in square brackets, as none had been agreed.

At the January 1997 meetings the U.S. proposed replacing the two alternatives for paragraph 3 with:

> RECALLING that the Agency must take into account in the implementation of safeguards the need to avoid hampering the economic and technological development of ..... or international cooperation in the field of nuclear activities, to respect health, safety, physical protection and other security provisions in force and the rights of individuals, and to take every precaution to protect commercial and industrial secrets as well as other confidential information coming to its knowledge;" (OR.42/¶19 and OR.40 attachment 3).

Australia, Brazil, South Africa and Sweden: endorsed the U.S. text (OR.42/¶20, 21 and 29). The chairman announced widespread agreement with this U.S. text.

Chile, Egypt, Syria, Saudi Arabia, Iran and Algeria asked for retention of the Egyptian paragraph on existing constitutional obligations and state sovereignty (OR.42/¶31-32 and 34:), while the U.S., Australia, Germany, Greece, France (noting that the model protocol could not be adapted to the constitutional peculiarities of individual states), Sweden, Denmark, New Zealand, Netherlands, Spain, Finland, Switzerland, Czech Republic, Canada, UK, South Africa and Turkey proposed its deletion, because the Committee had already taken very full account of states' constitutional obligations and that, when assuming obligations and waiving rights through accession to international treaties, states were in fact exercising their sovereignty (OR.42/¶33 and 35-40). The chairman announced that the sense of the meeting was that the Egyptian paragraph should be deleted (OR.42/¶41).

At the January 1997 meetings Chile also proposed (OR.41/¶42) adding "taking into account any existing constitutional obligations and the demands of sovereignty of ....." to paragraph 1 of the preamble. Through all of the Committee's work there was no discussion of state sovereignty. Paragraph 3 of the preamble in both the chairman's Drafts 5 and 6 included "RECALLING that the Agency must take into account in the implementation of safeguards the need to: ...; respect ... the rights of individuals; ...." There were no further comments by the Committee on this issue in the preamble.

(b) Limitations on the obligations of states to submit information (Article 2)

Relevant text from INFCIRC/540 (Corrected)

Article 2.a. ….. shall provide the Agency with a declaration containing:

2.a Chapeau

The chapeau of what became article 2.a read in the first three drafts "To the extent not already provided for under the Safeguards Agreement, ... undertakes to provide the Agency with the following information:" (Drafts 1-3). During the July 1996 meetings of the Committee Germany proposed that states' undertakings to provide information should be subject to the laws in force in states (OR.1/¶37). Belgium proposed inclusion of "subject to its national laws" or "in accordance with its constitution" (OR.1/¶48). The Secretariat responded that to make the provision of information subject to national laws would mean giving the state *carte blanche* to legislate in such a way as to neutralize the protocol (OR.1/¶105). Following the July 1996 meetings the

following additions were proposed: "subject to the obligations arising from its legislation on the matter" (Algeria W.P. 11); "taking into account the constitutional obligations of ..... vis-à-vis individuals" (Argentina W.P. 12); and "taking into account any existing constitutional obligation" (Belgium W.P. 4 and Egypt W.P. 19).

The Chairman's Draft 4 of October 1996 retained the original language of the chapeau. During the January 1997 meetings Algeria repeated its earlier proposal to add "taking into account its legislation in this area" in the chapeau (OR.24/¶46). Germany, supported by Spain, (OR.24/¶51 and 55) responded that "countries accepting the model protocol would in most cases have to adapt their national legislation to it - not the other way around." However, by this time the chairman's Draft 4 had made a distinction between R&D involving the government and that not involving the government, i.e., in the private sector.

Although this issue involving the chapeau is fundamental, it received relatively little attention in Committee 24, the reason apparently being that the main concern of states raising the legislative or constitutional issue under article 2.a was private-sector R&D not involving nuclear material. This arose only in articles 2.a.(i) and 2.a.(x). With the removal of private-sector R&D to article 2.b. there was little or no support for a general limitation on the state's reporting obligations under article 2.a. The issue regarding the chapeau was thus defused and not raised again.

2.a.(i) Research and development:

Relevant text from INFCIRC/540 (Corrected)

Article 2.a.(i). A general description of information specifying the location of *nuclear fuel cycle-related research and development activities* not involving *nuclear material* carried out anywhere that are funded, specifically authorized or controlled by, or carried out on behalf of, …… .

The Draft 1 text of what became article 2.a.(i) read:

> To the extent known to ....., a description of the nature and location of *nuclear fuel cycle-related research and development activities* not involving nuclear material carried out at facilities, at locations outside facilities where nuclear material is customarily used[4] and at other locations.

Despite the qualification of "to the extent known to the state," at the December 1995 Board Germany noted problems with providing information on "activities in the nuclear field [that] were planned, financed and implemented not by a central authority but by a multitude of individual bodies in industry and science;" that, while these activities had to conform with general laws and regulations, most of them were not required to be registered or licensed by the state and many were under no control or guidance by the state; and clarification was needed as to which data had to be supplied only insofar as they were known to the state and which had to be supplied without fail (GOV/OR.884/¶101-102).

The Secretariat modified this article by making a distinction in Draft 3 between state and non-state activities and between "sensitive" and other nuclear fuel cycle activities. Its proposal read:

> A description, the status and location of *nuclear fuel cycle-related research and development activities* not involving nuclear material carried out anywhere in .....: (a) that are owned, funded or authorized by ..... and are specifically related to conversion, fuel fabrication, power or research reactors, critical assemblies or accelerators; or (b) that are specifically related to enrichment, reprocessing of nuclear fuel and treatment of waste containing nuclear material.

This change limited the reporting of private sector R&D to three critical areas (enrichment, reprocessing, and waste treatment). At the June 1996 Board Canada stated that it had difficulty providing information on nuclear fuel cycle-related research and development activities not involving nuclear material (GOV/OR.894/¶62). Japan noted that states were not usually in a position to obtain such R&D information from the private sector and could not guarantee the correctness of information acquired; and proposed that the state's obligation be to make all reasonable endeavors to supply all relevant information on nuclear R&D within existing laws and regulations (GOV/OR.894/¶145).

Following the July 1996 meetings Argentina proposed that the reporting of private sector R&D not involving nuclear material be limited to that specifically related to uranium enrichment and reprocessing of nuclear fuel (W.P. 12 and Corr.). Germany made a similar proposal that covered "enrichment, reprocessing of nuclear fuel or the recovery of nuclear material from waste" (W.P. 19). Japan proposed a separate paragraph that read, "shall make every reasonable effort to provide the information ... that are specifically related to enrichment, reprocessing of nuclear fuel and radio-chemical process of waste containing nuclear material" (W.P. 3 Corr.1). Egypt (W.P. 19) and Slovakia (W.P.16) proposed eliminating reporting on all R&D not involving nuclear material.

The Secretariat opened the debate at the October 1996 meetings by stating that:

(i) a fundamental issue raised in this article was the relationship between an international obligation and national constitutional and legislative requirements;

(ii) a recognized principle was that by entering into an international agreement, a state undertook to bring its internal legislation into line with that international agreement; and

(iii) a second well-established principle was that a state could not plead its own law as an excuse for non-compliance with international law (OR.7/¶25).

2.a.(i) vs. 2.b Research and development – Government vs. private

Relevant text from INFCIRC/540 (Corrected)

Article 2.b ….. shall make every reasonable effort to provide the Agency with the following information:
(i) A general description of and information specifying the location of [specified nuclear fuel cycle-related R&D not involving nuclear material] that are carried out anywhere in ….. but which are not funded, specifically authorized or controlled by, or carried out on behalf of …..

> (ii) A general description of activities and the identity of the person or entity carrying out such activities , at locations identified by the Agency outside a *site* which the Agency considers might by functionally related to the activities of that *site*. The provision of this information is subject to a specific request by the Agency. It shall be provided in consultation with the Agency and in a timely manner.

Germany elaborated on its W.P. 19 that automatic reporting should apply only to activities being carried out or planned with Government involvement; activities in the private sector should be covered in article 1.b., where states were required to make every reasonable effort to provide information on certain activities at the specific request of the Agency (OR.7/¶33). (The Committee accepted the argument by Germany and others that governmental regulations such as industrial safety regulations did not provide the government with sufficient authority to obtain the relevant information.) The U.S., as did most other speakers, opposed moving private sector R&D to article 2.b (OR.7/¶34). Canada stated that there was no need for a reference to "constitutional obligations" if the State was required to make "every reasonable effort" (OR.10/¶2).

Following the October meetings the chairman issued Draft 4 that moved all private sector R&D from article 2.a.(i) to article 2.b.(i). Article 2.a.(i) now read:

> A general description and location of *nuclear fuel cycle-related research and development activities* not involving nuclear material carried out anywhere in ..... that are funded, authorized or controlled by, or carried out on behalf of, ...

At the January 1997 meetings there were no objections to this change. The chairman modified this language only editorially in Draft 5 and agreed with the UK that 2.a.(i) included all research and development activities, which were linked in any way to the state (OR.46/¶56-57). This ended the Committee's discussion of article 2.a.(i).

2.a.(x) Fuel cycle plans

Relevant text from INFCIRC/540 (Corrected)

> Article 2.a.x. General plans for the succeeding ten-year period relevant to the development of the nuclear fuel cycle (including planned *nuclear fuel cycle-related research and development activities*) when approved by the relevant authorities in ….. .

Draft 1 of article 2.a.(x) read:

> Plans for the further development of the national nuclear fuel cycle, including planned locations when known [and] A description of planned national nuclear fuel cycle-related research and development activities, including planned locations when known.

In Draft 2, the Secretariat introduced a distinction between activities involving the government and those otherwise known to the state. This read:

> With respect to planned nuclear activities owned, funded or authorized by, or otherwise coming to the knowledge of .....: (a) Plans for the further development of the nuclear fuel

> cycle, including planned locations when known; and (b) A description of planned *nuclear fuel cycle-related research and development activities,* including planned locations when known.

At the March 1996 Board Thailand asked that "the description of planned nuclear R&D activities should not violate the sovereign rights of states" (GOV/OR.888/¶148). The operative intent of this was never explained, and there was no follow-up.

In Draft 3 of article 2.a.(x) reporting on plans for nuclear activities in the private sector was removed and never reintroduced. The text read "With respect to planned nuclear activities owned, funded or authorized by .....: (a) Plans for the further development of the nuclear fuel cycle, including planned locations when known; and (b) A description of planned *nuclear fuel cycle-related research and development activities,* including planned locations when known." As in the two previous drafts, the qualification "when known" applied only to the locations of the activities. Germany (W.P. 10) and Brazil (OR.9/¶58) proposed deletion of the article. The Netherlands (OR.9/¶62:), Australia (¶68), UK (¶69) and Czech Republic (¶70) urged it be retained. Subsequent drafts of article 2.a.(x) had no change in respect to private sector R&D, and there were no further Committee comments on the issue in article 2.a.(x).

2.b.(i) Private Research and Development

The first draft of article 2.b.(i) appeared following the October 1996 Committee meetings in the chairman's Draft 4, which read: "..... shall make every reasonable effort to provide a general description and location of *nuclear fuel cycle-related research and development activities* not involving nuclear material that are specifically related to enrichment, reprocessing of nuclear fuel and the treatment of intermediate or high-level waste containing plutonium, highly enriched uranium or uranium-233, that are carried out anywhere in ..... but which are not funded, authorized or controlled by, or carried out on behalf of, ..." During the January 1997 meetings the UK pointed out that an understanding was needed that "every reasonable effort" represents a serious obligation (OR.27/¶26:). Mexico opposed the "every reasonable effort" language as being too imprecise and might well create loopholes (OR.27/¶28). The chairman argued for retention of "every reasonable effort," on the understanding that it implied a very serious effort (OR.27/¶30). The chairman's draft with only minor editorial changes became the adopted text in INFCIRC/540 (Corrected), and no further comments on this issue were made on article 2.b.(i).

2.b.(ii) Activities near a site

The secretariat's Draft 1 contained the substance of article 2.b.(ii) and with only editorial changes appeared in Draft 3 that read: "Upon specific request by, and in consultation with, the Agency, ... shall make every reasonable effort to provide information on the identity, and a description, of activities at locations identified by the Agency outside a *site* identified by ..... under Article l.a.(iii) above which the Agency believes might be functionally related to the nuclear activities or associated infrastructure of that *site*."

Following the July 1996 Committee meetings both Argentina and Egypt proposed adding "taking into account" or "subject to" constitutional obligations (W.P. 12 and Corr. and W.P. 19, respectively). The chairman's Draft 4 retained the substance of the article with only editorial changes, as was also the case for his Draft 5. None of the Committee comments during the January and April 1997 meetings dealt with this issue.

(c) Limitations on the rights of the Agency to carry out complementary access (Articles 5 (Complementary access) and 9 (Access for wide-area environmental sampling))

Significant legal and constitutional issues arose with respect to the rights of individuals or access to private property. The core question related to the right of privacy where the practice in most states is that the expectation of privacy diminishes as state regulation increases. Thus, the issue was whether to draft a protocol that would require states to introduce laws and regulations that would put under some form of government control a whole host of private-sector activities not involving nuclear material. The reach of the control would have had to be extremely broad because of provisions that call for access to locations that might have no nuclear-related and even no commercial activity. (In fact, the Model Additional Protocol permits the Agency to seek access anywhere in a State under certain circumstances.) This does not mean that some of these activities are totally unregulated. Depending on the country, they might, for example, be covered by environmental and health and safety regulations. However, Committee 24 accepted the argument of Germany and others that such regulations were not always sufficient to give the government the authority to guarantee to the Agency the access specified in articles 5 and 9.

A comparable issue had arisen in the development of the provisions for special inspections in INFCIRC/153. If the Agency considers that the information and access routinely available to it is inadequate, paragraph 73 gives the Agency the right to request access to additional information and locations without qualification. If the state objects it may invoke the arbitration provision of paragraph 22. However, in the final analysis, the Board can upon the request of the Director General call upon the state to take the necessary action without delay and to report the non-compliance to the UN Security Council (paragraph 19). In accordance with article 1 of INFCIRC/540, all of these provisions apply to INFCIRC/540, since INFCIRC/540 does not address special inspections.

No significant developments on this matter occurred until Draft 1 of the protocol. There, the Secretariat proposed no limitations on access to *sites*, to locations declared by the state to contain nuclear material, and to locations of nuclear-related R&D not involving nuclear material. For all other locations (manufacturing activities, for example), this draft (articles 3.b. and 3.c.) provided that, "Upon request by the Agency, ... shall, taking into account any constitutional obligations it may have with regard to proprietary rights or searches and seizures, provide the greatest degree of access to the Agency to any locations other than in those referred to in subparagraphs a.(i) and (ii) of this paragraph for the purpose of environmental sampling." Comments on complementary access at the December 1995 Board did not raise any constitutional or legislative issues.

With minor elaboration these basic elements continued in the Secretariat's Drafts 2 and 3, the sole key change being the conditioning of access to nuclear R&D activities not involving nuclear material (article 1.a.(i)) on the state's constitutional obligations. Thus, well before the establishment of Committee 24, the Secretariat had proposed a fundamental distinction between locations having nuclear material, for which access was not conditioned on constitutional obligations, and locations not having nuclear material, for which access was conditioned on constitutional obligations of the state.

Following the July 1996 Committee meetings, substantial written comments on complementary access were submitted by a number of states, but the constitutional issued was raised only by Argentina in stating that "access should take into account the state's constitutional obligations vis-à-vis individuals" (W.P. 12) and Belgium in stating that, "Any additional visit pursuant to this protocol must take account of existing constitutional obligations" (W.P. 4/Add.2). During the October 1996 meetings the issue of constitutional obligations in respect of locations having nuclear material was not commented on by other states. The Secretariat stated that it was unhappy about references to constitutional obligations just in certain parts of the draft protocol, preferred no references to them at all and suggested the Chemical Weapons Convention approach of the state making every reasonable effort to provide "alternative means" if it provided "less than full access" (OR.10/¶66-67). In the chairman's Draft 4 the articles on complementary access to locations with nuclear material did not include any reference to constitutions or legislation.

During the January 1997 Committee meetings Germany proposed adding, "taking into account any constitutional obligations [the state] may have with regard to proprietary rights or searches and seizures" in the chapeau of article 4.a., to protect the rights of individuals on the basis of generally accepted international standards (OR.30/¶79. This was supported by Belgium (¶82), Chile (¶83), Algeria (OR.31/¶12) and Saudi Arabia (¶13)).

The U.S. (OR.30/¶80), Greece (¶84), Secretariat (¶85), Australia (OR.31/¶1), Nigeria (¶2), UK (¶4), Austria (¶5), Netherlands (¶6), Slovakia, Mexico, Finland, Denmark, New Zealand, Czech Republic, Sweden, France, and Turkey (¶10) and Canada (¶11) opposed the addition of that phrase. Germany asked that the issue be deferred until the preamble was agreed (OR.31/¶9).

The chairman's next draft (Draft 5) contained two alternative texts for the chapeau of the article on access, the first of which contained a constitutional limitation and which read:

> [..... shall provide the Agency access to the following locations taking into account any constitutional obligations it may have with regard to proprietary rights or searches and seizures:]

This left open the possibility of conditioning access to all locations, with or without nuclear material, on constitutional obligations. Later during the January meeting the chairman stated that given the progress made on the preamble, this square-bracketed phrase could be deleted (OR.45/¶84). There were no further comments on this issue under articles 4 or 5 for locations that contained or had contained nuclear material.

Locations that did not contain nuclear material, however, were treated differently. The Secretariat's Drafts 2 and 3 for locations not containing nuclear material read:

> Upon request by the Agency, ... shall, taking into account any constitutional obligations it may have with regard to proprietary rights or searches and seizures, provide the greatest degree of access to the Agency ... provided that if ..... is unable, by reason of such constitutional obligations, to provide such access, ... shall take such measures as are necessary otherwise to satisfy Agency requirements.

Following the July 1996 Committee meetings Argentina proposed inserting "towards individuals" in place of "it may have with regard to proprietary rights or searches and seizures" (W.P. 12). Belgium asked for deletion of "taking into account any constitutional obligations it may have with regard to proprietary rights or searches and seizures" (W.P. 4/Add.2). Greece proposed replacing the reference to constitutional obligations with a reference to cooperation as provided for in paragraph 3 of INFCIRC/153 (W.P. 9).

During the October 1996 meetings Germany proposed replacing "provide the greatest degree of access" with "make every reasonable effort to provide access" (OR.11/¶38-39). Australia (OR.20/¶32-34:), supported by the Netherlands (¶42-44), U.S. (¶45), France (¶48), Turkey (¶57), New Zealand (¶59) and Greece (¶61), stated that a clear principle of international law is that treaty obligations prevailed, and states could not subscribe to a treaty and then seek to avoid their responsibilities on grounds of their domestic circumstances as they perceived them. Germany argued that the rights of the individual, particularly when protected by the constitution, had to be protected under all articles of the protocol (OR.20/¶35-37). Brazil (OR.20/¶56) and Argentina (¶63) argued that it was not necessary to refer to constitutional obligations because a state could use its best efforts to satisfy safeguards requirements. Spain (OR.20/¶65-67), supported by Japan (¶68), asserted that although international law prevailed over domestic law, the draft protocol contained provisions that ran counter to the constitutional rules regarding private property and were therefore unacceptable and that it was necessary to distinguish between nuclear and non-nuclear activities that were state-controlled and non-nuclear activities not under state control, with a strict rule applying to state-controlled installations and a "best efforts" rule to the rest. The UK pointed out that there was no reference to constitutional obligations in INFCIRC/153, and no need for one in the protocol, even if limited to the rights of the individual or to human rights and that the "every reasonable effort" approach to the provision of information and access could meet the concerns of delegations which had expressed anxiety regarding constitutional aspects (OR.20/¶83-84).

The chairman's Draft 4 in the articles on complementary access to locations without nuclear material dropped all references to constitutional obligations and proposed that the state shall provide the necessary degree of access to the Agency but if it is unable to provide such access, it shall take all possible measures otherwise to satisfy Agency requirements. At the January 1997 meetings Germany proposed replacing "take all possible measures" with "shall make every reasonable effort to satisfy Agency requirements through other means" (OR.31/¶38 and attachment to OR.29), Australia preferred "all possible measures" (OR.31/¶32), while the U.S. (OR.31/¶33 and 45), Greece (¶41), Netherlands (¶42) and Austria (¶47) accepted "every reasonable effort," since in their view in legal parlance that phrase carried considerable weight. The chairman, in summing up said that it seemed to be the Committee's wish to use the term "every reasonable effort," as well as "through other means" and that the term "every reasonable effort" was recognized as a serious obligation, and it was desirable to use it consistently throughout the protocol (OR.31/¶58). This language appeared in subsequent drafts, and there were no further comments on it.

The Secretariat first introduced a provision for "environmental sampling over wide areas" in paragraph 50 of "Discussion Draft II" of 27 February 1996. The first comment related to constitutional limitations was during the January 1997 meetings when Germany proposed

separating the provision for *wide-area environmental sampling* from those for *location-specific environmental sampling* by creating a new article reading:

> ..... shall provide to the Agency the necessary degree of access to any location specified by the Agency to carry out undirected environmental sampling [the term then used for *wide-area environmental sampling*], provided that if ..... is unable to provide such access it shall make every reasonable effort to satisfy Agency requirements at other locations, ... (OR.32/¶47).

This proposal received extensive Committee discussion relating to when and based on what approvals this technique would be applied, but there was no discussion of the constitutional-related issue of "every reasonable effort."

6.5. Interpretation

Although the preamble does not represent operative language, the record of the Committee is clear that the Committee agreed, without argument, that the protocol should respect the rights of individuals. How these rights are to be respected becomes clear in articles dealing with submission of information and complementary access. The record is equally clear that the Committee rejected any broader limitation based on a state's constitution, its legislations, or its sovereignty.

The history of the development of states' obligations to provide information to the Agency is clear and explicit. The Committee decided to omit from the protocol a firm requirement to report, except on the basis of making "every reasonable effort," certain private activities: on sensitive nuclear-related R&D not involving nuclear material but involving enrichment, reprocessing and waste treatment in the private sector and private activities near a site. The protocol omits other R&D and information on plans of the private sector for future development of the nuclear fuel cycle.

Otherwise, the interpretations of the history of states' obligations to provide information to the Agency are clear from the records of the Committee and are that:

(i) States cannot use current or future legislation as a basis for denying information to the Agency;

(ii) States are responsible for enacting any legislation they need to meet their obligations to provide information to the Agency; and

(iii) The obligation to provide information regarding locations declared by the state is free of limits, with only the two narrowly defined exceptions noted above.

With respect to complementary access, the record is clear that a distinction is made between locations with nuclear material and those without nuclear material. For the former, the Committee considered and rejected "taking into account any constitutional obligations it may have with regard to proprietary rights or searches and seizures" and similar language involving or relating to states' constitutions and legislations. It was satisfied that the third paragraph of the

preamble provided sufficient protection of the rights of individuals.

The Committee also rejected constitutional and legislative qualifications for access to all other locations. However, it qualified the state's obligation to provide access to these other locations in the event the state is unable to do so, in which case the state is obligated to make every reasonable effort to satisfy Agency requirements, without delay, through other means. Although the Committee had extended the unqualified obligation to provide information about *nuclear fuel cycle-related research and development activities* not involving *nuclear material* carried out anywhere that are funded, specifically authorized or controlled by, or carried out on behalf of, the state, it retained the "every reasonable effort" qualification for access to these locations.

The initial draft language, proposed by Germany, for article 9 qualified the state's obligation to provide access for *wide-area environmental sampling* by limiting it to "every reasonable effort," and this was accepted by the Committee without question or discussion, it being understood that any application of this technique would be at locations not having *nuclear material*.

