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L.3. Nuclear Export Control

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NUCLEAR EXPORT CONTROLS

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INTRODUCTION

One approach to describing multilateral nuclear export controls is to do it according to time. This leads to an interesting discovery. You will find that multilateral nuclear export controls have been defined by four distinct periods, the first two of about five years each and the second two about twice as long. These time periods have another interesting characteristic. The two suppliers groups, which we will discuss in detail, have alternated in dominance over these nearly thirty years.

After the walk through time, the status of the present situation in multilateral nuclear export controls, the strengths and the weaknesses, will be examined.

And finally, a look at the future of multilateral nuclear export controls and possible paths that might be taken.

POLICIES AND PRINCIPLES

Before discussing the historical developments, which have defined the present situation, let us first consider the underlying policies and principles that are the driving forces behind nuclear export controls.

The Nuclear Suppliers Group (NSG) and the NPT Exporters Committee (Zangger Committee) are the two arrangements that administer multilateral nuclear export controls. Both arrangements are informal and are not legally binding on the part of the members. They do, however, represent a policy commitment on the part of the participating governments.

As informal arrangements, either one is free to define the scope of its activities. In the case of the NPT Exporters Committee, the members have chosen to limit its mandate to interpreting the meaning of Article III.2 of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). The NSG, on the other hand, has demonstrated flexibility by successively broadening its mandate beyond the limits of Article III.2 to include such areas as physical security standards, and dual-use and technology controls. The principal point, however, is that by virtue of being informal arrangements, either is free to act as it sees fit on the basis of consensus decisions.

A second characteristic of multilateral nuclear export controls is that they have no single orientation. They are neither trade promoters, nor are they devoted to trade restrictions. In every decision taken there is a conscious effort to be balanced between these often times competing interests. Multilateral nuclear export controls of today are far from being like the COCOM[1] controls implemented by the West during the Cold War. Clearly COCOM was specifically designed to be a trade restrictive arrangement.

The next characteristic of the supplier's arrangements is very important especially for non-members to understand. The NSG and the Zangger Committee do not deny exports and neither do they approve exports. Any denials of license applications by member states is either based on their individual unilateral controls or on the basis of common conditions of supply and principles voluntarily agreed to in multilateral arrangements. Again using COCOM to illustrate this point, when a member of COCOM requested an exception to the embargo for a particular transfer, the request could be vetoed by any other member. In the case of COCOM it was clearly the action of the group that led to denials and approvals.

The nuclear supplier's arrangements are not intended to be adversarial. They establish a norm of conduct for suppliers made up of conditions of supply and principles designed to prevent the transfer of nuclear and nuclear related commodities and technologies to certain end-uses and end-users. There is no provision in either arrangement that is punitive or restrictive in non-nuclear activities.

Finally, a timely characteristic of the nuclear supplier's arrangements is their transparency. There are no secret agreements. There are no secret lists of "bad guy" countries. With regard to this last point, it should be said that the members of the arrangements are so sensitive to the creation of lists that they have even shied away from naming countries with good nonproliferation credentials. Other multilateral export control arrangements cannot claim the same degree of transparency.

To aid in this transparency, the International Atomic Energy Agency (IAEA) has assisted supplier states in publicizing the supplier arrangements. The Agency publishes the NSG Guidelines and Trigger List in Information Circular (INFCIRC) /254 and the Zangger Understandings and Trigger List in INFCIRC/209.

The confidentiality of certain aspects of the arrangements is required. For example, it would be counterproductive to publish the dual-use denial notifications since it would alert the proscribed end-user of the need to be more deceptive. The fact that the NSG has a denial notification procedure is not confidential and is contained in the Memorandum of Understanding (MOU). The MOU was not published in INFCIRC/254 because it was only relevant to the Subscribing Governments to the Dual-Use Arrangement. At the 1997 Plenary in Ottawa, it was confirmed that the MOU is not a confidential document and can be made available to anyone.

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[1] Coordinating Committee for Multilateral Strategic Export Controls.

