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CHEMICAL AND BIOLOGICAL WEAPONS THREAT: THE URGENT NEED FOR REMEDIES

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I will just add one personal comment, for whatever it is worth. I was in Moscow several weeks ago and the group I was with had extended discussions of chemical weapons with the responsible Soviet officials at both the working level and the senior level. From these discussions, I am convinced that the Soviet Government understands the danger of chemical proliferation and accepts that the only durable, effective solution to it is a comprehensive treaty. The Soviets are the one essential negotiating partner for us in this matter, and I believe they are sincere in wanting an agreement on terms we can accept.

The CHAIRMAN. Thank you very much indeed, Mr. Leonard. Dr. Meselson.

STATEMENT OF DR. MATTHEW S. MESELSON, PROFESSOR OF BIOCHEMISTRY, HARVARD UNIVERSITY, CAMBRIDGE, MA

Dr. MESELSON. Thank you, Mr. Chairman. I welcome this opportunity to appear before you to discuss measures to stop the proliferation of chemical and biological weapons and to ensure that such weapons are not used.

Today there are two opposite and accelerating trends influencing whether acquisition and use of chemical and biological weapons become widespread or whether instead, a stable international regime can be established that will prevent the exploitation of the biomedical sciences for hostile purposes.

One trend is exemplified by the production and recent use of poison gas by Iraq, by evidence that chemical weapons capability is further proliferating in areas of international instability and by the continued, although apparently receding, prospect of a chemical arms race between the United States and the Soviet Union.

The contrary trend is evidenced by major progress in the Geneva negotiations for an international treaty banning chemical weapons, by the Paris conference proposed by President Reagan on the prohibition of chemical weapons that took place early this year, and by the concern of the U.S. Congress and the strong commitment of President Bush. George Bush, before and after his election to the Presidency, has repeatedly declared his determination to achieve a global ban on chemical and biological weapons.

One approach to limiting the proliferation of chemical weapons is for potential supplier nations to devise and apply selective export controls. The 19 members of the Australia Group of Nations meeting semiannually in Paris have agreed to control their exports of nine chemicals that can be used to produce mustard gas or nerve agents. The United States and the Soviet Union hold periodic consultations in Berne, Switzerland, on preventing the spread of chemical weapons. It is evident, however, that selective export controls by themselves can be of only limited and temporary effectiveness in preventing a country from acquiring a significant chemical or biological capability if its leadership decides to do so.

Selective export controls can be circumvented. It does not matter much whether 9 potential sources of supply can be blocked if a 10th source delivers. There will, inevitably, be disagreement among the potential suppliers as to just what should be denied and to whom. And there are differences among the nations in their abilities to control their own exports.

Selective export controls by themselves, while partially effective for a few years, may actually promote proliferation in the longer term. Nations denied foreign chemicals and equipment may decide

to acquire indigenous capability. This has happened in the case of Iraq. In order to appreciate the relative ease of doing so, one has only to recall that even with the technology of 70 years ago, in World War I, mustard gas weapons highly effective against unprotected personnel, were produced in vast quantities. The German process, for example, required only three simple substances: grain alcohol, bleaching powder, and sodium sulfide. With these, Germany made thousands of tons of mustard gas. The allied process for making mustard gas was different, but equally simple.

Confronted with uncertain import prospects, nations that would not have embarked on a chemical weapons program may take steps in that direction as a strategic hedge to keep their chemical weapons option open. Once investments are made and an indigenous chemical weapons establishment emerges, production, transfer, and use become that many steps closer to happening.

Selective export controls are nevertheless necessary. The United States, through the Arms Export Control Act and the Export Administration Act, has a good system of export controls. People are in jail and people are standing trial because of violations of those controls. But a more effective and more stable series of measures going beyond selective export controls is called for. Two mutually reinforcing approaches are available. These are a verifiable global ban on chemical weapons and a system of well thought-out sanctions against violators.

The U.S. Government has a longstanding commitment, through five successive administrations, to the conclusion of an effective treaty to prohibit the development, production, possession, and transfer of chemical weapons, subject to onsite international verification. This treaty, the Chemical Weapons Convention, is now in an advanced stage of negotiation by the 40-nation Conference on Disarmament in Geneva. The present "rolling text" of the Convention is largely based on the U.S. Draft Treaty presented in Geneva in August 1984 by then Vice President George Bush. At the time, the Soviets and even some of our allies were not willing to accept the tough verification measures called for in the U.S. Draft Treaty. But with the changing attitude of the Soviet Union to onsite verification, the United States position has won out.

Negotiations on the remaining issues at Geneva could be completed within a year. Separately, there are bilateral issues of confidence between the United States and the Soviet Union that must be resolved before a convention is signed. Further work is also needed on procedures for verification of compliance by onsite inspection. Overall, however, the prospects for successful conclusion of a chemical weapons convention are good.