6.6. Impact of constitutional issues

As noted in the interpretations, there are a number of limitations and qualifications on states' obligations and Agency rights that originated in considering the impact of states' constitutions on the protocol. These are listed below:

1) Reference in paragraph 3 of the preamble to the requirement that the Agency must respect the rights of individuals;
2) The omission of reporting of *nuclear fuel cycle-related research and development activities* not involving *nuclear material* which are not specifically related to enrichment, reprocessing of nuclear fuel or the processing of intermediate or high-level waste containing plutonium, *high enriched uranium* or uranium-233 that are carried out anywhere in ..... and which are not funded, specifically authorized or controlled by, or carried out on behalf of, ..., for example, reactor design, reactor fuel fabrication, and chemical purification and conversion of uranium ore concentrate to oxide or hexafluoride.
3) The "every reasonable effort" qualification on the state's obligation to provide the Agency with information on:
   (i) *nuclear fuel cycle-related research and development activities* not involving *nuclear material* which are specifically related to enrichment, reprocessing of nuclear fuel or the processing of intermediate or high-level waste containing plutonium, *high enriched uranium* or uranium-233 that are carried out anywhere in ..... but which are not funded, specifically authorized or controlled by, or carried out on behalf of, ...; and
   (ii) activities at locations identified by the Agency outside a *site* which the Agency considers might be functionally related to the activities of that *site*.
4) The "every reasonable effort" qualification on the state's obligation to provide the

Agency with access to: (i) Any location identified by the state under article 2.a.(i), 2.a.(iv), 2.a.(ix)(b) or 2.b., other than those referred to in article 5.a.(i); and (ii) any location specified by the Agency, other than locations referred to in articles 5.a. and b., to carry out *location-specific environmental sampling*.

7. ENVIRONMENTAL SAMPLING

Relevant INFCIRC/540 (Corrected) text

Article 5
..... shall provide the Agency with access to:
c. Any location specified by the Agency, other than locations referred to in paragraphs a. and b. above, to carry out *location-specific environmental sampling,* provided that if ..... is unable to provide such access, ... shall make every reasonable effort to satisfy Agency requirements, without delay, at adjacent locations or through other means.

Article 9
..... shall provide the Agency with access to locations specified by the Agency to carry out *wide-area environmental sampling,* provided that if ..... is unable to provide such access it shall make every reasonable effort to satisfy Agency requirements at alternative locations. The Agency shall not seek such access until the use of *wide-area environmental sampling* and the procedural arrangements therefor have been approved by the Board and following consultations between the Agency and .....

Article 18
f. *Location-specific environmental sampling* means the collection of environmental samples (e.g., air, water, vegetation, soil, smears) at, and in the immediate vicinity of, a location specified by the Agency for the purpose of assisting the Agency to draw conclusions about the absence of undeclared *nuclear material* or nuclear activities at the specified location.
g. Wide-*area environmental sampling* means the collection of environmental samples (e.g., air, water, vegetation, soil, smears) at a set of locations specified by the Agency for the purpose of assisting the Agency to draw conclusions about the absence of undeclared *nuclear material* or nuclear activities over a wide area.

7.1. Description

Environmental sampling was a new safeguards technique beginning with Programme 93 + 2. It raised issues associated with all new and unfamiliar safeguards measures, but in addition to its use at declared locations, the Secretariat proposed environmental sampling for use at locations not declared by the state as well as the use of wide area environmental sampling. The two main issues for environmental sampling were: (1) the purposes for which it could be used; and (2) the conditions under which *wide-area environmental sampling* could be introduced. These issues involved articles 5 and 9 plus article 18 in which the two types of environmental sampling were defined.

7.2. Background

In Programme 93 + 2, the Secretariat identified environmental sampling as one of the new measures for strengthening safeguards and improving their efficiency. As a Part 1 measure, it would be carried out under the existing legal authority of comprehensive safeguards agreements at locations to which the Agency already had access for inspections i.e., it would be *location-specific environmental sampling*. However, in the context of the Additional Protocol, it could be carried out at other locations and could include both *location-specific environmental sampling* and *wide-area environmental sampling*. As a consequence, states were apprehensive about the intrusiveness of the access and about their ability to provide the access in light of their constitutions. This was especially the case under the earlier Secretariat drafts for access for environmental sampling, which could be essentially anywhere in the state for any purpose. European states, in particular, were concerned about the utility of wide-area environmental sampling in areas where borders were close, rivers flowed through several countries, and there were differing levels of nuclear activities conducted by individual countries.

7.3. Alternative proposals

The relevant proposals were:

1) L*ocation-specific environmental sampling* could be used at any location in the state without a statement of purpose (Draft 1).
2) At locations declared by the state not to have nuclear material or its ores and at locations not declared by the state, l*ocation-specific environmental sampling* could be used only in the event of a question or inconsistency resulting from information submitted by the state and from complementary access (Korea in W.P. 2).
3) *Wide-area environmental sampling* could be used at any location in the state without a statement of purpose (Draft 1).
4) *Wide-area environmental sampling* could be used only after its approval by the Board (Germany in OR.32/¶47 and attachment to OR.29).

7.4. Analysis

At its June 1993 meetings, the Board discussed GOV/2657, *Strengthening the Effectiveness and Efficiency of the Safeguards System: Report by the Director General on SAGSI's Re-Examination of Safeguards Implementation* of 14 May 1993. SAGSI's advice included the use of new procedures and technologies such as environmental monitoring techniques. At the March 1995 Board, the Secretariat presented GOV/2784, *Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System: A Report by the Director General* of 21 February 1995. This included the technical, legal, and financial aspects of specific measures being developed under Programme 93 + 2, some of which could be taken on the basis of existing authority, for example, environmental sampling at sites where the Agency was already entitled to perform inspections.

Drafts 1-3 of the protocol provided for complementary access to carry out environmental sampling at any location in the state. At the December 1995 Board, Brazil intervened that the Agency should present criteria for environmental monitoring for each installation and for the country as a whole and specify criteria for the selection of locations where sampling was to be carried out and of the samples to be collected. It suggested that arrangements were needed for states to conduct independent analyses or at least to have access to the analyses conducted at the Agency's laboratories (GOV/OR.884/¶76). Following the July 1996 Committee meetings Brazil proposed a new paragraph reading: "..... shall be entitled to appoint a representative to follow the analysis of environmental samples taken from its territory" (W.P. 14). This was the only comment that applied to all environmental sampling, including that at sites and at other locations declared by the state to have nuclear material. At the October 1996 meetings the Secretariat questioned the feasibility of the proposal (OR.12/¶62), and this proposal was not raised again.

At the July 1996 meetings of the Committee, Korea stated that environmental sampling, other than at *sites* and locations declared to have *nuclear material* or ores, should be done only to resolve an inconsistency or a question, as paragraphs 68 and 70 of GOV/2863 indicated (OR.2/¶1). (The issue of the purpose of complementary access for *location-specific environmental sampling* is addressed under Major Issue 4: Purpose of the protocol.)

Following the July meetings, Korea also proposed that a request for access for environmental sampling to locations, other than *sites* and locations declared to have *nuclear material* or ores, should be made only when there is an inconsistency or a question resulting from information submitted by the state and complementary access (W.P. 2). This would have precluded access to resolve questions and inconsistencies based on other sources of information, such as third parties and public information. The Secretariat objected (OR.12/¶3), pointing out that such a restriction would exclude, for example, open-source information, which was an important source of information for the Agency. There was no support for this proposal, and the issue was not raised again.

The remaining comments on environmental sampling all related to *wide-area environmental sampling*, which Mexico had opposed at the March 1996 Board, saying the proposal in paragraph 50 of "Discussion Draft II" for environmental sampling over wide areas was excessive and that it should only be used when there was full confidence in its effectiveness and when its application would bring savings for the states concerned (GOV/OR.889/¶27). The Secretariat's proposal in Draft 3 for environmental sampling at locations not declared by the state included *wide-area environmental sampling*, according to paragraph 54 of GOV/2863. China opposed it at the June 1996 Board, saying that wide-area sampling should not be provided for in the protocol since its feasibility and effectiveness had not yet been established and it involved questions of security, confidentiality, and cost (GOV/OR.895/¶28). During the October Committee meetings, Germany said that a distinction should be drawn between wide-area and site-specific environmental sampling (OR.12/¶10).

The chairman's Draft 4 did not include a separate article for *wide-area environmental sampling*, but during the January 1997 meetings Germany proposed one that required the state to provide access to any location specified by the Agency for *wide-area environmental sampling*, provided that if the state is unable to provide such access it shall make every reasonable effort to satisfy

Agency requirements at other locations, and further provided that the Agency shall not seek such access until the technique and the procedural arrangements therefor have been approved by the Board of Governors (OR.32/¶47 and attachment to OR.29). Algeria proposed that in each case of environmental sampling three samples be taken: one for the Agency, the second for the state (which could, if it so desired, carry out its own analyses) and the third, a control sample, to be used in the event of inadvertent contamination of one of the other samples or in the event of differing interpretations of the results (OR.32/¶2). The Secretariat replied that this was already the procedure ((OR.32/¶23), and the chairman felt that such details should not be included in the protocol (OR.32/¶36).

Only two comments were made in the Committee as to the contents of these procedural arrangements, one by Australia (OR.29/¶68) that they might include some of the provisions in article 4, such as access during regular working hours and the state's right to have Agency inspectors accompanied, and the other by Japan (OR.46/¶37) that they would have to be very detailed, specifying, for example, how the Agency and the state should select sampling locations and agree on sampling plans.

A number of states expressed support, at least in principle, for the German proposal. The focus of the debate then shifted to the conditions that would need to be satisfied before the Agency could use the technique. The UK (OR.29/¶56), suggested that one of the conditions for future use of *wide-area environmental sampling* be establishment of its cost-effectiveness. Belgium (OR.32/¶42), Spain (¶45) and Germany (¶47) proposed that the conditions include technical feasibility and cost-effectiveness. The U.S. (¶48) opposed references in the protocol to its "feasibility" or "cost-effectiveness," Germany (¶49) agreed, and the chairman (¶53) concurred.

The chairman's text for article 9 in Draft 5 was substantively the text proposed by Germany, the key condition being Board approval of both the technique and its procedural arrangements. Belgium questioned the propriety of a legally binding text that contained provisions whose full implications were as yet unknown (OR.46/¶42), but the U.S. countered that it was not uncommon in legal texts to make provision for future possibilities (¶43-44). The Secretariat pointed out that the wording would obviate the need for amendment of the protocol if technological developments warranted the introduction of *wide-area environmental sampling* in the future (¶45). Belgium then asked that a requirement for consultations with the state be added (¶51). The chairman's Draft 6 was essentially unchanged, except for the addition of consultations with the state, and is the text in INFCIRC/540.

7.5. Interpretation

The text and the record are clear that *location-specific environmental sampling* can be used in accordance with article 5 and for the purposes stated therein (See Major issue 4: Purpose of the protocol).

The record is clear that the information that can be used by the Agency in identifying questions and inconsistencies required as a condition of access to certain locations for any activity, including environmental sampling, is all information available to the Agency.

The text of article 9 and its discussion by the Committee are clear that the Agency can use in the future, without amendment of the protocol, *wide-area environmental sampling* but only after: (1) its use and procedural arrangements have been approved by the Board; and (2) consultations with the state. The protocol does not specify any other conditions, such as technical feasibility and cost-effectiveness. However, the issue in the Committee was not whether technical feasibility and cost-effectiveness were important considerations but only whether they would be stated in the protocol as conditions. Although absent from the Protocol, it is reasonable to expect their consideration if and when the Board addresses a future proposal for *wide-area environmental sampling*.

The conditions for future use of *wide-area environmental sampling* are also included in the conditions specified in article 6 (except 6.d, which refers to access to previously undeclared locations in a State) for use in the future of "other objective measures which have been demonstrated to be technically feasible," an issue dealt with in section 8: Agency activities during complementary access. (We will see there that the interpretations of these conditions are that the agreement of the state is not required and that agreement by the Board includes review without objection. This can be inferred to apply also to *wide-area environmental sampling*, even though it was not discussed in the context of article 9.

The Committee did not attempt to specify the procedural arrangements. Two states offered suggestions (provisions such as those in article 4.e. and f. and how the Agency and the state should select sampling locations and agree on sampling plans), but these were neither adopted nor opposed.

8. AGENCY ACTIVITIES DURING COMPLEMENTARY ACCESS

Relevant INFCIRC/540 (Corrected) text

Article 6.
When implementing Article 5, the Agency may carry out the following activities:
a. For access in accordance with Article 5.a.(i) or (iii): visual observation; collection of environmental samples; utilization of radiation detection and measurement devices; application of seals and other identifying and tamper indicating devices specified in Subsidiary Arrangements; and other objective measures which have been demonstrated to be technically feasible and the use of which has been agreed by the Board of Governors (hereinafter referred to as the "Board") and following consultations between the Agency and .....
b. For access in accordance with Article 5.a.(ii): visual observation; item counting of *nuclear material;* non-destructive measurements and sampling; utilization of radiation detection and measurement devices; examination of records relevant to the quantities, origin and disposition of the material; collection of environmental samples; and other objective measures which have been demonstrated to be technically feasible and the use of which has been agreed by the Board and following consultations between the Agency and .....
c. For access in accordance with Article 5.b.: visual observation; collection of environmental samples; utilization of radiation detection and measurement devices; examination of safeguards relevant production and shipping records; and other objective measures which have been demonstrated to be technically feasible and the use of which has been agreed by the Board and following consultations between the Agency and .....
d. For access in accordance with Article 5.c.: collection of environmental samples and, in the event the results do not resolve the question or inconsistency at the location specified by the Agency pursuant to Article 5.c., utilization at that location of visual observation, radiation detection and measurement devices, and, as agreed by ..... and the Agency, other objective measures.

8.1. Description of Issue

In addition to specifying where the Agency would be permitted to conduct complementary access and under what conditions, the Committee also specified in broad terms the specific safeguards measures that could be used under different circumstances. For example, the Agency is permitted to use "radiation detection and measurement devices" during complementary access to locations reported as doing R&D or manufacturing specified items. The Committee spent considerable time discussing which of the existing safeguards measures could be used at each type of locations. However, this was not a major issue and is treated under the development of article 6 in Volume III. The major issue involving article 6 was the criteria to be satisfied for use of new technologies during complementary access.

8.2. Background

Paragraph 74(e) of INFCIRC/153 specifies that during inspections the Agency may "Use other objective methods which have been demonstrated to be technically feasible." The Secretariat followed an analogous approach in its Draft 1 of the protocol by referencing paragraph 74(e). However, environmental sampling, a technique not familiar to most states, was specifically listed. Moreover, the familiar measures were to be applied not only in nuclear facilities but in all of the other types of locations at which the Secretariat was proposing complementary access. For these reasons Committee 24 spent considerable time in debating the criteria and conditions under which new measures could be used.

8.3. Alternative Proposals

The numerous proposals for the criteria under which new measures could be introduced were of three forms:

1) Other objective measures that have been demonstrated to be technically feasible (Draft 3).
2) Decided by mutual agreement (Algeria in W.P. 11).
3) Approved by the Board of Governors (Germany in W.P. 10).

8.4. Analysis

The issue of under what criteria new measures could be introduced by the Agency reflected a concern of many states that the vague nature of the phrase "other objective measures" would leave them vulnerable to untested or unfamiliar inspection activities. As early as the December 1995 Board, Brazil asked that the Agency present criteria for the use of environmental monitoring and for the selection of locations where sampling was to be carried out (GOV/OR.884/¶76). Following the July 1996 meetings of the Committee, these states sought to solve their concern by proposing that new measures would be introduced only by mutual agreement between the state and the Agency (Algeria in W.P. 11; Argentina in W.P. 12; Belgium in W.P. 4/Add.1; Egypt in W.P. 19; Slovakia in W.P. 16; and Spain in W.P. 1). Germany took a different approach and proposed that the introduction of new measures be subject to their approval by the Board of Governors (W.P. 10). In contrast, the U.S. supported the Secretariat's formulation (W.P. 17).

The Secretariat opened this debate at the October 1996 Committee meetings by stating that the introduction of new measures on the basis of Board approval would ensure much greater uniformity than a system based upon agreement of individual states (OR.12/¶60). Belgium was concerned that the Board might take a decision on an issue that affected Belgium at a time when it was not on the Board (OR.12/¶63), but Germany felt it would be unacceptable for some measures to be implemented in some states but not in others and pointed out that under Board Rule 50, all states could contribute to the decision-making process (OR.12/¶73-74).

Several states continued to press for "mutual agreement," with Slovakia, for example, worrying that new equipment might adversely affect public health, the environment or property (¶37); Algeria (¶12), Egypt (¶25) and Iran (¶39) arguing that states needed to become familiarized with any new techniques in order to ensure confidence in the Agency's results; and Syria (¶11) and Brazil (¶14) arguing that legal constraints might prevent the government from allowing the use of certain novel technologies. "Mutual agreement" was opposed by Austria (OR.13/¶4), Greece (¶5), New Zealand (¶10), Sweden (¶21), Turkey (¶26) and Denmark (¶36), as well as the U.S., which shared the view that the phrase "objective measures" provided an element of flexibility, allowing for possible future developments in safeguards. The U.S. also opposed Board approval, noting that this had not been a typical procedure in the past and had occurred only twice under INFCIRC/153 for the introduction of new technologies (¶1). Austria (¶4), Greece (¶5) and Sweden (¶21) contended that there was no reason to mistrust the Secretariat's actions, with Greece also arguing against Board approval because it would tie up the Board with unnecessary technical details (¶11) and New Zealand (¶10) warning that waiting for Board approval might unduly delay the Agencies activities.

Reflecting this impasse, the chairman's Draft 4 offered the following language with two alternatives:

> other objective measures which have been demonstrated to be technically feasible [and the use of which has been reviewed by the Board of Governors and following consultations between the Agency and the state] [and which have been mutually agreed between the Agency and state].

Germany responded by suggesting the alternative: "other objective measures which have been demonstrated to be technically feasible and the use of which has been agreed by the Board." This amended the Chair's language for Board review to require Board approval, but it omitted reference to States, consistent with Germany's view that implementation should be uniform. However, for locations that had not been declared by the state and at which the Agency had carried out inconclusive environmental sampling, it also suggested that Agency could use "other objective measures agreed by the (State) and the Agency" i.e. without Board agreement, (OR.29 attachment). Germany clarified its proposal by stating that the Board would agree to the use of a given measure in general and not have to agree to its use in every particular instance, that Board agreement was needed because the protocol would be providing for extensive safeguards activities at non-nuclear sites, and that "agreed" meant "reviewed without objection" (OR.32/¶113), a point that the U.S. had made (OR.32/¶90). No states took exception to this understanding.

Belgium continued to press for consultations between the Agency and the state, part of the Chairman's first alternative above, as some states are not permanently represented on the Board (¶124). The German suggestion for Board agreement and the Belgian proposal for consultations with States were accepted by the Committee and reflected in subsequent drafts from the chair. Germany's suggestion that there be a distinction between locations that had been declared by States (where Board agreement and consultations with States was needed) and others (where agreement with the State was needed, but not Board action) was also carried forward (OR.33/¶42, 47 and 48).

There were no further comments with respect to this issue on the chairman's Draft 5 of January 1997, which with only editorial changes became the chairman's Draft 6 and the text in INFCIRC/540.

8.5. Interpretation

The record and text are clear and explicit that before using new techniques in the course of complementary access pursuant to articles 5.a. and b., the Secretariat must demonstrate that they are technically feasible, submit them to the Board for its agreement, and consult with the state. Whether it is to be inferred that this must also be done in order to use any "other objective measures," even existing techniques, which are not specified in article 6 is less clear. The record and text are also clear that the agreement of the state is not required, and the record is explicit that agreement by the Board means reviewed without objection, which in turn means that a formal Board decision is not required.

The record and text are clear and explicit that the Secretariat, before using techniques other than visual observation and radiation detection and measurement devices in the course of complementary access pursuant to articles 5.c., must obtain the agreement of the state, but it is not required that there be involvement of the Board of Governors.
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9. ADVANCE NOTICE OF COMPLEMENTARY ACCESS

Relevant INFCIRC/540 (Corrected) text
Article 4.

b. (i) Except as provided in paragraph (ii) below, the Agency shall give advance notice of access of at least 24 hours;

(ii) For access to any place on a *site* that is sought in conjunction with design information verification visits or ad hoc or routine inspections on that *site,* the period of advance notice shall, if the Agency so requests, be at least two hours but, in exceptional circumstances, it may be less than two hours.

c. Advance notice shall be in writing and shall specify the reasons for access and the activities to be carried out during such access.

9.1. Description

The primary issue, raised by a number of states, was whether and how much advance notice of complementary access was needed when inspectors were on the *site* of a facility in conjunction with design information verification visits or ad hoc or routine inspections. A secondary issue, raised by a few states, was whether advance notice of access other situations should be more than 24 hours. A practical reason behind many of these proposals was the difficulty of making arrangements for access to buildings on short or no-notice that do not in fact contain nuclear material and to which the state and facility representatives accompanying the Agency inspectors might not themselves have access. Advance notice is dealt with in article 4.b. and c.

9.2. Background

Paragraph 83(c) of INFCIRC/153 provides for at least 24 hours advance notice for routine inspections at facilities with uranium enriched to more than 5 percent or with plutonium and one week for other locations. However, paragraph 84 provides that a portion of routine inspections may be carried out without any advance notice, and this applies to all types of locations. Many of the proposals for advance notice of complementary access were in conflict with one or both of these INFCIRC/153 provisions.

9.3. Alternative proposals

There were a large number of proposals differing substantively or editorially regarding advance notice for complementary access. They can be grouped as follows:

1) No advance notice required when inspectors are already on a *site* in conjunction with design information verification visits or ad hoc or routine inspections on that *site*, and advance notice of at least 24 hours before the arrival of Agency inspectors at the location in question for all other complementary access (Secretariat's Draft 1).

2) Advance notice of at least 24 hours before the arrival of inspectors at the location in question for all locations (Japan in W.P. 3 Corr.1).

3) Advance notice of at least 24 hours before the arrival of Agency inspectors at the *site* in question for access in conjunction with design information verification visits or ad hoc or routine inspections on that *site*, unless such notice would, in the view of the Agency, prejudice the purpose for which access is sought, in which case the state shall grant the requested access within two hours, and advance notice of at least 24 hours before the arrival of Agency inspectors at the location in question for all other complementary access (Australia in OR.14/¶75).

4) Advance notice of at least 48 hours for complementary access to all locations (Egypt in OR.14/¶61).

9.4. Analysis

The following tabulation compares advance notice requirements under INFCIRC/153 and INFCIRC/540.

INFCIRC/153		**INFCIRC/540**	
Activity (at nuclear facilities and LOFs)	**Minimum notice**	**Location**	**Minimum notice**
Design information verifications (¶48)	1 week (¶83(a))	*Sites*	2 hours, or less in exceptional cases (¶4.b.(ii))
Ad hoc inspections to verify initial report (¶71(a)) and changes thereto (¶71(b))	1 week (¶83(a))		
Ad hoc inspections to verify international transfers of nuclear material (¶71(c))	24 hours (¶83(a))		
Routine inspections of Pu and U enriched to more than 5% (other than reactors) (¶72)	24 hours (¶83(c))		
A portion of routine inspections	None (¶84)		
All other routine inspections (¶72)	1 week (¶83(c))		
Special inspections (¶73)	As promptly as possible (¶83(b))		
- -	- -	All other access	24 hours (¶4.b.(i))

The Secretariat's first three drafts of the protocol were substantively the same regarding advance notice of complementary access and provided that:

1) There would be no prior notice to the state of complementary access if such access is requested in the course of design information verification, ad hoc inspection or routine inspection; and

2) For all other access advance notice to the state would be given at least 24 hours before the arrival of Agency inspectors at the location in question.