THE ZANGGER COMMITTEE PERIOD FROM 1970 TO 1975

From 1970, the year that the NPT came into force until the nuclear explosion by India in 1974, multilateral nuclear export control policy was defined by Article III.2 of the NPT and clarified by the NPT Exporters Committee. It was a time of relative quiet and equally little progress in strengthening nuclear export controls.

Export controls in the NPT are no different today then they were in 1970. The NPT does not require fullscope safeguards as a condition of supply. However inconsistent this may seem for parties to the Treaty that accepted fullscope safeguards for themselves (except for the nuclear weapons states), it is true. No matter how many supplier states adopt such a policy either in the context of the Nuclear Suppliers Group, or in any other forum, the lack of a legally binding commitment in the NPT is still there.

The NPT still does not control nuclear technology. Whereas the export of a nuclear reactor would fall within the purview of the NPT, the design information explaining how to build such a reactor would not be controlled by Article III.2.

The NPT with respect to nuclear export controls is also a reflection of a more simple world, a world where only five states knew how to build nuclear weapons and the problem for all others was to be solved by preventing them from acquiring weapons grade material.

Today there are more than five states believed to have nuclear weapons, or at a minimum, capable of producing nuclear weapons. Moreover, a non-nuclear weapons state doesn't require know-how from a declared nuclear weapons state in order to be able to create a nuclear weapons program. There are many items of equipment and materials available from non-nuclear weapons states that are of direct use in a nuclear weapons program. Unfortunately most of these items have other legitimate non-nuclear uses, thus making effective controls difficult.

The export control provisions of the NPT have not been changed to reflect the realities of today's world. The firebreak at special fissionable material has long since been overcome and the Treaty does not control items for the development, production or testing of nuclear weapons.

The purpose of this paper is not to argue for NPT amendments. There is a great reluctance to opening any existing treaty for amendment. Therefore, if deficiencies can be eliminated by alternative means then this is seen as preferable to amending a treaty. As we will discover later, many of the export control deficiencies of the NPT have been addressed by the NSG, and resolved.

The NPT Exporters Committee, chaired by Claude Zangger, was formed soon after the NPT came into force. This Committee, called the Zangger Committee in honor of the Chairman, undertook to interpret Article III.2 and in particular, what was meant by "especially designed or prepared equipment or material for the processing, use or production of special fissionable material." Please note the word "or" in "especially designed or

prepared." A common mistake is for persons to say "especially designed and prepared." You only have to consider the logic of the two words to recognize the significant difference that one small word makes.

The state of the Zangger Committee's Trigger List ("triggers" safeguards as a condition of supply) as it was originally created, lacked specificity. It only listed the plants for each step of the fuel-cycle (excluding mining and milling, conversion and heavy water production), and EDP equipment therefor (with no identification of the equipment itself).

The point to be made about the period from 1970 to 1975 is that the NPT as the lone mechanism for nuclear export controls had, and still has, many deficiencies. Still it should also be said that even with the deficiencies just mentioned the NPT provided a solid foundation for multilateral nuclear export control regimes to build upon. Today the NPT is close to being the universal treaty that so many have worked for. Only Cuba, India, Israel and Pakistan are not parties to the NPT.

THE NUCLEAR SUPPLIERS GROUP PERIOD FROM 1975 TO 1980

The next time period for nuclear export controls is from 1975 to 1980. This time period is marked by the initiation of nuclear export control talks in London by seven countries (Canada, France, United Kingdom, United States, Soviet Union, the FRG and Japan) as a show of concern for the nuclear explosion that had occurred in India.

This Group offered a much better avenue for nuclear export control reform than the Zangger Committee for at least two reasons. It would not be constrained by the limitations of Article III.2 and it would be aided by the presence of Japan and France, non-NPT parties at the time.

After a series of meetings in 1975 in London, the London Club as it became known, had reached ad ref agreement on what was to be published in January 1978 as INFCIRC/254 by the IAEA as the Nuclear Suppliers Guidelines.