A chemical weapons convention would send a powerful signal to the governments and peoples of the world, reinforcing the already widespread abhorrence of chemical weapons. It would create tough international verification procedures to deter violations and to provide more reliable and internationally credible information regarding both well-founded suspicions and erroneous allegations. A chemical weapons convention would eliminate large stocks of Soviet chemical weapons that threaten Europe, when the value of United States chemical weapons is severely limited by the strong reluctance of our NATO allies to integrate them into military plan-

ning and by the pervasiveness of modern antichemical defenses deployed by the Soviets. Finally, a chemical weapons convention would provide a uniform political and legal basis for sanctions against noncompliance, a subject of the bills before you.

Provisions for sanctions must meet a number of requirements, not all of them easily reconciled. First, there must be a reliable and credible basis for invoking them. By whom and how is it to be determined that an offense has occurred? Even determining whether or not chemical and biological weapons have been used can be difficult and controversial in certain circumstances, as experience has shown.

Second, the sanctions must impose a cost on the offender, not on the party doing the sanctioning. The value of the sanctions in deterring violations must be balanced against their costs, in the present case, to the U.S. Government and economy. Such costs include undesirable limitations on the President's conduct of foreign relations and burdens on U.S. industry and commerce. Making sanctions multilateral reduces those costs and increases the force of the sanctions.

These problems can be solved and useful sanctions can be devised, but wide consultation and great care in their design are essential to success.

A system of sanctions against the acquisition, possession, and use of chemical and biological weapons will be maximally effective when it is joined to a global chemical weapons convention with strong provisions for international verification.

I would welcome your questions.

[The statement of Dr. Meselson follows:]

PREPARED STATEMENT OF MATTHEW MESELSON

I welcome this opportunity to appear before you to discuss measures to stop the proliferation of chemical and biological weapons and to insure that such weapons are not used.

Today, there are two opposite and accelerating trends influencing whether the acquisition and use of chemical and biological weapons becomes widespread or whether, instead, a stable international regime can be established that will largely prevent exploitation of the biomedical sciences for hostile purposes.

One trend is exemplified by the production and recent use of poison gas by Iraq, by evidence that chemical weapons capability is further proliferating in areas of international instability and by the continued although apparently receding prospect of a chemical arms race between the US and the USSR.

The contrary trend is evidenced by major progress in the Geneva negotiations for an international treaty banning chemical weapons, by the Paris Conference on the Prohibition of Chemical Weapons early this year, and by the concern of the US Congress and the strong commitment of President Bush. George Bush, before and after his election to the Presidency has repeatedly declared his determination to achieve a global ban on chemical and biological weapons.

One approach to limiting the proliferation of chemical weapons is for potential supplier nations to devise and apply selective export controls. The nineteen members of the "Australia Group" of nations meeting semi-annually in Paris have agreed to control their exports of nine chemicals that can be used to produce mustard gas or nerve agents. And the US and the USSR hold periodic consultations in Bern on preventing the spread of

chemical weapons. It is evident, however, that selective export controls by themselves can be of only limited and temporary effectiveness in preventing a country from acquiring a significant chemical or biological weapons capability if its leadership decides to do so.

Selective export controls can be circumvented. It does not matter much whether nine potential sources of supply can be blocked if a tenth source delivers. And there will inevitably be disagreement among the potential suppliers as to just what should be denied and to whom -- and differences among the nations in their abilities to control their own exports.

Selective export controls by themselves, while partially effective for a few years, may actually promote proliferation in the longer term. Nations denied foreign chemicals and equipment may decide to acquire indigenous capability. In order to appreciate the relative ease of doing so, one has only to recall that even with the technology of 70 years ago, in World War I, mustard gas weapons highly effective against unprotected personnel were produced in vast quantities. Confronted with uncertain import prospects, nations that would not have embarked on a chemical weapons program may take steps in that direction as a strategic hedge to keep their chemical weapons option open. Once investments are made and an indigenous chemical weapons establishment emerges, production, transfer and use become that many steps closer to happening.

Selective export controls are necessary but they are clearly insufficient. A more effective and more stable series of measures, going beyond selective export controls, is called for. Two mutually reinforcing approaches are available. These are a verifiable global ban on chemical weapons and a system of well thought-out sanctions against violators.

The US government has a long-standing commitment, through five successive administrations, to the conclusion of an effective treaty to prohibit the development, production, possession and transfer of chemical weapons, subject to on-site international verification. This treaty, the Chemical Weapons Convention, is now in an advanced stage of negotiation by the 40-nation Committee on Disarmament in Geneva. The present "rolling text" of the Convention is largely based on the US Draft Treaty presented in Geneva in August 1984 by then Vice-President George Bush. At the time, the Soviets and even some of our allies were not willing to accept the tough verification measures called for in the US Draft Treaty. But with the changing attitude of the Soviet Union to on-site verification, the US position has won out.

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