This issue was not discussed in the Board, but at the July 1996 meetings of Committee 24, Japan stated that in order to reduce a state's practical difficulties while maintaining the effectiveness of complementary access, the Agency should in principle give the state 24 hours advance notice

(OR.1/¶34). Later in the meetings, the Secretariat stated that it was important to think in practical terms when talking about the question of access and, if, for instance, an inspector was visiting a facility on advance notice, accompanied by a local representative, and asked to see what was behind a door in the control room, it would be unreasonable for him to be required to give 24 hours' notice for a request of that kind. However, if he wished to have access to an adjacent building that was not used every day and could not be opened immediately, some form of notice might reasonably be sought (OR.3/¶54). Still later in the meetings Belgium considered it absolutely essential to provide for at least 24 hours' advance notice of inspections in all cases to avoid confusion (OR.6/¶26).

Following the July meetings Japan (W.P. 3 Corr.1), Belgium (W.P. 4/Add.1), Egypt (W.P. 19) and Germany (W.P. 10) submitted written proposals that advance notice of complementary access be given at least 24 hours before the arrival of inspectors at the location in question for all locations. Argentina commented, “Steps to gain access to private property may require more than 24 hours” (W.P. 12). Slovakia proposed replacing “No notice” with “Short notice” (W.P. 16).

At the October 1996 meetings several G-77 states were vocal in expressing their concerns with no or short notice inspections. Algeria proposed a minimum notice of 36 hours for all locations (OR.14/¶60), and Egypt (¶61) and Syria (¶78) proposed at least 48 hours notice for all locations. Although these statements were in the context of advance notice of complementary access, the language used in fact rejected the INFCIRC/153-provisions in their safeguards agreements for no-notice inspections. For the most part other states opposed lengthening notice requirements, but some compromises emerged. New Zealand (¶65), U.S. (¶68), Finland (¶76), UK (¶82) and Nigeria (¶84) opposed 24-hour notice. The Netherlands opposed a 24-hour notice for access in conjunction with design information verification, ad hoc inspection or routine inspection but supported some notice that should not be too long and inspectors should not have to leave the premises concerned (¶63). Japan (¶69), supported by U.S. (¶85), proposed 24 hours' notice in normal cases, with provision for shorter notice only in very exceptional cases; and Australia (¶75) suggested a notice period of less than 24 hours that would not however apply in cases where it would be prejudicial to the objective of the Agency's request for access. The Secretariat (¶89) stated that no notice meant short notice, because it was clear that some notice was necessary and that during field trials a maximum of two hours notice had been used successfully.

Following the October 1996 meetings, the chairman distributed Draft 4 with bracketed text that included essentially all of the variants put forward: for access sought in the course of design information verification or ad hoc or routine inspection, [Short-notice, not exceeding two hours] or [Advance notice of 24 hours] or [Advance notice of 24 hours, unless such notice would, in the view of the Agency, prejudice the purpose for which access is sought, in which case the state shall grant the requested access within two hours]; for all other access advance notice of at least [24] [36] [48] hours before the arrival of Agency inspectors at the location in question; and the Agency shall make a written request for complementary access indicating the reasons therefore and the activities intended to be performed during such access.

Germany opened the discussion at the January 1997 meetings by proposing that:

> the Agency shall give advance notice of at least 24 hours before the arrival of Agency inspectors at the location in question, provided that for access to any place on a *site* that is sought in the course of design information verification or ad hoc or routine inspections on that site, notice shall, if the Agency so requests, be shortened to two hours or even less and advance notice shall be in writing and shall specify the reasons for complementary access and the activities intended to be performed during such access (OR.29/¶71 and attachment).

The UK noted the need to ensure that indicating reasons and activities for access did not give the state an opportunity to delay the access beyond the specified notification period (¶72). Algeria and Saudi Arabia: preferred the chairman's second option since it was the most consistent with the terms of Algeria's safeguards agreement (OR.34/¶4).

Support for the German proposal came from The Netherlands, with the reservation that notice of two hours or less could prove inadequate for a state to arrange for its representatives to accompany Agency inspectors (OR.34/¶5); Denmark (¶6); Australia, with the final part amended to read "shortened to not less than two hours," since anything shorter than two hours might create problems for certain states (¶8); the U.S., noting that unannounced inspections were already provided for in INFCIRC/153 and that the practice which had evolved in the Agency with respect to unannounced inspections was to give two hours' notice, so the protocol did not represent a new departure (¶10); Japan, amending the Australian change by adding "unless the giving of such notice would ... prejudice ... etc." (¶11-12); Turkey, with addition of the notion of "exceptional cases" as the reason for shortening the notice period to two hours (¶13); and the UK, South Africa, France, Nigeria, New Zealand, Belgium, Spain and Austria, as amended by Australia (¶14).

Brazil was concerned that 24 hours' notice was not enough (OR.34/¶7) as was Chile for situations involving locations not within the direct competence of the state and at which access could not be arranged within 24 hours (¶9). The Secretariat supported the German text, stating that it would apply the rules flexibly to meet differing circumstances and, where obstacles arose, the "best efforts" principle would apply, but it was imperative that the Agency have the authority to act promptly and firmly when the need arose, noting that during field trials, very short-notice access to places on a site after the inspectors' arrival at the location had been achieved in 34 of the 35 cases within 15 minutes (¶29-33). The chairman summarized that there seemed to be wide support for the German proposal, which he would take as his starting-point for further drafting (¶38-40).

His Draft 5, which most resembled the German proposal, provided for advance notice of access of not less than 24 hours, except that for access to any place on a *site* that is sought in conjunction with design information verification visits or ad hoc or routine inspections on that *site*, notice shall, if the Agency so requests, be limited to not less than two hours or, in exceptional circumstances, not be given in advance and shall be in writing and specify the reasons for complementary access and the activities to be carried out during such access. The Committee debate on this text focused mainly on the meaning of "exceptional circumstances" with Japan accepting the text on the understanding that "exceptional circumstances" meant, for example, a "hot pursuit" situation or "a clear and present danger" such as had existed in Iraq and with the latter part reading "be at least two hours but, in exceptional circumstances, it may be less than two hours" (OR.45/¶43, 54-56 and 58). Korea felt that "exceptional circumstances"

should be interpreted in a very strict manner and supported the change to “less than two hours” (¶46-47).

The Secretariat felt it was impossible to define “exceptional circumstances” exhaustively, but could subscribe to the Japanese delegation's understanding and wording, although “hot pursuit” sounded too dramatic, and situations where an inspector on site saw something that he or she did not understand and requested an explanation and access needed to be covered (OR.45/¶59-62). Syria and Saudi Arabia argued that administrative procedures for the entry of inspectors with their equipment varied from country to country, so advance notice of at least 48 hours or even 72 hours should be provided to ensure that inspectors did not encounter problems (¶64-65). The chairman indicated he would redraft the article using the Japanese suggestion but asserted that given the provisions in paragraph 83 of INFCIRC/153 the 24-hour notice question should not be reopened (¶73-76).

The Chairman’s Draft 6 of February 1997 was essentially the language that appeared in INFCIRC/540 and was accepted without further comment by the Committee or the Board.

9.5. Interpretation

The record is clear that normally the Agency will give at least 24 hours advance notice of complementary access for all locations before arriving at the location. The record is equally clear that when the Agency is carrying out design information verification visits or ad hoc or routine inspections on a *site* its advance notice can be as short as 2 hours or, in exceptional circumstances, even less. The Secretariat’s statement that notice of only 15 minutes had consistently worked in practice during field trials was not questioned. The protocol does not define exceptional circumstances, although the record includes a few examples, and both the record and the INFCIRC/540 language are clear that it is the Agency alone that decides when circumstances are exceptional.

The record and INFCIRC/540 text are also clear and explicit that the advance notice is to be in writing. That the notice be in writing was not an issue, and there was no debate on the matter.

Neither the record nor the text of INFCIRC/540 addresses how complementary access would be handled when the Agency conducts an unannounced routine inspection at a location for which at least 24 hours advance notice is required for complementary access, although it could be assumed that protocol article 4.b. (ii) would apply.

Although there was almost no discussion in the Committee of the consistency of proposals for advance notice of complementary access with the provisions in INFCIRC/153 for advance notice of inspections, in the end the language agreed on is in fact consistent with the INFCIRC/153 provisions.

10. MANAGED ACCESS

Relevant INFCIRC/540 (Corrected) text

Article 7.

a. Upon request by ....., the Agency and ..... shall make arrangements for managed access under this Protocol in order to prevent the dissemination of proliferation sensitive information, to meet safety or physical protection requirements, or to protect proprietary or commercially sensitive information. Such arrangements shall not preclude the Agency from conducting activities necessary to provide credible assurance of the absence of undeclared *nuclear material* and activities at the location in question, including the resolution of a question relating to the correctness and completeness of the information referred to in Article 2 or of an inconsistency relating to that information.

b. ..... may, when providing the information referred to in Article 2, inform the Agency of the places at a *site* or location at which managed access may be applicable.

c. Pending the entry into force of any necessary Subsidiary Arrangements, ... may have recourse to managed access consistent with the provisions of paragraph a. above.

10.1. Description

Managed access allows states to prevent dissemination of sensitive information to the Agency during complementary access. It thereby provides states with some of the assurances they sought as a condition for granting the Agency access to the wide range of locations covered by the protocol. At the same time, the conditions for managed access also need to provide assurances to the Agency that it will still have adequate access to locations and information to meet its verification obligations. Generally speaking, the concept of including provisions for managed access was not, itself, an issue during Committee 24 discussions. The main issue was the scope and clarity of the reasons that could be used by a state for requesting managed access. Secondary issues: were (1) the wording of the qualification on the use of managed access so that the Agency would still have adequate access to locations and information to meet its verification obligations; and (2) at what point in time a state should indicate the need for managed access at a particular location. Managed access is dealt with in article 7.

10.2. Background

The concept of "managed access" was not new to the area of safeguards. In paragraph 79 of GOV/2784 of 21 February 1995, *Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System: A Report by the Director General*, the Secretariat pointed out that INFCIRC/153 paragraph 46(b)(iv) provided that, in determining material balance areas in facilities and LOFs, if a state so requests, a special material balance area around a process step involving commercially sensitive information may be established. In addition, paragraph 76(d)

provided that, in the event of the state concluding that any unusual circumstances require extended limitations on access by the Agency, the state and the Agency shall promptly make arrangements with a view to enabling the Agency to discharge its safeguards responsibilities in the light of these limitations. Accordingly, the Secretariat omitted an article on managed access in Draft 1 of the protocol but, realizing its necessity in view of the additional information that the Agency would be seeking under the protocol, added such an article in Draft 2.

10.3. Alternative proposals

Regarding the main issue, the proposals can be compressed into:

1) For safety reasons, or to protect proprietary or commercially sensitive information (Secretariat's Draft 2).
2) The addition of physical protection reasons (Belgium in OR.3/¶29).
3) The addition of proliferation sensitive information, e.g., centrifuge technology for uranium enrichment (Germany in OR.3/¶30-31).
4) The addition of "national security" reasons (Australia in OR.3/¶32), "classified" information (Germany in W.P. 10) and "confidential or restricted" information (Mexico in W.P. 13).

Regarding the issue of the qualification on the use of managed access so that the Agency would still have adequate access to locations and information to meet its verification obligations, the alternatives proposed were:

5) Provided that such arrangements do not preclude the Agency from conducting activities necessary to determine the absence of undeclared nuclear material and activities at the location in question or otherwise resolve any inconsistency (Secretariat's Draft 2).
6) Provided that such arrangements do not preclude the Agency from conducting activities necessary to resolve any inconsistency (Brazil in OR.14/¶9).

Regarding the issue of when a state should indicate the need for managed access at a particular location, the only alternative proposed was:

7) The Agency should be informed in the Expanded Declaration of the areas on a site where access restrictions might apply (paragraph 62 of GOV/2863). (Opponents proposed no alternative other than deletion.)

10.4. Analysis

Although the Secretariat did not include provisions for managed access in its first Draft 1 of the protocol, paragraph 41 of that "Discussion Draft" (which was a draft GOV) did say that a state could use managed access to protect commercial, proprietary, or national security interests. At the December 1995 Board, South Africa asked for a clause in the additional protocol on the right of the state to limit access on grounds of safety or commercial confidentiality and said that requiring the state to specify beforehand limitations of access in respect of each building and

facility that might be inspected by the Agency was not practical since it would be almost impossible to provide up-to-date information on every location (GOV/OR.885/¶25).

Because the protocol would allow Agency access to a much broader array of information and locations than under comprehensive safeguards agreements, it quickly became evident that the issue could not be resolved by relying on those agreements. As a consequence, the Secretariat included an article on managed access in its next two drafts of the protocol (Drafts 2 and 3). These stated that a state may make arrangements with the Agency for managed access under the protocol due to safety reasons, or to protect proprietary or commercially sensitive information, provided that such arrangements do not preclude the Agency from conducting activities necessary to determine the absence of undeclared nuclear material and activities at the location in question or otherwise resolve any inconsistency. At the March 1996 Board, discussion of the protocol South Africa again said that the requirement for a state to give prior indication of the areas where managed access would be needed was impractical (GOV/OR.889/¶110).

Committee 24 discussed managed access at its July 1996 meetings, where a number of non-nuclear-weapon states wanted to expand the types of reasons that could be used for invoking managed access. Mexico proposed replacing "or to protect proprietary or commercially sensitive information" with "or to protect confidential or classified information for commercial reasons" (OR.3/¶28). Belgium proposed adding "physical protection reasons" (¶29). Germany wanted the article on managed access to include information sensitive from the point of view of proliferation, stating that one of the most effective non-proliferation measures which had ever been implemented was the classification agreement concluded between the U.S., the UK, Netherlands and Germany in the late fifties to keep information on centrifuge technology for uranium enrichment classified. Germany also argued, referring to the phrase "to determine the absence of undeclared nuclear material and activities," that it was impossible in practice to determine the absence of something (¶30-31). Australia agreed that proliferation-sensitive information should be covered as well as information concerning national security (¶32).

Germany went even further, saying that because the protocol entered new safeguards territory managed access should be mandatory (OR.3/¶30). The Secretariat responded that it was not appropriate to insist that states accept managed access; that other grounds for managed access could be added but without going too far; and that the Agency was not claiming to be able to determine the absence of undeclared nuclear material and activities in a state as a whole, but doing so should be possible in a specific location (¶34 and 40).

Following the July meetings there were numerous written proposals for editorial changes and several for substantive changes. The latter, proposed by non-nuclear-weapon states, mostly involved adding reasons that managed access could be requested. These included safety or physical protection or to protect proprietary, commercially or technologically sensitive information (Argentina in W.P. 12); safety or to protect confidential information related to proprietary, commercial or national security interests (Australia in W.P.15); physical protection reasons (Belgium in W.P. 4/Add.1); to further non-proliferation objectives (Brazil in W.P. 14); security or safety or to protect classified or proprietary or commercially sensitive information (Germany in W.P. 10); and confidential or restricted information (Mexico in W.P. 13).

At the October 1996 Committee meetings, the Secretariat opened the discussion on managed access by again noting that managed access was already applied to a limited extent under some existing comprehensive safeguards agreements but, in view of the additional information which the Agency would be seeking under the new protocol, a specific article on managed access had been deemed necessary; and it was important to strike a balance between the Agency's need to have access to satisfy its verification requirements and the state's legitimate interests in protecting certain categories of information (OR.14/¶7). Brazil wanted deletion of "determine the absence of undeclared nuclear material and activities at the location in question or otherwise" because it wanted complementary access to be limited to resolving an inconsistency or question (¶9). The Netherlands said the German proposal to protect classified information was not desirable because it gave the state too much scope to label whatever it wanted as classified information (¶14).

The U.S. remained consistent in its view that the Agency be given a wide berth in terms of its ability to access information. To support this view it said that its experience with managed access in arms control agreements and bilateral inspections with the former Soviet Union had demonstrated the importance of such access in providing the assurances needed for compliance with the broad terms of the agreements and at the same time the protection needed for sensitive information. The U.S. also remained consistent in it view that the three reasons specified in the existing text, with the possible addition of physical protection and proliferation sensitivity, should be adequate and that it was important to avoid an approach where everything would be subject to managed access (OR.14/¶16-17). Germany reiterated that the grounds for managed access should include security concerns, both from the point of view of physical protection and to prevent the possible proliferation of sensitive technology, particularly centrifuge technology, and that if security was added as a possible reason it would reconsider its proposal to have classified information included (¶23).

The Secretariat agreed that a balance needed to be struck between the interests of the state in protecting certain installations and the Agency's need to provide assurance of or to determine the absence of undeclared activities; the right to make such arrangements should not be an unlimited right; the enumeration of reasons was essential if increased access was not to be undermined; it was the state that made arrangements with the Agency jointly and the Agency had the right to indicate whether the arrangements were satisfactory and practical; and a phrase such as "to enable the Agency to fulfill its obligations under the Protocol" was far too vague (OR.14/¶48 and 50).

Germany and Australia offered practical examples in arguing for including physical protection information. Germany pointed out that there were certain types of information, such as site maps, that were not to be taken from the premises of the location concerned, were part of physical protection information and constituted a clear case of managed access (OR.14/¶52 and 54). Australia noted that there were zones of tension in the world where the physical protection measures might be more rigorous than most states would find necessary and, if an Agency inspector did not need to know the specifics of physical protection measures, it was in the interests both of the Agency and of the state that such information be given the least possible exposure (¶55).

The chairman, summing up the discussion, said there seemed to be a general view that managed access should take account of proliferation-sensitive technologies, although it was not clear whether they should be covered by the term "national security;" there was clearly a need to define physical protection very carefully and to assess the impact that its inclusion would have on the balance of interests; and there was a general feeling that it would be inadvisable to use the phrase "classified information" (OR.14/¶58).

The chairman's Draft 4 of October 1996 included:

> .... shall be entitled to make arrangements with the Agency for managed access under this Protocol due to safety reasons, or to protect proprietary or commercially sensitive information [or information related to national security interests], provided that such arrangements shall not preclude the Agency from conducting activities necessary to provide assurance of the absence of undeclared nuclear materials and activities at the location in question, including the resolution of any inconsistency or question relating to the correctness and completeness of the information referred to in Article 1 above. ["To the extent possible ..... shall, when providing the information referred to in Article 1 above, inform the Agency of the places at a site or location in respect of which managed access may be applicable."]

At the January 1997 meetings of the Committee, Australia expressed reservations about the phrase "or information related to national security interests" because it was liable to various interpretations and proposed that the reasons be "to meet safety or physical protection requirements, to protect proprietary or commercially sensitive information, or to prevent the dissemination of nuclear weapons proliferation sensitive information" (OR.33/¶50 and attachment). Germany felt that the wording "complementary access to a particular location" narrowed the scope of managed access, which should apply to information as well as locations and supported the reference to physical protection and proliferation concerns in place of the national security interests (OR.33/¶51-53). Brazil agreed with Germany that "access to a particular location" was too limiting but opposed the words "inconsistency or question relating to the correctness and completeness of the information" (¶55). The U.S. generally agreed with Germany's comments and proposed insertion of "credible" before "assurance" and retention of "it deems necessary" to make clear who made the decision (¶59). The chairman proposed that the reasons be "to prevent the dissemination of proliferation sensitive information, to meet safety or physical protection requirements, or to protect proprietary or commercially sensitive information" (¶78-79).

Belgium, Germany and Korea proposed deletion of the bracketed text "To the extent possible ... shall, when providing the information referred to in Article 1 above, inform the Agency of the places at a site or location in respect of which managed access may be applicable" (OR.33/¶81). The U.S., supported by the UK, Chile, Australia, Turkey, Nigeria, Greece and Canada argued for retention of that text as it was qualified by the phrase "to the extent possible," so states could request such arrangements at a later stage, if they saw fit (¶82). The Secretariat reported that the procedure in the bracketed text had been fully and easily used in the field trials; had helped avoid unexpected situations; and did not require a state to specify the nature of managed access arrangements in the Expanded Declaration but only to give an indication as to where managed access might need to be applied (¶91).

The chairman's text in Draft 5 was, with only a minor editorial clarification, the same as that adopted by the Committee and contained in INFCIRC/540. Greece proposed amending the second sentence to read "... from conducting activities that it (the Agency) deems necessary ..." in order to clarify who would determine what was necessary (OR.46/¶12). The chairman proposed that in the light of the discussion, article 7.a. be left as it stood and that the language suggested by Greece was not necessary since there was a general understanding that it would be the Agency which determined what was necessary (¶21) and noted there were no comments on article 7.b. (¶22).

The text of article 7 in the chairman's Draft 6 was approved without comment (OR.51/¶44) and is that in INFCIRC/540 (Corrected).

10.5. Interpretation

The text and the record are unambiguous that the state has the right, but not an obligation, to request managed access at any location to prevent disclosure to the Agency during complementary access of specified categories of information. The text and record are equally unambiguous that the provisions for managed access in no way qualify the state's obligations to provide the information specified in article 2 about the location for which managed access is requested.

The text of article 7.a. specifies the categories of information to which managed access can be applied, and the record is clear that the Committee excluded categories that it felt were too vague or undefined, e.g., "classified" information. Nevertheless, the decision as to what specific items of information are included in any agreed category is left entirely to the state. For example, it is the state that determines what information is commercially sensitive. However, this protection for the state is limited and balanced by the proviso, equally explicit in the text and the record, that it cannot preclude the Agency from "conducting activities necessary to provide credible assurance of the absence of undeclared *nuclear material* and activities at the location in question, including the resolution of a question relating to the correctness and completeness of the information referred to in Article 2 or of an inconsistency relating to that information." Moreover, the record is explicit that it is the Agency that determines what activities are necessary. No exceptions are provided for this latter limitation on managed access.

The text and record of article 7.b. are clear that states are encouraged, but not required, to inform the Agency at the time they submit article 2 information of the places at a *site* or other location at which they might want managed access. It is equally clear that they may also do so at a later time. There is nothing in the record of article 7.b. to indicate how much prior, if at all, to an Agency request for complementary access must the state request managed access at the location in question. Moreover, there is nothing in the record indicating how the arrangements are to be worked out for the managed access at a location, particularly a *site*, in a manner consistent with the article 4.b. provisions for short notice of access. This presumably could be one of the subjects addressed in the subsidiary arrangements referred to in article 7.c.

Article 7.c., the use of managed access prior to entry into force of subsidiary arrangements, which appeared first in the chairman's Draft 5 of January 1997, is explicit and clear, was never an issue and received no substantive comments.

11. INFORMING THE STATE OF PROTOCOL ACTIVITIES

Relevant INFCIRC/540 (Corrected) text

Article 10
The Agency shall inform ..... of:
a. The activities carried out under this Protocol, including those in respect of any questions or inconsistencies the Agency had brought to the attention of ....., within sixty days of the activities being carried out by the Agency.
b. The results of activities in respect of any questions or inconsistencies the Agency had brought to the attention of ..... as soon as possible but in any case within thirty days of the results being established by the Agency.
c. The conclusions it has drawn from its activities under this Protocol. The conclusions shall be provided annually.

11.1. Description

The need for the Agency to report to each state the results of protocol implementation in that state was not an issue. What were issues, although not controversial, were: (1) the specifics of what would be reported; and (2) whether this would be done pursuant to paragraph 90 of INFCIRC/153 or a new provision in the protocol. The requirements for Agency reports to states are specified in article 10.

11.2. Background

Article 10 is analogous to paragraph 90 of INFCIRC/153, which requires the Agency to report to the state the results of inspections and the conclusions the Agency has drawn from its verification activities in the state under a comprehensive safeguards agreement. The Agency would have been required to do some reporting on its complementary access in the state pursuant to paragraph 90 even in the absence of article 10, but states felt the need for more explicit requirements reflecting the specific aspects of complementary access.