The results, while always cast in the best light, were far from being all that they could be. This is not to say that improvements in multilateral nuclear export controls were not made. One accomplishment was the addition of heavy water plants and equipment to a Trigger list which otherwise was identical to the Zangger list. Another addition was a section on physical protection. And finally, technology was mentioned in the context of exercising restraint in the transfer of sensitive technologies and in the replication of facilities using transferred equipment. The negotiating record however, shows that this small elite group of countries, which met regularly over a period of two to three years, fell far short in many areas.

Fullscope safeguards as a condition of supply was favored by some of the participants, but others would not support the proposal so nothing in this area was achieved. Evidence of this losing battle still remains in the NSG Guidelines. Paragraph 5 contains the original language, which says, "Suppliers will jointly reconsider their common safeguards

requirements, whenever appropriate." The advocates of fullscope safeguards as a condition of supply held out the hope that they could still convince the opposition. This paragraph as it was first drafted called for a reconsideration of the safeguards requirements by the end of 1976. This of course did not happen, and while the basic thought survived, references to any particular time for reconsideration were deleted.

There were other compromises in the original Nuclear Suppliers Guidelines as well. In paragraph 7, it says that suppliers should encourage recipients to accept, as an alternative to national reprocessing and enrichment plants, supplier involvement in appropriate multinational facilities. In the negotiations the point of disagreement was over whether to "require" or to "encourage" recipients to accept supplier involvement. As can be seen, the weaker position won.

A final example of compromise is in paragraph 9 of the Guidelines. It calls for suppliers to endeavour to obtain agreement from the recipient for consent rights over any weapons materials derived from the transfer. Here again the negotiations centred on whether to use "endeavour" or the word "require." Again there was no consensus for the stronger language and so the weaker language won.

These points are never used in criticism of the original guidelines. What is heard most often of a critical nature is that once the Guidelines were published, the adherents to the Guidelines failed to meet for over 13 years. This may appeal to those who measure success by the number of meetings attended, but in the case of the adherents to the Nuclear Suppliers Guidelines it provides little basis for criticism. To the contrary, the Guidelines were not forgotten, nor were they dormant. Over that period of time the number of adherents increased from 15 to 27. In retrospect it is unlikely that consensus on any major improvement, such as fullscope safeguards, would have been possible and therefore an active Nuclear Suppliers Group would have only solidified its earlier shortcomings.

THE ZANGGER COMMITTEE PERIOD FROM 1980 TO 1990

This takes us now to the next period that covers the years after the publication of the Nuclear Suppliers Guidelines until the events leading up to the meeting of the adherents to the Guidelines in The Hague in 1991. This was a very positive period for nuclear export controls. As just mentioned the number of adherents to the Nuclear Suppliers Guidelines nearly doubled. But more importantly it was a time of renewed vigor in the Zangger Committee. Under the leadership of the United Kingdom a major initiative to clarify the gas centrifuge enrichment entry was begun and was successfully completed in 1984. Following the pattern of work established by the United Kingdom, a second upgrade exercise was led by the United States for the reprocessing entry and completed in 1985. And in 1990 the Trigger List entry for gaseous diffusion was clarified following an extended effort led by the Soviet Union. Although not finalized until 1992, the Canadian led exercise to upgrade the heavy water production completed the informal work plan of the Committee that had begun with the United Kingdom in 1981.

The upgrade exercises that added large numbers of EDP equipment to the Trigger List were the visible results of the Zangger Committee. While not apparent to persons outside the Committee and working group meetings, an important characteristic of the period was the spirit of cooperation between East and West in nuclear nonproliferation in general, and in nuclear export controls in particular. To a great extent the successes of the Nuclear Suppliers Group since 1991 may be due to the relationships and spirit of cooperation that were established in the technical consultations of the relatively non-controversial upgrade exercises.

THE NUCLEAR SUPPLIERS GROUP PERIOD FROM 1990 TO THE PRESENT

This brings us to the next period that is characterized by the revitalization of the Nuclear Suppliers Group and which began in a formal way with the meeting of 26 adherent countries in The Hague in 1991.