11.3. Alternative proposals

The alternatives considered by the Committee were:

(1) No provision in the protocol for reporting by the Agency to the state, relying instead on the relevant article in the safeguards agreement (paragraph 90 of INFCIRC/153) (Secretariat's Draft 1).

(2) An article in the protocol requiring the Agency to report to each state: (i) the results of each complementary access carried out, including its resolution or other findings in respect of any inconsistencies and questions the Agency had brought to the attention of the state, not later than (specific) days after the access; and (ii) annually the conclusions it has drawn from its activities including analysis of information available to the Agency and complementary

access (a combination of the proposals by Japan in W.P. 3/Corr.2 and the U.S. in W.P. 17).

11.4. Analysis

The December 1994 report to the Board on Programme 93 + 2, GOV/INF/759, contained nothing on this issue, nor did GOV/2784 and GOV/2807. The Secretariat's first three drafts of the protocol (Drafts 1-3) did not include this provision, it being the Secretariat's intention to include reporting on implementation of the protocol in the Agency's reporting to the state under the provisions of paragraph 90 of INFCIRC/153. The Board discussed these Secretariat drafts during its December 1995 and March 1996 meetings, but no comments were made on this issue. At the June 1996 Board, the only comment on this issue was by South Africa that asked how the results and conclusions of complementary access would be reported to states and whether that needed to be specified in the protocol (GOV/OR.894/¶124).

The issue was not addressed during the July 1996 meetings of Committee 24. Following these meetings, Japan and the U.S. proposed very similar new articles calling for the Agency to report to each state (i) the results of complementary access, including the resolution of any inconsistencies and questions brought to the attention of the state (U.S. in W.P. 17), not later than (specific) days after the access (Japan in W.P. 3/Corr.2), and (ii) annually any conclusions the Agency has drawn from its activities including analysis of information (Japan) and complementary access. These proposals were not discussed during the October 1996 meetings of the Committee. The chairman's Draft 4, issued following the October 1996 meetings, contained a new article reading: "The Agency shall inform ..... of: (a) the results of access carried out under this Protocol, including its resolution or other findings in respect of any inconsistencies and questions the Agency had brought to the attention of .....[, within thirty days of the results being established by the Agency]; and (b) the conclusions it has drawn from its verification activities, including those associated with complementary access, pursuant to this Protocol. The conclusions shall be provided annually."

At the start of the January 1997 meetings the Direction General presented the main views of the Secretariat on Draft 4, and a written Secretariat brief with more detailed comments was provided to the Committee. The Director General did not refer to this subject, but the brief stated the draft text was intended to track paragraph 90 of INFCIRC/153, that the use of the terms "results" and "conclusions" should also track the practice under INFCIRC/153; and that the bracketed language should be avoided, as it adds some confusion between results and resolution. During the January meetings, aside from a few editorial comments, Germany proposed changing "the results of access" to "the results of activities" (OR.33/¶93); Brazil asked for the results "as soon as possible" (OR.33/¶102); and Argentina proposed that the analysis on which the conclusions were based be provided (OR.33/¶100). The Secretariat noted that the article mirrored paragraph 90 of INFCIRC/153; that the intent was the same; and that in current practice detailed results of inspection activities were not reported unless a discrepancy or some other problem had occurred (OR.33/¶105).

The chairman, noting there seemed to be general agreement (OR.33/¶106), subsequently distributed his Draft 5, article 10 of which read:

> The Agency shall inform ..... of: (a) the activities carried out under this Protocol, including those in respect of any inconsistencies and questions the Agency had brought to the attention of ....., within sixty days of the activities being carried out by the Agency; (b) the results of activities in respect of any inconsistencies or questions the Agency had brought to the attention of ....., as soon as possible but in any case within thirty days of the results being established by the Agency; and (c) the conclusions it has drawn from its activities under this Protocol. The conclusions shall be provided annually.

Only the Secretariat commented on the text, noting that an attempt had been made to parallel paragraph 90 of INFCIRC/153, but article 10.c. provided for a category of reports not provided for in INFCIRC/153 (OR.46/¶54). The Committee record contains no elaboration of this last point.

Except for minor editorial changes, the Chairman's Draft 6 of February 1997 was unchanged, and there were no comments on either draft by the Committee. This text of article 10 was approved by the Board without comment on 15 May 1997 and is reproduced in INFCIRC/540 (Corrected).

The Agency's annual Safeguards Implementation Reports (SIRs) contain general information on the results of implementation of protocols but not the results for individual states. According to the SIR for 2007 (GOV/2008/14), 82 states had both comprehensive safeguards agreements and protocols in force. For 47 of these states, 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. For 35 of the states, the Secretariat found no indication of the diversion of declared nuclear material from peaceful nuclear activities, and 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.

To conclude that there is no indication of undeclared nuclear material and activities in a state, the Secretariat carries out a comprehensive evaluation of the results of its verification activities under the relevant safeguards agreement and protocol, and an evaluation of all information available on the state's nuclear and nuclear-related activities. In order to draw such a 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 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 protocol; and addressed all anomalies, questions and inconsistencies identified in the course of its evaluation and verification activities. A conclusion relating to the absence of undeclared nuclear material and activities can be drawn for a state only when these activities have been completed and no indication has been found by the Secretariat that, in its judgment, would give rise to a possible proliferation concern.

11.5. Interpretation

Article 10.a requires the Agency to inform the state of the activities carried out by the Agency in the state under the protocol, including but not limited to activities in respect of any questions and inconsistencies that had been brought to the attention of the state, The record is clear that these activities are not limited to complementary access but include activities such as analysis of information. These reports are to be provided within 60 days of the conduct of the activities. There was no discussion in the Committee of the format, content or details of these reports.

Article 10.b requires the Agency to inform the state of the results only of activities carried out in respect of any questions or inconsistencies the Agency had brought to the attention of the state, as soon as possible but in any case within 30 days of the results being established by the Agency. Thus, these reports are required only in the case of complementary access pursuant to article 4.a.(ii). The Secretariat stated that the reports under INFCIRC/153 paragraph 90 could include the results of sample analysis and data evaluation; that the intent was the same in article 10; and that in current practice detailed results of inspection activities were not reported unless a discrepancy or some other problem had occurred. Members of the Committee did not respond to this or otherwise comment on the desired details of article 10.b reports.

Article 10.c requires an annual report by the Agency to the state on the Agency's conclusions for the state from protocol activities. The conclusions would be based on the information available to the Agency, including the results of complementary access. While conclusions are to be reported to the state pursuant to paragraph 90 of INFCIRC/153 for each material balance area, there was no discussion in the Committee of whether or the extent to which protocol conclusions should be by location. The only insight into this question is a statement by the Secretariat that the reporting of conclusions under the protocol did not have a parallel in paragraph 90.

12. PROTECTION OF SAFEGUARDS INFORMATION

Relevant INFCIRC/540 (Corrected) text

Preamble paragraph 3
RECALLING that the Agency must ... take every precaution to protect commercial, technological and industrial secrets as well as other confidential information coming to its knowledge.

Article 15
a. The Agency shall maintain a stringent regime to ensure effective protection against disclosure of commercial, technological and industrial secrets and other confidential information coming to its knowledge, including such information coming to the Agency's knowledge in the implementation of this Protocol.
b. The regime referred to in paragraph a. above shall include, among others, provisions relating to:
(i) General principles and associated measures for the handling of confidential information;
(ii) Conditions of staff employment relating to the protection of confidential information;
(iii) Procedures in cases of breaches or alleged breaches of confidentiality.
c. The regime referred to in paragraph a. above shall be approved and periodically reviewed by the Board.

12.1. Description

The protection of safeguards information was of considerable importance to most states and received substantial attention in Committee 24. Although the need to protect this information was never an issue, the specifics of the protection were. The issues were whether a new more rigorous regime was needed and what should be its main elements. Protection of safeguards information is dealt with in the third paragraph of the preamble and in article 15.

12.2. Background

Paragraph 5 of INFCIRC/153 obligates the Agency to "take every precaution to protect commercial and industrial secrets and other confidential information coming to its knowledge in the implementation of the agreement." The authors are not aware of any instances in which this obligation has been violated. Nonetheless, because of the substantial expansion of the information that they would be providing under the protocol states were anxious to stress and reinforce this obligation. Thus, on many occasions throughout the development of the protocol states referred to the importance of this issue, and Committee 24 devoted considerable time and discussion to formulating what became article 15. The attention it received simply reflected the importance states attached to the matter and their desire to elaborate the details of the obligation beyond the relatively terse formulation in INFCIRC/153.

12.3. Alternative proposals

The alternative proposals considered by the Board and Committee 24 were:

1) No article in the protocol, relying instead on paragraph 5 of INFCIRC/153 (Draft 1).
2) An article requiring the Agency to maintain a stringent regime governing the handling of commercial and industrial secrets and other confidential information coming to its knowledge in the implementation of the Protocol (Draft 3).
3) An article also including general principles for the handling of confidential information, conditions of staff employment, measures to protect confidentiality and procedures in case of breaches or alleged breaches of confidentiality (Japan in W.P. 3 Corr.1).

12.4. Analysis

The preamble of the Secretariat's Draft 1 of the protocol did not include language on the protection of safeguards information, but the fifth paragraph of the preamble in Drafts 2 and 3 read "BEARING IN MIND the obligations of the Agency to ... protect commercial and industrial secrets and other confidential information coming to its knowledge in the implementation of the Safeguards Agreement or of this Protocol."

There was no discussion of the substance of this language during the July or October 1996 meetings. Australia said the paragraph was a valuable complement to the article on the subject (OR.3/¶84). The U.S. (OR.22/¶57) and Netherlands (¶65) thought it could be deleted given the operative article. The chairman in his Draft 4 offered two alternative wordings ("[BEARING IN MIND the obligations of the Agency to ... protect commercial and industrial secrets and other confidential information coming to its knowledge in the implementation of the Safeguards Agreement] **OR** [WHEREAS the Agency is obliged to ... to protect commercial and industrial. secrets as well as classified and other confidential information coming to its knowledge in the implementation of safeguards;]".

At the January 1997 meetings, the U.S. proposed replacing these alternatives with "RECALLING that the Agency must take into account in the implementation of safeguards the need to ... take every precaution to protect commercial and industrial secrets as well as other confidential information coming to its knowledge" (OR.42/¶19 and OR.40 attachment 3), Argentina proposed adding "technological" after "commercial" (OR.42/¶23), and it was accepted by the Committee without further discussion (OR.42/¶30).

The Secretariat's Drafts 1 and 2 of the protocol did not include an article on the protection of information. During the March 1996 Board, Mexico said that the protocol should state the Agency's obligation to protect the confidentiality of the information accruing to the Agency (GOV/OR.889/¶22). Draft 3 included an article reading "The Agency shall maintain a stringent

regime governing the handling of commercial and industrial secrets and other confidential information coming to its knowledge in the implementation of the Protocol."

At the July 1996 meetings Japan (OR.1/¶31) noted that if the safeguards system was strengthened the amount of confidential information that the Agency received would increase significantly and that although the article stipulated that the Agency should maintain "a stringent regime," it did not provide for a protection mechanism. By contrast, the Chemical Weapons Convention had an annex devoted to confidentiality, spelling out general principles and specific measures and procedures. His delegation would therefore like the Secretariat to devise a viable mechanism for the protection of confidentiality and report the results of its efforts to the Committee as soon as possible with a view to their incorporation, as appropriate, in a draft model protocol.

The Secretariat (OR.1/¶108) agreed that the article should be more detailed and explicit and that, while effective rules about the confidentiality of safeguards information already existed within the Secretariat, those rules should perhaps be reinforced. Spain (OR.3/¶76) stressed that while to date there had never been any problem over confidentiality of information at the Agency, the draft protocol covered a broader range of activities than hitherto which could prove sensitive for a number of reasons and the article should therefore contain an additional phrase spelling out the Agency's responsibilities in the event of a leak. Germany (OR.3/¶79) felt that the strictest possible regime to prevent the mishandling of confidential information was needed. Greece (OR.3/¶81) suggested that wording from the Agency's Staff Regulations and Staff Rules dealing with classified information be added to the protocol.

The Secretariat (OR.3/¶86-90) stated that the two most important aspects of confidentiality were the practical measures for ensuring the physical protection of information coming to the Agency's knowledge and preventing leaks by staff members, either during service or after their retirement, and the legal provisions that underpinned them. To that end the Secretariat was currently examining ways and means of improving the physical protection of information and of strengthening the Staff Regulations through such measures as penalty clauses similar to those applying under the Chemical Weapons Convention. Also all staff members were required to take an oath of service to the Agency on recruitment, and in the case of a breach of the Agency's international obligations it was bound by the terms of paragraph 17 of INFCIRC/153, which stipulated that such a matter should be settled in accordance with international law. Finally, confidentiality was not something to be frozen in the protocol, which should contain a clear legal requirement for the Agency to ensure confidentiality, but the practical measures for achieving that had to remain outside the scope of the protocol, as they would be subject to constant improvement and updating.

Following the July meetings a number of states submitted written proposals for additional language for the article on protection of information. These included:

(1) In case ..... has reason to believe that information coming to the knowledge of the Agency by means of the implementation of this Protocol has been disclosed to a third party, the Agency and ..... shall have recourse to all available means with a view to taking action against the person or persons involved (Brazil in W.P. 14);

(2) such regime providing for each Member State to treat a breach of the Agency's confidentiality obligations by an Agency employee as a violation of its own laws and regulations on the protection of classified or commercially or otherwise sensitive information (Germany in W.P. 10);

(3) This regime shall include general principles for the handling of confidential information, conditions of staff employment, measures to protect confidentiality and procedures in case of breaches or alleged breaches of confidentiality and The regime provided for in paragraph a. of this Article shall be approved by the Board of Governors and the implementation of this regime shall be reported annually to the Board of Governors (Japan in W.P. 3 Corr.1); and

(4) provide for possible failure by the Agency to maintain the required level of confidentiality, spelling out its responsibility in such an event (Spain in W.P. 1).

At the October 1996 meetings Korea proposed an independent commission of a small number of states to ensure effective enforcement of the regime, monitor the regime and check that inspectors closely followed existing rules and regulations (OR.16/¶28). Brazil, noting the difficulties of prosecuting inspectors who violated confidentiality after leaving the Agency, tried to use the situation to limit the information given the Agency (OR.16/¶30).

Following the October meetings the chairman's Draft 4 contained an expanded article reading:

a. The Agency shall maintain a stringent regime [designed to ensure effective protection against disclosure] of commercial and industrial secrets and other confidential information coming to its knowledge, including such information coming to the Agency's knowledge in the implementation of this Protocol.

b. The regime referred to in paragraph a. above shall include provisions relating to:

(i) General principles and associated measures for the handling of confidential information;

(ii) Conditions of staff employment relating to the protection of confidential information, including procedures in cases of breaches or alleged breaches of confidentiality.]

c. The regime referred to in paragraph a. above shall be approved and periodically reviewed by the Board.

The UK proposed deletion of "including such information coming to the Agency's knowledge," since the intention was to ensure protection of information which came to the Agency's knowledge in connection with the implementation of the Protocol (OR.35/¶37), but Germany and Iran (OR.35/¶41) and the U.S., Turkey and Nigeria (OR.35/¶45) urged retention of the phrase to ensure that all information, whether originating from INFCIRC/153 agreements or the future protocol, was subject to the same rigorously applied system of confidentiality. Argentina proposed adding "technological" to "commercial and industrial" (OR.35/¶42). Germany stressed that it had to be made clear that in the case of alleged breaches, procedures were not limited to staff employment conditions (OR.35/¶48).

Article 15 of the Chairman's Draft 5 read:

a. The Agency shall maintain a stringent regime to ensure effective protection against disclosure of commercial, technological and industrial secrets and other confidential

information coming to its knowledge, including such information coming to the Agency's knowledge in the implementation of this Protocol.

b. The regime referred to in paragraph a. above shall include, among others, provisions relating to:
   (i) General principles and associated measures for the handling of confidential information;
   (ii) Conditions of staff employment relating to the protection of confidential information;
   (iii) Procedures in cases of breaches or alleged breaches of confidentiality.

c. The regime referred to in paragraph a. above shall be approved and periodically reviewed by the Board.

There were no further comments on article 15, and this is the text in INFCIRC/540.

Following the January meetings and reflecting the Committee's decisions at those meetings, the Secretariat submitted to the Board GOV/2897 of 13 February 1997 entitled "The Agency's Regime for the Protection of Safeguards Confidential Information." Subsequently the Secretariat has submitted the following documents on the subject:

GOV/2959 of 14 November 1997, *Safeguards: The Agency's Regime for the Protection of Safeguards Confidential Information*

GOV/INF/1998/23 of 25 November 1998, *Safeguards: The Agency's Regime for the Protection of Safeguards Confidential Information, including Notices to the Staff on Obligations to Protect Confidential Information*;

GOV/INF/1999/7 of 21 May 1999, *Safeguards: The Agency's Regime for the Protection of Safeguards Confidential Information*

GOV/INF/2002/1 of 5 February 2002, *The Agency's Regime for the Protection of Safeguards Confidential Information: Progress Report*

To stress the importance of this matter the Committee included in its report (GOV/2914 of 10 April 1997) transmitting the model protocol to the Board the following paragraphs:

10. The Committee was concerned about the need to ensure that the Agency shall have a stringent regime for the protection of confidential information and therefore wishes to bring to the attention of the Board the provisions of Article 15 of the draft Model Protocol.

11. Following discussion in the Committee on the issue, the Secretariat subsequently submitted for the consideration of the Board at its March session, a paper on "The Agency's Regime for the Protection of Safeguards Confidential Information" contained in document GOV/2897 of 13 February 1997.

12. In March, the Board, while generally endorsing the Agency's regime for the protection of safeguards confidential information described in document GOV/2897, requested the Secretariat to consider all the suggestions made and, as appropriate, incorporate them in

> a further document which would supplement document GOV/2897 and which would be submitted for the Board's consideration later this year.
>
> …
>
> 15. In the light of the foregoing, the Committee recommends that the Board:
>
> …
>
> (g) request the Director General to periodically review and update the regime for the protection of confidential information and to keep the Board periodically informed on the implementation of the regime.

At its meeting on 15 May 1997 the Board approved the model protocol and requested the Director General to review periodically and update the regime for the protection of confidential information and to keep the Board periodically informed on the implementation of that regime (GOV/OR.914/¶67).

12.5. Interpretation

The text of article 15 and its record are explicit that states and the Secretariat agreed that the regime for protecting information accruing to the Agency needed to be strengthened and expanded and needed to cover information acquired both under safeguards agreements and under protocols. The Committee took an approach of requiring the Secretariat to develop and maintain such a regime, including the required procedures, and specifying what should be covered by the regime, but followed the Secretariat's advice that the procedures needed to be keep up to date and should not, therefore, be frozen in time by incorporation into protocols. Thus, for example, article 15 specifies that the regime should include procedures in cases of breaches of confidentiality but leaves it to the Secretariat and the Board to decide what actions should be taken and by whom in such an event.

13. MANUFACTURE AND EXPORTS AND IMPORTS OF SPECIFIED EQUIPMENT AND NON-NUCLEAR MATERIAL

Relevant INFCIRC/540 (Corrected) text

Article 2

a..... shall provide the Agency with a declaration containing:

…

(iv) A description of the scale of operations for each location engaged in the activities specified in Annex I to this Protocol.

…

(ix) The following information regarding specified equipment and non-nuclear material listed in Annex II:

(a) For each export out of ..... of such equipment and material: the identity, quantity, location of intended use in the receiving State and date or, as appropriate, expected date, of export;

(b) Upon specific request by the Agency, confirmation by ..... as importing State, of information provided to the Agency by another State concerning the export of such equipment and material to .....

Article 16

a. The Annexes to this Protocol shall be an integral part thereof. Except for the purposes of amendment of the Annexes, the term "Protocol" as used in this instrument means the Protocol and the Annexes together.
b. The list of activities specified in Annex I, and the list of equipment and material specified in Annex II, may be amended by the Board upon the advice of an open-ended working group of experts established by the Board. Any such amendment shall take effect four months after its adoption by the Board.

13.1. Description

Four issues arose during the committee's deliberations on reporting the manufacture and export and import of specified equipment and non-nuclear material. They were fairly complicated, and the discussions were at times tedious, in part because of the technical nature of the issues but also because they all involved private sector activities not generally under governmental nuclear regulations. In addition, they introduced into IAEA safeguards topics that had generally been outside the scope of INFCIRC/153 agreements, i.e., matters related not to nuclear material and its production, use, or processing, but to nuclear-fuel cycle activities indirectly related to these activities. The issues, in the order they are addressed, were:

1) Manufacture: Which items, in particular those involving dual-use material, and which activities involving them (production, assembly, or maintenance) would be reported pursuant to article 2.a.(iv), i.e., the list in Annex I;

2) Export/Import: Whether the actions to be reported under article 2.a.(ix) would be

export license approval, actual export, actual import, or confirmation of receipt of an import upon Agency request;

3) Export/Import: Which items whose export and import would be reported pursuant to article 2.a.(ix), i.e., the list in annex II; and

4) The procedures for amendment of the lists in Annexes I and II.

These issues involve Additional Protocol articles 2.a.(iv), 2.a.(ix) and 16. They also involve Annex I of the Additional Protocol, *List of activities referred to in article 2.a.(iv) of the protocol,* which is reproduced in Annex 4 of this volume and Annex II, *List of specified equipment and non-nuclear material for the reporting of exports and imports according to article 2.a.(ix).* This is the list that the Board agreed at its meeting on 24 February 1993 would be used for the purpose of the voluntary reporting scheme, as subsequently amended by the Board. The items included in Annex II of the Additional Protocol, less explanatory and other notes, are listed in Annex 5 of this volume.

The due dates for these reports are covered in Volume III under article 3.

13.2. Background

At its February 1992 meeting, the Board discussed the Secretariat's proposals in GOV/2568 of 20 January 1992 for strengthening safeguards: Attachment 2, *"Reporting and Verification of the Export, Import and Production of Sensitive Equipment and Non-Nuclear Material for States Party to Comprehensive Safeguards Agreements."* It called for:

(a) states with comprehensive safeguards agreements to submit reports on their current inventories and on their domestic production, both by location, and on exports and imports of sensitive equipment and non-nuclear material that are on the list to be established by the Agency; and

(b) all other states to report to the Agency exports to and imports from states with comprehensive safeguards agreements of sensitive equipment and non-nuclear material that are on the list to be established by the Agency.

Russia supported the proposal (GOV/OR.777/¶90); Canada opposed reporting on production (GOV/OR.777/¶85); Japan opposed the proposal (GOVGOV/OR.777/¶91); and the U.S. opposed reporting of inventories and domestic production (GOV/OR.777/¶160).

In its next paper, GOV/2589 of 18 May 1992, *Universal Reporting of Exports and Imports of Certain Equipment and Non-Nuclear Material for Peaceful Nuclear Purposes,* the Secretariat dropped production and inventories and proposed:

All States report to the Agency all exports and imports of equipment and non-nuclear material to be used for peaceful purposes that are on the list given in the Attachment. A report should be received by the Agency within 60 days of the end of the quarter in which the transfer took place, or sooner if required pursuant to a safeguards agreement with the Agency. (The attachment to this paper is based on the list used by certain Member States in connection with their commitments under Article III, paragraph 2 of the Treaty on the Non-Proliferation of Nuclear Weapons and on the list used by another group of States in relation

to their policy of requiring safeguards to be applied to certain exported items (see INFCIRC/209/Rev.1, INFCIRC/209/ Rev.I/Mod.1 and INFCIRC/254).[1]

The developed countries, including the U.S., generally supported the proposals, while the Group of 77 insisted on more time to study them. Since many countries did not maintain a system of import licenses for equipment and technology, the EC felt that the information to be reported should be based on the issue of export licenses, with copies of the information sent to both the Agency and the recipient state so that the Agency could ask the receiving country to confirm actual delivery (GOV/OR.780/¶53), an arrangement supported by Australia (GOV/OR.780/¶70). The Board decided that it wished the Secretariat to examine and revise GOV/2589 and agreed that all States willing to do so would in the meantime provide the Agency, on a voluntary basis, with the information referred to in GOV/2589, as they deemed appropriate (GOV/OR.787/¶141).

At the February 1993 Board, in GOV/2629, the Director General reported that most of the major supplier states had informed the Secretariat of their willingness to provide significant elements of the information sought. He recommended that the Board endorse the establishment of a "System of Universal Reporting on Nuclear Material and Specified Equipment and Non-nuclear Material" and invite states to participate in the proposed Reporting System. The vast majority of states accepted these recommendations, with the Group of 77 states requesting several clarifications, to wit that:

(a) the reporting was voluntary;

(b) the system did not provide for verification;

(c) use of the Nuclear Suppliers Group list, reproduced in INFCIRC/254/Rev.1/Part 1 did not represent any approval of that Group (in which the G-77 states were not participants) or its work; and

(d) changes to this list would not become part of the reporting scheme until approved by the Board.

These clarifications were made in the Chairman's summing up, which included acceptance of the Director General's recommendations and which was approved by the Board (GOV/OR.802 and 803).

At its June 1993 meeting, the Board discussed GOV/2657, *Strengthening the Effectiveness and Efficiency of the Safeguards System: Report by the Director General on SAGSI's Re-Examination of Safeguards Implementation* of 14 May 1993. SAGSI's advice included analysis of information on exports and imports of non-nuclear material and equipment. In November 1993, the Secretariat issued GOV/2698, *Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System: Report by the Director General on the Secretariat's program for assessment, development and testing of SAGSI's recommendations on the implementation of safeguards*. The program's Task 4, other measures for improving the cost-effectiveness of safeguards, included obtaining declarations by states on both the manufacture and the export of

[1] These documents refer to the lists developed by the Zangger Committee (209) and the Nuclear Suppliers Group (254). The lists all refer to nuclear material and facilities and to "equipment or material especially designed or prepared for the processing, use or production of special fissionable material," whose export under the NPT from States parties requires safeguards in the recipient NNWS (NPT Article III.2).

certain equipment and non-nuclear materials. Task 5 focused on the analysis of information available to the Secretariat about state's nuclear activities, including exports of specified equipment and non-nuclear material, in order to identify at an early stage any instance in which the available information about a state's nuclear activities appeared to be inconsistent with its declarations to the Secretariat.

In GOV/2784 (21 February 1995), *Strengthening the Effectiveness and Improving the Efficiency of the Safeguards System: A Report by the Director General*, the Secretariat elaborated on the information it would like to receive from states and added "domestic manufacturers, where known, of major items of nuclear equipment or materials" to the information identified in GOV/2629 for the universal reporting system on specified equipment and non-nuclear material. In GOV/2807 of May 1995, *Proposals for a Strengthened and More Efficient Safeguards System A report by the Director General*, the Secretariat stated that these two types of information, domestic manufacturers and exports and imports, would be sought through complementary authority.

13.3. Alternative proposals

The proposals regarding the Secretariat's list (ultimately Annex I of the Model Additional Protocol) in Draft I were multiple and technical and to a large extent can be summarized as:

1) Adopt the list in Draft 1.
2) Delete maintenance (Argentina in W.P. 12).
3) Delete the dual-use materials (Canada in OR.36/¶61-63 and attachment and OR.38/¶34).

The many variations in proposals for the actions to be reported under article 2.a.(ix) for exports and imports of the items in annex II can be summarized as, report:

4) Export license approvals and, where available, actual exports and imports (Draft 1)
5) Export license approvals (Spain in OR.1/¶90).
6) Actual exports and imports (China in OR.9/¶20).
7) Actual exports and, upon specific request of the Agency, confirmation of receipt of an import (EC in GOV/OR.780/¶53 and U.S. in (OR.9/¶50).

The only proposal for the items whose export and import were to be reported pursuant to article 2.a.(ix), i.e., the list in annex II, was:

8) INFCIRC/254/Rev.I/Part.1 by reference in GOV/2629 (Draft 1).

The proposals for amendment of the lists in annexes I and II were:

9) Board approval (Draft 1).

10) Board and General Conference approval (Spain, in OR.4/¶32 and 44 and W.P. 1).

11) Approval also by the individual state (Egypt in W.P. 19).

12) Board approval on the advice of an open-ended committee (Belgium in OR.19/¶42).

13.4. Analysis

Manufacture, assembly or maintenance

The Secretariat's specification of the information to be provided by states under what became article 2.a.(iv) evolved in its three drafts of the protocol, starting with:

> Draft 1: "A description of the nature of the activities carried out at any other *location directly related to the operation of facilities, of locations outside facilities where nuclear material is customarily used, or of nuclear fuel cycle-related research and development activities* as well as the address of that location, its production capacity and its present and anticipated production";
>
> Draft 2: "The identity, a description, the status, present production, production capacity and location of *activities directly related to the operation of facilities, or of locations outside facilities where nuclear material is customarily used, or of nuclear fuel cycle-related research and development activities*;" and
>
> Draft 3: "The identity, location, description, status, present annual production and approximate annual production capacity for the *manufacture, assembly or maintenance of specified items directly related to the operation of facilities, or of locations outside facilities where nuclear material is customarily used, or of nuclear fuel cycle-related research and development activities.*"

The above terms in italics were defined in article 16 of Draft 3, which included a list of the items to be reported. The committee comments through its October 1996 meetings focused on the list and procedures for amending the list. With progress on these two matters the chairman simplified article 2.a.(iv) in Draft 4 to read: "A general description, the location, present annual production and estimated annual production capacity with respect to the activities specified in Annex I to this Protocol." At the start of the January 1997 meetings Switzerland proposed replacing the i.a.(iv) text with "a general profile of its nuclear industry" (OR.24/¶43), and Brazil proposed dropping "present annual production and approximate annual production capacity" (OR.25/¶14). The U.S. said the Agency needed to be able to detect a gross disparity between a state's declared production capacity and its actual production, as such disparity might indicate the existence of undeclared nuclear activities (OR.25/¶20); Germany rebutted that production statistics were not needed to detect possible proliferation risks on the basis of differences between production and capacity: order-of-magnitude estimates would be sufficient (¶29-30); and the Secretariat pleaded that it needed sufficient information to ensure that a state's activities in question were congruent with its declared nuclear program (¶35). The chairman noted that a number of states had asked for a more general formulation, which he provided in Draft 5 that read: "A description of the scale of operations for each location engaged in the activities

specified in Annex I to this Protocol." There were no further comments on the article (OR.46/¶60), and this became the text in INFCIRC/540.

Article 16 of Draft 3 defined these items as

> *Manufacture, assembly or maintenance of specified items directly related to the operation of facilities or of locations outside facilities where nuclear material is customarily used or of other locations where nuclear fuel cycle-related research and development activities* means the following, as well as such other items as are specified by the Board of Governors of the Agency from time to time acting by a two-thirds majority of the Members present and voting. Any such modification by the Board of Governors after entry into force of this Protocol shall have effect upon its adoption by the Board of Governors.
>
> (i) uranium enrichment centrifuge rotor tubes (manufacture) and gas centrifuges (assembly);
> (ii) diffusion membrane for enrichment (manufacture);
> **(**iii**)** copper vapor and other laser systems for enrichment (assembly and maintenance);
> (iv) electromagnetic separators (manufacture and maintenance);
> (v) columns and extraction equipment for chemical or ion exchange enrichment (manufacture and maintenance);
> (vi) separation nozzles or vortex tubes for aerodynamic separation (manufacture and maintenance) ;
> (vii) uranium plasma generation systems (manufacture and maintenance);
> (viii) zircaloy tube (manufacture);
> (ix) beryllium (manufacture);
> (x) boron-10 isotope (manufacture);
> (xi) enriched lithium (manufacture);
> (xii) tritium (manufacture);
> (xiii) heavy water and deuterium (manufacture and upgrading);
> (xiv) flasks for irradiated fuel (manufacture and maintenance);
> (xv) neutron absorbing control rods (manufacture); and
> (xvi) nuclear grade graphite (manufacture and machining)."

The working papers submitted following the July 1996 meetings of Committee 24 included many editorial comments as well as a number of substantive proposals regarding the items in the list. These included proposals by: Algeria that the electromagnetic separators referred to in sub-paragraph (iv) should be "operational and capable of achieving an annual production of significant quantities of fissile isotopes" (W.P. 11); Argentina (W.P. 12), Egypt (W.P.19), Germany (W.P. 10) and Spain (W.P. 1) to delete "maintenance"; Austria to insert in (iv) "for enrichment capable of providing a total ion beam current of 50 mA or greater" and to add a new sub-paragraph to read: "irradiated nuclear fuel chopping or shearing machines (manufacture)" (W.P. 6); Japan to delete (xi) and (xii) and in (xvi) to insert "for use in a nuclear reactor" after "graphite" (W.P. 3 Corr.1); and Slovakia (W.P. 16) and Spain proposed moving the list of "specified items" from article 16 to a new annex I.

At the October 1996 meetings, the Secretariat opposed deletion of "maintenance," arguing that the Secretariat's aim was to pick up at least one element of the infrastructure directly related to

the specified activities and that, whereas a state might not be manufacturing or assembling proliferation-sensitive items, if it was using them, it would most certainly be having maintenance performed on them (OR.8/¶37-38). Brazil explained that "present annual production and approximate annual production capacity" should be deleted because that was sensitive information which a state should have the right to withhold and that "or of nuclear fuel cycle-related research and development" should be deleted since that aspect was already covered in subparagraph 1.a.(i) (¶41). Belgium felt that production capacity was important but not actual production, which firms would be reticent about releasing as it might have commercial implications (¶46).

The Secretariat responded that the:

(1) current subparagraph was already a compromise and all the activities included in it were key activities relating to the production of nuclear-weapons-usable material;

(2) intent was to ensure that the production capability was only used to support the declared program;

(3) reference to flasks for irradiated fuel could be their manufacture and decontamination; and

(4) reference to nuclear fuel cycle-related research and development activities was to cover certain specific concerns, for example, it was possible to pursue a research and development program on the production of gas centrifuges to a very advanced stage before nuclear material was introduced (OR.8/¶47).

The Secretariat also clarified that "manufacture, assembly or maintenance" represented alternatives and, for example, states reporting on the manufacture of certain items would not be required to report on their assembly or on their maintenance (OR.19/¶2). The U.S. asked for deletion of the word "uranium" in item (i) and opposed the addition of "uranium or plutonium" in any of the items involving enrichment since the aim should be to "capture" not only equipment that was actually being used for or was capable of being used for uranium or plutonium enrichment but also equipment being used, for example, in the enrichment of light isotopes but which could be adapted for use in uranium or plutonium enrichment; and proposed addition of an item on the assembly or maintenance of hot cells capable of handling irradiated nuclear material (OR.19/¶4-5).

Japan proposed deletion of the items on enriched lithium (manufacture) and tritium (manufacture), since they were used in the manufacture of hydrogen bombs, which could not be manufactured if atomic bombs were not available, and, if the hoped-for strengthened safeguards system prevented the manufacture of atomic bombs by non-nuclear-weapon states, there would be no need to worry about lithium and tritium (OR.19/¶11). Germany opposed the U.S. proposal regarding enrichment items, arguing that governments should not be expected to recognize all the non-nuclear technologies that were capable of being adapted to the enrichment of uranium or plutonium (OR.19/¶16). The Secretariat reiterated the need for information on maintenance, saying that in the case of electromagnetic separation the enriched uranium recovered during maintenance constituted a significant addition to the output of the enrichment facility; and that in

the case of flasks for irradiated fuel, "maintenance" meant procedures such as decontamination and did not mean activities like painting flasks (OR.19/¶61).

After the October meetings the chairman issued the following revised annex I list in Draft 4 that reflected many but not all of the comments, some of which were bracketed:

(i) The manufacture of centrifuge rotor tubes or the assembly of gas centrifuges [capable of] [for] enriching nuclear material.
(ii) The manufacture of diffusion membranes [capable of] [for] enriching nuclear material.
(iii) The manufacture or assembly of copper vapor or other laser systems [capable of] [for] enriching nuclear material.
(iv) The manufacture or assembly of electromagnetic separators providing a total ion beam current of 50mA or greater [and capable of] [for] enriching nuclear material.
(v) The manufacture or assembly of columns or extraction equipment [capable of] [for] chemical or ion exchange enrichment of nuclear material.
(vi) The manufacture of aerodynamic separation nozzles or vortex tubes [capable of] [for] enriching nuclear material.
(vii) The manufacture or assembly of uranium plasma generation systems.
(viii) The manufacture of zircalloy tubes.
(ix) The manufacture of beryllium.
(x) The manufacture of boron-10 isotope.
(xi) Facilities for recovery of tritium.
(xii) The manufacturing or upgrading of heavy water or deuterium.
(xiii) The manufacture or decontamination of flasks for irradiated fuel.
(xiv) The manufacture of neutron absorbing control rods.
(xv) The manufacture or machining of nuclear grade graphite for nuclear reactor use.
(xvi) The manufacture of irradiated nuclear fuel chopping or shearing machines.

During the January 1997 meetings Canada tabled the following new Annex 1 list and stated that:

(a) it was the product of informal consultations undertaken with a view to addressing the concerns of various states and enjoyed the general support of those who had been consulted;

(b) it was intended to provide the Agency with an overview of the infrastructure directly supporting a State's nuclear fuel cycle so that the Agency would be able to provide assurance that the activities in question were being pursued exclusively in connection with the state's declared nuclear program;

(c) all of the items in the new list were directly related to the operation of reactors, enrichment, fuel fabrication and reprocessing; and

(d) the new text provided greater technical specificity through references to Annex II in cases where an item appeared in both annexes I and II (OR.36/¶61-63 and attachment and OR.38/¶34).

(Annex II includes detailed definitions of all of the items in it, which is why it is 42 pages long.)

Annex I

(i) The manufacture of *centrifuge rotor tubes* or the assembly of *gas centrifuges*.
Centrifuge rotor tubes means thin-walled cylinders as described in entry 5.1.1(b) of Annex II.
Gas centrifuges means centrifuges as described in the introductory note to entry 5.1 of Annex II.

(ii) The manufacture of *diffusion membranes*.
Diffusion membranes means thin, porous filters as described in entry 5.3.1(a) of Annex II.

(iii) The manufacture or assembly of *laser based systems*.
Laser based systems means those items as described in entry 5.7 of Annex II.

(iv) The manufacture or assembly of electromagnetic separators providing a total ion beam current of 50 mA or greater.

(v) The manufacture or assembly of *columns or extraction equipment*.
Columns or extraction equipment means those items described in entries 5.6.1, 5.6.2, 5.6.3, 5.6.5, 5.6.6, 5.6.7, and 5.6.8 of Annex II.

(vi) The manufacture of *aerodynamic separation nozzles* or *vortex tubes.*
Aerodynamic separation nozzles or *vortex tubes* means separation nozzles and vortex tubes as described respectively in entries 5.5.1 and 5.5.2 of Annex II.

(vii) The manufacture or assembly of *uranium plasma generation systems*.
Uranium plasma generation systems means systems for the generation of uranium plasma as described in entry 5.8.3 of Annex II.

(viii) The manufacture of *zirconium tubes*.
Zirconium tubes means tubes or assemblies of tubes as described in entry 1.6 of Annex II.

(ix) The manufacture or upgrading of *heavy water or deuterium* for nuclear reactor use.
Heavy water or deuterium means deuterium, heavy water (deuterium oxide) and any other deuterium compound in which the ratio of deuterium to hydrogen atoms exceeds 1:5000 (as described in entry 2.1 of Annex II).

(x) The manufacture or decontamination of *flasks for irradiated fuel*.
A flask for irradiated fuel means a vessel for the transportation and/or storage of irradiated fuel which provides chemical, thermal, and radiological protection, and dissipates decay heat during handling, transportation, and storage.

(xi) The manufacture of *neutron absorbing control rods*.
Neutron absorbing control rods means rods as described in entry 1.4 of Annex II.

(xii) The manufacture or machining of *nuclear grade graphite* for nuclear reactor use.
Nuclear grade graphite means graphite having a purity level better than 5 parts per million boron equivalent and with a density greater than 1.50 g/cm^3 (as described in entry 2.2 of Annex II).

(xiii) The manufacture of *criticality safe tanks*.
Criticality safe tanks means tanks as described in entries 3.2 and 3.4 of Annex II.

(xiv) The manufacture of *irradiated nuclear fuel chopping or shearing machines*.
Irradiated nuclear fuel chopping or shearing machines means equipment as described in entry 3.1 of Annex II.

(xv) The manufacture of *hot cells*.
Hot cells means a cell or a series of cells totaling at least 6 m^3 in volume with shielding equal to or greater than the equivalent of 0.5 meter of conventional concrete outfitted with equipment for remote operations.

There was a brief debate on whether to include the phrase "for nuclear reactor use" in item (ix), with Australia, Austria, Greece, and France requesting deletion to avoid a situation where a state operating a CANDU reactor and a heavy water manufacturing plant was required to submit information about the heavy water manufacturing plant while a state without a CANDU reactor but operating such a plant was, on the grounds that there was no ostensible nuclear use for the heavy water, not required to submit information (OR.38/¶58, 59, 60, 65 and 69) and Germany, Sweden, U.S.A, and Mexico requesting its retention (OR.38/¶67, 68 and 70). This was resolved by omission of the phrase, apparently on the basis that the referenced definitions from annex II provided sufficient specificity, although Australia made a parting shot in stating its understanding that while the referenced definitions in annex II contained the phrase "for use in a nuclear reactor" the Agency would be seeking information on the manufacture or upgrading of heavy water or deuterium and the manufacture of nuclear grade graphite for all purposes, not just nuclear ones (OR.44/¶22), a view shared by the U.S. and UK (OR.44/¶25). To end the argument, Germany replied that in efforts to reach consensus it was sometimes helpful not to be very explicit on points of detail (OR.44/¶23).

There was also a short debate on including the decontamination of flasks for irradiated fuel in item (x) of the Canadian list, with Germany and Switzerland arguing for deletion (OR.38/¶74) and the U.S. (OR.38/¶75) and the Secretariat (OR.38/¶76 and 78) for its retention. This was resolved, also by omission, when the Secretariat agreed that it need not be referred to in annex I, because facilities for decontamination were virtually always located on nuclear sites, which were already reported (OR.44/¶7).

The biggest argument involved whether to include the so-called dual-use items, which had been omitted from the Canadian list, namely beryllium, boron-10 and, especially tritium. Greece, Sweden, Austria and Finland proposed inclusion of beryllium, since it was an indicator of the manufacturing infrastructure of a state and could be used for increasing the neutron flux of research reactors in order to produce materials of strategic importance (OR.39/¶9, 11, 12 and 17), and Algeria, Japan, the U.S. and the Secretariat argued for its omission, because other materials, including water, could also be used as a reflector in a reactor (OR.39/¶10, 13, 15 and 19). A similar difference involved boron-10. Australia, Algeria and New Zealand (OR.39/¶23-26) and Austria (OR.39/¶32) urged that facilities for extracting and recovering tritium be on the list, since tritium was an essential component of thermonuclear weapons, and an important ingredient of boosted fission weapons, which were within the reach of a reasonably competent first-time weapon developing state. Japan (OR.39/¶27), Canada (OR.39/¶28-29) and France (OR.39/¶33) insisted on its omission. The Secretariat made a strong case for including these three items, asserting that the underlying aim had been to include in the list indicators of processes by which nuclear material could be obtained, and this included beryllium and boron as well as tritium, whose existence indicated the presence of nuclear material somewhere (OR.39¶36).

The argument concluded with:

(a) omission of the three items from the chairman's Draft 5, which, except for one clarifying addition, became the text of annex II in INFCIRC/540;

(b) the Secretariat's agreement that the three items could be omitted (OR.44/¶8-9); and

(c) the following statement by the chairman for inclusion in the official record:

> Some delegations have argued strongly for the inclusion in the reporting requirements for Annex I of this Protocol of a number of non-nuclear materials and items relevant to nuclear non-proliferation, such as tritium, beryllium and boron-10. My sense of the negotiations at this stage is that this does not attract sufficient support from the Committee. In putting the revised Annex I to you for approval, I believe that greater transparency concerning these and other items will contribute to the fulfillment of the objective of strengthening the efficiency and effectiveness of safeguards. I would therefore strongly encourage States to keep in mind the value of providing such nuclear non-proliferation relevant information to the Secretariat additional to that spelt out in the Protocol and its Annexes. Items such as tritium, beryllium and boron-10 fit into this category. .... (OR.44/¶11).

Exports and imports

Article 1.a.(ix) of Drafts 1 and 2 proposed that reporting by states include:

> With respect to *specified nuclear equipment and non-nuclear material* and *specified nuclear-related dual use equipment and material*:
> (a) Information about export license approvals with respect to such equipment and material; and
> (b) Where available, information on actual exports and imports of such equipment and material.

Article 15 defined these two terms as:

> d. Specified nuclear equipment and non-nuclear material means equipment and non-nuclear material identified in GOV/2629, as modified from time to time by the Board of Governors; and
>
> e. Specified nuclear-related dual use equipment and material means such equipment and material as may be specified by the Board of Governors.

Article 1.a.(ix) of Draft 3 elaborated on the information to be provided and read:

> With respect to *specified equipment and non-nuclear material:*
> (a) Information about export license approvals with respect to such equipment and material, including the identity of the equipment or material, the destination, and, where available, the expected dates of export; and
> (b) Where available, information on actual exports and imports of such equipment and material, including the identity of the equipment or material, the destination, the origin of imports, and the date of export or import."

Article 16 of Draft 3 also omitted the term *specified nuclear-related dual use equipment and material*, it being subsumed in definition "16.d.: Specified equipment and non-nuclear material means: (i) equipment and non-nuclear material identified in GOV/2629, as modified from time to time by the Board of Governors ...; and (ii) such other equipment and non-nuclear material as may be specified by the Board of Governors ...."

Following the July 1996 meetings Germany (W.P. 10:), Egypt (W.P.19), Switzerland (W.P. 7) and Spain (W.P. 1) proposed deletion of all reporting on imports (1.a.(ix)(b)). The Secretariat

opened the discussion of this subject at the October meetings by explaining that the idea was to convert the voluntary reporting provided for in GOV/2629 ("Universal reporting system on nuclear material and specified equipment and non-nuclear material") into a legal obligation, while at the same time taking into account the reporting difficulties which a number of states were apparently experiencing (OR.9/¶1). The U.S. (¶8), Turkey (¶21), Nigeria (¶22 and 40), New Zealand (¶23), Denmark and UK (¶24), Philippines (¶25), Portugal (¶35) and Greece (¶38) opposed deleting subparagraph (b). China (¶20), supported by Iran (¶41), felt that information on actual exports and imports was more important than information on export license approvals, because approval of an export license did not necessarily mean that an export actually took place. Canada opposed reporting of imports (¶26), and Korea supported deletion of subparagraph (b) (¶30). Austria added that the Agency would need to know what happened to items after their arrival in the importing country, which should inform the Agency about how and where the item was to be used (¶42). The U.S. suggested that information on actual exports and imports be provided "upon request by the Agency" (¶50).