One reason the adherents of the Nuclear Suppliers Guidelines did not meet for more than a decade was the general belief that such a meeting of the "London Club" would cause widespread criticism. The Netherlands is to be commended for calling the meeting in early 1991 of the adherents. It was careful to refer to the meeting as a meeting of adherents and not to infer that it was a "club." For nearly half of the attendees it was their first meeting since becoming an adherent to the Guidelines.

At this point it is worthwhile to point out that membership did not become a recognized concept until about 1993. And then it was more a matter of "happening" as opposed to being consciously created. Today, "adherent" is the status of a country that has informed the Director General of the IAEA of its intention to abide by either the NSG Guidelines or the Zangger Understanding and asks that he inform the Agency members of this decision. Membership in either arrangement is a status that can only be attained by consensus of the existing members in each arrangement.

The United States in particular welcomed the Dutch initiative. Since 1978 when the far sweeping Non-Proliferation Act (NNPA) mandated controls on dual-use equipment and materials, the U.S. had sought to convince other suppliers of the need to control these commodities.

Throughout the 1980s, more and more suppliers came to appreciate this gap in nuclear export controls. As pointed out in the discussion of the NPT, there were no international controls on equipment and materials used in the development, production and testing of nuclear weapons. Moreover, during the upgrade exercises conducted on the Trigger List there were many items identified that were dual-use and not acceptable for inclusion on the EDP list. These items were called "second track" and the record of the meetings urged suppliers to make best efforts to control these items. This was, of course, an ineffective approach.

In mid-1990, the United States departed from the previous approach of only raising awareness to the dual-use problem and started serious talks to examine the possibility of a multilateral arrangement. In January of 1991, an U.S. delegation was on a trip through Western Europe soliciting support. Earlier meetings had been held in Washington with other key suppliers. After successful meetings in London, Paris, Bonn, and Brussels the delegation had flown to Stockholm and completed a day of discussions there from which they were to fly to Rome the following morning. The beginning of the Gulf War interrupted the plans that night. Instead of flying to Rome the delegation returned to Washington. Consultations through diplomatic channels continued and on February 21, 1991, I chaired an informal meeting of the 26 adhering countries in The Hague . The purpose of this meeting was to solidify support for the creation of a working group to address dual-use controls at the upcoming meeting called by the Dutch and to introduce them to working drafts of the guidelines and list. Contrary to some accounts, the dual-use problem was not suddenly discovered and reacted to as a result of Iraqi actions. It is fair to give the War much of the credit for giving the initiative the support needed to reach early agreement.

By bringing the suppliers together from East and West in The Hague in early 1991, not only was there a forum to make progress in dual-use controls, but also to seek in the near term the elusive fullscope safeguards condition of supply.

The Hague meeting resulted in the establishment of the Dual-Use Working Group to be chaired by the United States to examine the feasibility of a dual-use export control arrangement. Also agreed was for Finland to take the lead in harmonizing the NSG Trigger List with that of the Zangger Committee, which as mentioned above had undergone extensive changes.

Work began immediately for the Dual-Use Working Group. Ambassador Richard Kennedy, the ambassador-at-large for nuclear affairs for the United States, gave me the job of chairing the Group. This began a series of four week-long meetings over the next nine months in The Hague, Brussels, Annapolis and culminating with the final meeting at Interlocken in January of 1992. At the end of that final meeting there was agreement on the Dual-Use Guidelines and a Memorandum of Understanding, and an Annex of equipment, materials and related technology covering about 65 commodities. This list has undergone one complete review and revision since it was created but still retains much of its original content.

When the NSG Plenary opened in Warsaw just over two months later there was nothing left to do with respect to dual-use controls except to adopt the Working Group report.

Parallel with the dual-use negotiations were efforts to bring closure on the issue of fullscope safeguards as a condition of supply. During the course of 1991 more countries had announced the adoption of this policy. Those who had not yet adopted such a policy were alerted to the need to have approval from their capitals to adopt a common policy at the Warsaw meeting.

The dynamics of how the present policy statement in the NSG Guidelines came to be would be worth a case study in multilateral diplomacy alone. Most countries with the fullscope safeguards policy were similar to the United States. It consisted only in a general statement that the United States would require fullscope safeguards on any significant new supplier arrangement. Neither "fullscope safeguards," nor "new" nor "significant" were defined. As a matter of law the United States required *de facto* fullscope safeguards, i.e., all activities must be under IAEA safeguards at the time of export. As an aside the parallel today is catch-all controls. Many states have catch-all controls but they may not all mean the same. This was the case for fullscope safeguards policies by the NSG states. At the Warsaw meeting however, the states had to put into writing what fullscope safeguards meant. What came out of the negotiations exceeded all expectations. In 1975 the seven states of the London Club were not able to agree on fullscope safeguards as a condition of supply for anything, not even the transfer of a complete enrichment plant. Now in 1992 there was agreement that the policy applied to every item, big or small, sensitive or non-sensitive, covered by the Trigger List. Subsequently, with the addition of technology controls to the Trigger List in 1995, the fullscope safeguards condition of supply was extended to the technology for the development, production or use of every item covered by the Trigger List.

Not to let the moment pass by referring to capitals for approval of a change to the Guidelines, the delegates decided to adopt a declaration at the Warsaw meeting. Only one delegation was without instructions to sign at the meeting, but did so at a later date. The following year in Lucern the Guidelines were amended to reflect the policy of the Declaration.

For two such momentous changes to occur in the international export controls at one meeting is even now difficult to believe. The momentum, however, did not end there, nor did the effects of the dual-use arrangement.

The Dual-Use Guidelines contained controls on the technology for the development, production and use of every item of equipment or material. These comprehensive technology controls stood in stark contrast to the Trigger List controls that only covered the equipment and material. It created the ridiculous situation of applying export controls in Part 2 on the technology to produce and use a remote manipulator, for example, but in Part 1 of the Guidelines there were no controls on how to build an operational reprocessing plant. At the 1995 NSG Plenary this difference was ended with the amendment of the Guidelines to include technology controls on every item of the Trigger List. This made the technology controls of Part 1 identical to those of the Dual-Use Arrangement.

The Dual-Use Guidelines were leaders in another way as well. In the Basic Principle of the Dual-Use Guidelines is contained a subjective reason for denial, which says that a supplier should not transfer any item on the Annex if it would be contrary to the objectives of nonproliferation. The Guidelines covering the Trigger List, on the other hand, were totally objective. Whether or not the recipient country had a fullscope safeguards agreement in force with the IAEA was the only criterion for approval or denial. At the 1994 NSG Plenary in Madrid, a nonproliferation principle was added to the Part 1 Guidelines.

These and other improvements in the NSG Guidelines have been quietly made in the 1990s. Many of them would have been seen in the other eras of the nuclear export control history as of great significance. For example, an NSG Technical Working Group, led by Jim Casterton of Canada completed a comprehensive overhaul of the enrichment technology entries of the Trigger List in 1994 which added extensive lists of equipment to the Trigger List and added entire enrichment technologies not previously included. More recently in 1996, a technology holders working group led by Richard Goorevich of the United States completed the first review of the non-sensitive technologies. This review, the first since the Zangger Trigger List was published in 1974, resulted in amendments and clarifications to the Trigger Lists of the NSG and the Zangger Committee.

PRESENT STATUS

So here we are today on the threshold of a new century. What are the strengths of the present nuclear export controls? What are the weaknesses?

There are many positive aspects of the present situation. Membership in the Nuclear Suppliers Group in mid-1999 is at 35. Thirty-two of the NSG members are also members of the Zangger Committee. Only Brazil, Latvia and New Zealand are not members of the Zangger Committee. Only China is a member of the Zangger Committee and not the NSG.[2]

There is no major export control need that is yet to be met such as there was in previous eras with respect to fullscope safeguards and dual-use controls.

There is harmony within the NSG and the Zangger Committee memberships. No member has failed to live up to its commitments. There have not been any accusations of an NSG Member taking unfair commercial advantage over another.