The issue had not been resolved by the end of the October meetings, and the chairman's Draft 4 included some bracketed text as follows:

> With respect to *specified equipment and non-nuclear material:*
> a) information on actual exports out of ..... of [, or, if such information is not available, information on export license approvals with respect to,] such equipment and material, that provides the identity and quantity of the equipment or material, the destination, and the date or, as appropriate, expected date, of export; and
> [(b) [upon request by the Agency,] information on actual imports into ..... of such equipment and material, that provides the identity and quantity of the equipment or material, the destination, the origin of imports, and the date of import.]

At the January 1997 meetings Belgium proposed that the reporting be limited to items that were "especially designed or prepared for nuclear uses" (OR.26/¶56). The U.S. opposed this since it involved expressions such as "capable of," "designed for" and "intended for" which would be a subjective test depending on the motivation or belief of the exporting country and favored use of technical parameters (OR.26/¶57-58). The UK (OR.26/¶65), Nigeria (¶69), U.S. (¶70), Canada (¶71) and New Zealand (¶72) called for information both on export licenses granted and on actual exports. The Secretariat said it would be most useful to receive information on export licenses granted, on export licenses that were denied, and on actual exports and actual imports and stated that information on actual exports was more useful to the Agency than information on export licenses (OR.26/¶74). Germany (¶85), U.S. (¶86), Canada (¶89), Brazil (¶90), Netherlands (¶92), Denmark (¶99), France (¶101), Greece (¶102) and Slovakia (¶104) asked to retain "Upon request by the Agency" and replace provision of information on actual imports by confirmation by the receiving state of imports on the basis of information supplied to the Agency by the exporting state, while Austria (¶94), Czech Republic (¶100) and Australia (¶103) asked for deletion of "Upon request by the Agency."

The chairman's Draft 5 read:

> Information regarding *specified equipment and non-nuclear material* as follows:

(a) the identity, quantity, location of intended use and date of exports out of ..... of such equipment and material; and
(b) upon specific request by the Agency, confirmation by ....., as importing State, of information provided to the Agency in accordance with paragraph (a) above.

Substantively this was accepted by the committee and, with only editorial changes, became the text in Draft 6 and eventually in INFCIRC/540.
Drafts 1-3 were very similar in specifying the nuclear equipment and non-nuclear material whose export and import were to be reported, with Draft 3 reading: "Specified equipment and non-nuclear material means:(i) equipment and non-nuclear material identified in GOV/2629, as modified from time to time ...; and (ii) such other equipment and non-nuclear material as may be specified by the Board of Governors." In working papers Argentina, Austria (W.P. 6), Egypt (W.P. 19), Finland (W.P. 5), Slovakia and Spain (W.P. 1) proposed putting the list in a new annex II. Germany (W.P. 10) and Switzerland (W.P. 7): proposed replacing "GOV/2629" by "INFCIRC/254/ Rev.2/Part 1." (GOV/2629 simply referred to INFCIRC/254/ Rev.2/Part 1.)

The chairman's Draft 4 (article 20.c.) read: "*Specified equipment and non-nuclear material* means equipment and non-nuclear material listed in Annex II to this Protocol as that list may be amended ...." At the January 1997 meetings Germany stated that annex II should be accepted as it stood, without detailed discussion (OR.39¶40), with Austria explaining that: (a) the list in annex II had been approved by the Board of Governors in 1993 for the voluntary reporting scheme: (b) the need for such a list had been created by Article III.2 of the NPT and work on the list had started in 1972, when a committee, later known as the Zangger Committee, had been established by the exporters of the items in question with a view to facilitating trade in those items while protecting general security interests; (c) the list had over the years received much endorsement at various NPT Review Conferences, especially at the latest one in 1995; and (d) it should be kept unchanged except for the removal of the word "voluntary" (¶41 and 46). The Secretariat added that the list was based on the so-called "trigger list" of the Nuclear Suppliers Group and that no list had been discussed at greater length and in greater detail by more experts than the trigger list (¶44). The chairman stated that he would proceed on the assumption that annex II could be accepted without change except for the amendment in its title (¶49). At the April meetings the chairman stated that there being no further comments, took it that the Committee was satisfied with annex II (OR.51/¶80).

Amendment of Annexes I and II

Article 15.a. of Draft 1 provided for amendment of the list (in what became annex I) by additions "identified by the Agency Secretariat and approved by the Board of Governors from time to time ... and will have effect upon adoption of the modification by the Board of Governors." Article 16.a. of Drafts 3 and 4 elaborated slightly by specifying that the Board's decision would be "by a two-thirds majority of the Members present and voting."

During the July and October1996 meetings and the intervening working papers, there were three types of comments and proposals, centering on whether amendments to annexes I and II by Board decision alone were acceptable. Approval by both the Board and General Conference for amendments to take affect was proposed by Spain, supported by Mexico, because they were not

always represented in the Board and parliaments might not be happy for a decision taken by a body in which it was not always represented (OR.4/¶32 and 44 and W.P. 1) and by Brazil (OR.19/¶26) and Turkey (OR.19/¶45). Egypt (W.P. 19), Germany (W.P. 10), Czech Republic (OR.19/¶26) and Syria (OR.19/¶69 and 73) proposed that amendments to the lists also require the state's approval.

Also opposing Board approval alone were Finland, proposing that Board approved amendments would have effect 90 days after adoption by the Board unless the state notifies the Agency of a reservation to apply the modification or a given part of it (W.P. 5). Germany had no objection to the General Conference's confirming the approval by the Board of any amendments to the list but felt that a requirement that each amendment had to be accepted by individual states would make the modification process too cumbersome and lead to a lack of uniformity, and drew attention to the simplified amendment procedure provided for in paragraph 23 of document INFCIRC/153 (OR.4/¶35 and OR.19/¶40).

The Secretariat understood the reluctance of governments and parliaments to accept agreements which could be modified by some other body without their involvement, but for technical agreements, where obtaining governmental or parliamentary agreement to modification was a cumbersome exercise, it was increasingly common international practice for modifications to be introduced without the consent of each individual state party and that, in the case of the Agency, Board approval would provide the needed assurance of broad support, without General Conference involvement (¶38 and 63). Belgium stated that it could not accept a list modified by the Board alone as it was not always represented in the Board (OR.4/¶71).

At the October meetings the U.S. added that in order to avoid excessive rigidity, modifications to the lists should not necessitate amendments to the protocol itself or to the Agency-State agreements based on the protocol (OR.19/¶7). Later during the October meetings, in an attempt to find a compromise, Belgium said that in order to avoid an "à la carte" protocol the Board could establish an open-ended committee of experts to review the lists and make recommendations to the Board (OR.19/¶42). This idea was supported by Spain (OR.19/¶46) and Japan (OR.19/¶57), both of which apparently wanted "belts and suspenders" and proposed General Conference confirmation of the Board's approval of the committee's recommendations; Austria, proposing that for practical reasons the Director General should determine the composition of the committee (OR.19/¶52); Germany, which favored this amendment procedure rather than the one in the Chemical Weapons Convention that was in fact very complicated, proposing that the Board determine the composition of the open-ended committee (OR.19/¶55 and 66); the UK (OR.19/¶67); Greece (OR.19/¶70); and Nigeria and France (OR.19/¶72)

The chairman's Draft 4 included a bracketed text of article 16 that read: "The Annexes to this Protocol shall be an integral part thereof. Except for the purposes of amendment of the Annexes, the term "Protocol" as used in this instrument means the Protocol and the Annexes together.]" There were no comments on the substance of this text, and Draft 5 read: "The Annexes to this Protocol shall be an integral part thereof. Except for the purposes of amendment of the Annexes, the term "Protocol" as used in this instrument means the Protocol and the Annexes together. The list of activities specified in Annex I, and the list of equipment and material specified in Annex II, may be amended by the Board upon the advice of an open-ended working group of experts

established by the Board. ..... shall give effect to any such amendment within three months of its adoption by the Board." Draft 5 was the same except for one editorial change, and Draft 6 was the same as Draft 5 with a change from 3 months to 4 months, as proposed by Germany (OR.51/¶61). This became the text in INFCIRC/540.

13.5. Interpretation

The text of INFCIRC/540 is explicit that the information to be reported pursuant to article 2.a.(iv) is the "scale of operations" for each location. However, there was no discussion of the meaning of "scale of operations." Although prior to acceptance of this formulation the committee had considered a variety of more specific data, such as production capacity and annual production, the only consensus reached was that the data did not need to be precise.

With respect to the items in annex I, the record and text are clear that:

(1) Where more than one activity is listed, for example, "manufacture or assembly," only one needs to be reported, with the state choosing which to report for each location engaged in the activity. There is nothing in the record or text that suggests a state cannot make a different choice of the activity to report where there is more than one location in a state engaged in a particular activity.

(2) The "maintenance" of equipment listed in annex I need not be reported, the committee having agreed that situations in which a state performed only maintenance of equipment and only at locations not otherwise reported pursuant to the safeguards agreement, including the protocol, would be rare or non-existent.

(3) States have no obligation under a protocol to report on the production or other handling of such dual-use material as beryllium, boron-10 and tritium. However, the record shows that the committee accepted, without objection, the chairman's statement that greater transparency concerning such items as tritium, beryllium and boron-10 would contribute to the fulfillment of the objective of strengthening the efficiency and effectiveness of safeguards and that states were strongly encouraged to provide such nuclear non-proliferation relevant information to the Secretariat additional to that spelled out in the protocol and its annexes.

With respect to the actions to be reported pursuant to article 2.a.(ix), the record and text are clear that: (1) the state has an obligation to report each export of an item listed in annex II; and (2) the importing state, upon a specific request by the Agency, has an obligation to confirm the receipt of the export in question. Although the record clearly indicates that notification to the importing state by the exporting state of a specific export would facilitate confirmation of receipt, there is no obligation on the exporting state to do so.

With respect to the items to be reported pursuant to article 2.a.(ix), the record and text are clear that the initial content of annex II is identical to that of INFCIRC/254/ Rev.2/Part 1 as it stood in October 1995.[2]

With respect to the procedure for amendment of Annexes I and II, the record is clear and explicit that:

(1) The Board is to establish "an open-ended working group of experts" in which any Member State can participate, to review amendments proposed by the Secretariat or Member States and to advise the Board on the proposed amendments. The committee rejected proposals that the Secretariat be involved in identifying the experts and did not consider the qualifications of the experts.
(2) Although the committee considered several proposals on how the Board would reach a decision on amendments, for example two-thirds majority and consensus, it rejected all language that would interfere with the normal procedures of the Board.
(3) Neither the General Conference nor the individual state has a role in approving Board decisions on amendments, and the state is obligated to comply with an amendment within 4 months of its adoption by the Board.

[2] Text may be found at http://www.fas.org/nuke/control/nsg/text/inf254r2p1.htm.

ANNEX 1. GOV/2863 ANNEX I – LEGAL EVALUATION OF MEASURES PROPOSED FOR STRENGTHENED AND MORE COST-EFFECTIVE SAFEGUARDS (REFERENCES TO INFCIRC/153 AND GOV/2784)

Category of Measure		Measure (numbered in accordance with the Expanded Declaration in Annex II)	Measures to be implemented under existing legal authority	Measures proposed for implementation under complementary legal authority (with relevant paragraphs in this document)
BROADER ACCESS TO INFORMATION	Expanded Declaration	1. Information on the SSAC	INFCIRC/153 paras. 7, 31, 32, 81(b); GOV/2784 para. 34	
		2.a. Information on past nuclear activities (decommissioned nuclear facilities and existing historical records on production of nuclear material) relevant to assessing the State's declarations of present nuclear activities, including the completeness and correctness of its initial report	INFCIRC/153 paras. 3, 62; GOV/2784 para. 35	
		2.b. Information presently routinely provided: (i) design information and modifications thereto, including closed-down but not decommissioned facilities; (ii) accounting and operating records; (iii) accounting and special reports; and (iv) operational programmes	INFCIRC/153 paras. 42-50 51-58, 59-65, 67-69, 64(b); GOV/2784 para. 34	
		2.c.(i) Description of the nuclear fuel cycle and other nuclear activities involving nuclear material	INFCIRC/153 para. 81(c) GOV/2784 para. 36	

Category of Measure		Measure (numbered in accordance with the Expanded Declaration in Annex II)	Measures to be implemented under existing legal authority	Measures proposed for implementation under complementary legal authority (with relevant paragraphs in this document)
		2.c.(ii). Description, status and location of nuclear fuel cycle-related R&D **(hereinafter referred to** as **nuclear R&D)** activities involving nuclear material at nuclear facilities and other locations containing nuclear material (LOFs)	INFCIRC/153 paras. 42-46, 49; GOV/2784 para. 37	
		2.c.(iii). Description, status and location of nuclear R&D activities owned, funded or authorized by the State, not involving nuclear material, wherever located, and related to specified parts of the fuel cycle and, additionally, all such activities in the State specifically related to enrichment, reprocessing of nuclear fuel and treatment of waste containing nuclear material		(para. 51(a)) GOV/2784 para. 37
		2.c.(iv). Information, as may be agreed with the State, on specified operational activities additional to that required under INFCIRC/153 (see 2.b.(iv) above)		(para. 51(b)) GOV/2784 para. 38
		2.c.(v). Description, contents and use of each building on sites of nuclear facilities or LOFs; upon specific Agency request and based on every reasonable effort by the State, information on activities at locations identified by the Agency outside such site.	In limited cases, depending on the configuration of the facility or LOF INFCIRC/153 paras. 42-46, 49; GOV/2784 para. 39	(para. 51(c)) GOV/2784 para. 39

Category of Measure		Measure (numbered in accordance with the Expanded Declaration in Annex II)	Measures to be implemented under existing legal authority	Measures proposed for implementation under complementary legal authority (with relevant paragraphs in this document)
		2.c.(vi). Identity, location, description, status, present annual production and approximate annual production capacity for the manufacture, assembly and maintenance of specified items directly related to the operation of nuclear facilities, LOFs or nuclear R&D activities		(para. 51(d)) GOV/2784 para. 39
		2.c.(vii). Location, operational status, present annual production and approximate annual production capacity of uranium and thorium mines		(para. 51(e)) GOV/2784 para. 39
		2.c.(viii). Information on other nuclear material and uranium and thorium containing materials, including pre-INFCIRC/153 para. 34(c) material, some exempted material and some material on which safeguards are terminated	Partially covered by INFCIRC/153 para. 81(c); GOV/2784 para. 36	(para. 51(f)) GOV/2784 para. 39
		2.c.(ix). Import and export information on specified equipment and non-nuclear material specified in GOV/2629 and on such other equipment and non-nuclear material as may be specified by the Board		GOV/2784 para. 40
		3.a. Early provision of design information in accordance with GOV/2554/Attach. 2/ Rev.2	INFCIRC/153 paras. 42, 45, 49; GOV/2784 para. 41	
		3.b. Planned activities owned, funded or authorized by the State for the further development of the nuclear fuel cycle	(para. 52(a))	GOV/2784 para. 41
		3.c. Description of planned nuclear R&D activities owned, funded or authorized by, or otherwise coming to the knowledge of, the State		GOV/2784 para. 41

Category of Measure		Measure (numbered in accordance with the Expanded Declaration in Annex II)	Measures to be implemented under existing legal authority	Measures proposed for implementation under complementary legal authority (with relevant paragraphs in this document)
	Environmental Sampling	For ad hoc inspections at locations where the initial report or inspections carried out in connection with it indicate that nuclear material is present	INFCIRC/153 paras. 6, 74(d), 74(e), 76(a); GOV/2784 paras. 51-54	
		For routine inspections at strategic points	INFCIRC/153 paras. 6, 74(d), 74(c), 76(c) GOV/2784 paras. 51-54	
		For special inspections at the locations where these take place	INFCIRC/153 paras. 6, 74(d), 74(e), 77; GOV/2784 paras. 51-54	
		For design information verification at any location to which the Agency has access for design information verification	INFCIRC/153 paras. 6, 47, 48; GOV/2784 para. 55	
		During access under complementary legal authority to places and locations identified below under Complementary Access		(para. 53-58) GOV/2784 para. 54
	Improved Analysis of Information	Improvements in the Agency's information analysis methods	INFCIRC/153 paras. 90; GOV12784 para. 63	
INCREASED PHYSICAL ACCESS	Complementary Access[1/]	Access to any place (beyond strategic points) on a site containing a nuclear facility or LOF, including sites with closed-down facilities and LOFs; access to decommissioned facilities and LOFs	INFCIRC/153 paras. 48, 76(a); GOV/2784 paras. 75-76	(paras. 61(a), 62-65) GOV/2784 paras. 74-75
		Access to other locations identified in the Expanded Declaration as containing other nuclear material or material containing U or Th (2.c.(vii) and 2.c.(viii))		(paras. 61(b), 66-67)

Category of Measure		Measure (numbered in accordance with the Expanded Declaration in Annex II)	Measures to be implemented under existing legal authority	Measures proposed for implementation under complementary legal authority (with relevant paragraphs in this document)
		Access, upon Agency request and taking into account any constitutional obligations of the State regarding proprietary rights or searches and seizures, to locations identified in the Expanded Declaration as containing nuclear R&D (2.c.(iii)) and locations involving specified items directly related to the operation of nuclear facilities, LOFs or nuclear R&D (2.c.(vi))		(paras. 61(c), 68-69) GOV/2784 para. 77
		Access, upon Agency request, and taking into account any constitutional obligations of the State regarding proprietary rights or searches and seizures, to locations in addition to the above for environmental sampling		
		Access, as the State may choose to offer, in addition to that described above, to any location in the State which the Agency considers may be of safeguards relevance (see paras. 61(e), 71 of this document)		
	No-notice Access	Unannounced (no-notice) routine inspections at strategic points within the sites of nuclear facilities and LOFs	INFCIRC/153 para. 84; GOV12784 para. 86	
		No-notice access *to* any other place on the site of a nuclear facility or LOF when carried out during a DIV visit or inspection of the facility or LOF		(para. 63) GOV/2784 para 86

Category of Measure		Measure (numbered in accordance with the Expanded Declaration in Annex II)	Measures to be implemented under existing legal authority	Measures proposed for implementation under complementary legal authority (with relevant paragraphs in this document)
OPTIMAL USE OF THE PRESENT SYSTEM PRESENT SYSTEM	Safeguards Technology Advances Advances	Use of unattended equipment	INFCIRC/153 paras. 6, 74(e), 81(e)	
		Remote transmission of inspection data Remote monitoring of safeguards equipment. Remote monitoring of safeguards equipment	INFCIRC/153 paras. 6,74(e), 81(e) INFCIRC/153 paras. 6, INFCIRC/153 paras. 6, 74(e), 1(e)	
	Increased Co-operation with States and SSACs with States and SSACs	The SSAC carries out activities that enable the Agency to conduct inspection activities	INFCIRC/153 paras. 3, 7, 31, 81(b)	
		The Agency and the SSAC may carry out selected inspection activities jointly	INFCIRC/153 paras. 3, 31	
		The Agency and the SAC may carry out selected support activities jointly	INFCIRC/153 paras. 3, 31	
		Use of simplified procedures for the designation of inspectors		(paras. 72-72) GOV/2784 para. 102 GOV/2807 para. 54
		Multiple-entry visa, long-term visa or visaless entry for inspectors on inspection	Necessary for unannounced routine inspections INFCIRC/153 paras. 84, 86 GOV/2784 para. 86	
		Use of systems for independent direct communication (including satellite systems) between the field and Headquarters	In States where such systems are available INFCIRC/153 paras. 3, 88	In States where such systems are not available (paras. 72-73) GOV/2784 para. 102 GOV/2807 para. 54
	Safeguards Parameters	Significant quantities of nuclear material	INFCIRC/153 para. 28	
		Conversion/detection times	INFCIRC/153 para. 28	

Category of Measure		Measure (numbered in accordance with the Expanded Declaration in Annex II)	Measures to be implemented under existing legal authority	Measures proposed for implementation under complementary legal authority (with relevant paragraphs in this document)
		Starting point of safeguards	INFCIRC/153 para. 34(c)	

1/ These proposals are not intended to affect the Agency's right to implement special inspections.'

ANNEX 2 . GOV/2863 Annex II - Annotated Outline of Proposed Expanded Declaration

(A) The two central components of a strengthened safeguards system are increased access to information and increased physical access. The vehicle whereby States party to comprehensive safeguards agreements will provide increased information on their nuclear activities is the Expanded Declaration.[1] This Annotated Outline of the Expanded Declaration serves as guidance for States on the information to be included in their Expanded Declarations.

(B) In order to show the scope of information to be provided by States, the Annotated Outline of the Expanded Declaration includes not only the information to be submitted under the complementary legal authority granted by the additional protocol but also the information to be provided under the existing legal authority of comprehensive safeguards agreements, including the measures in GOV/2807 approved by the Board of Governors on 15 June 1995. The items of information to be submitted under complementary legal authority are indicated in the left margin as "Part 2". The information to be submitted under existing legal authority is indicated as **"Part 1".** These later entries are included only for the information of States and do not in a**n**y way define or alter the information requirements of comprehensive safeguards agreements.

(C) The Expanded Declaration includes three categories of information: information on the State's System of Accounting and Control (SSAC), on present nuclear activities of the State and on planned nuclear activities of the State. All of the information concerning SSACs and most of the information related to safeguarded facilities and other locations containing nuclear material (LOFs) are Part 1 measures and are being requested under existing legal authority. The remaining information in the Expanded Declaration is for provision under complementary legal authority and involves information related to present and planned nuclear activities.

(D) The requested information will provide the Agency with a fuller and clearer understanding of all nuclear activities in a State and will serve three important purposes. First, because of its scope and comprehensiveness, the information in the Expanded Declaration will contribute to confidence that no undeclared nuclear activities are being concealed within the declared programme or rely on or make use of elements of the declared programme. Second, by committing itself to a declaration about its nuclear and nuclear-related activities, the State will provide a considerably improved data base on its nuclear activities against which information obtained from other sources (e.g., procurement activities or environmental sampling) can be compared for consistency and follow-up. The more accurate and comprehensive the information, the less frequent inconsistencies and questions will arise. Third, the requested information will provide a basis for the efficient planning and conduct of Agency activities relevant to providing assurance about the absence of undeclared nuclear activities at declared locations as well as to safeguarding declared nuclear material.

(E) The approach taken in developing the Expanded Declaration was to be comprehensive so that no relevant information is out of bounds while ensuring that States are not burdened by excessive or

[1] This broader access to information is not intended to address and in no way limits the Agency's rights to information under the provisions of INFCIRC/153.

irrelevant requests. Further, States are not asked to provide information which may not be within their reach. For such situations, the requested information is limited by an expression such as “where available” and, to enable the Agency to properly assess the information, calls for any limitations known to the State on its completeness to be identified.

(F) The information to be provided in Expanded Declarations is of greater scope than currently provided to the Agency, and some elements of the information could be considered by the State to be commercially or technically sensitive. The Agency will give special attention to the protection of all information contained in Expanded Declarations. The obligation of the Agency to protect information obtained in the course of safeguards in accordance with paragraph 5 of INFCIRC/153 will apply to all information acquired under complementary legal authority. The procedures and practices of the Agency for meeting this obligation will continue to be subject to review to ensure their appropriateness and effectiveness.

(G) The information called for in the Expanded Declaration is intended to provide increased transparency and a data base sufficient for achieving credible assurance of the absence of undeclared nuclear activities. This information is far from including all details of a State's nuclear activities, but it represents a reasonable balance between the benefits of additional information and the practicalities and costs of regularly providing and using more information. The additional information that will come from the Agency's safeguards activities, including evaluation, and from the clarifications and explanations provided by States in response to specific Agency requests will be an essential contribution to transparency.

(H) This Annotated Outline states the specific elements of information to be provided to the Agency by States in their Expanded Declarations together with explanations, definitions and benefits to the Agency of the information. The explanations, definitions and benefits are presented in *italics.* Terms defined in comprehensive safeguards agreements, unless otherwise noted, have the same meaning here as in the agreements and are not further defined here.