Information sharing has never been better. A special session at each NSG Plenary is devoted to the sharing of a wide range of information of relevance to the members. Most recently the NSG acting on the recommendation of the Information Sharing Working Group led by Trisha Dedik of the United States adopted a computerized information sharing system to supplement the diplomatic channels. This system has already been installed in almost all member states.

There is also a new awareness of the need to be sensitive to the views and perceptions of non-NSG members. The decision to present a Transparency Seminar in October 1997 and a second in April 1999 is evidence of this new awareness.

The multilateral export control arrangements are also believed to be effective in meeting

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2 Members of the Nuclear Suppliers Group as of mid-1999 include: Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Republic of Korea, Latvia, Luxembourg, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Russia, Slovak Republic, South Africa, Spain, Sweden, Switzerland, Ukraine, United Kingdom and the United States.

their objectives. Effectiveness, of course, is difficult to measure. Even in the best of circumstances export controls alone cannot prevent proliferation. Export controls can delay proscribed activities in order to allow other means, such as diplomacy, to help. Export controls can also cause the end-user to choose a less capable and often times more costly option. Not to be ignored is the value of a group of countries taking a principled position on the critical matter of nuclear proliferation. On some issues, in addition to winning and losing, taking a principled stand is an important part of the equation.

Fortunately there are no major flaws that are in urgent need of attention in multilateral nuclear export controls. There are, however, some bothersome trends that need to be considered. In the not too distant future there are questions that will need to be answered.

One trend of concern is the decreasing experience level of persons involved in the multilateral nuclear export control process. It is not unexpected that a turnover in member state staff working these issues will occur on a regular basis, but there has been little evidence of new persons stepping in and making an informed contribution to the proceedings.

Closely related to the previous trend is a trend toward more persons at the meetings without a direct interest or knowledge in nuclear matters. It seems that more and more of the delegation members today are either involved in the administrative side of export controls, or are involved in all of the other supplier arrangements, be they nuclear or otherwise.

There is also a concern with respect to the NSG that its annual plenary is becoming too grand and too costly to be sustained. The Members who have hosted the plenaries have done an outstanding job of providing the facilities and services for effective meetings. Many of the Member States, however, would not be able to bear the large cost associated with a plenary meeting, nor would have sufficiently large facilities. Perhaps this will not be a problem for the next two or three years, but at some time it will.

QUESTIONS THAT WILL SHAPE THE FUTURE

The future of multilateral nuclear export controls will be shaped by the answers to many questions. It is the answers to the following questions, however, which require early resolution:

1. How do you reconcile the desirability of having all countries that have the ability to export items on the NSG Part 1 and Part 2 lists adhere to the Guidelines, while at the same time keeping the membership at manageable numbers?

2. What is the future of the Zangger Committee? Can it coexist with the NSG? If so, how? Should it be maintained or dissolved?

On the question of adherents and members, this has long been recognized as an evolving problem that one day would have to be addressed.

Most countries in today's world are able to produce one or more items from the Trigger List or the Dual-Use List. At a minimum, any country that has a machine tool shop could be the supplier of especially designed or prepared components from the Trigger List. How many controlled items a country produces should not be given too high a priority when measuring the importance of a country as a supplier. It is in the interest of all supplier states of the NSG to have all other supplier states adhere to the Guidelines regardless of how many items they produce. Adherence to the Guidelines is also of value in the case of countries located on transit routes for controlled commodities.

There is little incentive for a country to adhere to the Guidelines, but not seek to become a member of the NSG. Why follow the rules of the NSG and not be allowed to join in the decisions that affect their export controls? It is also going to be increasingly difficult for adherents to be accepted into membership by the required consensus. It is hard to imagine an NSG with over 40 members able to function efficiently and effectively, not to mention the problems of trying to fit such a large group into a meeting room. The excellent facilities provided by the Mission of Japan in Vienna when they became Point of Contact in 1991 become overburdened by the frequent working group meetings and the Dual-Use Consultations held there every October. Already the Government of Japan has had to move to larger quarters. Thus far the issue of adherents and members has not been addressed, perhaps because there is no obvious or easy solution.

The question of the future of the Zangger Committee is another one, which should be addressed.

When persons are introduced to multilateral export controls, the question most often asked, after both the NSG and Zangger Committee are described, is, "Why have the Zangger Committee?"

The answer given is that the Zangger Committee has a link, albeit informal, to the NPT where its mandate is to interpret the meaning of "especially designed or prepared" in the context of Article III.2 of the NPT. This link, so goes the argument, establishes the Zangger Committee as the export control arrangement representing the more than 185 parties to the NPT. Further, the argument goes, the NSG is an informal arrangement with ties only to its membership. This implies that because of the linkage to the NPT that it would be desirable for the NPT parties to adhere to the Zangger Understandings. But this comes into conflict with the NSG adherent/membership problem just discussed. If there is an initiative to gain wider adherence to multilateral nuclear export controls, that effort should be directed to gaining adherence to the one that includes fullscope safeguards as a condition of supply, technology controls, and dual-use controls. That is the NSG.

The Zangger Committee has some positive organizational and procedural characteristics that need to be factored into the discussion. It meets twice a year, in May and October, in half-day meetings at facilities provided by the Government of Austria. Most of the work of the Committee takes place in smaller technical meetings that meet at various locations in Member States during the year. It conducts its business with a minimum of formality.

A chairman with unlimited tenure, currently Fritz Schmidt of Austria, chairs it. He is only the third chair in the long history of the Committee. It should be noted that Dr. Schmidt brings an added positive dimension to a discussion of the Committee because of his long experience that goes back to the beginnings of the multilateral nuclear controls. The Secretariat function is provided by the United Kingdom Mission in Vienna, a service it has provided in an outstanding manner since the Committee was created.

Delegations to the Zangger Committee meetings, while many overlap in participation with the NSG meetings, tend to have a stronger nuclear orientation.

There are two directions for the Zangger Committee, which would be detrimental for the Committee. First, if the Zangger Committee tries to be "just like" the NSG, its existence will be more difficult to justify.

Secondly, if the Zangger Committee becomes the alternative to the more comprehensive controls of the NSG for NPT parties to adhere to, then this might cause the Committee to come under attack.

This leads to the obvious conclusion, that if the Zangger Committee is to survive it must have a role which complements the NSG, and not be in competition, or be seen as a nonproliferation liability or being an avenue for unfair commercial advantage.

THE FUTURE

Since my original paper was presented at the October 1997 Transparency Seminar in Vienna, events have caused me to revise my views of the shape of multilateral nuclear export controls in the future. I believe the Implementation Working Group, created at the 1999 Plenary in Florence, Italy, will provide the impetus for major changes in the NSG over the next few years. The Implementation Working Group will by necessity become the platform for ultimately resolving the two main issues facing the NSG today, i.e., membership and the NSG's relationship with the Zangger Committee.

The topics to be discussed by the Implementation Working Group over the next few months will have a bearing on these two important issues, whether the participants in Working Group realize it or not.

A major task for the Implementation Working Group will be to redefine the relationship between the NSG Plenary and the Dual-Use Arrangement. The present situation is confusing and unacceptable.

Many participants believe that the Dual-Use Consultations are a subcomponent of, and answerable to, the NSG Plenary. Present practice would tend to support that view. The Dual-Use Consultations are held prior to the Plenary. The Dual-Use Chair is usually less senior than the NSG Chair. Perhaps most telling is the fact that the Dual-Use Chair gives a report at the Plenary and not visa versa.

Other participants, especially those that were involved in the negotiation of the Dual-Use Arrangement, including its MOU, become upset when the NSG Plenary tries to establish dominance. They are correct in their position that the Subscribing Governments to the Dual-Use Guidelines and MOU have complete authority to make decisions without the concurrence of the NSG Plenary. They are also correct to point out that "membership" in the NSG is a two-step process. By a consensus decision to invite a country into the Dual-Use Arrangement and by an exchange of diplomatic notes with other Subscribing Governments, a country becomes a Subscribing Government to the Dual-Use Arrangement. By a consensus decision by all current NSG Members, a country becomes a participant in the NSG Plenary.