(I) Many of the information elements are temporal in nature, and almost all are subject to change. Accordingly, the updating of information on an annual basis is foreseen. Some elements, such as 2.c.(iv) on additional operational information, would be updated more often in accordance with agreed arrangements with the State.

(J) The Agency understands that at some locations identified under information elements 2.c.(iii), (v), (vi), and (viii) a State may wish arrangements for managed Agency access due to safety, proprietary or other concerns. Areas at such locations where the State foresees a need for managed access should be identified in the Expanded Declaration to the extent practical. The specific information and areas to be protected through managed access would be provided by the State when the Agency gives notice of the need to access such a location. The State's proposal for how access is to be managed would be evaluated by the Agency in light of specific Agency objectives. The arrangements should not preclude the Agency from conducting the activities necessary to determine the absence of undeclared nuclear activities at the location and otherwise resolve any inconsistency or question.

(K) The information in Expanded Declarations will be processed and evaluated by the Agency together with all other information available to the Agency. This may result in the identification of inconsistencies in the information and in questions regarding the information. In such an event, the process would be similar to the well established process for resolving discrepancies and anomalies arising in safeguarding declared nuclear material, including consultations. As is often the case for discrepancies and anomalies arising from safeguards on declared nuclear material, the consultative process may resolve the matter. However, when inconsistencies or questions arise, the Agency must have the opportunity to confirm the

explanation or other response of the State. Access for this and other purposes is provided for in the protocol, but systematic verification of the information contained in Expanded Declarations is not.

1. Information on the State or regional system of accounting and control (hereinafter referred to as the SSAC):

Part 1 a. A completed SSAC questionnaire concerning administrative, legal and technical aspects of the SSAC.

*The questionnaire seeks broad information regarding the organization, authority and technical capabilities of the SSAC. This information is a necessary basis for increased co-operation with SSAC 's, will enable the Agency to make full **use** of SSAC's and take account of their technical effectiveness and will serve as a basis for consultations with individual States with a view to increasing co-operation.*

Increased cooperation with SSACs can lead to more efficient safeguards on declared material for both the SSA C and the Agency. Greater transparency regarding the activities of the SSAC is necessary to understand and take advantage fully of opportunities for increased co-operation.

Part 1 b. The scope and timing of SSAC inspections and related activities, relevant to Agency safeguards, on a continuing basis.

Information on SSA C inspections and such related activities as preparation of surveillance equipment for joint use and review of surveillance records is needed by the Agency sufficiently in advance for optimal scheduling of Agency inspections and will need to be updated whenever there are changes or additions to the SSAC schedule. The requested information will be used to make full use of SSACs and to avoid unnecessary duplication of the State's accounting and control activities, thereby improving efficiency.

2. Present nuclear activities:

a. Information on past nuclear activities relevant to assessing the State's declarations of present nuclear activities, including the completeness and correctness of its initial report on nuclear material:

Part 1 (i) Information on decommissioned nuclear facilities, and on other locations previously containing nuclear material with or which had hot cells or where activities related to conversion, enrichment, reprocessing or fuel fabrication took place, covering a description, the purpose and scope of operations prior to decommissioning and the current status and use.

A decommissioned nuclear facility or previous LOF is one at which residual structures and equipment essential for its operation have been removed or rendered inoperable so that it is not used to store and can no longer be used to handle, process or utilize nuclear material. The request for information on decommissioned LOFs is limited to locations with (or which had) hot cells or where activities related to conversion, enrichment, reprocessing or fuel fabrication were located. In order to be classified as decommissioned, the site of the facility or previous LOF does not have to be returned to a pristine condition. Facilities and previous LOFs which have had all nuclear material removed and been closed down but not decommissioned are reported under element 2.b.(i).

The requested information will contribute to an understanding of the current nuclear programme of the State and to the planning and interpretation of environmental sampling.

Part 1 (ii) Access, on request, to existing historical accounting and operating records predating the entry into force of the comprehensive safeguards agreement.

Access to existing historical records will be requested when the Secretariat has concluded that they are needed in connection with verification of the completeness and correctness of a State's declarations concerning its present activities, particularly in the context of an initial report.

Experience from the environmental sampling field trials has demonstrated that access to historical operating records provided the basis for the resolution of inconsistencies between certain environmental signatures and the declaration regarding current activities.

b. Information presently routinely provided:

Part 1 (i) Design information on nuclear facilities and modifications thereto and information on other locations containing nuclear material (LOFs) and changes thereto, and information on facilities and LOFs which have been closed-down but not yet decommissioned.

The purpose of this requirement is to ensure that the Agency receives a completed Design Information Questionnaire on every nuclear facility and the required information on every LOF, regardless of its operational status, in a State.

The provision of up-to-date and complete design information on nuclear facilities and required information on LOFs is necessary to ensure that the safeguards applied to them continue to be appropriate. The reporting to the Agency of significant modifications to facilities and LOFs is an integral part of up-to-date and complete reporting of design information. The verification of design information and modifications contributes to assurance that no undeclared activities are taking place at the facilities and LOFs.

Under comprehensive safeguards agreements, the Agency's authority to verify design information is a continuing right which does not expire when a facility goes into operation or with the closing-down of a facility. Visits by Agency inspectors to verify that facilities which have been closed down and from which any nuclear material has been removed, but which have not yet been decommissioned, remain in their closed-down condition are part of design verification and provide assurance that such facilities are not re-activated and used for undeclared activities.

Part 1 (ii) Access to accounting and operating records at nuclear facilities and LOFs.

This requirement together with element 2. b. (iii) provides a system of records and reports showing, for each material balance area, the inventory of nuclear material and the changes in that inventory including receipts into and transfers out of the material balance area and is the basis on which material accountancy is established. The examination of records for correctness and consistency and the comparison of records and reports are important components of inspectors' activities during inspections.

Part 1 (iii) Accounting and special reports.

This element applies to all accounting and special reports covered by existing comprehensive safeguards agreements (including those required under paragraph 68 of INFCIRC/153). It includes the reporting of nuclear material in peaceful nuclear activities which is located on the territory of, and known to, the State although the nuclear material in question may not be subject to its jurisdiction or control.

Part 1 (iv) Operational programmes.

The provision of the anticipated operational programmes for facilities and LOFs is required by paragraph 64(b) of INFCIRC/153. This information is of particular value for the planning of inspections for the present safeguards system and in combination with additional operational information (as foreseen by element 2. c. (iv)) provides an improved basis for performing no-notice inspections.

c. Information not presently routinely provided:

Part 1 (i) A description of the nuclear fuel cycle and of other nuclear activities involving nuclear material, with a list of the locations involved.

A nuclear fuel cycle is a system of nuclear installations commonly interconnected by flows of nuclear material. Such a system may include uranium and thorium mines, ore processing plants, conversion plants, enrichment plants, fuel fabrication plants, reactors, spent fuel storages, reprocessing plants, associated storage, and treatment and storage of wastes containing nuclear material. A nuclear fuel cycle for purposes of the Expanded Declaration consists of any part or parts of such a system, including non-connected parts, and is not limited to facilities involved in nuclear power generation. It includes installations for which a decision to construct has been made, through construction and operation until the completion of decommissioning.

Information relevant to assessing the State's declarations of current nuclear activities, including the completeness and correctness of its initial report, includes a description of the State's nuclear fuel cycle and other nuclear activities involving nuclear material. This information is within the scope of paragraph 81(c) of INFCIRC/153.

A model description of a nuclear fuel cycle and other nuclear activities involving nuclear material has been prepared for distribution to States to assist them in providing the required information.

Part 1 (ii) Information (description, status and location) on nuclear fuel cycle-related research and development (hereinafter referred to as nuclear R&D) activities involving nuclear material at nuclear facilities and LOFs.

Nuclear fuel cycle-related research and development (nuclear R&D) is taken to be R&D directly related to present, planned or other nuclear fuel cycle- related activities.

Part 2 (iii) Information (description, status and location) on nuclear fuel cycle-related research and development (referred to herein as nuclear R&D) activities in the State not involving nuclear material which are owned, funded or authorized by the State and which are specifically related to conversion, fuel fabrication, power or research reactors, critical assemblies or accelerators; and, additionally, all nuclear R&D activities in the State not

involving nuclear material which are specifically related to enrichment, reprocessing of nuclear fuel and treatment of waste containing nuclear material.

This is element 2. c. (iii) of the Expanded Declaration. It covers nuclear R&D activities of the State, which do not currently involve the presence • or ***use*** *of nuclear material, that are specifically related to any process development aspect of the named components of the nuclear fuel cycle and have the capability to generate nuclear material. For example, applied research related to process development aspects of enrichment (uranium or plutonium) or reprocessing would be reported where it is clear that the intended end-use is a nuclear application (design features related to radiation protection or criticality control and components manufactured from materials resistant to UF6 are examples of where it is clear that the intended end-use is a nuclear application). Theoretical or basic scientific research and R&D on medical or agricultural applications, health and environmental effects and improved maintenance are not included. The R&D to be reported involving accelerators is limited to accelerators capable of producing a continuous neutron source sufficient for annual production of gram quantities of fissile isotopes.*

In addition, the State is asked to provide information on any nuclear R&D specifically related to enrichment, reprocessing of nuclear fuel and treatment of waste containing nuclear material that may exist even though it is not owned, funded or authorized by the State.

This element, in conjunction with element 2. c. (ii) in Part 1 (nuclear R&D at facilities and LOFs involving nuclear material), would cover all relevant nuclear R&D specifically related to enrichment, reprocessing of nuclear fuel and the treatment of waste containing nuclear material. This ***information, together with information on the State's activities to develop other parts*** *of the nuclear fuel cycle, would increase transparency with respect to the direction of the nuclear programme within the State and provide an enhanced basis for confirming the overall consistency of the State's declared nuclear fuel cycle development programme, nuclear-related activities and nuclear exports and imports.*

Part 2

(iv) Information, which is additional to that required under current comprehensive safeguards agreements, as may be identified by the Agency on the basis of an expected gain in effectiveness or efficiency and, following consultations, agreed to by the State, on specific operational activities at nuclear facilities and LOFs.

Information, not presently routinely provided under element 2. b. (iv), on specific operational activities at nuclear facilities and LOFs additional to that required under paragraph 64(b) of INFCIRC/153 would be provided, subject to agreement by the State. Depending on the nature of a facility or LOF, it may include, by way of example, more frequent and earlier information on nuclear material transfers and inventories, empty casks transfers, crane movement records, - reactor fuel production, isotope production programmes and maintenance activities. Each such additional items of information may be identified by the Agency on the basis of expected gains in effectiveness or efficiency and included in the State's Expanded Declaration for specific circumstances following consultations with and agreement by the concerned State.

Such information, when provided in advance, on planned spent fuel cask loading, nuclear material receipts and reactor fuel production, for example, could be used, in conjunction

with unannounced routine inspections to increase the inspection coverage of nuclear material and safeguards-relevant operations.

These arrangements could be mutually beneficial in reducing overall inspection effort and corresponding effort by operators.

Part 2

(v) Information (description, contents and use) on each of the buildings on the sites on which are located nuclear facilities or LOFs, including maps of sites.

The terms site, site perimeter and site layout are used in the Agency's Design Information Questionnaire (DIQ) and have the same meanings here as in the DIQ. They refer to the spatial location of a structure or structures that are part of, or support part of, the State's nuclear fuel cycle activities. The site layout, i.e., a site plan showing in sufficient detail the location, premises and perimeter of the facility, buildings, railways, roads, rivers, etc., and the geographic location for nuclear facilities are included in the information presently routinely provided and defined by the State when the Agency DIQ is prepared. For a LOF these terms have analogous meanings for its geographic location. The site must include all installations co-located with a nuclear facility(ies) or LOF(s) associated with the provision or use of services, such as hot cells, waste and decontamination facilities, training centers, electrical substations, water treatment, shielded cask storage, marshalling yards, mechanical workshops, general stores and buildings associated with the equipment and non-nuclear material identified in element 2. c. (vi) of the Expanded Declaration.

In most cases this is straightforward, and the site is normally the area defined by an external perimeter fence. As a rule, it should bear a close relationship to that area, taking into account terrain features and man-made boundaries. It should normally be, or run close to, the surrounding security barrier if one exists. The size and complexity of sites will vary considerably. Some will be quite large and include more than one nuclear facility together with a full complement of support and related services. Other sites may consist of only a single building, or even a single room in a building, and have no co-located services.

A primary objective of strengthened safeguards is to assure that undeclared nuclear material and activities are not co-located with nuclear facilities and LOFs in order to utilize the infrastructure of manpower, technology, equipment and services that is in place to support declared operations. That is the reason for this element of the Expanded Declaration and the associated access provisions. The Agency would consult with the State should the Agency have information that suggests that installations outside of the site, as defined by the State, may be engaged in activities that are functionally related to the nuclear activities or the associated infrastructure on the site. In such cases the Agency would request the identity and a description of activities outside of the declared site relevant to resolution of the matter.

The DIQ provides for the required information on all buildings and locations where nuclear material is or is expected to be. The information requested here pertains to- the other buildings on the site. During visits for design information verification and inspections, the Agency may confirm the nature of other buildings shown on the site layout, their declared use and the absence of undeclared nuclear and nuclear-related activities there.

In some cases, depending on the configuration of the nuclear facility or LOF, some information under this element can be required under existing authority, for example, for the purpose of ad hoc inspections where the presence of nuclear material has been indicated.

However, without prejudice to existing Agency authority, all of this element is included under complementary legal authority.

Part 2

(vi) The identity, location, description, status, present annual production and approximate annual production capacity of the manufacture, assembly and maintenance of specified items (equipment and non-nuclear material) directly related to the operation of nuclear facilities, LOFs or nuclear R&D activities.

This information will provide the Agency with an overview of the infrastructure directly supporting the State's nuclear fuel cycle and contribute to the transparency of the State's nuclear and nuclear-related activities. It will provide indications of where an infrastructure exists that could support nuclear activities that are not part of the nuclear programme. It is necessary in order for the Agency to provide assurance that the declared production, assembly and maintenance of these equipment and non-nuclear materials support the declared programme and only the declared programme.

In some cases, depending on the configuration of the nuclear facility or LOF, some information under this element can be required under existing authority, for example, for the purpose of ad hoc inspections where the presence of nuclear material has been indicated However, without prejudice to existing Agency authority, all of this element is included under complementary legal authority.

The equipment and non-nuclear material to be reported are listed below. Any specific activity, e.g., a tank farm for high level waste liquors, containing nuclear material on which safeguards have not been terminated would be treated as a nuclear facility and not reported here. The Board would be asked to approve any changes to this list resulting from technological developments or experience with the physical model of the nuclear fuel cycle from which the list is derived

The physical model is a major component of the Agency's improved analysis of information developed under Task 5 of "Programme 93+2" and describes each nuclear activity that would be involved in the nuclear fuel cycle from source material acquisition to the production of weapons 'useable nuclear material and then beyond the fuel cycle to weaponization. A brief outline of the improved analysis was provided to the Board in GOV/INF/759. The Technical Background Documentation on "Programme 93+2" which was made available to Member States in March 1995 provides, a more detailed description, including an example for the physical model for gaseous diffusion enrichment.

At present the requested information is limited to the manufacture, assembly and maintenance of equipment and non-nuclear material directly related to the operation of reactors, enrichment, fuel fabrication or reprocessing and consists of:

- *uranium enrichment centrifuge rotor tubes (manufacture) and gas centrifuges (assembly)*
- *diffusion membrane for enrichment (manufacture)*
- *copper vapor and other laser systems for enrichment (assembly and maintenance)*
- *electromagnetic separators (manufacture and maintenance)*

- *columns and extraction equipment for chemical or ion exchange enrichment (manufacture and maintenance)*
- *separation nozzles and vortex tubes for aerodynamic separation (manufacture and maintenance)*
- *uranium plasma generation systems (manufacture and maintenance)*
- *zircaloy tube (manufacture)*
- *beryllium (manufacture)*
- *boron-10 isotope (manufacture)*
- *enriched lithium (manufacture)*
- *tritium (manufacture)*
- *heavy water and deuterium (manufacture and upgrading)*
- *flasks for irradiated fuel ; (manufacture and maintenance)*
- *neutron absorbing control rods (manufacture)*
- *nuclear grade graphite (manufacture and machining)*

Part 2 (vii) The location, operational status, present annual production and approximate annual production capacity of uranium and **thorium mines.**

The information on the locations and status of uranium and thorium mines complements the State 's declaration under element 2. c. (i) and assists in assessing the State's domestic capability to produce nuclear material. The types of information requested are no different from those provided to the OECD Nuclear Energy Agency for the biennial Red Book on uranium resources, production and demand. This element does not include requirements for measurement or any other aspects of nuclear material accountancy and, hence, would not change the "starting point of safeguards" as described in paragraphs 33 and 34 of INFCIRC/153.

Part 2 (viii) Information on inventories, imports and exports of material containing uranium or thorium which has not yet reached the stage of the nuclear fuel cycle described in paragraph 34(c) of INFCIRC/153; information on nuclear material exempted from safeguards pursuant to paragraph 37 of INFCIRC/153; information on nuclear material that has been exempted from safeguards pursuant to paragraph 36(b) of INFCIRC/153 but which is not yet in end-use form and, in the event that the information is not complete, with indications of the limitations on its completeness; and information on any planned changes in location or further processing of waste containing nuclear material (excepting waste released to the environment) on which safeguards have been terminated pursuant to paragraph 11 of INFCIRC/153.

This element does not include requirements for measurement, batch and source data, the taking of physical inventories, inventory change reporting or the closing of material balances. Moreover, the activities involving this material under the protocol are far short of the activities for safeguarding nuclear material under existing legal authority. Hence, this element does not constitute a change in the starting point of safeguards. Where quantities are not measured, other estimates would be provided.

The required information for material which has not yet reached the stage of the nuclear fuel cycle described in paragraph 34(c) of INFCIRC/153 is the quantity, chemical composition, location and, if known, intended use for inventories, whether in nuclear or non-nuclear use,

and for imports for nonnuclear use. For inventories the quantities may be approximate. For exports (or intended exports) of such material for non-nuclear use the required information is the quantity, chemical composition and destination. The required information for nuclear material exempted for non-nuclear use under paragraph 36(b) is the quantity, use and location with an indication of the limitations on the completeness of the information. The reporting requirements for these materials are annual and are limited to those locations with inventories and individual imports and exports involving quantities exceeding those identified in paragraph 37 of INFCIRC/153.

The required information for nuclear material exempted from safeguards for nuclear use pursuant to paragraph 37 of INFCIRC/153 is the quantity, use and location All material so exempted and all planned location changes and further processing of nuclear material on which safeguards were terminated should be reported

The quantity reporting unit would be tonnes for material which has not yet reached the stage of the nuclear fuel cycle described in paragraph 34(c) of INFCIRC/153 and, for other material included in this element, the units specified in paragraph 101 of INFCIRC/153. The exemption of uranium for shielding radioactive sources can be made under the provision of paragraph 36(b) for non-nuclear use, in which case the reporting called for here would be limited to available information. In all cases, when nuclear material exempted for non-nuclear uses is in its end-use form, there is no requirement to continue reporting on it.

The reporting of the further processing, e.g., for purposes of recovery of nuclear material, of waste (other than waste released to the environment) on which safeguards have been terminated and of other aspects of this element may be required under existing authority but, without prejudice to existing authority, is being requested under complementary legal authority.

The requested information, along with element 2. c. (vii), would provide a more complete picture of all of the State's nuclear material useable for nuclear purposes and a basis for confirmation by the Agency of the consistency between the State's declared nuclear programme and its holdings of nuclear material.

Part 2

(ix) Information on the export and import of nuclear equipment and non-nuclear material specified in GOV/2629, as amended by the Board of Governors from time to time, and such other equipment and non-nuclear material as may be specified by the Board.

This element calls for information about export license approvals (identity of equipment or material, destination and, if known, expected date) and, where available, about actual exports and imports (identity of equipment or material, destination, origin of import and date of export or import) of specified nuclear equipment and non-nuclear material especially designed or prepared for nuclear uses, and such other equipment and non-nuclear materials as may be specified by the Board of Governors. Items especially designed and prepared for nuclear use are those identified in GOV/2629, as modified by the Board from time to time.

Experience in the analysis and use of this information may show the benefit of information on the export and import of other selected equipment and nonnuclear material that are not included in GOV/2629, as amended. There is currently no such equipment and material specified in the Expanded Declaration. However, this provision leaves open the possibility at some later time, for the Secretariat to propose to the Board a limited number of such items whose reporting would be beneficial as well as practical and for the Board to include such items as it deems appropriate.

The information requested here will contribute substantially to the transparency of a State's nuclear activities and to the Agency's understanding of these activities. It is an important part of the data base to be used by the Agency in assessing the internal consistency of the available information on the State's nuclear activities and will contribute to increased confidence that these items are being used only for peaceful purposes.

3. Planned nuclear activities:

Part 1 a. The provision of design information and any changes thereto as early as possible as provided for in paragraph 42 of INFCIRC/153 and as detailed in GOV/2554/Attachment 2/Rev.2.

Part 2 b. Planned activities owned, funded or authorized by, the State for the further development of the nuclear fuel cycle, including their planned locations when known.

The scope of the requested information is that specified in element 2. c. (i). A declaration of plans for the further development of the fuel cycle within the State would assist the Agency in its long-term planning and contribute to increased transparency and assurance.

Part 2 c. A description of planned nuclear R&D activities owned, funded or authorized by, or otherwise coming to the knowledge of, the State, including their planned locations when known.

The scope of the requested information is as described under elements 2. c. (ii) and (iii).

Information about planned nuclear R&D to support the future development of the nuclear fuel cycle would contribute to the transparency of the nuclear programme within the State. The information requested here relates to long term plans for further development of the fuel cycle within the State and to how that development is supported through current and planned activities. The information will be useful to the Agency in its own long-term planning and will provide the basis for increased assurance that the declared present nuclear programme and nuclear fuel cycle related R&D are generally consistent with the declared plans for future development of the fuel cycle. Any limitations on the scope of the information reported, including the planning horizon (e.g., 5 years, 10 years, etc.) should also be reported.

As is the case of element 2. c. (iii), Agency safeguards would benefit from information on any other planned activities judged by the State to be relevant to elements 3. b and 3. c.

ANNEX 3. GOV/2863 Annex III - Working Draft of Model Additional Protocol for Committee 24

PROTOCOL ADDITIONAL TO THE AGREEMENT BETWEEN . . . . . AND THE INTERNATIONAL ATOMIC ENERGY AGENCY FOR THE APPLICATION OF SAFEGUARDS IN CONNECTION WITH [THE TREATY ON THE NON-PROLIFERATION OF NUCLEAR WEAPONS] [AND] [THE TREATY FOR THE PROHIBITION OF NUCLEAR WEAPONS IN LA TIN AMERICA AND THE CARIBBEAN]

WHEREAS . . . . . (hereinafter referred to as . . . . .) is a party to the Agreement between . . . . . and the International Atomic Energy Agency (hereinafter referred to as the Agency) for the Application of Safeguards in Connection with [the Treaty on the Non-Proliferation of Nuclear Weapons] [and] [the Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean] (hereinafter referred to as the Safeguards Agreement), which entered into force on . . . . . [1];

WHEREAS . . . . . and the Agency are agreed to strengthen the effectiveness and improve the efficiency of the safeguards provided for in the Safeguards Agreement with a view to providing additional assurance of the non-diversion of nuclear material subject to the Safeguards Agreement to nuclear weapons or other nuclear explosive devices, including the absence of undeclared nuclear material and activities;

WHEREAS it is necessary to supplement the provisions of the Safeguards Agreement;

WHEREAS . . . . . and the Agency agree that the measures described in this Protocol are designed to provide the Agency with a fuller understanding of the nuclear programme in . . . . . ;

BEARING IN MIND the obligations of the Agency to avoid hampering the economic and technological development of the State, to avoid undue interference in the State's peaceful nuclear activities and to protect commercial and industrial secrets and other confidential information coming to its knowledge in the implementation of the Safeguards Agreement;

WHEREAS the frequency and intensity of activities described in this Protocol will be kept to a minimum consistent with the effective implementation of the Protocol and will not necessarily be a function of the scale of that programme;

[1] Reproduced in document INFCIRC/ . . . . .

NOW THEREFORE . . . . . and the Agency have agreed as follows:

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PROVISION OF INFORMATION

Article 1

a. To the extent not already provided for under the Safeguards Agreement, ... undertakes to provide the Agency with the following information:

(i) A description, the status and location of *nuclear fuel cycle-related research and development activities*[2] not involving nuclear material carried out anywhere in . . . . . :

(a) that are owned, funded or authorized by . . . . . and are specifically related to conversion, fuel fabrication, power or research reactors, critical assemblies or accelerators; or

(b) that are specifically related to enrichment, reprocessing of nuclear fuel and treatment of waste containing nuclear material.

(ii) Information as may be identified by the Agency and agreed to by . . . . . on operational activities at facilities and locations outside facilities where nuclear material is customarily used.

(iii**)** A description, the contents and use of each building on each *site* on which is situated a facility[3] or a location outside facilities where nuclear material is customarily used[4]. The description shall include a map of such *site*.

(iv) The identity, location, description, status, present annual production and approximate annual production capacity for the *manufacture, assembly or maintenance of specified items directly related to the operation of facilities, or of locations outside facilities where nuclear material is customarily used, or of nuclear fuel cycle-related research and development activities*.

(v) The location, operational status, present annual production and approximate annual production capacity of uranium and thorium mines.

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2 Terms in italics have specialized meanings, which are defined in Article 16 below.

3 As defined in [paragraph 106 of INFCIRC/153] **[the reference to the corresponding provision of the relevant Safeguards Agreement should be inserted where bracketed references to INFCIRC/153 are made].**

4 As referred to in [paragraph 49 of INFCIRC/153].

(vi) With respect to material containing uranium or thorium, which has not yet reached the composition and purity described in [paragraph 34(c) of INFCIRC/153],

(a) for each location in . . . . . where such material is present in quantities exceeding those set out in [paragraph 37(b) and (d) of INFCIRC/153], whether in nuclear use or in non-nuclear use: an inventory of such material, including use, quantities, chemical composition and, if known, further intended use, of such material;

(b) for each import into . . . . . for specifically non-nuclear purposes of such material in quantities exceeding those set out in [paragraph 37(b) and (d) of INFCIRC/153], the use, quantities, chemical composition and, if known, further intended use, of such material, and its current location;

(c) for each export (or intended export) out of . . . . . for specifically non-nuclear purposes of such material in quantities exceeding those set out in [paragraph 37(b) and (d) of INFCIRC/153], the quantity, chemical composition and destination of such material.

(vii) Information on the quantities, uses and locations of nuclear material exempted from safeguards pursuant to [paragraph 37 of INFCIRC/153]; and, for each location where nuclear material exempted from safeguards pursuant to [paragraph 36(b) of INFCIRC/153] but not yet in non-nuclear end-use form is present in quantities exceeding those set out in [paragraph 37 of INFCIRC/153], information on the quantities, uses and locations of such material (including indications of limitations on the completeness of such information) .

(viii) Information on any changes in location or further processing of waste containing nuclear material on which safeguards have been terminated pursuant to [paragraph 11 of INFCIRC/153] .

(ix) With respect to *specified equipment and non-nuclear material:*

(a) Information about export license approvals with respect to such equipment and material, including the identity of the equipment or material, the destination, and, where available, the expected dates of export;

(b) Where available, information on actual exports and imports of such

equipment and material, including the identity of the equipment or material, the destination, the origin of imports, and the date of export or import.

(x) With respect to planned nuclear activities owned, funded or authorized by .....

(a) Plans for the further development of the nuclear fuel cycle, including planned locations when known; and

(b) A description of planned *nuclear fuel cycle-related research and development activities*, including planned locations when known.

b. Upon specific request by, and in consultation with, the Agency, ... shall make every reasonable effort to provide information on the identity, and a description, of activities at locations identified by the Agency outside a site identified by . . . . . under Article l.a.(iii) above which the Agency believes might be functionally related to the nuclear activities or associated infrastructure of that site.

Article 2

a. . . . . shall provide to the Agency the information identified in Article 1.a(i), (iii)-(v), (vi)(a), (vii) and (x) above within 180 days of entry into force of this Protocol.

b. . . . . shall provide to the Agency by 31 March of each year updates of the information identified above in Article 2.a for the period covering the previous calendar year. If there has been no change to the information previously provided, ... shall so indicate.

c. . . . . shall provide to the Agency the information identified in Article l.a.(vi)(b) and (c) and Article l.a.(ix) above on an annual basis, by 31 March of each year, for the period covering the previous calendar year .

d. . . . . shall provide to the Agency the information identified in Article l.a.(viii) above 180 days before the change in location or further processing is carried out.

e. . . . . and the Agency shall agree on the timing and frequency of the information identified in Article l.a.(ii).

f. . . . . shall make every reasonable effort to provide promptly to the Agency the information identified in Article 1. b.

COMPLEMENTARY ACCESS

Article 3

a. . . . . shall provide the Agency access to the following locations:

(i) To any place on a *site* containing a facility or containing a location outside facilities where nuclear material is customarily used, including closed down facilities and locations outside facilities where nuclear material is customarily used;

(ii) To any decommissioned facility or decommissioned location outside facilities where nuclear material was customarily used, to the extent necessary to verify that it remains in its decommissioned status; and

(iii**)** To any location identified by . . . . . under Article 1.a. (v)-(viii) above.

b. Upon request by the Agency, ... shall, taking into account any constitutional obligations it may have with regard to proprietary rights or searches and seizures, provide the greatest degree of access to the Agency to any location identified by . . . . . under Article 1.a.(i) or Article 1.a.(iv), other than those referred to in Article 3.a.(i) above, provided that if . . . . . is unable, by reason of such constitutional obligations, to provide such access, ... shall take such measures as are necessary otherwise to satisfy Agency requirements.

c. Upon request by the Agency, ... shall, taking into account any constitutional obligations it may have with regard to proprietary rights or searches and seizures, provide the greatest degree of access to the Agency to any locations, other than in those referred to in Article 3.a. and b. , to carry out environmental sampling.

Article 4

. . . . . may at any time offer the Agency access in addition to that described in Article 3 above to any location in . . . . . which the Agency considers may be of safeguards

relevance.

SCOPE OF ACTIVITIES

Article 5

a. Within the scope of Article 3 above, the Agency shall be enabled to carry out the following activities:

(i) For access in accordance with Article 3.a.(i), visual observation, collection of environmental samples and other objective measures which have been demonstrated to be technically feasible;

(ii) For access in accordance with Article 3.a.(ii), activities necessary to confirm the decommissioned status of the facility or location in question;

(iii) For access in accordance with Article 3.a.(iii), item counting of nuclear material, non-destructive measurements and sampling to confirm enrichment, records examination when substantial quantities have been consumed or shipped to other users, visual observation, collection of environmental samples and other objective measures which have been demonstrated to be technically feasible;

(iv) For access in accordance with Article 3. b., visual observation, collection of environmental samples, records examination and other objective measures which have been demonstrated to be technically feasible;

(v) For access in accordance with Article 3.c., collection of environmental samples.

MANAGED ACCESS

Article 6

. . . . . may make arrangements with the Agency for managed access under this Protocol due to safety reasons, or to protect proprietary or commercially sensitive information, provided that such arrangements shall not preclude the Agency from conducting activities necessary to determine the absence of undeclared nuclear material and activities at the location in

question or otherwise resolve any inconsistency.

NOTICE AND TIMING

Article 7

a. (i) The notification requirements for design information verification, ad hoc inspection or routine inspection are as set forth in the Safeguards Agreement. No notice shall be required for access to any location referred to in Article 3.a.(i) which is sought in the course of the conduct of design information verification, ad hoc inspection or routine inspection.

(ii) For access other than that described in Article 7.a.(i) above to any location identified in Article 3.a.(i), advance notice to . . . . . shall be given at least twenty-four hours before the arrival of Agency inspectors at the location in question.

b. For access to any location identified in Article 3.a.(ii), 3.a.(iii), 3.b or 3.c. above, advance notice to . . . . . shall be given at least twenty-four hours before the arrival of Agency inspectors at the location in question.

c. Unless otherwise agreed to by . . . . . , access to any location referred to in Article 3 above shall only take place during regular working hours.

DESIGNATION OF AGENCY INSPECTORS

Article 8

The Director General shall notify . . . . . of the Board of Governor's approval of any staff member of the Agency as a safeguards inspector. Unless . . . . . advises the Director General of its rejection of such a designation within two months of receipt of notification of the Board's approval, the inspector so notified to . . . . . shall be considered designated to . . . . . The Director General, acting in response to a

request by . . . . . or on his own initiative, shall immediately inform . . . . . of the withdrawal of the designation of any official as an inspector for. . . . . .

SUBSIDIARY ARRANGEMENTS

Article 9

The Agency shall be entitled to apply the procedures laid down in this Protocol upon its entry into force. Procedures to facilitate the implementation of this Protocol may be included in the Subsidiary Arrangements concluded pursuant to the Safeguards Agreement.

COMMUNICATIONS SYSTEMS

Article 10

a. . . . . shall facilitate the establishment of direct communications (including satellite systems and other forms of telecommunication), and the installation of any equipment therefor, between Agency inspectors in . . . . . and Agency Headquarters and/or Regional Offices, including attended and unattended transmission of information generated by Agency containment and/or surveillance devices.

b. The Agency shall have the right to install and use its own systems of direct communications (including satellite systems and other forms of telecommunication) between Agency inspectors in . . . . . and Agency Headquarters and/or Regional offices, including attended and unattended transmission of information generated by Agency containment and/or surveillance devices.

CONFIDENTIALITY

Article 11

The Agency shall maintain a stringent regime governing the handling of commercial and industrial secrets and other confidential information coming to its knowledge in the implementation of the Protocol.

AMENDMENT OF THE PROTOCOL

Article 12

a. . . . . and the Agency shall, at the request of either, shall consult on amendment to this Protocol.

b. All amendments shall require the agreement of . . . . . and the Agency.

c. Amendments to this Protocol shall enter into force in the same conditions as the entry into force of the Protocol itself.

d. The Director General shall promptly inform all Member States of the Agency of any amendment to this Protocol.

ENTRY INTO FORCE

Article 13

This Protocol shall enter into force

Alternative A on the date upon which the Agency receives from. . . . . written notification that. . . . . 's legal requirements for entry into force have been met. [. . . . . , may, upon signature or at any later date before this Protocol enters into force for it, declare that it

will apply this Protocol provisionally.]

Alternative B upon signature by the representatives of. . . . . and the Agency.

The Director General shall promptly inform all Member States of the Agency of the entry into force of this Agreement.

Article 14

This Protocol shall remain in force as long as the Safeguards Agreement remains in force.

APPLICABILITY OF THE PROVISIONS OF THE SAFEGUARDS AGREEMENT

Article 15

The Protocol shall be an integral part of the Safeguards Agreement.

DEFINITIONS

Article 16

a. Manufacture. assembly or maintenance of snecified items directly related to the oneration of facilities. or of locations outside facilities where nuclear materia] is customarily used or of other]ocations where nuc]ear fuel cvc]e-related research and develonment activities means the fo]lowing, as well as such other items as are specified by the Board of Governors of the Agency from time to time acting by a two-thirds majority of the Members present and voting. Any such modification by the Board of Governors after entry into force of this Protocol shall have effect upon its adoption by the Board of Governors .

(i) uranium emichment centrifuge rotor tubes (manufacture) and gas centrifuges (assembly);
(ii) diffusion membrane for enrichment (manufacture);
(iii**)** copper vapor and other]aser systems for enrichment (assembly and maintenance);

(iv) electromagnetic separators (manufacture and maintenance);
(v) columns and extraction equipment for chemical or ion exchange enrichment (manufacture and maintenance);
(vi) separation nozzles or vortex tubes for aerodynamic separation (manufacture and maintenance) ;
(vii) uranium plasma generation systems (manufacture and maintenance);

(viii) zircaloy tube (manufacture);

(ix) beryllium (manufacture);
(x) boron-10 isotope (manufacture);
(xi) enriched lithium (manufacture);
(xii) tritium (manufacture);
(xiii) heavy water and deuterium (manufacture and upgrading);
(xiv) flasks for irradiated fuel (manufacture and maintenance);
(xv) neutron absorbing control rods (manufacture); and
(xvi) nuclear grade graphite (manufacture and machining).

b. Nuclear fuel cycle-related research and development activities means those activities which are specifically related to conversion, enrichment, fuel fabrication, power or research reactors, critical assemblies, accelerators capable of producing a continuous neutron source sufficient for annual production of gram quantities of fissile isotopes, reprocessing of nuclear fuel and treatment of waste containing nuclear material.

c. Site means that area delineated by . . . . . in the relevant design information for a facility, and the relevant information on a location outside facilities where nuclear material is customarily used, provided pursuant to the Safeguards Agreement, and as agreed by the Agency. It shall also include all installations co-located with the facility or location for the provision or use of essential services, including: hot cells for processing irradiated materials not containing nuclear material; radioactive waste treatment, storage and disposal facilities; and buildings associated with specified items identified by . . . . . under Article 1.a.(iv) above.

d. Specified eauipment and non-nuclear material means:

(i) equipment and non-nuclear material identified in GOV/2629, as modified from time to time by the Board of Governors of the Agency acting by a two-thirds majority of the Members present and voting. Any such modification by the Board of Governors after entry into force of this Protocol shall have effect upon its adoption by the Board of Governors; and

(ii) such other equipment and non-nuclear material as may be specified by the Board of Governors acting by a two-thirds majority of the Members present and voting.

Any such modification by the Board of Governors after entry into force of this Protocol shall have effect under this Protocol upon its adoption by the Board of Governors.

DONE at . . . . . on the . . . . . day of . . . . . 19. . . . . ., in duplicate, in the English language.

For . . . . . .: For the INTERNATIONAL ATOMIC ENERGY AGENCY:

ANNEX 4. INFCIRC/540(corrected) Annex I – Nuclear fuel Cycle Activities

LIST OF ACTIVITIES REFERRED TO IN ARTICLE 2.a.(iv) OF THE PROTOCOL

(i) The manufacture of *centrifuge rotor tubes* or the assembly of gas *centrifuges.*
Centrifuge rotor tubes means thin-walled cylinders as described in entry 5.1.1(b) of Annex II.
Gas centrifuges means centrifuges as described in the Introductory Note to entry 5.1 of Annex II.

(ii) The manufacture of *diffusion barriers.*
Diffusion barriers mean thin, porous filters as described in entry 5.3.1(a) of Annex II.

(iii**)** The manufacture or assembly of *laser-based systems.*
Laser-based systems means systems incorporating those items as described in entry 5.7 of Annex II.

(iv) The manufacture or assembly of *electromagnetic isotope separators.*
Electromagnetic isotope separators means those items referred to in entry 5.9.1 of Annex II containing ion sources as described in 5.9.1(a) of Annex II.

(v) The manufacture or assembly of *columns* or *extraction equipment.*
Columns or *extraction equipment* means those items as described in entries 5.6.1, 5.6.2, 5.6.3, 5.6.5, 5.6.6, 5.6.7 and 5.6.8 of Annex II.

(vi) The manufacture of *aerodynamic separation nozzles* or *vortex tubes.*
Aerodynamic separation nozzles or *vortex tubes* means separation nozzles and vortex tubes as described respectively in entries 5.5.1 and 5.5.2 of Annex II.

(vii) The manufacture or assembly of *uranium plasma generation systems.*
Uranium plasma generation systems means systems for the generation of uranium plasma as described in entry 5.8.3 of Annex II.

(viii) The manufacture of *zirconium tubes.*
Zirconium tubes means tubes as described in entry 1.6 of Annex II.

(ix) The manufacture or upgrading of *heavy water or deuterium.*
Heavy water or deuterium means deuterium, heavy water (deuterium oxide) and any other deuterium compound in which the ratio of deuterium to hydrogen atoms exceeds 1:5000.

(x) The manufacture of *nuclear grade graphite.*
Nuclear grade graphite means graphite having a purity level better than 5 parts per million boron equivalent and with a density greater than 1.50 g/cm^3.

(xi) The manufacture of *flasks for irradiated fuel.*
A *flask for irradiated fuel* means a vessel for the transportation and/or storage of irradiated fuel which provides chemical, thermal and radiological protection, and dissipates decay heat during handling, transportation and storage.

(xii) The manufacture of *reactor control rods.*
Reactor control rods means rods as described in entry 1.4 of Annex II.

(xiii) The manufacture of *criticality safe tanks and vessels.*
Criticality safe tanks and vessels means those items as described in entries 3.2 and 3.4 of Annex II.

(xiv) The manufacture of *irradiated fuel element chopping machines.*
Irradiated fuel element chopping machines means equipment as described in entry 3.1 of Annex II.

(xv) The construction of *hot cells.Hot cells* means a cell or interconnected cells totaling at least 6 m^3 in volume with shielding equal to or greater than the equivalent of 0.5 m of concrete, with a density of3.2 g/cm^3 or greater, outfitted with equipment for remote operations.

ANNEX 5. INFCIRC/540(corrected) Annex II – List for Export/Import Reporting

ARTICLE 2.a.(ix) REPORTING OF IMPORTSS AND EXPORTS

1. Reactors and equipment therefore
- **1.1. Complete nuclear reactors**
- **1.2. Reactor pressure vessels**
- **1.3. Reactor fuel charging and discharging machines**
- **1.4. Reactor control rods**
- **1.5. Reactor pressure tubes**
- **1.6. Zirconium tubes**
- **1.7. Primary coolant pumps**

2. Non-nuclear materials for reactors
- **2.1. Deuterium and heavy water**
- **2.2. Nuclear grade graphite**

3. Plants for the reprocessing of irradiated fuel elements, and equipment especially designed or prepared therefore
- **3.1. Irradiated fuel element chopping machines**
- **3.2. Dissolvers**
- **3.3. Solvent extractors and solvent extraction equipment**
- **3.4. Chemical holding or storage vessels**
- **3.5. Plutonium nitrate to oxide conversion system**
- **3.6. Plutonium oxide to metal production system**

4. Plants for the fabrication of fuel elements

5. Plants for the separation of isotopes of uranium and equipment, other than analytical instruments, especially designed or prepared therefor
- **5.1. Gas centrifuges and assemblies and components especially designed or prepared for use in gas centrifuges**
  - **5.1.1. Rotating components**
  - **5.1.2. Static components**
- **5.2. Especially designed or prepared auxiliary systems, equipment and components for gas centrifuge enrichment plants**
  - **5.2.1. Feed systems/product and tails withdrawal systems**
  - **5.2.2. Machine header piping systems**
  - **5.2.3. UF_6 mass spectrometers/ion sources**
  - **5.2.4. Frequency changers**
- **5.3. Especially designed or prepared assemblies and components for use in gaseous diffusion enrichment**
  - **5.3.1. Gaseous diffusion barriers**
  - **5.3.2. Diffuser housings**
  - **5.3.3. Compressors and gas blowers**
  - **5.3.4. Rotary shaft seals**
  - **5.3.5. Heat exchangers for cooling UF_6**
- **5.4. Especially designed or prepared auxiliary systems, equipment and components for use in gaseous diffusion enrichment**
  - **5.4.1. Feed systems/product and tails withdrawal systems**
  - **5.4.2. Header piping systems**
  - **5.4.3. Vacuum systems**
  - **5.4.4. Special shut-off and control valves**
  - **5.4.5. UF_6 mass spectrometers/ion sources**
- **5.5. Especially designed or prepared systems, equipment and components for use in aerodynamic enrichment plants**
  - **5.5.1. Separation nozzles**
  - **5.5.2. Vortex tubes**

5.5.3. Compressors and gas blowers
5.5.4. Rotary shaft seals
5.5.5. Heat exchangers for gas cooling
5.5.6. Separation element housings
5.5.7. Feed systems/product and tails withdrawal systems
5.5.8. Header piping systems
5.5.9. Vacuum systems and pumps
5.5.10. Special shut-off and control valves
5.5.11. UF_6 mass spectrometers/ion sources
5.5.12. UF_6/carrier gas separation systems

5.6. Especially designed or prepared systems, equipment and components for use in chemical exchange or ion exchange enrichment plants

5.6.1. Liquid-liquid exchange columns (Chemical exchange)
5.6.2. Liquid-liquid centrifugal contactors (Chemical exchange)
5.6.3. Uranium reduction systems and equipment (Chemical exchange)
5.6.4. Feed preparation systems (Chemical exchange)
5.6.5. Uranium oxidation systems (Chemical exchange)
5.6.6. Fast-reacting ion exchange resins/adsorbents (ion exchange)
5.6.7. Ion exchange columns (Ion exchange)
5.6.8. Ion exchange reflux systems (Ion exchange)

5.7. Especially designed or prepared systems, equipment and components for use in laser-based enrichment plants

5.7.1. Uranium vaporization systems (AVLIS)
5.7.2. Liquid uranium metal handling systems (AVLIS)
5.7.3. Uranium metal 'product' and 'tails' collector assemblies (AVLIS)
5.7.4. Separator module housings (AVLIS)
5.7.5. Supersonic expansion nozzles (MLIS)
5.7.6. Uranium pentafluoride product collectors (MLIS)
5.7.7. UF_6/carrier gas compressors (MLIS)
5.7.8. Rotary shaft seals (MLIS)
5.7.9. Fluorination systems (MLIS)
5.7.10. UF_6 mass spectrometers/ion sources (MLIS)
5.7.11. Feed systems/product and tails withdrawal systems (MLIS)
5.7.12. UF_6/carrier gas separation systems (MLIS)
5.7.13. Laser systems (AVLIS, MLIS and CRISLA)

5.8. Especially designed or prepared systems, equipment and components for use in plasma separation enrichment plants

5.8.1. Microwave power sources and antennae
5.8.2. Ion excitation coils
5.8.3. Uranium plasma generation systems
5.8.4. Liquid uranium metal handling systems
5.8.5. Uranium metal 'product' and 'tails' collector assemblies
5.8.6. Separator module housings

5.9. Especially designed or prepared systems, equipment and components for use in electromagnetic enrichment plants

5.9.1. Electromagnetic isotope separators
5.9.2. High voltage power supplies
5.9.3. Magnet power supplies

6. Plants for the production of heavy water, deuterium and deuterium compounds and equipment especially designed or prepared therefor

6.1. Water - Hydrogen Sulphide Exchange Towers
6.2. Blowers and Compressors
6.3. Ammonia-Hydrogen Exchange Towers
6.4. Tower Internals and Stage Pumps
6.5. Ammonia Crackers

6.6. Infrared Absorption Analyzers

6.7. Catalytic Burners

7. Plants for the conversion of uranium and equipment especially designed or prepared therefor

7.1. Especially designed or prepared systems for the conversion of uranium ore concentrates to UO_3

7.2. Especially designed or prepared systems for the conversion of UO_3 to UF_6

7.3. Especially designed or prepared systems for the conversion of UO_3 to UO_2

7.4. Especially designed or prepared systems for the conversion of UO_2 to UF_4

7.5. Especially designed or prepared systems for the conversion of UF_4 to UF_6

7.6. Especially designed or prepared systems for the conversion of UF_4 to U metal

7.7. Especially designed or prepared systems for the conversion of UF6 to UO_2

7.8. Especially designed or prepared systems for the conversion of UF6 to UF_4