Changing times not matched by changing procedures caused the problem. The founders of the Dual-Use Arrangement were concerned about the practice in 1991 whereby any country that had unilaterally adhered to the NSG Guidelines was invited to the Plenary. They created the separate procedures for participation in the Dual-Use Arrangement in order to maintain control on who was given access to the denial notifications and other sensitive information. The situation today is entirely different now that the concept of NSG Membership has been adopted and the only way to be able to attend a Plenary is by consensus of existing members. The protection of information built into the Dual-Use Arrangement against uninvited participants in the NSG process is no longer needed. A one-step membership process makes sense.

In that regard it also makes sense to have a common set of implementing procedures for the entire NSG, both Part 1 and Part 2. These procedures applicable to members and not to adherents would be published separately from the Guidelines and the control lists in the same way as the Dual-Use MOU is today. This leads to the obvious conclusion to amend the present MOU to make it applicable to both parts of the NSG. Hopefully the Implementation Working Group will recognize this course as the logical one to follow.

Putting the Dual-Use Consultations into the role of a standing working group under the Plenary with responsibilities for the Part 2 Guidelines and Annex results in an organizational asymmetry. Wouldn't it also make sense to have a comparable standing working group to be responsible for the Part 1 Guidelines and the Trigger List? I think the answer is yes.

How the Implementation Working Group handles this question will have an impact on the question of the future of the Zangger Committee. One approach would be to convert the Zangger Committee into the Trigger List Consultations with responsibilities for the NSG Part 1 Guidelines and Trigger List. INFCIRC/209 would be rescinded in favor of INFCIRC/254, Part 1.

Whether or not the creation of a Part 1 Consultations comes about by the integration of the Zangger Committee into the NSG, will have a profound effect on the future of the Zangger Committee in either event. If the Zangger Committee chooses to go its separate way and not to become the Trigger List Consultative Group, its only hope for survival will be to become a forum to look more broadly at nuclear supplier issues related to the NPT, perhaps involving both suppliers and recipients. In that case it would cease to be considered an export

control arrangement, a new mandate would be developed, new understandings drafted and the Trigger List would be deleted.

The work of the Implementation Working Group does not include any head-on addressal of the membership issue. So far, few have recognized the membership issue as the problem I believe it to be. Most seem content to muddle along with hopes that the issue will work itself out. However, a "self cure" is unlikely to occur given the diverse views of the Members. Some Members will be very restrictive in allowing additional new members into the NSG. Other Members have indicated that they would support any country that asked to be a member. At the 1999 Plenary the names of several countries were mentioned as expressing an interest in becoming a member of the NSG. This included Turkey; Belarus, Kazakhstan, Cyprus and Slovenia. If those countries were admitted then what if other countries, such as Mexico, Chile, Egypt, Lithuania, Estonia, Singapore, and Thailand asked for membership. Can the NSG continue to function as it currently does when the membership reaches 40, or 45, or more?

While the Implementation Working Group will not face these questions directly, the work that the Group will do to put the NSG house in order will certainly make the membership question more conducive to a solution. The first step in this direction would be to "clean up" the Part 1 Guidelines. There remain a lot of superfluous relics of the pre-fullscope safeguards era that should be deleted for the sake of clarity to adherents and non-adherents. The elimination of the physical security annex would also be a part of the clean up. Other fora adequately cover this important matter.

My view of some of the elements of a future NSG have not changed. Eventually, I'm convinced that the way of conducting the present week long Spring event will have to be changed. It needs to be more austere, more informal and contain more substance and less form. The number of meetings needed to conduct nuclear supplier business should be seriously examined. Meetings of the Plenary should only take place when there is an issue arising from the Consultations that has to be addressed by the Plenary and it can't be taken care of through diplomatic channels. Regional meetings, open to all countries in the region, could be held to discuss common issues. These meetings would give transparency to the NSG Guidelines and would provide an opportunity to increase the number of adherents.